

Izmjena postupka

OSNOVNI PODACI

Opis predmeta javne nabavke:

Nabavka ostale opreme za međunarodni projekat
"Development of Regional Joint Master Program in
Maritime Environmental Protection and Management

Vrsta predmeta:

Robe

Vrsta postupka:

Otvoreni postupak

PODACI O NARUČIOCU

Naziv:

UNIVERZITET CRNE GORE

PIB:

02016702

Uslovi prije izmjena

Opis	Tip uslova	Važi za sve partije
• Drugi uslovi: rok isporuke maksimalno 60 dana od dana potpisivanja ugovora./ • Other conditions: delivery time maximum 60 days from the date of signing the contract	Drugi uslovi	Da
• U postupku javne nabavke može da učestvuje samo privredni subjekat koji: 1) nije pravosnažno osuđivan i čiji izvršni direktor nije pravosnažno osuđivan za neko od krivičnih djela sa obilježjima: a) kriminalnog udruživanja; b) stvaranja kriminalne organizacije; c) davanje mita; č) primanje mita; ć) davanje mita u privrednom poslovanju;	Obavezni uslovi	Da

d) primanje mita u privrednom poslovanju; dž) utaja poreza i doprinosa; đ) prevare; e) terorizma; f) finansiranja terorizma; g) terorističkog udruživanja; h) učestovanja u stranim oružanim formacijama; i) pranja novca; j) trgovine ljudima; k) trgovine maloljetnim licima radi usvojenja; l) zasnivanja ropskog odnosa i prevoza lica u ropskom odnosu. Ispunjenost ovog uslova dokazuje se na osnovu uvjerenja ili potvrde nadležnog organa izdatog na osnovu kaznene evidencije, u skladu sa propisima države u kojoj privredni subjekat ima sjedište, odnosno u kojoj ovlašćeno lice tog privrednog subjekta ima prebivalište. Ako se u državi sjedišta privrednog subjekta ili državi u kojoj ovlašćeno lice privrednog subjekta ima prebivalište ne izdaje ovaj dokaz ili ako ne obuhvata sve informacije iz člana 99 zakona, traženi dokaz može zamijeniti ili upotpuniti izjava privrednog subjekta da ispunjava propisani uslov, koja je ovjerena od nadležnog organa države sjedišta privrednog subjekta ili ambasade te države u Crnoj Gori kojom se potvrđuje vjerodostojnost sadržaja date izjave. / Only an economic entity that: 1) has not been convicted by a final judgment and whose executive director has not been convicted by a final judgment for any of the criminal offenses with the characteristics of: a) criminal association may participate in the public procurement procedure; b) the creation of a criminal organization; c) bribery; d) receiving bribes; ć) giving bribes in business; d) receiving bribes in business operations; d) tax and contribution evasion; f) fraud; e) terrorism; f) terrorist financing; g) terrorist association; h) participation in foreign armed formations; i) money laundering; j) trafficking in human beings; k) trafficking in minors for adoption; l) establishment of slavery and transportation of persons in slavery. Fulfillment of this condition shall be proven on the basis of a certificate or confirmation of the competent authority issued on the basis of criminal records, in accordance with the regulations of the state in which the business entity has its registered office, or in which the authorized person of that business entity resides. If this proof is not issued in the state of residence of the economic entity or in the state in which the authorized person of the economic entity resides, or if it does not include all information from Article 99 of the law, the required proof may replace or complete the statement of the economic entity. the

competent authority of the state of the seat of the economic entity or the embassy of that state in Montenegro which confirms the authenticity of the content of the given statement.		
<p>•U postupku javne nabavke može da učestvuje samo privredni subjekat koji je izmirio sve dospjele obaveze po osnovu poreza i doprinosa za penzijsko i zdravstveno osiguranje. Ispunjenost ovog uslova dokazuje se na osnovu uvjerenja ili potvrde organa uprave nadležnog za poslove naplate poreza, odnosno nadležnog organa države u kojoj privredni subjekat ima sjedište. Ako se u državi sjedišta privrednog subjekta ili državi u kojoj ovlašćeno lice privrednog subjekta ima prebivalište ne izdaje ovaj dokaz ili ako ne obuhvata sve informacije iz člana 99 zakona, traženi dokaz može zamijeniti ili upotpuniti izjava privrednog subjekta da ispunjava propisani uslov, koja je ovjerena od nadležnog organa države sjedišta privrednog subjekta ili ambasade te države u Crnoj Gori kojom se potvrđuje vjerodostojnost sadržaja date izjave./</p> <p>• Only an economic entity that has settled all due obligations on the basis of taxes and contributions for pension and health insurance can participate in the public procurement procedure. The fulfillment of this condition shall be proven on the basis of a certificate or confirmation of the administrative body responsible for tax collection, ie the competent body of the state in which the business entity has its registered office. If this proof is not issued in the state of residence of the economic entity or in the state in which the authorized person of the economic entity resides or if it does not include all information from Article 99 of the law, the required proof may replace or complete the statement of the economic entity the competent authority of the state of the seat of the economic entity or the embassy of that state in Montenegro which confirms the authenticity of the content of the given statement.</p>	Obavezni uslovi	Da

<ul style="list-style-type: none"> •U postupku javne nabavke može da učestvuje samo privredni subjekat koji je upisan u Centralni registar privrednih subjekata ili drugi odgovarajući registar u državi u kojoj privredni subjekat ima sjedište. Ispunjenost ovog uslova dokazuje se dostavljanjem dokaza o registraciji u Centralnom registru privrednih subjekata ili drugom odgovarajućem registru, sa podacima o ovlašćenom licu privrednog subjekta. / • Only an economic entity registered in the Central Register of Economic Entities or another appropriate register in the country in which the economic entity has its registered office may participate in the public procurement procedure. Fulfillment of this condition shall be proven by submitting proof of registration in the Central Register of Business Entities or another appropriate register, with data on the authorized person of the business entity. 	Obavezni uslovi	Da
<ul style="list-style-type: none"> • Izjava privrednog subjekta/Statement of the economic entity 	ESPD	Da
<ul style="list-style-type: none"> •Garancija ponude - ponuđač je dužan da dostavi безусловnu i na prvi poziv naplativu garanciju ponude u iznosu od 2% procijenjene vrijednosti partije, kao garanciju ostajanja u obavezi prema ponudi u periodu važenja ponude i 8 dana nakon isteka važenja ponude. Original Garancije ponude ponuđač je dužan dostaviti na arhivu Zavoda u roku predviđenom za podnošenje ponuda. Garancija ponude će se aktivirati ako ponuđač: 1) odustane od ponude u roku važenja ponude; 2) ne dostavi zahtijevane dokaze prije potpisivanja ugovora; 3) odbije da potpiše ugovor o javnoj nabavci ili okvirni sporazum; ili 4) u izjavi privrednog subjekta navede netačne činjenice o ispunjenosti uslova iz člana 111 stav 4 Zakona o javnim nabavkama. Dio ponude koji se ne dostavlja preko ESJN-a, a odnosi se na garanciju ponude dostavlja se: 1) neposrednom predajom na arhivi Naručioca na adresi Cetinjska broj 2, 81 000 Podgorica; 2) preporučenom pošiljkom sa povratnicom na adresi Cetinjska broj 2, 81 000 Podgorica, s tim što pomenuti dio ponude mora biti uručen od strane poštanskog operatora najkasnije do roka određenog za podnošenje ponude. Shodno članu 122 Zakona o javnim nabavkama ("Službeni list Crne Gore", br. 074/19 od 30.12.2019), ako se ponuda dijelom podnosi putem ESJN, a dijelom neposredno ili putem pošte, ponuđač je dužan da u dijelu ponude koji je podnio 	Garancija ponude	Da

putem ESJN-a navede na koji način je dostavio ostale
djelove ponude./ • Bid guarantee - the bidder is obliged
to submit an unconditional and on first call billable bid
guarantee in the amount of 2% of the estimated value of
the lot, as a guarantee of remaining obliged to the bid
during the bid validity period and 8 days after the bid
expiration. The bidder is obliged to submit the original Bid
Security to the archives of the Office within the deadline
for submission of bids. The bid guarantee will be activated
if the bidder: 1) withdraws from the bid within the validity
period of the bid; 2) fails to submit the required evidence
before signing the contract; 3) refuses to sign a public
procurement contract or framework agreement; or 4)
states in the statement of the economic entity incorrect
facts about the fulfillment of the conditions from Article
111, paragraph 4 of the Law on Public Procurement. The
part of the bid that is not submitted through the ESJN,
and refers to the bid guarantee is submitted: 1) by direct
delivery to the archives of the Purchaser at the address
Cetinjska number 2, 81 000 Podgorica; 2) by registered
mail with return receipt to the address Cetinjska number
2, 81 000 Podgorica, provided that the mentioned part of
the bid must be delivered by the postal operator no later
than the deadline for submission of the bid. Pursuant to
Article 122 of the Law on Public Procurement ("Official
Gazette of Montenegro", No. 074/19 of 30.12.2019), if the
bid is submitted partly through the ESJN, and partly
directly or by mail, the bidder is obliged to submit the
other parts of the tender.

<ul style="list-style-type: none"> • Mjesto izvršenja ugovora: partije 1,2,3,4,5 i 6 DDP Naručioca INCOTERMS 2010 na lokaciji Pomorski fakultet Kotor, adresa: Put I bokeljske brigade 44, 85330 Kotor, Crna Gora. Partija 7,8,9,10 i 11 DDP Naručioca INCOTERMS 2010 na lokaciji : Univerzitet u Valoni „Ismail Ćemali“, L. Pavaresia, Rr. Kosovo, 9400 Valona, Albanija. Partija 12,13,14,15 i 16 DDP Naručioca INCOTERMS 2010 na lokaciji Univerzitet u Draču „Aleksandar Moisiu“, 14, 2001, Rruga Currila, Durrës, Albania. • Place of execution of the contract: lots 1,2,3,4,5 and 6 by DDP of the Purchaser INCOTERMS 2010 at the location Maritime Faculty Kotor, address: Put I bokeljske brigade 44, 85330 Kotor, Montenegro. <p style="text-align: right;">Lots 7,8,9,10 and 11. by DDP of Purchaser INCOTERMS 2010 at the location: 'Ismail Qemali' University of Vlore, L. Pavarësia, Rr. Kosova, 9400 Vlorë, Albania.</p> <p>Lots:12,13,14,15 and 16 by DDP of Purchaser INCOTERMS 2010 at the location: "Aleksandër Moisiu" University of Durrës, 14, 2001, Rruga Currila, Durrës, Albania.</p>	Mjesto izvršenja ugovora	Da
<ul style="list-style-type: none"> • Rok plaćanja je 30 dana od dana ispostavljanja uredne fakture sa otpremnicom i zapisnikom o izvršenoj kvalitativnoj i kvantitativnoj isporuci./ • The payment deadline is 30 days from the day of issuing a valid invoice with the delivery note and the record of the performed qualitative and quantitative delivery. 	Rok plaćanja	Da
<ul style="list-style-type: none"> • Način plaćanja: Avans u iznosu 50%, ostatak virmanski po izvršenoj isporuci./ • Method of payment: Advance payment in the amount of 50%, the rest by bank transfer upon delivery. 	Način plaćanja	Da
<ul style="list-style-type: none"> • Rok važenja ponude: 60 dana od dana otvaranja ponuda./ • Bid validity period: 60 days from the day of bid opening. 	Rok važenja ponude	Da
<ul style="list-style-type: none"> • Garantni rok: navedno u bitnim karakteristikama./ • Warranty period: stated in the essential characteristics. 	Garantni rok	Da
Autorizacija proizvođača : dostaviti MAF stavke navedene u specifikaciji / (submit the Manufacturer authorisation form for items specified in the technical specification)	Drugi uslovi	Da

<p>Privredni subjekat je dužan da dostavi opis i karakteristike predmeta nabavke, što se dokazuje uzorkom, odnosno fotografijom robe koja je predmet nabavke. Dakle, potrebno je dostaviti tehničku dokumentaciju, katalog robe koja je predmet nabavke. Napomena: Dio ponude koji se odnosi na tehničku dokumentaciju, katalog robe dostavlja se: 1) neposrednom predajom na arhivi Naručioca na adresi Cetinjska broj 2, 81 000 Podgorica; 2) preporučenom pošiljkom sa povratnicom na adresi Cetinjska broj 2, 81 000 Podgorica, s tim što gore navedeno mora biti uručeno od strane poštanskog operatora najkasnije do roka određenog za podnošenje ponude. Shodno članu 122 Zakona o javnim nabavkama ("Službeni list Crne Gore", br. 074/19 od 30.12.2019), ako se ponuda dijelom podnosi putem ESJN, a dijelom neposredno ili putem pošte, ponuđač je dužan da u dijelu ponude koji je podnio putem ESJN-a navede na koji način je dostavio ostale djelove ponude/ The business entity is obliged to provide a description and characteristics of the subject of procurement, which is proven by a sample, that is, a photograph of the goods that are the subject of procurement. Therefore, it is necessary to submit technical documentation, a catalog of goods that are the subject of procurement. Note: The part of the offer that refers to the technical documentation, the catalog of goods is delivered: 1) by direct delivery to the Client's archive at the address Cetinjska no. 2, 81 000 Podgorica; 2) by registered mail with return receipt at the address Cetinjska no. 2, 81 000 Podgorica, with the fact that the above must be delivered by the postal operator no later than the deadline set for submitting the bid. Pursuant to Article 122 of the Law on Public Procurement ("Official Gazette of Montenegro", No. 074/19 of 30.12.2019), if the offer is partly submitted through the EJN, and partly directly or by post, the bidder is obliged to, in the part of the offer that is submitted through ESJN, indicate how he submitted the other parts of the offer.</p>	<p>Stručna i tehnička sposobnost</p>	<p>Da</p>
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<p>Ponuđači mogu ponuditi robu koja je ekvivalentna robi navedenoj u specifikaciji predmeta jednostavne nabavke, uz podnošenje dokaza o ekvivalentnosti (shodno članu 4 stav 1 tačka 7 i članu 88 Zakona o javnim nabavkama). Za stavke u specifikaciji kod kojih su navedeni nazivi proizvođača, ukoliko Ponuđač ponudi proizvod koji je ekvivalent traženom, on mora precizno navesti naziv ekvivalenta, odnosno robe drugog proizvođača, uz podnošenje dokaza o ekvivalentnosti (tehnička dokumentacija kojom dokazuje ekvivalentnost). Ponuđači su dužni dostaviti tehničku dokumentaciju iz kojih se mogu utvrditi bitne karakteristike predmeta nabavke./</p> <p>Bidders can offer goods that are equivalent to the goods specified in the specification of the subject of simple procurement, with the submission of proof of equivalence (in accordance with Article 4 paragraph 1 item 7 and Article 88 of the Law on Public Procurement). For items in the specification where the manufacturer's name is mentioned, if the Bidder offers a product that is equivalent to the one requested, he must precisely state the name of the equivalent, i.e. the goods of another manufacturer, with the submission of evidence of equivalence (technical documentation proving equivalence). Bidders are obliged to submit technical documentation from which essential characteristics of the subject of procurement can be determined.</p>	Drugi uslovi	Da
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Uslovi nakon izmjena

Opis	Tip uslova	Važi za sve partije
•Drugi uslovi: rok isporuke maksimalno 60 dana od dana potpisivanja ugovora./ • Other conditions: delivery time maximum 60 days from the date of signing the contract	Drugi uslovi	Da
• U postupku javne nabavke može da učestvuje samo privredni subjekat koji: 1) nije pravosnažno osuđivan i čiji izvršni direktor nije pravosnažno osuđivan za neko od krivičnih djela sa obilježjima: a) kriminalnog udruživanja; b) stvaranja kriminalne organizacije; c) davanje mita; č) primanje mita; ć) davanje mita u privrednom poslovanju; d) primanje mita u privrednom poslovanju; dž) utaja poreza i doprinosa; đ) prevare; e) terorizma; f) finansiranja terorizma; g) terorističkog udruživanja; h) učestovanja u stranim oružanim formacijama; i) pranja novca; j) trgovine	Obavezni uslovi	Da

ljudima; k) trgovine maloljetnim licima radi usvojenja; l) zasnivanja ropskog odnosa i prevoza lica u ropskom odnosu. Ispunjenost ovog uslova dokazuje se na osnovu uvjerenja ili potvrde nadležnog organa izdatog na osnovu kaznene evidencije, u skladu sa propisima države u kojoj privredni subjekat ima sjedište, odnosno u kojoj ovlašćeno lice tog privrednog subjekta ima prebivalište. Ako se u državi sjedišta privrednog subjekta ili državi u kojoj ovlašćeno lice privrednog subjekta ima prebivalište ne izdaje ovaj dokaz ili ako ne obuhvata sve informacije iz člana 99 zakona, traženi dokaz može zamijeniti ili upotpuniti izjava privrednog subjekta da ispunjava propisani uslov, koja je ovjerena od nadležnog organa države sjedišta privrednog subjekta ili ambasade te države u Crnoj Gori kojom se potvrđuje vjerodostojnost sadržaja date izjave. / Only an economic entity that: 1) has not been convicted by a final judgment and whose executive director has not been convicted by a final judgment for any of the criminal offenses with the characteristics of: a) criminal association may participate in the public procurement procedure; b) the creation of a criminal organization; c) bribery; d) receiving bribes; é) giving bribes in business; d) receiving bribes in business operations; d) tax and contribution evasion; f) fraud; e) terrorism; f) terrorist financing; g) terrorist association; h) participation in foreign armed formations; i) money laundering; j) trafficking in human beings; k) trafficking in minors for adoption; l) establishment of slavery and transportation of persons in slavery. Fulfillment of this condition shall be proven on the basis of a certificate or confirmation of the competent authority issued on the basis of criminal records, in accordance with the regulations of the state in which the business entity has its registered office, or in which the authorized person of that business entity resides. If this proof is not issued in the state of residence of the economic entity or in the state in which the authorized person of the economic entity resides, or if it does not include all information from Article 99 of the law, the required proof may replace or complete the statement of the economic entity. the competent authority of the state of the seat of the economic entity or the embassy of that state in Montenegro which confirms the authenticity of the content of the given statement.

<p>•U postupku javne nabavke može da učestvuje samo privredni subjekat koji je izmirio sve dospjele obaveze po osnovu poreza i doprinosa za penzijsko i zdravstveno osiguranje. Ispunjenost ovog uslova dokazuje se na osnovu uvjerenja ili potvrde organa uprave nadležnog za poslove naplate poreza, odnosno nadležnog organa države u kojoj privredni subjekat ima sjedište. Ako se u državi sjedišta privrednog subjekta ili državi u kojoj ovlašćeno lice privrednog subjekta ima prebivalište ne izdaje ovaj dokaz ili ako ne obuhvata sve informacije iz člana 99 zakona, traženi dokaz može zamijeniti ili upotpuniti izjava privrednog subjekta da ispunjava propisani uslov, koja je ovjerena od nadležnog organa države sjedišta privrednog subjekta ili ambasade te države u Crnoj Gori kojom se potvrđuje vjerodostojnost sadržaja date izjave./ • Only an economic entity that has settled all due obligations on the basis of taxes and contributions for pension and health insurance can participate in the public procurement procedure. The fulfillment of this condition shall be proven on the basis of a certificate or confirmation of the administrative body responsible for tax collection, ie the competent body of the state in which the business entity has its registered office. If this proof is not issued in the state of residence of the economic entity or in the state in which the authorized person of the economic entity resides or if it does not include all information from Article 99 of the law, the required proof may replace or complete the statement of the economic entity the competent authority of the state of the seat of the economic entity or the embassy of that state in Montenegro which confirms the authenticity of the content of the given statement.</p>	Obavezni uslovi	Da
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<ul style="list-style-type: none"> •U postupku javne nabavke može da učestvuje samo privredni subjekat koji je upisan u Centralni registar privrednih subjekata ili drugi odgovarajući registar u državi u kojoj privredni subjekat ima sjedište. Ispunjenost ovog uslova dokazuje se dostavljanjem dokaza o registraciji u Centralnom registru privrednih subjekata ili drugom odgovarajućem registru, sa podacima o ovlašćenom licu privrednog subjekta. / • Only an economic entity registered in the Central Register of Economic Entities or another appropriate register in the country in which the economic entity has its registered office may participate in the public procurement procedure. Fulfillment of this condition shall be proven by submitting proof of registration in the Central Register of Business Entities or another appropriate register, with data on the authorized person of the business entity. 	Obavezni uslovi	Da
<ul style="list-style-type: none"> • Izjava privrednog subjekta/Statement of the economic entity 	ESPD	Da
<ul style="list-style-type: none"> •Garancija ponude - ponuđač je dužan da dostavi bezuslovnu i na prvi poziv naplativu garanciju ponude u iznosu od 2% procijenjene vrijednosti partije, kao garanciju ostajanja u obavezi prema ponudi u periodu važenja ponude i 8 dana nakon isteka važenja ponude. Original Garancije ponude ponuđač je dužan dostaviti na arhivu Zavoda u roku predviđenom za podnošenje ponuda. Garancija ponude će se aktivirati ako ponuđač: 1) odustane od ponude u roku važenja ponude; 2) ne dostavi zahtijevane dokaze prije potpisivanja ugovora; 3) odbije da potpiše ugovor o javnoj nabavci ili okvirni sporazum; ili 4) u izjavi privrednog subjekta navede netačne činjenice o ispunjenosti uslova iz člana 111 stav 4 Zakona o javnim nabavkama. Dio ponude koji se ne dostavlja preko ESJN-a, a odnosi se na garanciju ponude dostavlja se: 1) neposrednom predajom na arhivi Naručioca na adresi Cetinjska broj 2, 81 000 Podgorica; 2) preporučenom pošiljkom sa povratnicom na adresi Cetinjska broj 2, 81 000 Podgorica, s tim što pomenuti dio ponude mora biti uručen od strane poštanskog operatora najkasnije do roka određenog za podnošenje ponude. Shodno članu 122 Zakona o javnim nabavkama ("Službeni list Crne Gore", br. 074/19 od 30.12.2019), ako se ponuda dijelom podnosi putem ESJN, a dijelom neposredno ili putem pošte, ponuđač je dužan da u dijelu ponude koji je podnio 	Garancija ponude	Da

putem ESJN-a navede na koji način je dostavio ostale
djelove ponude./ • Bid guarantee - the bidder is obliged
to submit an unconditional and on first call billable bid
guarantee in the amount of 2% of the estimated value of
the lot, as a guarantee of remaining obliged to the bid
during the bid validity period and 8 days after the bid
expiration. The bidder is obliged to submit the original Bid
Security to the archives of the Office within the deadline
for submission of bids. The bid guarantee will be activated
if the bidder: 1) withdraws from the bid within the validity
period of the bid; 2) fails to submit the required evidence
before signing the contract; 3) refuses to sign a public
procurement contract or framework agreement; or 4)
states in the statement of the economic entity incorrect
facts about the fulfillment of the conditions from Article
111, paragraph 4 of the Law on Public Procurement. The
part of the bid that is not submitted through the ESJN,
and refers to the bid guarantee is submitted: 1) by direct
delivery to the archives of the Purchaser at the address
Cetinjska number 2, 81 000 Podgorica; 2) by registered
mail with return receipt to the address Cetinjska number
2, 81 000 Podgorica, provided that the mentioned part of
the bid must be delivered by the postal operator no later
than the deadline for submission of the bid. Pursuant to
Article 122 of the Law on Public Procurement ("Official
Gazette of Montenegro", No. 074/19 of 30.12.2019), if the
bid is submitted partly through the ESJN, and partly
directly or by mail, the bidder is obliged to submitted
through the ESJN shall state how it submitted the other
parts of the tender.

<ul style="list-style-type: none"> •Mjesto izvršenja ugovora: partije 1,2,3,4,5 i 6 DDP Naručioca INCOTERMS 2010 na lokaciji Pomorski fakultet Kotor, adresa: Put I bokeljske brigade 44, 85330 Kotor, Crna Gora. Partija 7,8,9,10 i 11 DDP Naručioca INCOTERMS 2010 na lokaciji : Univerzitet u Valoni „Ismail Ćemali“, L. Pavaresia, Rr. Kosovo, 9400 Valona, Albanija. Partija 12,13,14,15 i 16 DDP Naručioca INCOTERMS 2010 na lokaciji Univerzitet u Draču „Aleksandar Moisiu“, 14, 2001, Rruga Currila, Durrës, Albania. • Place of execution of the contract: lots 1,2,3,4,5 and 6 by DDP of the Purchaser INCOTERMS 2010 at the location Maritime Faculty Kotor, address: Put I bokeljske brigade 44, 85330 Kotor, Montenegro. <p style="text-align: right;">Lots 7,8,9,10 and 11. by DDP of Purchaser INCOTERMS 2010 at the location: 'Ismail Qemali' University of Vlore, L. Pavarësia, Rr. Kosova, 9400 Vlorë, Albania.</p> <p>Lots:12,13,14,15 and 16 by DDP of Purchaser INCOTERMS 2010 at the location: "Aleksandër Moisiu" University of Durrës, 14, 2001, Rruga Currila, Durrës, Albania.</p>	Mjesto izvršenja ugovora	Da
<ul style="list-style-type: none"> •Rok plaćanja je 30 dana od dana ispostavljanja uredne fakture sa otpremnicom i zapisnikom o izvršenoj kvalitativnoj i kvantitativnoj isporuci./ • The payment deadline is 30 days from the day of issuing a valid invoice with the delivery note and the record of the performed qualitative and quantitative delivery. 	Rok plaćanja	Da
<ul style="list-style-type: none"> •Način plaćanja: Avans u iznosu 50%, ostatak virmanski po izvršenoj isporuci./ • Method of payment: Advance payment in the amount of 50%, the rest by bank transfer upon delivery. 	Način plaćanja	Da
<ul style="list-style-type: none"> • Rok važenja ponude: 60 dana od dana otvaranja ponuda./ • Bid validity period: 60 days from the day of bid opening. 	Rok važenja ponude	Da
<ul style="list-style-type: none"> • Garantni rok: navedno u bitnim karakteristikama./ • Warranty period: stated in the essential characteristics. 	Garantni rok	Da
Autorizacija proizvođača : dostaviti MAF stavke navedene u specifikaciji / (submit the Manufacturer authorisation form for items specified in the tehcnical specification)	Drugi uslovi	Da

<p>Privredni subjekat je dužan da dostavi opis i karakteristike predmeta nabavke, što se dokazuje uzorkom, odnosno fotografijom robe koja je predmet nabavke. Dakle, potrebno je dostaviti tehničku dokumentaciju, katalog robe koja je predmet nabavke. Napomena: Dio ponude koji se odnosi na tehničku dokumentaciju, katalog robe dostavlja se: 1) neposrednom predajom na arhivi Naručioca na adresi Cetinjska broj 2, 81 000 Podgorica; 2) preporučenom pošiljkom sa povratnicom na adresi Cetinjska broj 2, 81 000 Podgorica, s tim što gore navedeno mora biti uručeno od strane poštanskog operatora najkasnije do roka određenog za podnošenje ponude. Shodno članu 122 Zakona o javnim nabavkama ("Službeni list Crne Gore", br. 074/19 od 30.12.2019), ako se ponuda dijelom podnosi putem ESJN, a dijelom neposredno ili putem pošte, ponuđač je dužan da u dijelu ponude koji je podnio putem ESJN-a navede na koji način je dostavio ostale djelove ponude/ The business entity is obliged to provide a description and characteristics of the subject of procurement, which is proven by a sample, that is, a photograph of the goods that are the subject of procurement. Therefore, it is necessary to submit technical documentation, a catalog of goods that are the subject of procurement. Note: The part of the offer that refers to the technical documentation, the catalog of goods is delivered: 1) by direct delivery to the Client's archive at the address Cetinjska no. 2, 81 000 Podgorica; 2) by registered mail with return receipt at the address Cetinjska no. 2, 81 000 Podgorica, with the fact that the above must be delivered by the postal operator no later than the deadline set for submitting the bid. Pursuant to Article 122 of the Law on Public Procurement ("Official Gazette of Montenegro", No. 074/19 of 30.12.2019), if the offer is partly submitted through the EJV, and partly directly or by post, the bidder is obliged to, in the part of the offer that is submitted through ESJN, indicate how he submitted the other parts of the offer.</p>	<p>Stručna i tehnička sposobnost</p>	<p>Da</p>
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<p>Ponuđači mogu ponuditi robu koja je ekvivalentna robi navedenoj u specifikaciji predmeta jednostavne nabavke, uz podnošenje dokaza o ekvivalentnosti (shodno članu 4 stav 1 tačka 7 i članu 88 Zakona o javnim nabavkama). Za stavke u specifikaciji kod kojih su navedeni nazivi proizvođača, ukoliko Ponuđač ponudi proizvod koji je ekvivalent traženom, on mora precizno navesti naziv ekvivalenta, odnosno robe drugog proizvođača, uz podnošenje dokaza o ekvivalentnosti (tehnička dokumentacija kojom dokazuje ekvivalentnost). Ponuđači su dužni dostaviti tehničku dokumentaciju iz kojih se mogu utvrditi bitne karakteristike predmeta nabavke./</p> <p>Bidders can offer goods that are equivalent to the goods specified in the specification of the subject of simple procurement, with the submission of proof of equivalence (in accordance with Article 4 paragraph 1 item 7 and Article 88 of the Law on Public Procurement). For items in the specification where the manufacturer's name is mentioned, if the Bidder offers a product that is equivalent to the one requested, he must precisely state the name of the equivalent, i.e. the goods of another manufacturer, with the submission of evidence of equivalence (technical documentation proving equivalence). Bidders are obliged to submit technical documentation from which essential characteristics of the subject of procurement can be determined.</p>	<p>Drugi uslovi</p>	<p>Da</p>
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Kriterijumi prije izmjena

Opis	Očekivani odgovor ponuđača	Metod bodovanja	Važi za sve partije
Cijena	-	-	Da
<p>Parametar kvalitet (10): Vrednovanje ponuda po osnovu parametra kvalitet odnosi se na rok isporuke. Ponuđač sa najkraćim ponuđenim rokom isporuke dobija maksimalan broj bodova. Ostale prispjele ponude biće bodovane prema formuli:</p> <p>Broj bodova = najkraći ponuđeni rok za isporuku robe x 10</p> <p style="padding-left: 40px;">ponuđeni rok za isporuku robe</p> <p>Napomena: Ponuđeni rok isporuke ne može biti duži od 60 dana od dana potpisivanja ugovora.</p> <p>Quality parameter (10): Evaluation of bids based on the quality parameter refers to the delivery time. The bidder with the shortest offered delivery time received the maximum number of points. Other received bids will be scored according to the formula:</p> <p>Number of points = shortest offered deadline for delivery of goods/ offered deadline for delivery of goods x 10</p> <p>Note: The offered delivery time cannot be longer than 60 days from the day of signing the contract.</p>	Eksplisitna numerička vrijednost	Relativno	Da

Kriterijumi nakon izmjena

Opis	Očekivani odgovor ponuđača	Metod bodovanja	Važi za sve partije
Cijena	-	-	Da
<p>Parametar kvalitet (10): Vrednovanje ponuda po osnovu parametra kvalitet odnosi se na rok isporuke. Ponuđač sa najkraćim ponuđenim rokom isporuke dobija maksimalan broj bodova. Ostale prispjele ponude biće bodovane prema formuli:</p> <p>Broj bodova = najkraći ponuđeni rok za isporuku robe x 10 ponuđeni rok za isporuku robe</p> <p>Napomena: Ponuđeni rok isporuke ne može biti duži od 60 dana od dana potpisivanja ugovora.</p> <p>Quality parameter (10): Evaluation of bids based on the quality parameter refers to the delivery time. The bidder with the shortest offered delivery time received the maximum number of points. Other received bids will be scored according to the formula:</p> <p>Number of points = shortest offered deadline for delivery of goods/ offered deadline for delivery of goods x 10</p> <p>Note: The offered delivery time cannot be longer than 60 days from the day of signing the contract.</p>	EksPLICITNA numerička vrijednost	Relativno	Da

Tehnička specifikacija prije izmjena

Redni broj partije	Opis	Procijenjena vrijednost bez PDV	Redni broj predmeta nabavke	Opis predmeta nabavke	Bitne karakteristike predmeta nabavke	Količina	Jedinica mjere
1	Nabavka opreme za distance learning za potrebe Univerziteta Crne Gore (Crna Gora)/ DISTANCE LEARNING EQUIPMENT : A mobile set of equipment for hybrid implementation and capture of the pedagogical process in lecture halls and laboratories	31000.00	1	Network switch	Next minimum requirements: Networking Interfaces: 24x 10/100/1000 RJ45 Port, 2x 1/10G SFP+ Ethernet Ports Total Non-Blocking Throughput: 44 Gbps Switching Capacity: 88	1.00	pcs

					Gbps Forwarding Rate: 65.472 Mpps Power Method: Universal 100- 240VAC/50-60 Hz and DC Input Power Supply: Internal AC Max. Power Consumption (Excluding PoE Output): 50W LEDs: System, RJ45 Data Ports, SFP+ Data Ports Status: PoE; Speed/Link/Activity ESD/EMP Protection Air: ± 16 kV, Contact: ± 12 kV Shock and Vibration ETSI300-019-1.4 Standard Operating Temperature: -5 to 40° C (23 to 104° F) Operating Humidity: 10 to 90% Noncondensing Certifications: CE, FCC, IC Total Available PoE: 400W PoE Interfaces all ports: PoE/PoE+ at least 8 ports: 60W PoE++ Max. PoE Wattage per Port by PSE PoE+: 32W PoE++: 64W Compatible product with access point from this segment of tender is required		
			2	Access point	Next minimum requirements: Weatherproofing: IP54 Management interfaces: Ethernet, Bluetooth	1.00	pcs

Networking interface:
1x GbE RJ45 port,
Button, Factory reset
LED: White/Blue
Power method: PoE+,
passive PoE (48V)
Max. power
consumption: 16.5W
Max. TX power
2.4 GHz: 26 dBm
5 GHz: 26 dBm
MIMO
2.4 GHz: 4 x 4
5 GHz: 4 x 4
Throughput rate
2.4 GHz: 600 Mbps
5 GHz: 2400 Mbps
Antenna gain
2.4 GHz: 4 dBi
5 GHz: 5.5 dBi
Mounting: Wall/ceiling
(included)
Operating
temperature: -30 to 60°
C (-22 to 140° F)
Operating humidity: 5 -
95% noncondensing
Certifications: CE,
FCC, IC
WiFi standards:
802.11a/b/g/WiFi
4/WiFi 5/WiFi 6
Wireless security:
WPA-PSK, WPA-
Enterprise
(WPA/WPA2/WPA3)
BSSID: 8 per radio
VLAN: 802.1Q
Advanced QoS
Per-user rate limiting
Guest traffic isolation
Supported Concurrent
clients : 300
Supported Data Rates
802.11a: 6, 9, 12, 18,
24, 36, 48, 54 Mbps
802.11b: 1, 2, 5.5, 11
Mbps
802.11g: 6, 9, 12, 18,
24, 36, 48, 54 Mbps
802.11n (WiFi 4): 6.5
Mbps to 600 Mbps
(MCS0 - MCS31, HT

			20/40) 802.11ac (WiFi 5): 6.5 Mbps to 1.7 Gbps (MCS0 - MCS9 NSS1/2/3/4, VHT 20/40/80/160) 802.11ax (WiFi 6): 7.3 Mbps to 2.4 Gbps (MCS0 - MCS11 NSS1/2/3/4, HE 20/40/80/160) Compatible product with access point from this segment of tender is required		
	3	Wireless mouse and keyboard	Next minimum requirements: Keyboard Weight (with batteries): 498 g Silent buttons technology Adjustable keyboard height Spill-resistant design Caps lock indicator light On/Off power switch 2 AAA batteries (Alkaline Battery) Mouse Weight (with batteries): 75.2 g Silent buttons technology On/off power button 1 AA batteries (Alkaline Battery) Compact shape Signal frequency: 2.4Ghz Signal range (in meters): 10 m Small USB receiver Compatible product with network switch from this segment of	1.00	kit

			tender is required		
	4	PTZ camera	Next minimum requirements: Image Sensor: 1/2.8" 4K Exmor CMOS Output Resolutions: 4K/30, 4K/29.97, 4K/25, 1080p/60, 1080p/59.94, 1080p/50, 1080p/30,1080p/29.97, 1080p/25, 1080i/60, 1080i/59.94, 1080i/50, 720p/60, 720p/59.94, 720p/50 Effective Picture Elements: 8 Megapixels S/N Ratio: ≥ 50dB Exposure Control: Auto, Manual, Priority AE (Shutter, IRIS), BLC, WDR Optical Zoom: 21X Digital Zoom: 12X Total Zoom: 252X Viewing Angles: DFOV: 66.4° (Wide) to 3.3° (Tele) HFOV: 52.26° (Wide) to 2.66° (Tele) VFOV: 41.26° (Wide) to 2° (Tele) Focal Length: f = 5.3 mm (Wide) to 110 mm (Tele) Aperture (Iris): F = 1.6 (Wide) to 3.8 (Tele) Minimum Working Distance: 1.5 m (Wide), 1.5m (Tele) Pan / Tilt Angles: Pan: ±170°, Tilt: +90° / -30° Pan / Tilt Speed (Manual): Pan: 0.1° to 100° /sec, Tilt: 0.1° to 100° /sec Preset Speed: Pan: 200° /sec, Tilt: 200° /sec Preset Positions: 10	1.00	pcs

(IR), 255 (RS-232, RS-422, IP)
Camera Control –
Interfaces: RS-232 (DIN8), RS-422 (RJ45), IP
Camera Control –
Protocols: VISCA (RS-232 / RS-422 / IP), PELCO-D & PELCO-P (RS-232 / RS-422), CGI (IP)
Image Processing:
Noise Reduction (2D / 3D), Flip, Mirror
Power Frequencies: 50Hz, 60Hz
Tracking Modes:
Presenter Mode, Zone Mode, Hybrid Mode
Protection Mode:
Sleep Mode
Audio Channels: 2ch Stereo
Audio Codecs: AAC-LC, PCM
Video Outputs: 3G-SDI, HDMI, IP, USB
Audio Outputs: 3G-SDI, HDMI, IP, USB
Audio Inputs: MIC in, Line in
Power Requirement: AC 100 - 240V to DC 12V/5A
Power Consumption: 19W
PoE: PoE+
Dimensions (W x H x D): 180.0 x 192.0 x 145.0 mm
Net Weight: 2.0 (±0.1) kg
Security: Kensington Slot
Operating Conditions:
Temperature: 0°C to +40°C
Humidity: 20% to 80%
Storage Conditions:
Temperature: -20°C to +60°C ;
Humidity: 20% to 95%

					IP Streaming: Resolution: 4K 30fps Maximum Frame Rate: 4K 30fps Network Protocols: IPv6, IPv4, TCP, UDP, ARP, ICMP, IGMP, HTTP, DHCP, RTP / RTCP, RTSP, RTMP, VISCA over IP NDI®HX Capability: Yes Connector: USB 3.0 USB Audio Class: UAC 1.0 USB Video Class: UVC 1.1 Web UI Live Video Preview: Yes Web UI Camera PTZ Control: Pan, Tilt, Zoom, Focus, Preset Control Web UI Camera / Image Adjustment: Exposure, White Balance, Picture Web UI Network Configuration: DHCP, IP Address, Gateway, Subnet Mask, DNS Warranty: 3 Years Package Contents: Camera, Drilling Paper, Ceiling Mount Bracket (x2) Quick Start Guide, Cable Fixing Plate, M2 x 4 mm Screw (x3), Power Adapter & Power Cord, 1/4"-20 L=6.5 mm Screw (x2), Remote Control, M3 x 6 mm Screw (x3), DIN 8 to D-Sub 9 Cable, RS-232 In/Out Y Cable, Cable Ties (x4) API- available for USB/IP programming		
	5	Interactive display with built-in computer			Next minimum requirements: Diagonal size: 86"	1.00	pcs

Resolution: 3840 x 2160
Response time: 5 ms
Brightness: 420 cd/m2
Static contrast ratio: 4500:1
Glass hardness: AG Tempered Glass - Mohs Level 7
Glass type: Low parallax - max 1mm air gap between panel and glass
Lifespan: 50.000 hours
Touch technology: IR
Simultaneous touch points: 20
Touch response time: 5 ms
Tracking Rate: 6 m/s
Touch Accuracy: 1.5mm
Windows Ink trigger with pens: Yes
Passive Pens included: 2
Writing with 2 different colors simultaneously: Yes
Palm Rejection: Yes
Classroom Essential Apps: Whiteboard, Annotate, Timer, Media Players, Browser, PDF Reader, Screen Record, Spinner, Voting, Math Tools
OPS slot: Intel® spec 80Pin
OPC PC: Intel i7-10510U, 16GB RAM, 250GB SSD, Windows 10 Pro licence
HDMI IN: 3
HDMI Out: 1
USB-A 2.0: 1
USB-B for Touch: 2
USB-A 3.0: 4
USB-C front mounted with support for Audio, Video, Touch and Ethernet: 1

				USB-C side mounted with support for Audio, Video, Touch and Power Charge 65W: 1 LAN In (RJ45): 1 LAN Out (RJ45): 1 WiFi: IEEE 802.11a/b/g/n/ac with 2 × 2 MIMO (hotspot only) 2.4 and 5 GHz bands Bluetooth: 5.0 Built In computer: Android 11, 6GB RAM, 64GB storage, 4K resolution Built in 2.1 speakers: 2 x 15W + 15W subwoofer Built In Line Array Microphones with 8m pickup range: Yes Embedded digital signage system with cloud management: Yes, 2GB Free cloud space included MDM remote management from cloud: Yes - 5 year licence Mirroring Any Device To The Board: Built in AirServer with support for Miracast, Airplay and Chromecast. Enclosed 1 USB-C button dongle for wifi direct mirroring from Windows, iOS/macOS and Android devices. Warranty: 5 year Authorisation needed.	
	6	Interactive display motorized stand	Next minimum requirements: Black colour frame VESA 800x600 Maximum Width 117,8 cm, Depth 77,7 cm Anti-collision - When the screen touches something during a	1.00 pcs	

		<p>movement, the movement stops and the lift goes back a bit in the opposite direction.</p> <p>Minimum Height: 91,2 cm</p> <p>Maximum Height: 156,2 cm</p> <p>Stroke 650 mm, speed up to 38 mm/s</p> <p>Maximum load: 120 kg</p> <p>Screen position: Landscape, Portrait</p> <p>Max. 86 inch Screen</p>		
7	Presentation remote	<p>Next minimum requirements:</p> <p>Presentation remote</p> <p>Weight (with batteries): 49,2 g</p> <p>Motion sensor</p> <p>3D accelerometer and Gyroscope</p> <p>Battery: Rechargeable Lithium Polymer, 85 mAh</p> <p>Battery Life (rechargeable): 3 months, (May vary based on usage)</p> <p>Receiver</p> <p>Charging cable</p> <p>Length: 140 mm</p> <p>Connection Type: Bluetooth Low Energy and 2.4 GHz wireless connection</p> <p>Wireless range: 30 m (May vary based on environmental and computing conditions)</p> <p>LED Indicator Lights: Battery and Connectivity</p>	1.00	pcs
8	HDMI-USB encoder	<p>Next minimum requirements:</p> <p>Convert Ultra HD to USB 3.0 with an HDMI loop and external power for BYOM applications</p>	1.00	pcs

					HDMI capture to USB 3.0 Compatible with USB 2.0 (high-quality MJPEG) HDMI loop output Up to Ultra HD 4K (3840/4096x2160) at 30 fps and 1080p at 60 fps HDMI audio support Analogue audio I/O Internal frame buffers maximize frame rates Hardware-based color space and sampling conversion Automatic scaling and frame rate conversion (UHD up-scaling not supported) Image controls: Brightness, contrast, saturation, and hue settings Supports multiple devices on the same PC Compatible with Windows, Mac OSX, Linux and Android Powered from external adapter or USB A USB cable is included No driver required		
	9	Tie microphone, pocket microphone transmitter, microphone receiver			Next minimum requirements: Compatible kit consisting of 1 wireless bodypack transmitter, 1 lavalier microphone, 1 rackmount receiver and 1 rack mountable kit Integrated RJ45 network port allows control, monitoring and setup Up to 88 MHz bandwidth, up to 32 channels	1.00	kit

		Increased RF output power (10/30/50 mW) Transmission Range: up to 100 meters Remote control switch available for the bodypack transmitter Compatible and interchangeable parts with other microphone kits required in this tender		
10	Handheld microphone with transmitter, microphone receiver	Next minimum requirements: Compatible kit consisting of 1 handheld microphone with mute switch, 1 microphone capsule (supercardioid, condenser), 1 rackmount receiver, 1 rack mountable kit and 1 mic clip Integrated RJ45 network port allows control, monitoring and setup Up to 88 MHz bandwidth, up to 32 channels Increased RF output power (10/30/50 mW) Transmission Range: up to 100 meters Remote control switch available for the bodypack transmitter Compatible and interchangeable parts with other microphone kits required in this tender	1.00	kit
11	Headphones for computer	Next minimum requirements: Circumaural Closed-Back Monitor Headphones Collapsible design with swiveling earcups Rejection of outside noise is high, rated up	1.00	pcs

		to -32 dB Neodymium magnets Padded leatherette earcups and adjustable padded headband Frequency response: 8 - 25000 Hz Jack plug: 3,5 / 6,3 mm stereo Cable length: Coiled Cable (min. 1.3m / max. 3m) Weight w/o cable: 285 g		
	12	Camera tripod	Next minimum requirements: Video tripod kit with fluid video head and carrying bag Side pull selector ensures quick setup with both hands Fluid head with spirit level and quick release plate Pan and tilt locking knobs allow for single axis movement Twist leg locking system, enabled by simply turning each knob 90° Pan bar included for fluid movement; can be removed Weight: 1.64 kg Top Attachment: 1/4" screw, 3/8" screw Ball Flat: Ball Safety Payload Weight: 4 kg Base Diameter: 40 mm Bubble Spirit Level (No.): 1 Carrying Bag Included: Yes Center Column: rapid Closed Length: 40 cm Colour: black/silver Easy Link: Yes Front Tilt: -90°/+65°	1.00 kit

Head Type:
Video/Fluid Head
Leg Type: Single
Leg Angles: 22°, 54°, 89°
Leg Lock Type: Twist Lock
Leg Sections: 4
Legs Tube Diameter: 12, 15.5, 19, 22.5 mm
Material: Aluminium
Maximum Height: 150 cm
Maximum Height (With Center Column Down): 129 cm
Maximum Working Temperature: 60 °C
Min Height: 40 cm
Minimum Working Temperature: -30 °C
Pan Bar Included: Yes
Pan Drag: fluid cartridge with fixed drag
Panoramic Rotation: 360 °
Plate Type: 501PL
Quick Release: Yes
Tilt Drag: fluid cartridge with fixed drag
Upper Disc Diameter: 40 mm

13 Projection screen

Next minimum requirements:
Control: Electric
Aspect ratio: 16:10
External dimensions (W x H): exactly 300 x 191 cm
Viewing area (W x H): exactly 290 x 181 cm
Weight: 24.0 kg

1.00 pcs

14 Projector

Next minimum requirements:
Native resolution: 1920x1080 or higher
Native refresh rate: 50Hz or higher
Light source: laser
Light output: 5000lm or

1.00 pcs

		better Time until light output declines to 50%: 20000 hours or longer Max screen size: at least 5 metres AV input connections: at least 2x HDMI and DIGITAL LINK (video/network/serial control, HDBaseT compliant) AV output connections: audio out (3,5mm stereo jack) Installation options: ceiling/floor, front/rear Possibility to control projector via IP (should use wired ethernet connection), availability of API document for IP projector control Keystone correction: +/-25% or more (vertical and horizontal) Optical axis shift: at least +/-20% (horizontal) and +40% (vertical)		
	15	Projector mount	Next minimum requirements: Type: Projector ceiling mount Colour: Silver TÜV certified: Yes Min. distance to ceiling: 550mm Max. distance to ceiling: 850mm Turn: Up to 360° Tilt: Up to 15° Roll: 15° Max. weight load: 30kg Range (diameter): 30mm - 410mm Height range: 550mm - 850mm	1.00 pcs
	16	Warranty	Warranty for whole set minimum 1 year.	1.00 year
	17	A mobile set of	Next minimum	1.00 pcs

equipment for capture of the pedagogical process on the field: camera	requirements: Compact live streaming 4K camcorder with SDI output Dual codec advanced streaming technology Tele-macro mode for better focus on close objects Lower-third and full-screen titling graphic solutions 4:2:2 4K Video at 24/30p Real-Time Broadcast Info Overlay LAN Configuration with 1 button 3G-SDI & HDMI Out, Live HDMI UHD 4K Out 12x Optical Zoom Lens 2-Channel XLR Audio Inputs 4K Ultra HD recording (150 Mbps, 24/30p) to SDXC (UHS-I Speed class3) card Single 1/2.3-inch CMOS image sensor with 12.4 million pixels (9.03 active) Integrated 12x F1.2-3.5 zoom lens (35mm equivalent: 29.5-354mm) Dynamic zoom in HD mode combines optical zoom and pixel mapping to create seamless and lossless 24x zoom Broadcast features Customizable graphic overlays (on/off switchable) Option for custom broadcaster logos, watermark, time and temperature Selectable pre-loaded logos
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Wired remote control supported
HD-SDI (3G) and HDMI outputs (4K output via HDMI only)
Live 4K UHD output via HDMI connector
Streaming engine compatible with Wowza Streaming Engine
IP network remote control, remote viewing, metadata editing, FTP clips uploading
4:2:2 full HD recording at 50Mbps (24-60p)
120fps HD slow motion recording
Dual SDHC/SDXC slots enable dual, backup and continuous recording
9 user button assignable functions
2 position ND filter (1/4, 1/16)
0.24-inch colour viewfinder (1.56M pixel) with smart focus assist function
3.5-inch colour LCD display (920K pixel) with smart focus assist function
Built-in stereo microphone
Includes handle unit, battery and AC Adapter

Next minimum requirements:
Compact live streaming 4K camcorder with SDI output
Dual codec advanced streaming technology
Tele-macro mode for better focus on close objects

Lower-third and full-screen titling graphic solutions
4:2:2 4K Video at 24/30p
Real-Time Broadcast Info Overlay
LAN Configuration with 1 button
3G-SDI & HDMI Out, Live HDMI UHD 4K Out
12x Optical Zoom Lens
2-Channel XLR Audio Inputs
4K Ultra HD recording (150 Mbps, 24/30p) to SDXC (UHS-I Speed class3) card
Single 1/2.3-inch CMOS image sensor with 12.4 million pixels (9.03 active)
Integrated 12x F1.2-3.5 zoom lens (35mm equivalent: 29.5-354mm)
Dynamic zoom in HD mode combines optical zoom and pixel mapping to create seamless and lossless 24x zoom
Broadcast features
Customizable graphic overlays (on/off switchable)
Option for custom broadcaster logos, watermark, time and temperature
Selectable pre-loaded logos
Wired remote control supported
HD-SDI (3G) and HDMI outputs (4K output via HDMI only)
Live 4K UHD output via HDMI connector
Streaming engine compatible with Wowza Streaming

					Engine IP network remote control, remote viewing, metadata editing, FTP clips uploading 4:2:2 full HD recording at 50Mbps (24-60p) 120fps HD slow motion recording Dual SDHC/SDXC slots enable dual, backup and continuous recording 9 user button assignable functions 2 position ND filter (1/4, 1/16) 0.24-inch colour viewfinder (1.56M pixel) with smart focus assist function 3.5-inch colour LCD display (920K pixel) with smart focus assist function Built-in stereo microphone Includes handle unit, battery and AC Adapter		
	18	Charger and additional batteries for camera	Next minimum requirements: Compatible kit consisting of one charger of two batteries. Charger: Automatic safety and protection features include low voltage charging, thermal monitoring and overcharge protection Status LED indicator provides detailed display of charging process and fault detection Charging will automatically stop	1.00	kit		

				<p>when the battery is fully charged</p> <p>Capable of multiple configurations for use as stand alone charger or joint connection to a second one</p> <p>Universal AC input for worldwide use.</p> <p>Charger Input Voltage: AC Adapter 100-240V 60/50Hz</p> <p>Charger Input Voltage 2: DC Input DC 14-19V</p> <p>Charger Power Consumption: 36W</p> <p>Charger Charge Current: 1.6A</p> <p>Charger Indications: Yes, LED for Charging process and fault detection</p> <p>Battery: Capacity: 7350mAh, 55Wh</p> <p>Battery Protection: Over charge, Over discharge, Over current</p> <p>Separate DC output</p> <p>Compatible parts with camera from this segment of tender are required, also compatible cables for direct connection to mentioned devices should be included</p>		
	19	Tripod for camera		<p>Next minimum requirements:</p> <p>Video tripod kit with fluid video head and carrying bag</p> <p>Twin legs and middle spreader</p> <p>Fluid Drag System on pan and tilt movements</p> <p>Counterbalance system on tilt</p>	1.00	pcs

movement
Sliding plate for
camera connection
and set up
Leveling bubble for
setup
Weight: 3100 g
Material: Aluminum
Safety Payload
Weight: 5 kg
Min Height: 67.5 cm
Maximum Height: 154
cm
Head Type:
Video/Fluid Head
Leg Sections: 3
Legs Tube Diameter:
15.2, 18.5, 21.7 mm
Quick Release: Yes
Counterbalanced
Weight: 2.4 kg
Center of gravity: 55
mm
Spreader: mid level -
fixed arm length
Closed Length: 72 cm
Ball Flat: 60 Ball
Top Attachment: 1/4"
screw, 3/8" screw
Powered by
(batteries): 0
Bubble Spirit Level
(No.): 1
Center Column: no
center column
Color: Black
Front Tilt: -70° / +90°
Leg Type: Twin
Leg Angles: 19°
Leg Lock Type: Flip
Lock
Maximum Working
Temperature: 60 C
Minimum Working
Temperature: -20 C
Pan Bar Included: Yes
Pan Drag: fluid
cartridge with fixed
drag
Panoramic Rotation:
360
Tilt Drag: fluid
cartridge with fixed

		drag Compatible product with camera, additional batteries, wireless receiver for tie microphone, microphone for camera from this segment of tender are required		
	20	SD card for camera	Next minimum requirements: Capacity: 128 GB Read Speed: up to 170 MB/s Write Speed: up to 90 MB/s Video Speed: C10, U3, V30 Form Factor: SDXC Compatible parts with camera from this segment of tender are required	2.00 pcs
	21	Tie microphone with wireless transmitter and receiver	Next minimum requirements: Compatible kit consisting of 1 wireless bodypack transmitter, 1 lavalier microphone, 1 wireless on-camera receiver Up to 88 MHz bandwidth, up to 32 channels Increased RF output power (10/30/50 mW) Transmission Range: up to 100 meters Remote control switch available for the bodypack transmitter Up to 8 hours of operation time Batteries for transmitter and receiver are included Compatible parts with camera and headphones from this segment of tender are required, also compatible cables and	1.00 kit

		mounts for direct connection and installation to mentioned devices should be included		
	22	Microphone for camera Next minimum requirements: XLR Output Connection 48V Phantom Power Includes Foam Windscreen Compatible product with camera from this segment of tender is required, also compatible cables and mounts for direct connection and installation to mentioned devices should be included	1.00	pcs
	23	Headphones for camera Next minimum requirements: Circumaural Closed-Back Monitor Headphones Collapsible design with swiveling earcups Rejection of outside noise is high, rated up to -32 dB Neodymium magnets Padded leatherette earcups and adjustable padded headband Frequency response: 8 - 25000 Hz Jack plug: 3,5 / 6,3 mm stereo Cable length: Coiled Cable (min. 1.3m / max. 3m) Weight w/o cable: 285 g Compatible product with camera and tie microphone with wireless transmitter and receiver from this segment of tender is	1.00	pcs

required, also compatible cables for direct connection to mentioned devices should be included

24 Triple lightning kit with tripods and bag

Next minimum requirements:
On or off camera LED lighting fixture
Location/studio lighting kit with 3 lights on compact stands and with carrying case and 22 filters (including diffusion, skin tone, magenta and colour FX)
Hot-shoe mount adapters
360° ball head swivels
Power supplies
Impact-resistant carrying case
Each light with:
Continuous Light and Flash Modes
Built-In HSS flash sync reciever
CRI at least 96 and TLCI at least 91
Color Temperature: 3150 to 6300K
Continuous Light
Output: 2000 Lux at 90cm
Flash Output: f/8 at ISO 200 at 90cm
Runs on AA Batteries, D-Tap or AC
Three 1/4"-20 Threads;
Camera Shoe Mount
Filter Pack and Holder;
Belt Pouch

1.00 kit

25 Bag for equipment

Next minimum requirements:
Handheld, soft carry bag with protection for equipment on the field
Compatible product with camera, charger and additional batteries for camera,

1.00 pcs

		tie microphone with wireless transmitter and receiver, microphone for camera and headphones for camera from this segment of tender is required (enough place to fit all of them at once inside)		
26	warranty	Warranty for whole set	1.00	year
27	A mobile set of equipment for hybrid implementation of the pedagogical process in the pedagogues' offices Camera and speakerphone kit	<p>Next minimum requirements:</p> <p>Camera:</p> <p>Use low-light 2Mega pixel sensor for imaging in low-light conditions.</p> <p>Wide field of view (DFOV) 84.5°</p> <p>Focal lens of 3.9mm (wide) ~ 47.3mm (tele)</p> <p>Lens F1.8 (wide)~2.8 (tele)</p> <p>Smart Frame for automatic FOV adjustment to fit all participants.</p> <p>True WDR up to 120 dB (Superb backlight compensation technology for optimizing light balance in high-contrast conditions.)</p> <p>18X total zoom (12X optical zoom)</p> <p>Pan: ±170°. Tilt: +90° (up) -30° (down)</p> <p>Image Mirror, Flip, AE, white balance (auto, manual override via PC based app)</p> <p>Minimum focus distance is 1.5m.</p> <p>10 camera presets (through remote control)</p> <p>Standard tripod screw holes and Kensington slot.</p>	1.00	kit

Speakerphone:
Full duplex
microphone array with
echo cancellation.
Advanced noise
suppression.
Dual-microphone
array.
3.5mm phone-in jack.
3.5mm line out.
Speaker volume
adjustment: Adjustable
to 90 dB SPL at 0.5 m.
Touch control for
volume down/up,
mute, phone input, call
and hang-up.
Support to bridge
phone-in and USB
connection into one
call.
Includes Kensington
slot.

Video:
Video compression
format of H.264, YUV,
YUY2, MJPEG, NV12.
Network video
compression format of
H.264.
Support the below
resolution: (16:9) 1920
x 1080, 1600 x 900,
1280 x 720, 960 x 540,
848 x 480, 800 x 448,
640 x 360, 424 x 240,
320 x 180; (4:3) 800 x
600, 640 x 480, 480 x
360, 320 x 240 at 60,
30, 15fps
IP streaming resolution
(Not for USB video
stream): 1080p, 720p,
480p and 360p.
Support bit rate:
512Kbps, 1Mbps,
2Mbps, 4Mbps,
8Mbps, 16Mbps and
32Mbps.

Audio:
AAC-LC

Echo cancellation.

Network:

Support the network
protocol: RTSP, RTMP
Support 10/100/1000
Mbps. (LAN, RJ45
interface)
Support VISCA over
IP.

Support remote
management via PC
based software.

Support real-time
streaming via PC
based software.

Support DHCP / Static
IP address setting.

Support NTP Server.

Security:

Support password
protection.

Support SSL certificate
import.

General:

Support IR remote
control.

Support 3rd party
integration: VISCA,
Pelco-P, Pelco-D via
RS232 (128 preset
points via VISCA
command)

Support VISCA over
IP.

Support standard
UVC/UAC plug-and-
play.

Support Web UI
management.

Support basic camera
settings adjustment via
AVer PTZApp.

Support camera wall-
mount method.

Warranty:

For whole set
minimum 1 year.

	2	Nabavka opreme za podršku distance learning-a za potrebe Univerziteta Crne Gore (Crna Gora)/ PROCUREMENT OF DISTANCE LEARNING SUPPORTING EQUIPMENT	10000.00		1	Notebook #1	Notebook with next minimum requirements: Processor: Intel i5-1245U or equivalent , up to 4.4 GHz,12 MB cache, 10 cores, 12 threads with Vpro Chipset Intel PCH-LP or equivalent Memory: 8GB DDR4 3200 MHz, Two SODIMM slots Internal storage: 256 GB SSD NVME Wireless 6, Bluetooth 5.2 Display:14" diagonal FHD, WVA, anti glare high brightness 250 nita Graphic: integrated Camera: FHD RGB camera with privacy shutter Ports: 1 x RJ45, 1 x USB 3.2 gen 1, 1 x USB 3.2 gen 1 with powershare, Two Thunderbolt 4 ports with DisplayPort Alt Mode/USBC/USB4 /Power Delivery, 1 x universal audio port, 1 x HDMI 2.0, 1 x microsd card slot, 1 x USB type C power input, 1x wedge-shaped lock slot Backlit keyboard Security: Fingerprint-reader sensor technology Capacitive,Fingerprint-reader sensor resolution 508 dpi, Fingerprint-reader sensor pixel size 256 x 360, Trusted Platform Module (TPM) 2.0 FIPS 140-2 Certified, Fingerprint Reader in Power Button tied to	3.00	pcs
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ControlVault 3,
Battery: 4-cell, 58 Whr
Operating system:
Windows 11
Professional or
equivalent
Warranty: min 3 year
Weight maximum 1.4
kg
The bidder is obliged
to provide proof that (if
he is not the
equipment
manufacturer) he is in
partnership with the
equipment
manufacturer, which is
proven by the
authorization of the
equipment
manufacturer (MAF) or
an authorized
distributor, agent of the
equipment
manufacturer that is
offered. If an
authorization is
submitted from an
authorized distributor,
representative of the
manufacturer of the
offered equipment, it is
necessary to submit a
certificate proving that
it is authorized for sale
by the manufacturer
for the procedure in
question
The bidder is obliged
to submit the
manufacturer's
certificate on the
duration of the
warranty period of the
specific equipment
offered.
Warranty minimum 1
year

2 Notebook #2

Notebook with next
minimum
requirements:
Processor: up to 4.8

1.00 pcs

GHz, 12 MB cache, 10
 cores, 12 threads
 Chipset Intel PCH-LP
 or equivalent
 Memory: 16GB DDR4
 3200 MHz
 Internal storage: 512
 GB SSD NVME
 Wireless 6, Bluetooth
 5.2
 Display: 13.3" diagonal
 FHD, WVA, anti glare
 high brightness 250
 nits
 Graphic: integrated
 Camera: FHD IR RGB
 camera with privacy
 shutter
 Ports 2x USB Type-C
 Thunderbolt 4.0 ports
 with Power Delivery
 and DisplayPort 1.4 Alt
 mode, 1x USB 3.2
 Gen 1 port with
 PowerShare, universal
 audio port, HDMI 2.0
 port, Power-adaptor
 port Power Delivery
 (PD) supported by two
 USB Type-C
 Thunderbolt 4.0 ports ,
 Security-cable slot
 One wedge-shaped
 lock slot
 Backlit keyboard
 Security: Fingerprint-
 reader sensor
 technology Capacitive
 Fingerprint-reader
 sensor resolution 500
 dpi , Fingerprint-reader
 sensor pixel size 108 x
 88, Trusted Platform
 Module (TPM) 2.0
 discrete, FIPS 140-2
 certification for TPM,
 Trusted Computing
 Group (TCG)
 Certification for TPM,
 Contacted smart card
 and Control vault 3,
 Contactless smart
 card, NFC, and Control

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				dynamic Acoustic principle - closed Adapter - 3.5mm, angled Cable lengt - 1.4m Frequency response (speaker) 6 Hz to 22,000 Hz Impedance Active: 470 Ω, Passive: 100 Ω Sound pressure level (SPL) 118 dB (1 kHz, 1V) Total harmonic distortion (THD) < 0.3 % Microphone pick-up pattern, Dual Beamforming Wearing style, Around-ear, Transducer size 42 mm Charging time 3 hrs Operating time 17 hrs Bluetooth version - Bluetooth 5.0 AptX™, AptX™ Low Latency, AAC, SBCActive Noise Cancellation True Warranty minimum 1 year		
	4	Portable touchscreen device #1		Tablet with next minimum requirements: 8 GB RAM 256 GB storage Chip M1 chip or equivalent 8-core CPU with 4 performance cores and 4 efficiency cores 8-core GPU,16-core Neural Engine Liquid Retina display 11-inch (diagonal) LED backlit Multi-Touch display with IPS technology 2388-by-1668-pixel resolution at 264 pixels	2.00	pcs

per inch (ppi)
ProMotion technology
Wide color display (P3)
True Tone display
Fingerprint-resistant
oleophobic coating
Fully laminated display
Antireflective coating
1.8% reflectivity
SDR brightness: 600
nits max
Camera
Wide: 12MP, *f*/1.8
aperture
Ultra Wide: 10MP,
f/2.4 aperture, and
125° field of view
2x optical zoom out
Digital zoom up to 5x
Five□element lens
(Wide and Ultra Wide)
Brighter True Tone
flash
Panorama (up to
63MP)
Sapphire crystal lens
cover
Autofocus with Focus
Pixels (Wide)
Smart HDR 3
Speakers Four
speaker audio
Microphones Five
studio-quality
microphones for calls,
video recording, and
audio recording
Thunderbolt / USB 4
port with support for:
Charging, DisplayPort,
Thunderbolt 3 (up to
40Gb/s), USB 4 (up to
40Gb/s), USB 3.1 Gen
2 (up to 10Gb/s)
Operating System
iPadOS 15 or
equivalent
Power and Battery
Built-in 28.65-watt-
hour rechargeable
lithium-polymer battery

The bidder is obliged

to provide proof that (if he is not the equipment manufacturer) he is in partnership with the equipment manufacturer, which is proven by the authorization of the equipment manufacturer (MAF) or an authorized distributor, agent of the equipment manufacturer that is offered. If an authorization is submitted from an authorized distributor, representative of the manufacturer of the offered equipment, it is necessary to submit a certificate proving that it is authorized for sale by the manufacturer for the procedure in question
The bidder is obliged to submit the manufacturer's certificate on the duration of the warranty period of the specific equipment offered.
Warranty min 1 year

5 Portable touchscreen device #2

Tablet with next minimum requirements:
8GB RAM
256GB Storage
Liquid Retina XDR display
12.9-inch (diagonal) mini-LED backlit Multi-Touch display with IPS technology
2D backlighting system with 2596 full-array local dimming zones
2732-by-2048-pixel

1.00 pcs

resolution at 264 pixels
per inch (ppi)
ProMotion technology
Wide color display (P3)
True Tone display
Fingerprint-resistant
oleophobic coating
Fully laminated display
Antireflective coating
1.8% reflectivity
SDR brightness: 600
nits max
XDR brightness: 1000
nits max full screen,
1600 nits peak (HDR
content only)
1,000,000:1 contrast
ratio
M1 chip
8-core CPU with 4
performance cores and
4 efficiency cores
8-core GPU
16-core Neural Engine
Camera
Pro camera system:
Wide and Ultra Wide
cameras
Wide: 12MP, *f*/1.8
aperture
Ultra Wide: 10MP,
f/2.4 aperture, and
125° field of view
2x optical zoom out
Digital zoom up to 5x
Five-element lens
(Wide and Ultra Wide)
Speakers Four
speaker audio
Microphones Five
studio-quality
microphones for calls,
video recording, and
audio recording
Built-in 40.88-watt-
hour rechargeable
lithium-polymer battery
Operating System
iPadOS 15 or
equivalent
The bidder is obliged
to provide proof that (if
he is not the

					<p>equipment manufacturer) he is in partnership with the equipment manufacturer, which is proven by the authorization of the equipment manufacturer (MAF) or an authorized distributor, agent of the equipment manufacturer that is offered. If an authorization is submitted from an authorized distributor, representative of the manufacturer of the offered equipment, it is necessary to submit a certificate proving that it is authorized for sale by the manufacturer for the procedure in question</p> <p>The bidder is obliged to submit the manufacturer's certificate on the duration of the warranty period of the specific equipment offered.</p> <p>Warranty min 1 year</p>		
3	<p>Nabavka opreme za podmorsko istraživanje za potrebe Univerziteta Crne Gore (Crna Gora)/ PROCUREMENT OF UNDERWATER EQUIPMENT FOR SEAWATER VISUAL AND QUALITY MONITORING WITH ACCESSORIES</p>	37000.00	1	<p>Underwater Remotely Operated Vehicle – ROV with accessories</p>	<p>Underwater remotely operated vehicle – ROV with next minimum characteristics:</p> <ul style="list-style-type: none"> • Dimensions at least: Length 455 mm; Width 338 mm; Height 250 mm • Weight in Air (without Ballast) max 10 kg • Watertight enclosure dimensions at least: inner diameter 102 mm; inner Length 298 mm • Constructed from 	1.00	pcs

HDPE (for frame), aluminum flanges and end caps and aluminum tubes

- Maximum rated depth at least 300 m
- Maximum forward speed at least 1.5 m/s
- Equipped with at least 8 thrusters – 4 vectored and 4 vertical
- Forward Bollard Thrust at least 9 kgf
- Vertical Bollard Thrust at least 7kgf
- Lateral Bollard Thrust at least 9 kgf
- Tether at least 300 m, working strength at least 45 kgf, breaking strength at least 160 kgf, strengthened with Kevlar, including at least 4 twisted pairs of conductors
- Four lights with minimal specification:
 - o 1500 lumens each or better with dimming control
 - o Color Temperature 5,700 kelvin or better
 - o Light beam angle – 135 degrees in water each or better with adjustable tilt
- Equipped with Gyroscope, Accelerometer, Magnetometer, Current and Voltage sensing and Leak detection

Scope of supply:

- One base Underwater ROV unit
- 4 underwater sea lights
- Heavy Configuration Retrofit kit – adding Pitch movement to original ROV,

increased buoyancy,
and external thruster
guards

- Fathom Spool for 300 m Tether
- Two batteries, quickly swappable at working location providing the ROV with at least 2 hours of normal use each
- Battery charger
- Subsea Gripper with minimum specification:
 - o grip force at tip at least 97 N, in middle at least 124 N,
 - o jaw opening at least 62 mm
 - o Push-rod Axial Load Rating 3kg or better
 - o Minimum Linear Piston Travel 13.5 mm or better
 - o Time to Open/Close 1.6 seconds or better
 - o Cable Used CAB-A-3-22AWG or better
 - o Cable Length 635 mm or better
 - o Conductor Gauge 22 AWG or better
 - o Installed Penetrators: Device Side WLP-M06-4.5MM-LC; Cable End WLP-M10-4.5MM-LC; or better
 - o Housing Material Aluminum 6061-T6 or better
 - o Pressure Rating 300 m or better
 - o Weight in Air (w/ cable) 524 g or less
 - o Weight in Water (w/ cable) 267 g or less
- Logitech F310 Controller or equivalent to control the ROV
- Laptop computer with appropriate software to control and monitor the

ROV recommended by the manufacturer with next minimum requirements:

- o Processor I5 last generation or equivalent
- o RAM 8 GB
- o SSD 256 GB
- o Screen 15" full HD
- o LAN connection

10/100

- o USB 3.0 connection
- o HDMI/DP port
- o Windows 11 or equivalent

- A set of spare parts recommended by the manufacturer
- Payload Skid - a modular frame for additional watertight enclosures, lights, and ballast weights
- Niskin water sampler or similar, for integration with the ROV – at least 1 l capacity
- Sea temperature sensor minimal specification:

- o Operating Temperature: -40 to +125°C or better
- o Storage Temperature: -55 to +150°C or better
- o Absolute Accuracy:

- o $\pm 0.1^{\circ}\text{C}$ (between -5 to 50°C) or better
- o $\pm 0.5^{\circ}\text{C}$ (between -40 to 125°C) or better

- o Operating Temperature: -40 to +125°C or better
- o Operating Depth: 0 - 900m or better
- o ArduSub
- o Compatible: yes
- o Development Libraries: At least TSYS01 Arduino,

TSYS01 Python,
TSYS01 ArduPilot

- Temperature sensor interface board
- Pressure sensor

minimal specification:

- o Maximum Mechanical Pressure: At least 50 bar
- o Operating Pressure: 0 - 30 bar or better
- o Operating Depth: At least 0 - 300m
- o Relative Accuracy (0 -45°C): ± 200 mbar (204 cm in fresh water) or better
- o Resolution: .2 mbar (2 mm in fresh water) or better
- o In Air Operating Temperature: At least -20 to +85°C
- o In Water Operating Temperature: At least 2 to 40°C
- o Storage Temperature: At least -40 to +85°C
- o Absolute Accuracy: ± 1.5°C (between 0 to 60°C) or better
- o ArduSub Compatible: Yes
- o Development Libraries: At least MS5837 Arduino, MS5837 Python, MS5xxx ArduPilot

- Pressure sensor interface board
- Low-Light HD USB Camera

minimal specification:

- o Physical
- o Camera PCB Dimensions: 32mm x 32mm
- o Mounting Hole Spacing: 28mm x 28mm
- o Connector: JST-PH to USB or better

- o Working Temperature: -20 - 75°C or better
- o Mass (total): max. 17g
- o Mass (without cable): max. 13.5g
- o Lens
- o Mount Type: M12 x 0.5
- o Field of View (Horizontal): 80° or better
- o Field of View (Vertical): 64° or better
- o Focal Length: 2.97 mm or better
- o Sensor
- o Type Sony Exmor IMX322 / IMX323 or equivalent
- o Format: 1/2.9" or better
- o Pixel Size: 2.8µm (H) x 2.8µm (V) or smaller
- o Distortion: max. 1%
- o Total pixels: 2000(H) x 1121(V) or better
- o Recording pixels: 1920(H) x 1080(V) or better
- o Minimum Illumination: 0.01 lux or better
- o Sensitivity: 5.0V/lux-sec@550nm or better
- o Video Stream
- o Standard (min - max): 240p15 - 1080p30 or better
- o Compression format: H.264 / MJPEG / YUV2 (YUYV)
- o Audio Stream
- o Channels: single-channel, 44.1 kHz or better
- o Format: Linear-PCM (L16) or better
- o Electrical
- o Supply Voltage: 5 V
- o Max Power Draw: 220 mA or less

						<ul style="list-style-type: none">• Scanning Imaging Sonar – range at least 50m, depth rating at least 300m, including everything needed to mount the Sonar on the ROV• Scanning Imaging Sonar minimal specifications:<ul style="list-style-type: none">o Electrical<ul style="list-style-type: none">o Maximum Supply Voltage: 25 voltso Minimum Supply Voltage: 11 voltso Maximum Power Consumption: 5 Wo Communication<ul style="list-style-type: none">o Signal Protocols: USB, Ethernet (UDP), RS485o Message Protocol: Ping Protocol or equivalento Message Subsets: common, ping360 or equivalento Code Library Implementations: Python, C++, Arduinoo Cable<ul style="list-style-type: none">o Cable Used: CAB-PUR-3UTP-28AWG or bettero Cable Length: 755 mm or bettero Conductor Gauge: 28 AWGo Installed Penetrators<ul style="list-style-type: none">o Device Side: WLP-M10-4.5MM-LC or equivalento Cable End: WLP-M10-4.5MM-LC or equivalento Acoustics<ul style="list-style-type: none">o Frequency: 750 kHz or bettero Beamwidth – Horizontal 2° or bettero Beamwidth – Vertical 25° or bettero Minimum Range:		
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- o 0.75 m
- o Maximum Range: 50 m
- o Range Resolution: 0.08% of range
- o Range Resolution at 50m: 4.1 cm
- o Range Resolution at 2m: 1.6 mm
- o Mechanical Resolution: 0.9°
- o Scanned Sector: Variable up to 360°
- o Scan Speed at 2 m: 9 sec / 360° or better
- o Scan Speed at 50 m: 35 sec / 360° or better
- o Continuous 360 degree scan available: yes
- o Mounting Angle Offset available: yes
- o Physical
- o Pressure Rating: 300 m or better
- o Temperature Range: 0-30°C or better
- o Weight in Air (w/ cable): 510 g or less
- o Weight in Water (w/ cable): 175 g or less
- o Sonar Mounting Screw Size: M3x0.5 x 5 mm
- o Mounting Bracket Screw Size: M5x0.8 x 12 mm
- Protective casing
- o Minimal internal dimensions 800x610x535 mm
- o Case material – body made of water resistant plywood, edges made of aluminum, corner protection made of aluminum.
- o At least four handles on sides for carrying
- o Four wheels with stoppers
- o Protective hard foam

		inside the case – at least 10 mm thick o At least one secure lid lock Authorization: • Authorization from manufacturer needed Warranty: • Minimum one year for all equipment Training: Minimum two days on the spot in Kotor		
	2	Sea water quality measurement instrument with accessories	Sea water quality measurement instrument with the following characteristics • Handheld • Conforms to the following standards: EN61326-1 Class B, EN IEC 63000 9, • Sensor probe detachable from control unit • Sensor probe cable length at least 30m • Capable of measuring following parameters: pH, Dissolved oxygen, Electrical conductivity, Salinity, Total dissolved solid, Seawater specific gravity, Temperature, Turbidity, Water depth, Oxidation reduction potential, GPS location • Software for data transfer to a PC • One hand operation • Auto calibration feature • Auto hold function • Possibility to set a site name for repeated measurements at the same location(s); at least 20 sites can be stored	1.00 pcs

• Possibility for single and repeated (interval) measurements;
Interval settable between 10 seconds and 24 hours
• Possibility to select different units of measurement for various parameters
• Inbuilt compensation capabilities: Salinity compensation and atmospheric pressure compensation for dissolved oxygen (DO); Temperature compensation for conductivity (COND); Setting total dissolved solid (TDS) coefficient for TDS
• Multiple language user menu selectable – English language must be present
• User settable Auto power off function
• Display contrast settable

Sensor head characteristics
• Measurement temperature range -10°C to 55°C
• Outer diameter maximum 97 mm
• Sensor head length maximum 345 mm
• Cable length at least 30m
• Mass maximum 1850 g
• IP-68 waterproofing, or better
• Shock resistant cover

Control unit characteristics:
• Outer dimensions (WxDxH) 115 mm x 66 mm x 335 mm ±5%

- Mass maximum 825 g
- Monochromatic graphic LCD with backlight 320x240 mm
- Memory: at least 10000 data items
- USB connection
- IP-67 waterproofing, or better
- GPS unit: Reception method (12 channel parallel); Measurement precision [With PDOP (high precision): 30 m or less (2 drms)] or better
- Ambient temperature range: at least -5°C to 45°C

pH sensor:

- Measurement method: Glass electrode method
- Range: at least pH 0 to 14
- Resolution: 0.01 pH or better
- Precision: at least ±0.1 pH

DO sensor:

- Measurement method: Polarographic method
- Film thickness: up to 25 μm
- Range: at least 0 mg/L to 50.0 mg/L
- Resolution: 0.01 mg/L or better
- Precision: 0 mg/L to 20 mg/L: ±0.2 mg/L; 20 mg/L to 50 mg/L: ±0.5 mg/L or better
- Salinity conversion: (0 to 70 PPT, automatic) or better
- Automatic temperature compensation

Electrical conductivity probe:

- Measurement method: Four-AC-electrode method
- Range: 0 S/m to 10 S/m (0 mS/cm to 100 mS/cm) or better
- Auto range function
- Resolution: at least:
 - o 0.000 mS/cm to 0.999 mS/cm:0.001
 - o 1.00 mS/cm to 9.99 mS/cm:0.01
 - o 10.0 mS/cm to 99.9 mS/cm: 0.1
 - o 0.0 mS/m to 99.9 mS/m: 0.1
 - o 0.100 S/m to 0.999 S/m: 0.001
 - o 1.00 S/m to 9.99 S/m: 0.01
- Precision: 1% of full-scale (midpoint of two calibration points) or better
- Automatic temperature conversion (25°C)

Salinity measurement:

- Measurement method: Electrical conductivity conversion
- Range: at least 0 to 70 parts per thousand
- Resolution: 0.01 part per thousand or better
- Precision: ±3 part per thousand or better

TDS (total dissolved solid) measurement:

- Measurement method: Electrical conductivity conversion
- Conversion coefficient setting
- Range: at least 0 g/L to 100 g/L
- Resolution: 0.1% of

full-scale or better

- Repeatability: ± 2 g/L or better
- Precision: ± 5 g/L or better

Seawater specific gravity measurement:

- Measurement method: Electrical conductivity conversion
- $\square$ t, $\square 0$, $\square 15$ display
- Range: at least 0 $\square$ t to 50 $\square$
- Resolution: 0.1 $\square$ or better
- Precision: ± 5 $\square$ or better

Temperature probe:

- Measurement method: Platinum temperature sensor
- Range: at least -10°C to 55°C
- Resolution: at least 0.01°C
- Sensor: Platinum temperature sensor, JIS Class B ($0.3+0.005|t|$) or better

Turbidity measurement:

- Measurement method: LED 90 $\square$ scattering method
- Range: at least 0 NTU to 1000 NTU
- Resolution: 0.01 NTU or better
- Precision: $\pm 5\%$ of read-out or ± 1 NTU (whichever is larger) or better
- Conforms to EN ISO 7027

Water depth measurement:

- Measurement method: Pressure

method

- Range: at least 0 m to 30 m
- Resolution: 0.05 m or better
- Precision: ± 0.3 m or better

ORP (oxidation reduction potential) measurement:

- Measurement method: Platinum electrode method
- Range: at least -2000 mV to +2000 mV
- Resolution: 1 mV or better
- Precision: ± 15 mV or better

Scope of supply:

- One water quality measurement instrument with the above stated characteristics
- Spare pH sensor – appropriate for the instrument
- pH 4.01 Standard Solution for auto calibration, at least 4l
- Spare ORP sensor – appropriate for the instrument
- Spare DO membrane cap (at least 3 pieces) – appropriate for the instrument
- Spare Reference Electrode tip with liquid junction – appropriate for the instrument
- Internal solution for DO
- pH sensor protect cover – 3 pieces at least
- DO sensor protect cover – 3 pieces at least
- Rubber Cap for

				<p>sensor guard – at least 8 pieces</p> <ul style="list-style-type: none">• Backpack to carry the instrument• Carrying case for the instrument – hard plastic with foam inside to protect the instrument, or better <p>Authorization:</p> <ul style="list-style-type: none">• Authorization from manufacturer needed <p>Warranty:</p> <ul style="list-style-type: none">• Minimum one year for all equipment <p>Training:</p> <p>Minimum two days on the spot in Kotor</p>		
	3	Underwater device for sound recording with accessories	<p>Underwater device for sound recording with accessories has to meet the following minimal characteristics:</p> <ul style="list-style-type: none">• Frequency Range at least:1 Hz – 24,000 Hz *• Hydrophone Transducer Type:MPC (Piezo) 40mm Diameter or better• Configuration: OmniDirectional• Hydrophone Packaging: Rugged epoxy case,• Dimensions: approx. 60mm Dia x 7.5 mm Thick or larger• Hydrophone Operating Temperature: –40C to +60C or broader• Cable Type: High Quality, Low Noise, Neoprene/PVC jacketed• Cable Length: at least 32 metres• Preamp: Supplied	1.00	pcs	

with Line/Earphone Output

- Audio Output: MONO. Adjustable Level ~ 50 mW or better
- Output Connector: 3.5mm (1/8") stereo jack
- Earphones: HQ Earbud type ('walkman-style') or better
- Power: Approx 7 mA at 9V or better
- Battery: Alkaline 9V (PP3) transistor radio battery (lasts at least 50 hrs)
- External Power: Possible to operate from 12V battery with suitable adapter.
- Amplifier Dimensions: L: 122 mm W: 66 mm H: 43 mm or smaller

Scope of delivery:

- Hydrophone with at least 32 m cable
- Headphone Amplifier
- Earphones
- Software to record audio and spectrum analysis of underwater sounds
- Appropriate recording device capable of independent recording of the hydrophone signals. Memory at least 512 GB. Working on batteries and external power source.
- Waterproof housing for recording device

Warranty:

- Minimum one year for all equipment

Training:
Minimum two days on

				the spot in Kotor			
4	Nabavka vazdušnog drona za potrebe Univerziteta Crne Gore (Crna Gora/ PROCUREMENT OF AIR DRONE FOR VISUAL SEA AND COASTAL MONITORING	3000.00	1	AIR DRONE FOR VISUAL SEA AND COASTAL MONITORING	<div><div>Aircraft</div><div><div>• Takeoff Weight: 895 g</div><div>• Dimensions (Folded/Unfolded)</div><div>o Folded (without propellers) 221×96.3×90.3 mm (Length×Width×Height)</div><div>o Unfolded (without propellers) 347.5×283×107.7 mm (Length×Width×Height)</div><div>• Diagonal Length: 380.1 mm</div><div>• Max Ascent Speed:</div><div>o 1 m/s (C mode)</div><div>o 6 m/s (N mode)</div><div>o 8 m/s (S mode)</div><div>• Max Descent Speed:</div><div>o 1 m/s (C mode)</div><div>o 6 m/s (N mode)</div><div>o 6 m/s (S mode)</div><div>• Max Flight Speed (at sea level, no wind):</div><div>o 5 m/s (C mode)</div><div>o 15 m/s (N mode)</div><div>o 19 m/s (S mode)</div><div>• Max Service Ceiling Above Sea Level: 6000 m</div><div>• Max Flight Time (no wind): 46 minutes</div><div>• Max Hovering Time (no wind): 40 minutes</div><div>• Max Flight Distance: 30 km</div><div>• Max Wind Speed Resistance: 12 m/s</div><div>• Max Tilt Angle:</div><div>o 25° (C mode)</div><div>o 30° (N mode)</div><div>o 35° (S mode)</div><div>• Max Angular Velocity: 200°/s</div><div>• Operating Temperature: -10° to 40° C (14° to 104° F)</div><div>• GNSS: GPS + Galileo + BeiDou</div></div></div>	1.00	set

• Hovering Accuracy
Range:
• Vertical: ±0.1 m (with Vision Positioning); ±0.5 m (with GNSS Positioning)
• Horizontal: ±0.3 m (with Vision Positioning); ±0.5 m (with High-Precision Positioning System)
• Internal Storage: 8 GB (available space is approx. 7.2 GB)

Hasselblad Camera
• Sensor: 4/3 CMOS, Effective pixels: 20 MP
• Lens:
o FOV: 84°
o Format Equivalent: 24 mm
o Aperture: f/2.8 to f/11
o Focus: 1 m to ∞ (with autofocus)
• ISO Range:
o Video: 100-6400
o Still Image: 100-6400
• Shutter Speed: Electronic Shutter 8-1/8000 s
• Max Image Size: Main Unit: 5280×3956
• Still Photography Modes:
o Single shot: 20MP Photos
o Automatic Exposure Bracketing (AEB): 20 MP, 3/5 bracketed frames at 0.7 EV
o Burst shooting: 20 MP, 3/5/7
o Timed: 20 MP, 2/3/5/7/10/15/20/30/60 s
• Video Resolution:
o H.264/H.265
o 5.1K: 5120×2700@24/25/30/48/50fps
o DCI 4K: 4096×2160@

24/25/30/48/50/60/120
*fps
o 4K:
3840×2160@
24/25/30/48/50/60/120
*fps
o FHD:
1920×1080@
24/25/30/48/50/60/120
*/200*fps
• Max Video Bitrate:
H.264/H.265 Bitrate
200 Mbps
• Supported File
Formats: exFAT
• Photo Format:
JPEG/DNG (RAW)
• Video Formats:
MP4/MOV (MPEG-4
AVC/H.264,
HEVC/H.265)

Tele Camera
• Sensor: 1/2-inch
CMOS
• Shutter Speed:
Electronic Shutter: 2-
1/8000 s
• Lens:
o FOV: 15°
o Format Equivalent:
162mm
o Aperture: f/4.4
o Focus: 3 m to ∞
• ISO Range:
o Video: 100-6400
o Still Image: 100-6400
• Max Image Size:
4000×3000
• Photo Format:
JPEG/DNG (RAW)
• Video Formats:
MP4/MOV (MPEG-4
AVC/H.264,
HEVC/H.265)
• Still Photography
Modes:
o Single shot: 12MP
Photos
o Automatic Exposure
Bracketing (AEB): 12
MP, 3/5 bracketed
frames at 0.7 EV

o Burst shooting: 12 MP, 3/5/7
o Timed: 12 MP, 2/3/5/7/10/15/20/30/60 s
• Video Resolution:
o H.264/H.265
o 4K: 3840×2160@25/30/50 fps
o FHD: 1920×1080@25/30/50 fps
o Digital Zoom: 4x

Gimbal

• Stabilization: 3-axis motorized (tilt, roll, pan)
• Mechanical Range:
o Tilt: -135° to 100°
o Roll: -45° to 45°
o Pan: -27° to 27°
• Controllable Range:
o Tilt: -90° to 35°
o Pan: -5° to 5°
• Max Control Speed (tilt): 100°/s
• Angular Vibration Range: ±0.007°

Sensing

• Sensing System: Omnidirectional binocular vision system, supplemented with an infrared sensor at the bottom of the aircraft
• Forward:
o Measurement Range: 0.5-20 m
o Detection Range: 0.5-200 m
o Effective Sensing Speed: Flight Speed ≤ 15m/s
o FOV: Horizontal 90°, Vertical 103°
• Backward:
o Measurement Range: 0.5-16 m
o Effective Sensing

Speed: Flight Speed ≤ 12m/s
o FOV: Horizontal 90°, Vertical 103°
• Lateral:
o Measurement Range: 0.5-25 m
o Effective Sensing Speed: Flight Speed ≤ 15m/s
o FOV: Horizontal 90°, Vertical 85°
• Upward:
o Measurement Range: 0.2-10 m
o Effective Sensing Speed: Flight Speed ≤ 6m/s
o FOV: Front and Back 100°, Left and Right 90°
• Downward:
o Measurement Range: 0.3-18 m
o Effective Sensing Speed: Flight Speed ≤ 6m/s
o FOV: Front and Back 130°, Left and Right 160°
• Operating Environment:
o Forward, Backward, Left, Right, and Upward: Surface with a clear pattern and adequate lighting (lux>15)
o Downward: Surface with a clear pattern and adequate lighting (lux >15). Diffuse reflective surface with diffuse reflectivity>20% (e.g. wall, tree, person)

Video Transmission
• Video Transmission System: O3+
• Live View Quality: Remote Controller 1080p@30fps/1080

						<p>p@60fps</p> <ul style="list-style-type: none">• Operation Frequency:<ul style="list-style-type: none">o 2.400-2.4835 GHzo 5.725-5.850 GHz• Max Transmission Distance (unobstructed, free of interference and aligned with controller):<ul style="list-style-type: none">o 2.400-2.4835 GHz; 5.725-5.850 GHzo FCC: 15 kmo CE: 8 kmo SRRC: 8 kmo MIC: 8 km• Signal Transmission Ranges (FCC):<ul style="list-style-type: none">o Strong Interference (urban landscape, limited line of sight, many competing signals): Approx. 1.5-3 kmo Medium Interference (suburban landscape, open line of sight, some competing signals): Approx. 3-9 kmo Low Interference (open landscape abundant line of sight, few competing signals): Approx. 9-15 kmo Data is tested under different standards in open areas free of interference. It only refers to the maximum, one-way flight distance without considering Return to Home. Please pay attention to RTH prompts in the DJI Fly app during actual flight.• Max Download Bitrate:<ul style="list-style-type: none">o O3+:<ul style="list-style-type: none">o 5.5MB/s (with RC-N1 remote controller)o 15MB/s (with DJI RC
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Pro remote controller)
o Wi-Fi 6:
o 80MB/s*

- Latency (depending on environmental conditions and mobile device):
 - o 130 ms (with RC-N1 remote controller)
 - o 120 ms (with DJI RC Pro remote controller)
- Antennas: 4 antennas, 2T4R
- Transmitter Power (EIRP):
 - 2.4 GHz: ≤33 dBm (FCC); ≤20 dBm (CE/SRRC/MIC)
 - 5.8 GHz: ≤33 dBm (FCC), ≤30 dBm (SRRC), ≤14 dBm(CE)

Battery

- Capacity: 5000 mAh
- Voltage: 15.4 V
- Charging Voltage Limit: 17.6 V
- Battery Type: LiPo 4S
- Energy: 77 Wh
- Weight: 335.5 g
- Charging Temperature: 5° to 40° C (41° to 104° F)

Battery Charger

- Input: 100-240 V AC, 47-63 Hz, 2.0 A
- USB-C Output: USB-C: 5.0 V□5.0 A/9.0 V□5.0 A/12.0 V□5.0 A/15.0 V□4.3 A/20.0 V□3.25 A/5.0~20.0 V□3.25 A
- USB-A output: USB-A: 5 V□2 A
- Rated Power: 65 W

Battery charging Hub

- Input: USB-C: 5-20 V□5.0 A max
- Output: Battery: 12-

17.6 V□5.0 A max
• Rated Power: 65 W
• Charging Type:
Charges three
batteries in sequence.
• Charging
Temperature Range:
5° to 40° C (41° to
104° F)

Car Charger
• Input: Car Power
Input: 12.7-16 V□6.5
A, rated voltage 14 V
DC
• Output:
o USB-C: 5.0 V□5.0
A/9.0 V□5.0 A/12.0
V□5.0 A/15.0
V□4.3A/20.0 V□3.25
A/5.0~20.0 V□3.25 A
o USB-A: 5 V□2 A
• Rated Power: 65 W
• Charging Time:
Approx. 96 minutes
• Charging
Temperature Range:
5° to 40° C (41° to
104° F)

Storage
• microSD Card: High
bitrate video microSD
Cards of minimum 256
GB
• SSD Specs: 8 GB
(available space is
approx. 7.2 GB)

Remote Controller
• Remote Controller
Transmission System:
• Max Supported
Mobile Device Size:
180×86×10 mm
(Length×Width×Height
)
• Operating
Temperature: 0° to 40°
C (32° to 104° F)
• Transmitter Power
(EIRP):
o 2.4 GHz:

					<ul style="list-style-type: none"> o ≤26 dBm (FCC), ≤20 dBm (CE/SRRC/MIC) o 5.8 GHz: o ≤26 dBm (FCC/SRRC), ≤14 dBm (CE) • Battery Life: <ul style="list-style-type: none"> o Without charging any mobile device: 6 hr; o when charging mobile device: 4 hr • Supported USB Port Types: Lightning, Micro USB, USB-C <p>Carrying Bag</p> <ul style="list-style-type: none"> • Original manufacturer 		
				2 • Training	Training course in-vivo in Kotor	1.00	Days
				3 • warranty for the whole set	Minimum warranty for the whole set	1.00	Years
	5 Upgrade postojećeg sistema za kontrolu kvaliteta vazduha za potrebe Univerziteta Crne Gore (Crna Gora/ UPGRADE OF KUNAK AIR QUALITY MONITORING SYSTEM	20000.00		1 NO2 sensor	<p>KUNAK base station applicable NO2 sensor with next minimum requirements:</p> <ul style="list-style-type: none"> • Sensor type: Electrochemical • Unit: µg/m3, ppb • Resolution: 1 µg/m³ or better • Operating life: min. 24 months • RH range: min. 15 - 85 % RH • Temperature range: min. -30 to 40°C • Measurement range: 0 – 5000 ppb or better • Limit of detection: max.2 ppb • Accuracy:± 5 ppb or better <p>Warranty: min 2 years</p>	4.00	pcs

	5 Upgrade postojećeg sistema za kontrolu kvaliteta vazduha za potrebe Univerziteta Crne Gore (Crna Gora/ UPGRADE OF KUNAK AIR QUALITY MONITORING SYSTEM	20000.00	2	CO sensor	KUNAK base station applicable CO sensor with next minimum requirements: • Sensor type: Electrochemical • Unit: µg/m3, ppb • Resolution: 0,1 ppm or better • Operating life: min. 24 months • RH range: min. 15 - 90 % RH • Temperature range: min. -30 to 50°C • Measurement range: 0 – 500 ppm or better • Limit of detection: max.10 ppb • Accuracy:± 0.08 ppm or better Warranty: min 2 years	4.00	pcs
			3	O3 sensor	KUNAK base station applicable O3 sensor with next minimum requirements: • Sensor type: Electrochemical • Unit: µg/m3, ppb • Resolution: 1 µg/m³ or better • Operating life: min. 24 months • RH range: min. 15 - 85 % RH or better • Temperature range: - 30 to 40°C or better • Measurement range: 0 – 2000 ppb or better • Limit of detection: 2 ppb or better • Accuracy: ± 8 ppb or better • Warranty: min 2 years	4.00	pcs

	5 Upgrade postojećeg sistema za kontrolu kvaliteta vazduha za potrebe Univerziteta Crne Gore (Crna Gora/ UPGRADE OF KUNAK AIR QUALITY MONITORING SYSTEM	20000.00	4	SO2 sensor	KUNAK base station applicable SO2 sensor with next minimum requirements: • Sensor type: Electrochemical • Unit: µg/m3, ppb • Resolution: 1 µg/m³ or better • Operating life: min. 24 months • RH range: min. 15 - 90 % RH or better • Temperature range: - 30 to 40°C or better • Measurement range: 0 – 10000 ppb or better • Limit of detection: 5 ppb or better • Accuracy: ± 15 ppb or better Warranty: min 2 years	4.00	pcs
			5	Rain gauge	KUNAK base station applicable Rain gauge with next minimum requirements • Accuracy ±0.2 mm • Resolution 0.2 mm • Measuring range 0°C to 60°C • Operating range -40°C to 60°C • Orifice area Ø200 cm2 Warranty: min 2 years	1.00	pcs
			6	Software	• KUNAK applicable software • Diagnostics: Overview network health, check logs and diagnostics automatically 24/7. Automatic pre-validation tool. • Visualization: Dashboards, maps, multidevice charts, tables, statistics and	4.00	set

						<p>CSV, AQI calculations.</p> <ul style="list-style-type: none">• Operation: Change configurations remotely, set thresholds, confirm warnings & operation alarms (sensor malfunctions, station problems...) and consult the online suggestions to solve the detected issues.• Locations: Manage map positions with the different devices that have passed through that location.• Calibration: Calibrate gas baseline and span and adjust particle sensors.• CMMS: Register any maintenance work, upload picture and documents, access to the configuration history, activity journal, etc...• Validation: Tag your data for you and your clients.• Analysis: Open-air suite with trends, calendar plots, pollution roses and more (Open Air tool).• Reporting: Create customized reports and export or share them with your clients online.• Network and device status monitoring.• Cloud usage.• Incident management and customer notification and Quarterly baseline and span adjustment without reference. <p>Valid for existing 4 KUNAK base stations and for 2 years</p>		
--	--	--	--	--	--	---	--	--

				7	Care pack & technical consultancy	Online remote assistance, consultancy, support and resolution of doubts and questions	5.00	hours
				8	Training online course	<ul style="list-style-type: none"> • Online training in the use of the Kunak Cloud platform and hardware. • Use of advanced analysis graphics, calibration tool, validation tool and report generation tool. Operation of the device and complements.	2.00	hours
				9	Authorisation	Authorisation from manufactureur needed	1.00	pcs
	6	Nabavka stručne literature u elektronskoj formi (e-books) za potrebe Univerziteta Crne Gore (Crna Gora), / PROCUREMENT OF ELECTRONIC BOOKS	4000.00	1	Ebooks	E-book title Editor/Author Year Publisher ISBN e-book Beach Management: Principles and Practice Allan Williams, Anton Micallef 2011 Taylor& Francis 9781849770033 Bioremediation: Green Approaches for a Clean and Sustainable Environment Ram Naresh Bharagava, Sandhya Mishra, Ganesh Dattatraya Saratale, Rijuta Ganesh Saratale, Luiz Fernando Romanholo Ferreira 2022 Taylor& Francis 9781003181224 Climate Change and the Coast: Building Resilient Communities Bruce Glavovic, Mick Kelly, Robert Kay, Ailbhe Travers 2019 Taylor& Francis 9780429182884	1.00	SET

Coastal and Deep
Ocean Pollution
Andres Hugo Arias,
Sandra Elizabeth Botte
2020 Taylor&
Francis
9780203704271
Environmental
Problems in Marine
Biology:
Methodological
Aspects and
Applications Tamara
Garcia Barrera, Jose
Luis Gomez Ariza
2017 Taylor&
Francis
9781315119113
Global Blue Economy:
Analysis,
Developments, and
Challenges Md. Nazrul
Islam, Steven M.
Bartell 2022 Taylor&
Francis
9781003184287
Global Change in
Marine Systems:
Societal and
Governing Responses
Patrice Guillotreau,
Alida Bundy, R. Ian
Perry 2019 Taylor&
Francis
9781315163765
Higher Education
Research
Methodology: A Step-
by-Step Guide to the
Research Process Ben
Kei Daniel, Tony
Harland 2017 Taylor&
Francis
9781315149783
Managing Start-ups for
Success:
Entrepreneurship in
Difficult Times Rajat
Kanti Baisya 2021
Taylor&
Francis
9781003002574
Marine and Coastal

Resource
Management:
Principles and Practice
David R. Green,
Jeffrey L. Payne 2017
Taylor&
Francis
9780203127087
Marine biodiversity
conservation: A
practical approach
Keith Hiscock 2014
Taylor&
Francis
9781315857640
Marine Biology: A
Functional Approach to
the Oceans and their
Organisms Jerónimo
Pan, Paula D.
Pratolongo 2022
Taylor&
Francis
9780429399244
Marine Microbial
Bioremediation Anjana
K Vala, Dushyant R
Dudhagara, Bharti P
Dave 2021 Taylor&
Francis
9781003001072
Marine Policy: An
Introduction to
Governance and
International Law of
the Oceans Mark
Zacharias, Jeff Ardrón
2020 Taylor&
Francis
9781351216227
Marine Pollution and
Climate Change
Andres Hugo Arias,
Jorge Eduardo
Marcovecchio 2017
Taylor&
Francis
9781315119243
Marine Pollution
Control: Legal and
Managerial
Frameworks Ilina
Christodoulou-Varotsi

					2020 Taylor& Francis 9781315709925 Offshore Operations and Engineering Shashi Shekhar Prasad Singh, Jatin Agarwal, Nag Mani 2020 Taylor& Francis is 9780429354533 Routledge Handbook of Ocean Resources and Management Hance D. Smith, Juan Luis Suárez de Vivero, Tundi S. Agardy 2016 Taylor& Francis 9780203115398 To be latest editions. To be with permanent access and for multiple users.		
7	Nabavka opreme za distance learning za potrebe Univerziteta u Valoni „Ismail Ćemali“ (Albanija) / PROCUREMENT OF DISTANCE LEARNING EQUIPMENT	31000.00	1	DISTANCE LEARNING EQUIPMENT A mobile set of equipment for hybrid implementation and capture of the pedagogical process in lecture halls and laboratories Network switch	Next minimum requirements: Networking Interfaces: 24x 10/100/1000 RJ45 Port, 2x 1/10G SFP+ Ethernet Ports Total Non-Blocking Throughput: 44 Gbps Switching Capacity: 88 Gbps Forwarding Rate: 65.472 Mpps Power Method: Universal 100-240VAC/50-60 Hz and DC Input Power Supply: Internal AC Max. Power Consumption (Excluding PoE Output): 50W LEDs: System, RJ45 Data Ports, SFP+ Data Ports Status: PoE; Speed/Link/Activity ESD/EMP Protection	1.00	pcs

				Air: ± 16 kV, Contact: ± 12 kV Shock and Vibration ETSI300-019-1.4 Standard Operating Temperature: -5 to 40° C (23 to 104° F) Operating Humidity: 10 to 90% Noncondensing Certifications: CE, FCC, IC Total Available PoE: 400W PoE Interfaces all ports: PoE/PoE+ at least 8 ports: 60W PoE++ Max. PoE Wattage per Port by PSE PoE+: 32W PoE++: 64W Compatible product with access point from this segment of tender is required		
	2	Access point		Next minimum requirements: Weatherproofing: IP54 Management interfaces: Ethernet, Bluetooth Networking interface: 1x GbE RJ45 port, Button, Factory reset LED: White/Blue Power method: PoE+, passive PoE (48V) Max. power consumption: 16.5W Max. TX power 2.4 GHz: 26 dBm 5 GHz: 26 dBm MIMO 2.4 GHz: 4 x 4 5 GHz: 4 x 4 Throughput rate 2.4 GHz: 600 Mbps 5 GHz: 2400 Mbps Antenna gain	1.00	pcs

2.4 GHz: 4 dBi
5 GHz: 5.5 dBi
Mounting: Wall/ceiling
(included)
Operating
temperature: -30 to 60°
C (-22 to 140° F)
Operating humidity: 5 -
95% noncondensing
Certifications: CE,
FCC, IC
WiFi standards:
802.11a/b/g/WiFi
4/WiFi 5/WiFi 6
Wireless security:
WPA-PSK, WPA-
Enterprise
(WPA/WPA2/WPA3)
BSSID: 8 per radio
VLAN: 802.1Q
Advanced QoS
Per-user rate limiting
Guest traffic isolation
Supported Concurrent
clients : 300
Supported Data Rates
802.11a: 6, 9, 12, 18,
24, 36, 48, 54 Mbps
802.11b: 1, 2, 5.5, 11
Mbps
802.11g: 6, 9, 12, 18,
24, 36, 48, 54 Mbps
802.11n (WiFi 4): 6.5
Mbps to 600 Mbps
(MCS0 - MCS31, HT
20/40)
802.11ac (WiFi 5): 6.5
Mbps to 1.7 Gbps
(MCS0 - MCS9
NSS1/2/3/4, VHT
20/40/80/160)
802.11ax (WiFi 6): 7.3
Mbps to 2.4 Gbps
(MCS0 - MCS11
NSS1/2/3/4, HE
20/40/80/160)

Compatible product
with network switch
from this segment of
tender is required

3 Wireless mouse and

Next minimum

1.00 kit

				keyboard	<p>requirements: Keyboard Weight (with batteries): 498 g Silent buttons technology Adjustable keyboard height Spill-resistant design Caps lock indicator light On/Off power switch 2 AAA batteries (Alkaline Battery)</p> <p>Mouse Weight (with batteries): 75.2 g Silent buttons technology On/off power button 1 AA batteries (Alkaline Battery) Compact shape</p> <p>Signal frequency: 2.4Ghz Signal range (in meters): 10 m Small USB receiver</p>		
				4 PTZ camera	<p>Next minimum requirements: Image Sensor: 1/2.8" 4K Exmor CMOS Output Resolutions: 4K/30, 4K/29.97, 4K/25, 1080p/60, 1080p/59.94, 1080p/50, 1080p/30,1080p/29.97, 1080p/25, 1080i/60, 1080i/59.94, 1080i/50, 720p/60, 720p/59.94, 720p/50 Effective Picture Elements: 8 Megapixels S/N Ratio: ≥ 50dB Exposure Control: Auto, Manual, Priority AE (Shutter, IRIS),</p>	1.00	pcs

BLC, WDR
 Optical Zoom: 21X
 Digital Zoom: 12X
 Total Zoom: 252X
 Viewing Angles:
 DFOV: 66.4° (Wide) to 3.3° (Tele)
 HFOV: 52.26° (Wide) to 2.66° (Tele)
 VFOV: 41.26° (Wide) to 2° (Tele)
 Focal Length: $f = 5.3$ mm (Wide) to 110 mm (Tele)
 Aperture (Iris): $F = 1.6$ (Wide) to 3.8 (Tele)
 Minimum Working Distance: 1.5 m (Wide), 1.5m (Tele)
 Pan / Tilt Angles:
 Pan: $\pm 170^\circ$,
 Tilt: $+90^\circ / -30^\circ$
 Pan / Tilt Speed (Manual):
 Pan: 0.1° to 100° /sec,
 Tilt: 0.1° to 100° /sec
 Preset Speed:
 Pan: 200° /sec,
 Tilt: 200° /sec
 Preset Positions: 10 (IR), 255 (RS-232, RS-422, IP)
 Camera Control – Interfaces: RS-232 (DIN8), RS-422 (RJ45), IP
 Camera Control – Protocols: VISCA (RS-232 / RS-422 / IP), PELCO-D & PELCO-P (RS-232 / RS-422), CGI (IP)
 Image Processing: Noise Reduction (2D / 3D), Flip, Mirror
 Power Frequencies: 50Hz, 60Hz
 Tracking Modes: Presenter Mode, Zone Mode, Hybrid Mode
 Protection Mode: Sleep Mode
 Audio Channels: 2ch

Stereo
Audio Codecs: AAC-
LC, PCM
Video Outputs: 3G-
SDI, HDMI, IP, USB
Audio Outputs: 3G-
SDI, HDMI, IP, USB
Audio Inputs: MIC in,
Line in
Power Requirement:
AC 100 - 240V to DC
12V/5A
Power Consumption:
19W
PoE: PoE+
Dimensions (W x H x
D): 180.0 x 192.0 x
145.0 mm
Net Weight: 2.0 (±0.1)
kg
Security: Kensington
Slot
Operating Conditions:
Temperature: 0°C to
+40°C
Humidity: 20% to 80%
Storage Conditions:
Temperature: -20°C to
+60°C ;
Humidity: 20% to 95%
IP Streaming:
Resolution: 4K 30fps
Maximum Frame
Rate: 4K 30fps
Network Protocols:
IPv6, IPv4, TCP, UDP,
ARP, ICMP, IGMP,
HTTP, DHCP, RTP /
RTCP, RTSP, RTMP,
VISCA over IP
NDI®HX Capability:
Yes
Connector: USB 3.0
USB Audio Class:
UAC 1.0
USB Video Class:
UVC 1.1
Web UI Live Video
Preview: Yes
Web UI Camera PTZ
Control: Pan, Tilt,
Zoom, Focus, Preset
Control

					Web UI Camera / Image Adjustment: Exposure, White Balance, Picture Web UI Network Configuration: DHCP, IP Address, Gateway, Subnet Mask, DNS Warranty: 3 Years Package Contents: Camera, Drilling Paper, Ceiling Mount Bracket (x2) Quick Start Guide, Cable Fixing Plate, M2 x 4 mm Screw (x3), Power Adapter & Power Cord, 1/4"-20 L=6.5 mm Screw (x2), Remote Control, M3 x 6 mm Screw (x3), DIN 8 to D-Sub 9 Cable, RS-232 In/Out Y Cable, Cable Ties (x4) API- available for USB/IP programming		
	5	Interactive display with built-in computer			Next minimum requirements: Diagonal size: 86" Resolution: 3840 x 2160 Response time: 5 ms Brightness: 420 cd/m2 Static contrast ratio: 4500:1 Glass hardness: AG Tempered Glass - Mohs Level 7 Glass type: Low parallax - max 1mm air gap between panel and glass Lifespan: 50.000 hours Touch technology: IR Simultaneous touch points: 20 Touch response time: 5 ms Tracking Rate: 6 m/s Touch Accuracy: 1.5mm Windows Ink trigger	1.00	pcs

with pens: Yes
Passive Pens included: 2
Writing with 2 different colors simultaneously: Yes
Palm Rejection: Yes
Classroom Essential Apps: Whiteboard, Annotate, Timer, Media Players, Browser, PDF Reader, Screen Record, Spinner, Voting, Math Tools
OPS slot: Intel® spec 80Pin
OPC PC: Intel i7-10510U, 16GB RAM, 250GB SSD, Windows 10 Pro licence
HDMI IN: 3
HDMI Out: 1
USB-A 2.0: 1
USB-B for Touch: 2
USB-A 3.0: 4
USB-C front mounted with support for Audio, Video, Touch and Ethernet: 1
USB-C side mounted with support for Audio, Video, Touch and Power Charge 65W: 1
LAN In (RJ45): 1
LAN Out (RJ45): 1
WiFi: IEEE 802.11a/b/g/n/ac with 2 × 2 MIMO (hotspot only) 2.4 and 5 GHz bands
Bluetooth: 5.0
Built In computer: Android 11, 6GB RAM, 64GB storage, 4K resolution
Built in 2.1 speakers: 2 x 15W + 15W subwoofer
Built In Line Array Microphones with 8m pickup range: Yes
Embeded digital

signage system with cloud management: Yes, 2GB Free cloud space included
MDM remote management from cloud: Yes - 5 year licence
Mirroring Any Device To The Board: Built in AirServer with support for Miracast, Airplay and Chromecast.
Enclosed 1 USB-C button dongle for wifi direct mirroring from Windows, iOS/macOS and Android devices.
Warranty: 5 year
Authorisation needed.

Clevertouch Impact Plus 2 86" 4K or equivalent
Next minimum requirements:
Diagonal size: 86"
Resolution: 3840 x 2160
Response time: 5 ms
Brightness: 420 cd/m2
Static contrast ratio: 4500:1
Glass hardness: AG Tempered Glass - Mohs Level 7
Glass type: Low parallax - max 1mm air gap between panel and glass
Lifespan: 50.000 hours
Touch technology: IR Simultaneous touch points: 20
Touch response time: 5 ms
Tracking Rate: 6 m/s
Touch Accuracy: 1.5mm
Windows Ink trigger with pens: Yes
Passive Pens included: 2

		space included MDM remote management from cloud: Yes - 5 year licence Mirroring Any Device To The Board: Built in AirServer with support for Miracast, Airplay and Chromecast. Enclosed 1 USB-C button dongle for wifi direct mirroring from Windows, iOS/macOS and Android devices. Warranty: 5 year Authorisation needed.		
	6	Interactive display motorized stand	Next minimum requirements: Black colour frame VESA 800x600 Maximum Width 117,8 cm, Depth 77,7 cm Anti-collision - When the screen touches something during a movement, the movement stops and the lift goes back a bit in the opposite direction. Minimum Height: 91,2 cm Maximum Height: 156,2 cm Stroke 650 mm, speed up to 38 mm/s Maximum load: 120 kg Screen position: Landscape, Portrait Max. 86 inch Screen	1.00 pcs
	7	Presentation remote	Next minimum requirements: Presentation remote Weight (with batteries): 49,2 g Motion sensor 3D accelerometer and Gyroscope Battery: Rechargeable Lithium Polymer, 85 mAh	1.00 pcs

					Battery Life (rechargeable): 3 months, (May vary based on usage) Receiver Charging cable Length: 140 mm Connection Type: Bluetooth Low Energy and 2.4 GHz wireless connection Wireless range: 30 m (May vary based on environmental and computing conditions) LED Indicator Lights: Battery and Connectivity		
			8	HDMI-USB encoder	Next minimum requirements: Convert Ultra HD to USB 3.0 with an HDMI loop and external power for BYOM applications HDMI capture to USB 3.0 Compatible with USB 2.0 (high-quality MJPEG) HDMI loop output Up to Ultra HD 4K (3840/4096x2160) at 30 fps and 1080p at 60 fps HDMI audio support Analogue audio I/O Internal frame buffers maximize frame rates Hardware-based color space and sampling conversion Automatic scaling and frame rate conversion (UHD up-scaling not supported) Image controls: Brightness, contrast, saturation, and hue settings Supports multiple	1.00	pcs

		<p>devices on the same PC</p> <p>Compatible with Windows, Mac OSX, Linux and Android</p> <p>Powered from external adapter or USB</p> <p>A USB cable is included</p> <p>No driver required</p>		
9	Tie microphone, pocket microphone transmitter, microphone receiver	<p>Next minimum requirements:</p> <p>Compatible kit consisting of 1 wireless bodypack transmitter, 1 lavalier microphone, 1 rackmount receiver and 1 rack mountable kit</p> <p>Integrated RJ45 network port allows control, monitoring and setup</p> <p>Up to 88 MHz bandwidth, up to 32 channels</p> <p>Increased RF output power (10/30/50 mW)</p> <p>Transmission Range: up to 100 meters</p> <p>Remote control switch available for the bodypack transmitter</p> <p>Compatible and interchangeable parts with other microphone kits required in this tender</p>	1.00	kit
10	Handheld microphone with transmitter, microphone receiver	<p>Next minimum requirements:</p> <p>Compatible kit consisting of 1 handheld microphone with mute switch, 1 microphone capsule (supercardioid, condenser), 1 rackmount receiver, 1 rack mountable kit and 1 mic clip</p> <p>Integrated RJ45 network port allows</p>	1.00	kit

		control, monitoring and setup Up to 88 MHz bandwidth, up to 32 channels Increased RF output power (10/30/50 mW) Transmission Range: up to 100 meters Remote control switch available for the bodypack transmitter Compatible and interchangeable parts with other microphone kits required in this tender		
	11	Headphones for computer Next minimum requirements: Circumaural Closed-Back Monitor Headphones Collapsible design with swiveling earcups Rejection of outside noise is high, rated up to -32 dB Neodymium magnets Padded leatherette earcups and adjustable padded headband Frequency response: 8 - 25000 Hz Jack plug: 3,5 / 6,3 mm stereo Cable length: Coiled Cable (min. 1.3m / max. 3m) Weight w/o cable: 285 g	1.00	pcs
	12	Camera tripod Next minimum requirements: Video tripod kit with fluid video head and carrying bag Side pull selector ensures quick setup with both hands Fluid head with spirit level and quick release plate	1.00	kit

Pan and tilt locking knobs allow for single axis movement
Twist leg locking system, enabled by simply turning each knob 90°
Pan bar included for fluid movement; can be removed
Weight: 1.64 kg
Top Attachment: 1/4" screw, 3/8" screw
Ball Flat: Ball
Safety Payload
Weight: 4 kg
Base Diameter: 40 mm
Bubble Spirit Level (No.): 1
Carrying Bag Included: Yes
Center Column: rapid
Closed Length: 40 cm
Colour: black/silver
Easy Link: Yes
Front Tilt: -90°/+65°
Head Type: Video/Fluid Head
Leg Type: Single
Leg Angles: 22°, 54°, 89°
Leg Lock Type: Twist Lock
Leg Sections: 4
Legs Tube Diameter: 12, 15.5, 19, 22.5 mm
Material: Aluminium
Maximum Height: 150 cm
Maximum Height (With Center Column Down): 129 cm
Maximum Working Temperature: 60 °C
Min Height: 40 cm
Minimum Working Temperature: -30 °C
Pan Bar Included: Yes
Pan Drag: fluid cartridge with fixed drag
Panoramic Rotation: 360 °

		Plate Type: 501PL Quick Release: Yes Tilt Drag: fluid cartridge with fixed drag Upper Disc Diameter: 40 mm		
	13	Projection screen	Next minimum requirements: Control: Electric Aspect ratio: 16:10 External dimensions (W x H): exactly 300 x 191 cm Viewing area (W x H): exactly 290 x 181 cm Weight: 24.0 kg	1.00 pcs
	14	Projector	Next minimum requirements: Native resolution: 1920x1080 or higher Native refresh rate: 50Hz or higher Light source: laser Light output: 5000lm or better Time until light output declines to 50%: 20000 hours or longer Max screen size: at least 5 metres AV input connections: at least 2x HDMI and DIGITAL LINK (video/network/serial control, HDBaseT compliant) AV output connections: audio out (3,5mm stereo jack) Installation options: ceiling/floor, front/rear Possibility to control projector via IP (should use wired ethernet connection), availability of API document for IP projector control Keystone correction: +/-25% or more (vertical and horizontal)	1.00 pcs

		Optical axis shift: at least +/-20% (horizontal) and +40% (vertical)		
15	Projector mount	Next minimum requirements: Type: Projector ceiling mount Colour: Silver TÜV certified: Yes Min. distance to ceiling: 550mm Max. distance to ceiling: 850mm Turn: Up to 360° Tilt: Up to 15° Roll: 15° Max. weight load: 30kg Range (diameter): 30mm - 410mm Height range: 550mm - 850mm	1.00	pcs
16	Warranty	Warranty for whole set minimum 1 year.	1.00	year
17	A mobile set of equipment for capture of the pedagogical process on the field: camera	Next minimum requirements: Compact live streaming 4K camcorder with SDI output Dual codec advanced streaming technology Tele-macro mode for better focus on close objects Lower-third and full-screen titling graphic solutions 4:2:2 4K Video at 24/30p Real-Time Broadcast Info Overlay LAN Configuration with 1 button 3G-SDI & HDMI Out, Live HDMI UHD 4K Out 12x Optical Zoom Lens 2-Channel XLR Audio Inputs 4K Ultra HD recording (150 Mbps, 24/30p) to	1.00	pcs

SDXC (UHS-I Speed class3) card
Single 1/2.3-inch CMOS image sensor with 12.4 million pixels (9.03 active)
Integrated 12x F1.2-3.5 zoom lens (35mm equivalent: 29.5-354mm)
Dynamic zoom in HD mode combines optical zoom and pixel mapping to create seamless and lossless 24x zoom
Broadcast features
Customizable graphic overlays (on/off switchable)
Option for custom broadcaster logos, watermark, time and temperature
Selectable pre-loaded logos
Wired remote control supported
HD-SDI (3G) and HDMI outputs (4K output via HDMI only)
Live 4K UHD output via HDMI connector
Streaming engine compatible with Wowza Streaming Engine
IP network remote control, remote viewing, metadata editing, FTP clips uploading
4:2:2 full HD recording at 50Mbps (24-60p)
120fps HD slow motion recording
Dual SDHC/SDXC slots enable dual, backup and continuous recording
9 user button assignable functions
2 position ND filter

					(1/4, 1/16) 0.24-inch colour viewfinder (1.56M pixel) with smart focus assist function 3.5-inch colour LCD display (920K pixel) with smart focus assist function Built-in stereo microphone Includes handle unit, battery and AC Adapter		
	18	Charger and additional batteries for camera			Next minimum requirements: Compatible kit consisting of one charger of two batteries. Charger: Automatic safety and protection features include low voltage charging, thermal monitoring and overcharge protection Status LED indicator provides detailed display of charging process and fault detection Charging will automatically stop when the battery is fully charged Capable of multiple configurations for use as stand alone charger or joint connection to a second one Universal AC input for worldwide use. Charger Input Voltage: AC Adapter 100-240V 60/50Hz Charger Input Voltage 2: DC Input DC 14-19V Charger Power Consumption: 36W Charger Charge	1.00	kit

Current: 1.6A
Charger Indications:
Yes, LED for Charging
process and fault
detection

Battery:
Capacity: 7350mAh,
55Wh
Battery Protection:
Over charge, Over
discharge, Over
current
Separate DC output

Compatible parts with
camera from this
segment of tender are
required, also
compatible cables for
direct connection to
mentioned devices
should be included

19 Tripod for camera

Next minimum
requirements:
Video tripod kit with
fluid video head and
carrying bag
Twin legs and middle
spreader
Fluid Drag System on
pan and tilt
movements
Counterbalance
system on tilt
movement
Sliding plate for
camera connection
and set up
Leveling bubble for
setup
Weight: 3100 g
Material: Aluminum
Safety Payload
Weight: 5 kg
Min Height: 67.5 cm
Maximum Height: 154
cm
Head Type:
Video/Fluid Head
Leg Sections: 3
Legs Tube Diameter:

1.00 pcs

					15.2, 18.5, 21.7 mm Quick Release: Yes Counterbalanced Weight: 2.4 kg Center of gravity: 55 mm Spreader: mid level - fixed arm length Closed Length: 72 cm Ball Flat: 60 Ball Top Attachment: 1/4" screw, 3/8" screw Powered by (batteries): 0 Bubble Spirit Level (No.): 1 Center Column: no center column Color: Black Front Tilt: -70° / +90° Leg Type: Twin Leg Angles: 19° Leg Lock Type: Flip Lock Maximum Working Temperature: 60 C Minimum Working Temperature: -20 C Pan Bar Included: Yes Pan Drag: luid cartridge with fixed drag Panoramic Rotation: 360 Tilt Drag: fluid cartridge with fixed drag Compatible product with camera, additional batteries, wireless receiver for tie microphone, microphone for camera from this segment of tender are required		
	20	SD card for camera			Next minimum requirements: Capacity: 128 GB Read Speed: up to 170 MB/s Write Speed: up to 90 MB/s	2.00	pcs

		Video Speed: C10, U3, V30 Form Factor: SDXC Compatible parts with camera from this segment of tender are required		
	21	Tie microphone with wireless transmitter and receiver	Next minimum requirements: Compatible kit consisting of 1 wireless bodypack transmitter, 1 lavalier microphone, 1 wireless on-camera receiver Up to 88 MHz bandwidth, up to 32 channels Increased RF output power (10/30/50 mW) Transmission Range: up to 100 meters Remote control switch available for the bodypack transmitter Up to 8 hours of operation time Batteries for transmitter and receiver are included Compatible parts with camera and headphones from this segment of tender are required, also compatible cables and mounts for direct connection and installation to mentioned devices should be included	1.00 kit
	22	Microphone for camera	Next minimum requirements: XLR Output Connection 48V Phantom Power Includes Foam Windscreen Compatible product with camera from this segment of tender is required, also	1.00 pcs

		compatible cables and mounts for direct connection and installation to mentioned devices should be included		
23	Headphones for camera	<p>Next minimum requirements:</p> <p>Circumaural Closed-Back Monitor Headphones</p> <p>Collapsible design with swiveling earcups</p> <p>Rejection of outside noise is high, rated up to -32 dB Neodymium magnets</p> <p>Padded leatherette earcups and adjustable padded headband</p> <p>Frequency response: 8 - 25000 Hz</p> <p>Jack plug: 3,5 / 6,3 mm stereo</p> <p>Cable length: Coiled Cable (min. 1.3m / max. 3m)</p> <p>Weight w/o cable: 285 g</p> <p>Compatible product with camera and tie microphone with wireless transmitter and receiver from this segment of tender is required, also compatible cables for direct connection to mentioned devices should be included</p>	1.00	pcs
24	Triple lightning kit with tripods and bag	<p>Next minimum requirements:</p> <p>On or off camera LED lighting fixture</p> <p>Location/studio lighting kit with 3 lights on compact stands and with carrying case and 22 filters (including diffusion, skin tone, magenta and colour</p>	1.00	kit

		FX) Hot-shoe mount adapters 360° ball head swivels Power supplies Impact-resistant carrying case Each light with: Continuous Light and Flash Modes Built-In HSS flash sync reciever CRI at least 96 and TLCI at least 91 Color Temperature: 3150 to 6300K Continuous Light Output: 2000 Lux at 90cm Flash Output: f/8 at ISO 200 at 90cm Runs on AA Batteries, D-Tap or AC Three 1/4"-20 Threads; Camera Shoe Mount Filter Pack and Holder; Belt Pouch		
25	Bag for equipment	Next minimum requirements: Handheld, soft carry bag with protection for equipment on the field Compatible product with camera, charger and additional batteries for camera, tie microphone with wireless transmitter and receiver, microphone for camera and headphones for camera from this segment of tender is required (enough place to fit all of them at once inside)	1.00	pcs
26	Warranty	Warranty for whole set	1.00	year
27	A mobile set of equipment for hybrid implementation of the pedagogical process in	Next minimum requirements: Camera: Use low-light 2Mega pixel sensor for	1.00	KIT

the pedagogues' offices	imaging in low-light conditions.
Camera and speakerphone kit	Wide field of view (DFOV) 84.5° Focal lens of 3.9mm (wide) ~ 47.3mm (tele) Lens F1.8 (wide)~2.8 (tele) Smart Frame for automatic FOV adjustment to fit all participants. True WDR up to 120 dB (Superb backlight compensation technology for optimizing light balance in high-contrast conditions.) 18X total zoom (12X optical zoom) Pan: ±170°. Tilt: +90° (up) -30° (down) Image Mirror, Flip, AE, white balance (auto, manual override via PC based app) Minimum focus distance is 1.5m. 10 camera presets (through remote control) Standard tripod screw holes and Kensington slot. Speakerphone: Full duplex microphone array with echo cancellation. Advanced noise suppression. Dual-microphone array. 3.5mm phone-in jack. 3.5mm line out. Speaker volume adjustment: Adjustable to 90 dB SPL at 0.5 m. Touch control for volume down/up, mute, phone input, call and hang-up.

Support to bridge
phone-in and USB
connection into one
call.
Includes Kensington
slot.

Video:
Video compression
format of H.264, YUV,
YUY2, MJPEG, NV12.
Network video
compression format of
H.264.

Support the below
resolution: (16:9) 1920
x 1080, 1600 x 900,
1280 x 720, 960 x 540,
848 x 480, 800 x 448,
640 x 360, 424 x 240,
320 x 180; (4:3) 800 x
600, 640 x 480, 480 x
360, 320 x 240 at 60,
30, 15fps

IP streaming resolution
(Not for USB video
stream): 1080p, 720p,
480p and 360p.

Support bit rate:
512Kbps, 1Mbps,
2Mbps, 4Mbps,
8Mbps, 16Mbps and
32Mbps.

Audio:
AAC-LC
Echo cancellation.

Network:
Support the network
protocol: RTSP, RTMP
Support 10/100/1000
Mbps. (LAN, RJ45
interface)
Support VISCA over
IP.

Support remote
management via PC
based software.
Support real-time
streaming via PC
based software.
Support DHCP / Static

					<p>IP address setting. Support NTP Server.</p> <p>Security: Support password protection. Support SSL certificate import.</p> <p>General: Support IR remote control. Support 3rd party integration: VISCA, Pelco-P, Pelco-D via RS232 (128 preset points via VISCA command) Support VISCA over IP. Support standard UVC/UAC plug-and-play. Support Web UI management. Support basic camera settings adjustment via AVer PTZApp. Support camera wall-mount method.</p> <p>Warranty: For whole set minimum 1 year.</p>		
8	Nabavka opreme za podršku distance learning-a za potrebe Univerziteta u Valoni „Ismail Ćemali“ (Albanija) / procurement of DISTANCE LEARNING SUPPORTING EQUIPMENT	6500.00	1	DISTANCE LEARNING SUPPORTING EQUIPMENT Notebook #1	<p>Notebook with next minimum requirements: Processor: Intel i5-1245U or equivalent , up to 4.4 GHz,12 MB cache, 10 cores, 12 threads with Vpro Chipset Intel PCH-LP or equivalent Memory: 8GB DDR4 3200 MHz, Two SODIMM slots Internal storage: 256 GB SSD NVME Wireless 6, Bluetooth 5.2 Display:14” diagonal</p>	3.00	PCS

						FHD, WVA, anti glare high brightness 250 nita Graphic: integrated Camera: FHD RGB camera with privacy shutter Ports: 1 x RJ45, 1 x USB 3.2 gen 1, 1 x USB 3.2 gen 1 with powershare, Two Thunderbolt 4 ports with DisplayPort Alt Mode/USBC/USB4 /Power Delivery, 1 x universal audio port, 1 x HDMI 2.0, 1 x microsd card slot, 1 x USB type C power input, 1x wedge- shaped lock slot Backlit keyboard Security: Fingerprint- reader sensor technology Capacitive, Fingerprint-reader sensor resolution 508 dpi, Fingerprint-reader sensor pixel size 256 x 360, Trusted Platform Module (TPM) 2.0 FIPS 140-2 Certified, Fingerprint Reader in Power Button tied to ControlVault 3, Battery: 4-cell, 58 Whr Operating system: Windows 11 Professional or equivalent Warranty: min 3 year Weight maximum 1.4 kg The bidder is obliged to provide proof that (if he is not the equipment manufacturer) he is in partnership with the equipment manufacturer, which is proven by the authorization of the	
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equipment manufacturer (MAF) or an authorized distributor, agent of the equipment manufacturer that is offered. If an authorization is submitted from an authorized distributor, representative of the manufacturer of the offered equipment, it is necessary to submit a certificate proving that it is authorized for sale by the manufacturer for the procedure in question
The bidder is obliged to submit the manufacturer's certificate on the duration of the warranty period of the specific equipment offered.
Warranty minimum 1 year

2 Notebook #2

Notebook with next minimum requirements:
Processor: up to 4.8 GHz,18 MB cache, 12 cores, 16 threads
Chipset Intel P28 or equivalent
Memory: 16GB DDR5 4800 MHz, 2 sodimm
Internal storage: 512 GB SSD NVME
Wireless 6, Bluetooth 5.2
Display:14" diagonal FHD, WVA, anti glare high brightness 250 nita
Graphic: integrated
Camera: FHD RGB camera 2.07 megapixel with privacy shutter
Ports 1x RJ45, 1x

1.00 PCS

USB 3.2 Gen 1 port 1x
USB 3.2 Gen 1 port
with PowerShare 2x
Thunderbolt 4 ports
with DisplayPort Alt
Mode/ USB4/Power
Delivery, 1 x
headphone/microphon
e combo, 1 x HDMI, 1
x microSD card slot, 1
x USB type C power
input, 1x wedge-
shaped lock slot
Backlit keyboard
Security: Fingerprint-
reader sensor
technology Capacitive,
Fingerprint-reader
sensor resolution 508
dpi ,Fingerprint-reader
sensor pixel size 108 x
88
Battery: 4-cell, 64 Whr
Operating system:
Windows 11
Professional or
equivalent
Warranty: min 3 year
Weight maximum 1.5
kg
The bidder is obliged
to provide proof that (if
he is not the
equipment
manufacturer) he is in
partnership with the
equipment
manufacturer, which is
proven by the
authorization of the
equipment
manufacturer (MAF) or
an authorized
distributor, agent of the
equipment
manufacturer that is
offered. If an
authorization is
submitted from an
authorized distributor,
representative of the
manufacturer of the
offered equipment, it is

					<p>necessary to submit a certificate proving that it is authorized for sale by the manufacturer for the procedure in question</p> <p>The bidder is obliged to submit the manufacturer's certificate on the duration of the warranty period of the specific equipment offered.</p> <p>Warranty minimum 1 year</p>		
			3	Portable touchscreen device	<p>Tablet with next minimum requirements:</p> <p>8 GB RAM</p> <p>256 GB storage</p> <p>Chip M1 chip or equivalent</p> <p>8-core CPU with 4 performance cores and 4 efficiency cores</p> <p>8-core GPU,16-core Neural Engine</p> <p>Liquid Retina display</p> <p>11-inch (diagonal) LED backlit Multi-Touch display with IPS technology</p> <p>2388-by-1668-pixel resolution at 264 pixels per inch (ppi)</p> <p>ProMotion technology</p> <p>Wide color display (P3)</p> <p>True Tone display</p> <p>Fingerprint-resistant oleophobic coating</p> <p>Fully laminated display</p> <p>Antireflective coating</p> <p>1.8% reflectivity</p> <p>SDR brightness: 600 nits max</p> <p>Camera</p> <p>Wide: 12MP, <i>f</i>/1.8 aperture</p> <p>Ultra Wide: 10MP, <i>f</i>/2.4 aperture, and 125° field of view</p>	1.00	PCS

2x optical zoom out
Digital zoom up to 5x
Five-element lens
(Wide and Ultra Wide)
Brighter True Tone
flash
Panorama (up to
63MP)
Sapphire crystal lens
cover
Autofocus with Focus
Pixels (Wide)
Smart HDR 3
Speakers Four
speaker audio
Microphones Five
studio-quality
microphones for calls,
video recording, and
audio recording
Thunderbolt / USB 4
port with support for:
Charging, DisplayPort,
Thunderbolt 3 (up to
40Gb/s), USB 4 (up to
40Gb/s), USB 3.1 Gen
2 (up to 10Gb/s)
Operating System
iPadOS 15 or
equivalent
Power and Battery
Built-in 28.65-watt-
hour rechargeable
lithium-polymer battery

The bidder is obliged to provide proof that (if he is not the equipment manufacturer) he is in partnership with the equipment manufacturer, which is proven by the authorization of the equipment manufacturer (MAF) or an authorized distributor, agent of the equipment manufacturer that is offered. If an authorization is submitted from an

					<p>authorized distributor, representative of the manufacturer of the offered equipment, it is necessary to submit a certificate proving that it is authorized for sale by the manufacturer for the procedure in question</p> <p>The bidder is obliged to submit the manufacturer's certificate on the duration of the warranty period of the specific equipment offered.</p> <p>Warranty minimum 1 year</p>		
9	<p>Nabavka opreme za podmorsko istraživanje za potrebe Univerziteta u Valoni „Ismail Ćemali“ (Albanija) /</p> <p>PROCUREMENT OF UNDERWATER EQUIPMENT FOR SEAWATER VISUAL AND QUALITY MONITORING WITH ACCESSORIES</p>	26500.00	1	Underwater Remotely Operated Vehicle – ROV with accessories	<p>Underwater remotely operated vehicle – ROV with next minimum characteristics:</p> <ul style="list-style-type: none"> • Dimensions at least: Length 455 mm; Width 338 mm; Height 250 mm • Weight in Air (without Ballast) max 10 kg • Watertight enclosure dimensions at least: inner diameter 102 mm; inner Length 298 mm • Constructed from HDPE (for frame), aluminum flanges and end caps and acrylic tubes • Maximum rated depth at least 100 m • Maximum forward speed at least 1.5 m/s • Equipped with at least 8 thrusters – 4 vectored and 4 vertical • Forward Bollard Thrust at least 9 kgf • Vertical Bollard Thrust at least 7kgf 	1.00	PCS

						<ul style="list-style-type: none">• Lateral Bollard Thrust at least 9 kgf• Tether at least 100 m, working strength at least 45 kgf, breaking strength at least 160 kgf, strengthened with Kevlar, including at least 4 twisted pairs of conductors• Four lights with minimal specification:<ul style="list-style-type: none">o 1500 lumens each or better with dimming controlo Color Temperature 5,700 kelvin or bettero Light beam angle – 135 degrees in water each or better with adjustable tilt• Equipped with Gyroscope, Accelerometer, Magnetometer, Current and Voltage sensing and Leak detection <p>Scope of supply:</p> <ul style="list-style-type: none">• One base Underwater ROV unit• Fathom Spool for 100 m Tether• 4 underwater sea lights• Heavy Configuration Retrofit kit – adding Pitch movement to original ROV, increased buoyancy, and external thruster guards• Two batteries, quickly swappable at working location providing the ROV with at least 2 hours of normal use each• Battery charger• Subsea Gripper with minimum specification:<ul style="list-style-type: none">o grip force at tip at	
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- o least 97 N, in middle at least 124 N,
- o jaw opening at least 62 mm
- o Push-rod Axial Load Rating 3kg or better
- o Minimum Linear Piston Travel 13.5 mm or better
- o Time to Open/Close 1.6 seconds or better
- o Cable Used CAB-A-3 -22AWG or better
- o Cable Length 635 mm or better
- o Conductor Gauge 22 AWG or better
- o Installed Penetrators: Device Side WLP-M06-4.5MM-LC; Cable End WLP-M10-4.5MM-LC; or better
- o Housing Material Aluminum 6061-T6 or better
- o Pressure Rating 300 m or better
- o Weight in Air (w/ cable) 524 g or less
- o Weight in Water (w/ cable) 267 g or less
- Logitech F310 Controller or equivalent to control the ROV
- Laptop computer with appropriate software to control and monitor the ROV recommended by the manufacturer with next minimum requirements:
 - o Processor I5 last generation or equivalent
 - o RAM 8 GB
 - o SSD 256 GB
 - o Screen 15" full HD
 - o LAN connection 10/100
 - o USB 3.0 connection
 - o HDMI/DP port
 - o Windows 11 or

equivalent

- A set of spare parts recommended by the manufacturer
- Payload Skid - a modular frame for additional watertight enclosures, lights, and ballast weights
- Niskin water sampler or similar, for integration with the ROV – at least 1 l capacity
- Sea temperature sensor minimal specification:
 - o Operating Temperature: -40 to +125°C or better
 - o Storage Temperature: -55 to +150°C or better
 - o Absolute Accuracy:
 - o $\pm 0.1^{\circ}\text{C}$ (between -5 to 50°C) or better
 - o $\pm 0.5^{\circ}\text{C}$ (between -40 to 125°C) or better
 - o Operating Temperature: -40 to +125°C or better
 - o Operating Depth: 0 - 900m or better
 - o ArduSub Compatible: yes
 - o Development Libraries: At least TSYS01 Arduino, TSYS01 Python, TSYS01 ArduPilot
- Temperature sensor interface board
- Pressure sensor minimal specification:
 - o Maximum Mechanical Pressure: At least 50 bar
 - o Operating Pressure: 0 - 30 bar or better
 - o Operating Depth: At least 0 - 300m
 - o Relative Accuracy (0 -45°C): ± 200 mbar

(204 cm in fresh water)
or better
o Resolution: .2 mbar
(2 mm in fresh water)
or better
o In Air Operating
Temperature: At least
-20 to +85°C
o In Water Operating
Temperature: At least
2 to 40°C
o Storage
Temperature: At least
-40 to +85°C
o Absolute Accuracy: ±
1.5°C (between 0 to
60°C) or better
o ArduSub
Compatible: Yes
o Development
Libraries: At least
MS5837 Arduino,
MS5837 Python,
MS5xxx ArduPilot
• Pressure sensor
interface board
• Low-Light HD USB
Camera minimal
specification:
o Physical
o Camera PCB
Dimensions: 32mm x
32mm
o Mounting Hole
Spacing: 28mm x
28mm
o Connector: JST-PH
to USB or better
o Working
Temperature: -20 -
75°C or better
o Mass (total): max.
17g
o Mass (without cable):
max. 13.5g
o Lens
o Mount Type: M12 x
0.5
o Field of View
(Horizontal): 80° or
better
o Field of View
(Vertical): 64° or better

						<ul style="list-style-type: none">o Focal Length: 2.97 mm or bettero Sensoro Type Sony Exmor IMX322 / IMX323 or equivalento Format: 1/2.9" or bettero Pixel Size: 2.8µm (H) x 2.8µm (V) or smallero Distortion: max. 1%o Total pixels: 2000(H) x 1121(V) or bettero Recording pixels: 1920(H) x 1080(V) or bettero Minimum Illumination: 0.01 lux or bettero Sensitivity: 5.0V/lux-sec@550nm or bettero Video Streamo Standard (min - max): 240p15 - 1080p30 or bettero Compression format: H.264 / MJPEG / YUV2 (YUYV)o Audio Streamo Channels: single-channel, 44.1 kHz or bettero Format: Linear-PCM (L16) or bettero Electricalo Supply Voltage: 5 Vo Max Power Draw: 220 mA or less• Protective casingo Minimal internal dimensions800x610x535 mmo Case material – body made of water resistant plywood, edges made of aluminum, corner protection made of aluminum.o At least four handles on sides for carryingo Four wheels with stoppers	
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				<ul style="list-style-type: none">o Protective hard foam inside the case – at least 10 mm thicko At least one secure lid lock <p>Authorization:</p> <ul style="list-style-type: none">• Authorization from manufacturer needed <p>Warranty:</p> <ul style="list-style-type: none">• Minimum one year for all equipment <p>Training:</p> <p>Minimum two days on the spot in Vlore</p>		
	2	Sea water quality measurement instrument with accessories	<p>Sea water quality measurement instrument with the following characteristics</p> <ul style="list-style-type: none">• Handheld• Conforms to the following standards: EN61326-1 Class B, EN IEC 63000 9,• Sensor probe detachable from control unit• Sensor probe cable length at least 30m• Capable of measuring following parameters: pH, Dissolved oxygen, Electrical conductivity, Salinity, Total dissolved solid, Seawater specific gravity, Temperature, Turbidity, Water depth, Oxidation reduction potential, GPS location• Software for data transfer to a PC• One hand operation• Auto calibration feature• Auto hold function• Possibility to set a site name for repeated	1.00	PCS	

measurements at the same location(s); at least 20 sites can be stored

- Possibility for single and repeated (interval) measurements; Interval settable between 10 seconds and 24 hours
 - Possibility to select different units of measurement for various parameters
 - Inbuilt compensation capabilities: Salinity compensation and atmospheric pressure compensation for dissolved oxygen (DO); Temperature compensation for conductivity (COND); Setting total dissolved solid (TDS) coefficient for TDS
 - Multiple language user menu selectable – English language must be present
 - User settable Auto power off function
 - Display contrast settable
- Sensor head characteristics
- Measurement temperature range -10°C to 55°C
 - Outer diameter maximum 97 mm
 - Sensor head length maximum 345 mm
 - Cable length at least 30m
 - Mass maximum 1850 g
 - IP-68 waterproofing, or better
 - Shock resistant cover
- Control unit characteristics:
- Outer dimensions

(WxDxH) 115 mm x 66 mm x 335 mm $\pm 5\%$

- Mass maximum 825 g

- Monochromatic graphic LCD with backlight 320x240 mm

- Memory: at least 10000 data items

- USB connection

- IP-67 waterproofing, or better

- GPS unit: Reception method (12 channel parallel); Measurement precision [With PDOP (high precision): 30 m or less (2 drms)] or better

- Ambient temperature range: at least -5°C to 45°C

pH sensor:

- Measurement method: Glass electrode method

- Range: at least pH 0 to 14

- Resolution: 0.01 pH or better

- Precision: at least ± 0.1 pH

DO sensor:

- Measurement method: Polarographic method

- Film thickness: up to 25 μ m

- Range: at least 0 mg/L to 50.0 mg/L

- Resolution: 0.01 mg/L or better

- Precision: 0 mg/L to 20 mg/L: ± 0.2 mg/L; 20 mg/L to 50 mg/L: ± 0.5 mg/L or better

- Salinity conversion: (0 to 70 PPT, automatic) or better

- Automatic temperature compensation

Electrical conductivity

probe:

- Measurement method: Four-AC-electrode method
 - Range: 0 S/m to 10 S/m (0 mS/cm to 100 mS/cm) or better
 - Auto range function
 - Resolution: at least:
 - o 0.000 mS/cm to 0.999 mS/cm:0.001
 - o 1.00 mS/cm to 9.99 mS/cm:0.01
 - o 10.0 mS/cm to 99.9 mS/cm: 0.1
 - o 0.0 mS/m to 99.9 mS/m: 0.1
 - o 0.100 S/m to 0.999 S/m: 0.001
 - o 1.00 S/m to 9.99 S/m: 0.01
 - Precision: 1% of full-scale (midpoint of two calibration points) or better
 - Automatic temperature conversion (25°C)
- Salinity measurement:
- Measurement method: Electrical conductivity conversion
 - Range: at least 0 to 70 parts per thousand
 - Resolution: 0.01 part per thousand or better
 - Precision: ± 3 part per thousand or better
- TDS (total dissolved solid) measurement:
- Measurement method: Electrical conductivity conversion
 - Conversion coefficient setting
 - Range: at least 0 g/L to 100 g/L
 - Resolution: 0.1% of full-scale or better
 - Repeatability: ± 2 g/L or better

					<ul style="list-style-type: none"> • Precision: ± 5 g/L or better <p>Seawater specific gravity measurement:</p> <ul style="list-style-type: none"> • Measurement method: Electrical conductivity conversion • $\square$t, $\square$0, $\square$15 display • Range: at least 0 $\square$t to 50 $\square$ • Resolution: 0.1 $\square$ or better • Precision: ± 5 $\square$ or better <p>Temperature probe:</p> <ul style="list-style-type: none"> • Measurement method: Platinum temperature sensor • Range: at least $-10\square$C to $55\square$C • Resolution: at least $0.01\square$C • Sensor: Platinum temperature sensor, JIS Class B ($0.3+0.005 t$) or better <p>Turbidity measurement:</p> <ul style="list-style-type: none"> • Measurement method: LED $90\square$ scattering method • Range: at least 0 NTU to 1000 NTU • Resolution: 0.01 NTU or better • Precision: $\pm 5\%$ of read-out or ± 1 NTU (whichever is larger) or better • Conforms to EN ISO 7027 <p>Water depth measurement:</p> <ul style="list-style-type: none"> • Measurement method: Pressure method • Range: at least 0 m to 30 m • Resolution: 0.05 m or better • Precision: ± 0.3 m or better
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ORP (oxidation reduction potential) measurement:

- Measurement method: Platinum electrode method
- Range: at least -2000 mV to +2000 mV
- Resolution: 1 mV or better
- Precision: ± 15 mV or better

Scope of supply:

- One water quality measurement instrument with the above stated characteristics
- Spare pH sensor – appropriate for the instrument
- pH 4.01 Standard Solution for auto calibration, at least 4l
- Spare ORP sensor – appropriate for the instrument
- Spare DO membrane cap (at least 3 pieces) – appropriate for the instrument
- Spare Reference Electrode tip with liquid junction – appropriate for the instrument
- Internal solution for DO
- pH sensor protect cover – 3 pieces at least
- DO sensor protect cover – 3 pieces at least
- Rubber Cap for sensor guard – at least 8 pieces
- Backpack to carry the instrument
- Carrying case for the instrument – hard plastic with foam inside to protect the instrument, or better

					Authorization: • Authorization from manufacturer needed Warranty: • Minimum one year for all equipment Training: Minimum two days on the spot in Vlore		
10	Nabavka vazdušnog drona za potrebe Univerziteta u Valoni „Ismail Ćemali“ (Albanija) / PROCUREMENT OF AIR DRONE FOR VISUAL SEA AND COASTAL MONITORING	3000.00	1	Air Drone	Aircraft • Takeoff Weight: 895 g • Dimensions (Folded/Unfolded) o Folded (without propellers) 221×96.3×90.3 mm (Length×Width×Height) o Unfolded (without propellers) 347.5×283×107.7 mm (Length×Width×Height) • Diagonal Length: 380.1 mm • Max Ascent Speed: o 1 m/s (C mode) o 6 m/s (N mode) o 8 m/s (S mode) • Max Descent Speed: o 1 m/s (C mode) o 6 m/s (N mode) o 6 m/s (S mode) • Max Flight Speed (at sea level, no wind): o 5 m/s (C mode) o 15 m/s (N mode) o 19 m/s (S mode) • Max Service Ceiling Above Sea Level: 6000 m • Max Flight Time (no wind): 46 minutes • Max Hovering Time (no wind): 40 minutes • Max Flight Distance: 30 km • Max Wind Speed Resistance: 12 m/s • Max Tilt Angle: o 25° (C mode)	1.00	SET

- o 30° (N mode)
- o 35° (S mode)
- Max Angular Velocity: 200°/s
- Operating Temperature: -10° to 40° C (14° to 104° F)
- GNSS: GPS + Galileo + BeiDou
- Hovering Accuracy Range:
 - Vertical: ±0.1 m (with Vision Positioning); ±0.5 m (with GNSS Positioning)
 - Horizontal: ±0.3 m (with Vision Positioning); ±0.5 m (with High-Precision Positioning System)
- Internal Storage: 8 GB (available space is approx. 7.2 GB)

Hasselblad Camera

- Sensor: 4/3 CMOS, Effective pixels: 20 MP
- Lens:
 - o FOV: 84°
 - o Format Equivalent: 24 mm
 - o Aperture: f/2.8 to f/11
 - o Focus: 1 m to ∞ (with autofocus)
- ISO Range:
 - o Video: 100-6400
 - o Still Image: 100-6400
- Shutter Speed: Electronic Shutter 8-1/8000 s
- Max Image Size: Main Unit: 5280×3956
- Still Photography Modes:
 - o Single shot: 20MP Photos
 - o Automatic Exposure Bracketing (AEB): 20 MP, 3/5 bracketed frames at 0.7 EV
 - o Burst shooting: 20 MP, 3/5/7
 - o Timed: 20 MP,

2/3/5/7/10/15/20/30/60
s
• Video Resolution:
o H.264/H.265
o 5.1K:
5120×2700@
24/25/30/48/50fps
o DCI 4K:
4096×2160@
24/25/30/48/50/60/120
*fps
o 4K:
3840×2160@
24/25/30/48/50/60/120
*fps
o FHD:
1920×1080@
24/25/30/48/50/60/120
*/200*fps

- Max Video Bitrate: H.264/H.265 Bitrate 200 Mbps

- Supported File Formats: exFAT

- Photo Format:
JPEG/DNG (RAW)

- Video Formats:
MP4/MOV (MPEG-4
AVC/H.264,
HEVC/H.265)

Tele Camera

- Sensor: 1/2-inch CMOS

- Shutter Speed:
Electronic Shutter: 2-1/8000 s

- Lens:

0 FOV: 15°

o Format Equivalent:
162mm

- o Aperture: f/4.4

- o Focus: 3 m to ∞

- ISO Range:

o Video: 100-6400

- o Still Image: 100-6400

- Max Image Size:

- Photo Format:

JPEG/DNG (RAW)

- Video Formats:
MP4/MOV (MPEG-4)

AVC/H.264,

HEVC/H.265

- Still Photography

Modes:

- o Single shot: 12MP

Photos

- o Automatic Exposure

Bracketing (AEB): 12

MP, 3/5 bracketed

frames at 0.7 EV

- o Burst shooting: 12

MP, 3/5/7

o Timed: 12 MP,

2/3/5/7/10/15/20/30/60

S

- Video Resolution:

o H.264/H.265

o 4K:

3840×2160@25/30/50

fps

0 FHD:

1920x1080@25/30/50

fps

- o Digital Zoom: 4x

Gimbal

- Stabilization: 3-axis motorized (tilt, roll, pan)

- Mechanical Range:

- o Tilt: -135° to 100°

- o Roll: -45° to 45°

o Pan: -27° to 27°

- Controllable Range:

- o Tilt: -90° to 35°

o Pan: -5° to 5°

- Max Control Speed

(tilt): $100^\circ/\text{s}$

- Angular Vibration

Range: $\pm 0.007^\circ$

Sensing

- Sensing System:

Omnidirectional

binocular vision

system, supplemented

with an infrared sen

at the bottom of the

aircraft

- Forward:

- o Measurement

Range: 0.5-20 m

o Detection Range: 0.5

-200 m

						<ul style="list-style-type: none">o Effective Sensing Speed: Flight Speed $\leq$ 15m/so FOV: Horizontal 90°, Vertical 103°• Backward:<ul style="list-style-type: none">o Measurement Range: 0.5-16 mo Effective Sensing Speed: Flight Speed $\leq$ 12m/so FOV: Horizontal 90°, Vertical 103°• Lateral:<ul style="list-style-type: none">o Measurement Range: 0.5-25 mo Effective Sensing Speed: Flight Speed $\leq$ 15m/so FOV: Horizontal 90°, Vertical 85°• Upward:<ul style="list-style-type: none">o Measurement Range: 0.2-10 mo Effective Sensing Speed: Flight Speed $\leq$ 6m/so FOV: Front and Back 100°, Left and Right 90°• Downward:<ul style="list-style-type: none">o Measurement Range: 0.3-18 mo Effective Sensing Speed: Flight Speed $\leq$ 6m/so FOV: Front and Back 130°, Left and Right 160°• Operating Environment:<ul style="list-style-type: none">o Forward, Backward, Left, Right, and Upward: Surface with a clear pattern and adequate lighting (lux>15)o Downward: Surface with a clear pattern and adequate lighting (lux >15). Diffuse reflective surface with diffuse reflectivity>20%		
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(e.g. wall, tree, person)

Video Transmission

- Video Transmission System: O3+

- Live View Quality: Remote Controller 1080p@30fps/1080p@60fps

- Operation Frequency:
 - o 2.400-2.4835 GHz
 - o 5.725-5.850 GHz

- Max Transmission Distance

(unobstructed, free of interference and aligned with controller):

- o 2.400-2.4835 GHz; 5.725-5.850 GHz

- o FCC: 15 km

- o CE: 8 km

- o SRRC: 8 km

- o MIC: 8 km

- Signal Transmission Ranges (FCC):

- o Strong Interference (urban landscape, limited line of sight, many competing signals): Approx. 1.5-3 km

- o Medium Interference (suburban landscape, open line of sight, some competing signals): Approx. 3-9 km

- o Low Interference (open landscape abundant line of sight, few competing signals): Approx. 9-15 km

- o Data is tested under different standards in open areas free of interference. It only refers to the maximum, one-way flight distance without considering Return to Home.

Please pay attention to

RTH prompts in the DJI Fly app during actual flight.

- Max Download Bitrate:
 - o O3+:
 - o 5.5MB/s (with RC-N1 remote controller)
 - o 15MB/s (with DJI RC Pro remote controller)
 - o Wi-Fi 6:
 - o 80MB/s*

- Latency (depending on environmental conditions and mobile device):
 - o 130 ms (with RC-N1 remote controller)
 - o 120 ms (with DJI RC Pro remote controller)
- Antennas: 4 antennas, 2T4R
- Transmitter Power (EIRP):
 - 2.4 GHz: ≤33 dBm (FCC); ≤20 dBm (CE/SRRC/MIC)
 - 5.8 GHz: ≤33 dBm (FCC), ≤30 dBm (SRRC), ≤14 dBm(CE)

Battery

- Capacity: 5000 mAh
- Voltage: 15.4 V
- Charging Voltage Limit: 17.6 V
- Battery Type: LiPo 4S
- Energy: 77 Wh
- Weight: 335.5 g
- Charging Temperature: 5° to 40° C (41° to 104° F)

Battery Charger

- Input: 100-240 V AC, 47-63 Hz, 2.0 A
- USB-C Output: USB-C: 5.0 V□5.0 A/9.0 V□5.0 A/12.0 V□5.0 A/15.0 V□4.3 A/20.0 V□3.25 A/5.0~20.0

V□3.25 A
• USB-A output: USB-A: 5 V□2 A
• Rated Power: 65 W

Charging Hub
• Input: USB-C: 5-20 V□5.0 A max
• Output: Battery: 12-17.6 V□5.0 A max
• Rated Power: 65 W
• Charging Type: Charges three batteries in sequence.
• Charging Temperature Range: 5° to 40° C (41° to 104° F)

Car Charger
• Input: Car Power Input: 12.7-16 V□6.5 A, rated voltage 14 V DC
• Output:
o USB-C: 5.0 V□5.0 A/9.0 V□5.0 A/12.0 V□5.0 A/15.0 V□4.3A/20.0 V□3.25 A/5.0~20.0 V□3.25 A
o USB-A: 5 V□2 A
• Rated Power: 65 W
• Charging Time: Approx. 96 minutes
• Charging Temperature Range: 5° to 40° C (41° to 104° F)

Storage
• microSD Card: High bitrate video microSD Cards of minimum 256 GB
• SSD Specs: 8 GB (available space is approx. 7.2 GB)

Remote Controller
• Remote Controller Transmission System:
• Max Supported Mobile Device Size:

					180×86×10 mm (Length×Width×Height) • Operating Temperature: 0° to 40° C (32° to 104° F) • Transmitter Power (EIRP): o 2.4 GHz: o ≤26 dBm (FCC), ≤20 dBm (CE/SRRC/MIC) o 5.8 GHz: o ≤26 dBm (FCC/SRRC), ≤14 dBm (CE) • Battery Life: o Without charging any mobile device: 6 hr; o when charging mobile device: 4 hr • Supported USB Port Types: Lightning, Micro USB, USB-C Carrying bag Original manufacturers bag for air drone set		
				2 Training	Training course in-vivo in Vlore	2.00	Days
				3 Warranty	• Minimum warranty for the whole set	1.00	YEARS
11	Nabavka stručne literature u elektronskoj formi za potrebe Univerziteta u Valoni „Ismail Ćemali“ (Albanija) / procurement of ELECTRONIC BOOKS	3000.00	1	e-books	Book title Editor/Author Year Publisher ISBN e-book Green Ports Ricard Bertgqvist, Jason Monios 2018 Elsevier 9780128140543 Innovation Strategies in Environmental Science Galanakis, Charis 2019 Elsevier 9780128173824 Marine Ecotoxicology Blasco, Julián 2016 Elsevier 9780128033715 Marine pollution: sources, fate and effects of pollutants in coastal ecosystems Beiras, R 2018	1.00	set

					Elsevier 9780128137369 Marine Protected Areas, Science, Policy and Management John Humphreys, Robert Clark, 2019 Elsevier 9780081026984 Measuring Sustainable Development Goals Performance Sten Thore 2021 Elsevier 9780323902687 Methods in Stream Ecology, Volume 2: Ecosystem Function Gary Lamberti and F. Hauer, 2017 Elsevier 9780128130476 Modern Treatment Strategies for Marine Pollution Senthil Kumar 2020 Elsevier 9780128222799 Petroleum Waste Treatment and Pollution Control Jafarinejad, Shahryar 2017 Elsevier 9780128092439 Plastic Pollution and Marine Conservation Giuseppe Bonanno 2022 Elsevier 9780128224717 Remote Sensing of Ocean and Coastal Environments Rani, Meenu 2020 Elsevier 9780128196045 Spatial Modeling in GIS and R for Earth and Environmental Science Pourghasemi, Hamid Reza 2019 Elsevier 9780128152263 Sustainable Development Strategies Roy, Mousumi 2020 Elsevier 9780128189207	
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					<p>Sustainable Fish Production and Processing Charis Galanakis 2021 Elsevier 9780128242964</p> <p>Writing for Science and Engineering Silyn-Roberts, Heather 2012 Elsevier 9780080982854</p> <p>To be latest editions. To be with permanent access and for multiple users.</p>		
12	<p>Nabavka opreme za distance learning za potrebe Univerziteta u Draču „Aleksander Moisiu“ (Albanija)/DISTANCE LEARNING EQUIPMENT</p> <p>A mobile set of equipment for hybrid implementation and capture of the pedagogical process in lecture halls and laboratories</p>	31000.00	1	Network switch	<p>Next minimum requirements:</p> <p>Networking Interfaces: 24x 10/100/1000 RJ45 Port, 2x 1/10G SFP+ Ethernet Ports</p> <p>Total Non-Blocking Throughput: 44 Gbps</p> <p>Switching Capacity: 88 Gbps</p> <p>Forwarding Rate: 65.472 Mpps</p> <p>Power Method: Universal 100-240VAC/50-60 Hz and DC Input</p> <p>Power Supply: Internal AC</p> <p>Max. Power Consumption (Excluding PoE Output): 50W</p> <p>LEDs: System, RJ45 Data Ports, SFP+ Data Ports</p> <p>Status: PoE;</p> <p>Speed/Link/Activity</p> <p>ESD/EMP Protection</p> <p>Air: ± 16 kV, Contact: ± 12 kV</p> <p>Shock and Vibration ETSI300-019-1.4</p> <p>Standard</p> <p>Operating Temperature: -5 to 40° C (23 to 104° F)</p>	1.00	pcs

		<p>Operating Humidity: 10 to 90%</p> <p>Noncondensing</p> <p>Certifications: CE, FCC, IC</p> <p>Total Available PoE: 400W</p> <p>PoE Interfaces</p> <p>all ports: PoE/PoE+</p> <p>at least 8 ports: 60W PoE++</p> <p>Max. PoE Wattage per Port by PSE</p> <p>PoE+: 32W</p> <p>PoE++: 64W</p> <p>Compatible product with access point from this segment of tender is required</p>		
	2 Access point	<p>Next minimum requirements:</p> <p>Weatherproofing: IP54</p> <p>Management interfaces: Ethernet, Bluetooth</p> <p>Networking interface:</p> <p>1x GbE RJ45 port, Button, Factory reset</p> <p>LED: White/Blue</p> <p>Power method: PoE+, passive PoE (48V)</p> <p>Max. power consumption: 16.5W</p> <p>Max. TX power</p> <p>2.4 GHz: 26 dBm</p> <p>5 GHz: 26 dBm</p> <p>MIMO</p> <p>2.4 GHz: 4 x 4</p> <p>5 GHz: 4 x 4</p> <p>Throughput rate</p> <p>2.4 GHz: 600 Mbps</p> <p>5 GHz: 2400 Mbps</p> <p>Antenna gain</p> <p>2.4 GHz: 4 dBi</p> <p>5 GHz: 5.5 dBi</p> <p>Mounting: Wall/ceiling (included)</p> <p>Operating temperature: -30 to 60° C (-22 to 140° F)</p> <p>Operating humidity: 5 -</p>	1.00 pcs	

95% noncondensing
Certifications: CE,
FCC, IC
WiFi standards:
802.11a/b/g/WiFi
4/WiFi 5/WiFi 6
Wireless security:
WPA-PSK, WPA-
Enterprise
(WPA/WPA2/WPA3)
BSSID: 8 per radio
VLAN: 802.1Q
Advanced QoS
Per-user rate limiting
Guest traffic isolation
Supported Concurrent
clients : 300
Supported Data Rates
802.11a: 6, 9, 12, 18,
24, 36, 48, 54 Mbps
802.11b: 1, 2, 5.5, 11
Mbps
802.11g: 6, 9, 12, 18,
24, 36, 48, 54 Mbps
802.11n (WiFi 4): 6.5
Mbps to 600 Mbps
(MCS0 - MCS31, HT
20/40)
802.11ac (WiFi 5): 6.5
Mbps to 1.7 Gbps
(MCS0 - MCS9
NSS1/2/3/4, VHT
20/40/80/160)
802.11ax (WiFi 6): 7.3
Mbps to 2.4 Gbps
(MCS0 - MCS11
NSS1/2/3/4, HE
20/40/80/160)

Compatible product
with network switch
from this segment of
tender is required

3 Wireless mouse and
keyboard

Next minimum
requirements:
Keyboard
Weight (with batteries):
498 g
Silent buttons
technology
Adjustable keyboard
height

1.00 kit

		<p>Spill-resistant design Caps lock indicator light On/Off power switch 2 AAA batteries (Alkaline Battery)</p> <p>Mouse Weight (with batteries): 75.2 g Silent buttons technology On/off power button 1 AA batteries (Alkaline Battery) Compact shape</p> <p>Signal frequency: 2.4Ghz Signal range (in meters): 10 m Small USB receiver</p>		
	4 PTZ camera	<p>Next minimum requirements: Image Sensor: 1/2.8" 4K Exmor CMOS Output Resolutions: 4K/30, 4K/29.97, 4K/25, 1080p/60, 1080p/59.94, 1080p/50, 1080p/30,1080p/29.97, 1080p/25, 1080i/60, 1080i/59.94, 1080i/50, 720p/60, 720p/59.94, 720p/50 Effective Picture Elements: 8 Megapixels S/N Ratio: ≥ 50dB Exposure Control: Auto, Manual, Priority AE (Shutter, IRIS), BLC, WDR Optical Zoom: 21X Digital Zoom: 12X Total Zoom: 252X Viewing Angles: DFOV: 66.4° (Wide) to 3.3° (Tele) HFOV: 52.26° (Wide)</p>	1.00	pcs

to 2.66° (Tele)
VFOV: 41.26° (Wide)
to 2° (Tele)
Focal Length: f = 5.3
mm (Wide) to 110 mm
(Tele)
Aperture (Iris): F = 1.6
(Wide) to 3.8 (Tele)
Minimum Working
Distance: 1.5 m
(Wide), 1.5m (Tele)
Pan / Tilt Angles:
Pan: ±170° ,
Tilt: +90° / -30°
Pan / Tilt Speed
(Manual):
Pan: 0.1° to 100° /sec,
Tilt: 0.1° to 100° /sec
Preset Speed:
Pan: 200° /sec,
Tilt: 200° /sec
Preset Positions: 10
(IR), 255 (RS-232,
RS-422, IP)
Camera Control –
Interfaces: RS-232
(DIN8), RS-422
(RJ45), IP
Camera Control –
Protocols: VISCA
(RS-232 / RS-422 /
IP), PELCO-D &
PELCO-P (RS-232 /
RS-422), CGI (IP)
Image Processing:
Noise Reduction (2D /
3D), Flip, Mirror
Power Frequencies:
50Hz, 60Hz
Tracking Modes:
Presenter Mode, Zone
Mode, Hybrid Mode
Protection Mode:
Sleep Mode
Audio Channels: 2ch
Stereo
Audio Codecs: AAC-
LC, PCM
Video Outputs: 3G-
SDI, HDMI, IP, USB
Audio Outputs: 3G-
SDI, HDMI, IP, USB
Audio Inputs: MIC in,

Line in
Power Requirement:
AC 100 - 240V to DC
12V/5A
Power Consumption:
19W
PoE: PoE+
Dimensions (W x H x
D): 180.0 x 192.0 x
145.0 mm
Net Weight: 2.0 (±0.1)
kg
Security: Kensington
Slot
Operating Conditions:
Temperature: 0°C to
+40°C
Humidity: 20% to 80%
Storage Conditions:
Temperature: -20°C to
+60°C ;
Humidity: 20% to 95%
IP Streaming:
Resolution: 4K 30fps
Maximum Frame
Rate: 4K 30fps
Network Protocols:
IPv6, IPv4, TCP, UDP,
ARP, ICMP, IGMP,
HTTP, DHCP, RTP /
RTCP, RTSP, RTMP,
VISCA over IP
NDI®HX Capability:
Yes
Connector: USB 3.0
USB Audio Class:
UAC 1.0
USB Video Class:
UVC 1.1
Web UI Live Video
Preview: Yes
Web UI Camera PTZ
Control: Pan, Tilt,
Zoom, Focus, Preset
Control
Web UI Camera /
Image Adjustment:
Exposure, White
Balance, Picture
Web UI Network
Configuration: DHCP,
IP Address, Gateway,
Subnet Mask, DNS

					Warranty: 3 Years Package Contents: Camera, Drilling Paper, Ceiling Mount Bracket (x2) Quick Start Guide, Cable Fixing Plate, M2 x 4 mm Screw (x3), Power Adapter & Power Cord, 1/4"-20 L=6.5 mm Screw (x2), Remote Control, M3 x 6 mm Screw (x3), DIN 8 to D-Sub 9 Cable, RS-232 In/Out Y Cable, Cable Ties (x4) API- available for USB/IP programming		
	5	Interactive display with built-in computer			Next minimum requirements: Diagonal size: 86" Resolution: 3840 x 2160 Response time: 5 ms Brightness: 420 cd/m2 Static contrast ratio: 4500:1 Glass hardness: AG Tempered Glass - Mohs Level 7 Glass type: Low parallax - max 1mm air gap between panel and glass Lifespan: 50.000 hours Touch technology: IR Simultaneous touch points: 20 Touch response time: 5 ms Tracking Rate: 6 m/s Touch Accuracy: 1.5mm Windows Ink trigger with pens: Yes Passive Pens included: 2 Writing with 2 different colors simultaneously: Yes Palm Rejection: Yes Classroom Essential	1.00	pcs

Apps: Whiteboard, Annotate, Timer, Media Players, Browser, PDF Reader, Screen Record, Spinner, Voting, Math Tools
OPS slot: Intel® spec 80Pin
OPC PC: Intel i7-10510U, 16GB RAM, 250GB SSD, Windows 10 Pro licence
HDMI IN: 3
HDMI Out: 1
USB-A 2.0: 1
USB-B for Touch: 2
USB-A 3.0: 4
USB-C front mounted with support for Audio, Video, Touch and Ethernet: 1
USB-C side mounted with support for Audio, Video, Touch and Power Charge 65W: 1
LAN In (RJ45): 1
LAN Out (RJ45): 1
WiFi: IEEE 802.11a/b/g/n/ac with 2 × 2 MIMO (hotspot only) 2.4 and 5 GHz bands
Bluetooth: 5.0
Built In computer: Android 11, 6GB RAM, 64GB storage, 4K resolution
Built in 2.1 speakers: 2 x 15W + 15W subwoofer
Built In Line Array Microphones with 8m pickup range: Yes
Embedded digital signage system with cloud management: Yes, 2GB Free cloud space included
MDM remote management from cloud: Yes - 5 year licence

		<p>Mirroring Any Device To The Board: Built in AirServer with support for Miracast, Airplay and Chromecast.</p> <p>Enclosed 1 USB-C button dongle for wifi direct mirroring from Windows, iOS/macOS and Android devices.</p> <p>Warranty: 5 year</p> <p>Authorisation needed.</p>		
	6	Interactive display motorized stand	<p>Next minimum requirements:</p> <p>Black colour frame</p> <p>VESA 800x600</p> <p>Maximum Width 117,8 cm, Depth 77,7 cm</p> <p>Anti-collision - When the screen touches something during a movement, the movement stops and the lift goes back a bit in the opposite direction.</p> <p>Minimum Height: 91,2 cm</p> <p>Maximum Height: 156,2 cm</p> <p>Stroke 650 mm, speed up to 38 mm/s</p> <p>Maximum load: 120 kg</p> <p>Screen position: Landscape, Portrait</p> <p>Max. 86 inch Screen</p>	1.00 pcs
	7	Presentation remote	<p>Next minimum requirements:</p> <p>Presentation remote</p> <p>Weight (with batteries): 49,2 g</p> <p>Motion sensor</p> <p>3D accelerometer and Gyroscope</p> <p>Battery: Rechargeable Lithium Polymer, 85 mAh</p> <p>Battery Life (rechargeable): 3 months, (May vary based on usage)</p> <p>Receiver</p>	1.00 pcs

Charging cable
Length: 140 mm

Connection Type:
Bluetooth Low Energy
and 2.4 GHz wireless
connection
Wireless range: 30 m
(May vary based on
environmental and
computing conditions)
LED Indicator Lights:
Battery and
Connectivity

8 HDMI-USB encoder

Next minimum
requirements:
Convert Ultra HD to
USB 3.0 with an HDMI
loop and external
power for BYOM
applications
HDMI capture to USB
3.0
Compatible with USB
2.0 (high-quality
MJPEG)
HDMI loop output
Up to Ultra HD 4K
(3840/4096x2160) at
30 fps and 1080p at 60
fps
HDMI audio support
Analogue audio I/O
Internal frame buffers
maximize frame rates
Hardware-based color
space and sampling
conversion
Automatic scaling and
frame rate conversion
(UHD up-scaling not
supported)
Image controls:
Brightness, contrast,
saturation, and hue
settings
Supports multiple
devices on the same
PC
Compatible with
Windows, Mac OSX,
Linux and Android

1.00 pcs

		Powered from external adapter or USB A USB cable is included No driver required		
	9 Tie microphone, pocket microphone transmitter, microphone receiver	Next minimum requirements: Compatible kit consisting of 1 wireless bodypack transmitter, 1 lavalier microphone, 1 rackmount receiver and 1 rack mountable kit Integrated RJ45 network port allows control, monitoring and setup Up to 88 MHz bandwidth, up to 32 channels Increased RF output power (10/30/50 mW) Transmission Range: up to 100 meters Remote control switch available for the bodypack transmitter Compatible and interchangeable parts with other microphone kits required in this tender	1.00	kit
	10 Handheld microphone with transmitter, microphone receiver	Next minimum requirements: Compatible kit consisting of 1 handheld microphone with mute switch, 1 microphone capsule (supercardioid, condenser), 1 rackmount receiver, 1 rack mountable kit and 1 mic clip Integrated RJ45 network port allows control, monitoring and setup Up to 88 MHz bandwidth, up to 32 channels	1.00	kit

		Increased RF output power (10/30/50 mW) Transmission Range: up to 100 meters Remote control switch available for the bodypack transmitter Compatible and interchangeable parts with other microphone kits required in this tender		
	11	Headphones for computer Next minimum requirements: Circumaural Closed-Back Monitor Headphones Collapsible design with swiveling earcups Rejection of outside noise is high, rated up to -32 dB Neodymium magnets Padded leatherette earcups and adjustable padded headband Frequency response: 8 - 25000 Hz Jack plug: 3,5 / 6,3 mm stereo Cable length: Coiled Cable (min. 1.3m / max. 3m) Weight w/o cable: 285 g	1.00	pcs
	12	Camera tripod Next minimum requirements: Video tripod kit with fluid video head and carrying bag Side pull selector ensures quick setup with both hands Fluid head with spirit level and quick release plate Pan and tilt locking knobs allow for single axis movement Twist leg locking system, enabled by	1.00	kit

simply turning each knob 90°
Pan bar included for fluid movement; can be removed
Weight: 1.64 kg
Top Attachment: 1/4" screw, 3/8" screw
Ball Flat: Ball
Safety Payload
Weight: 4 kg
Base Diameter: 40 mm
Bubble Spirit Level (No.): 1
Carrying Bag Included: Yes
Center Column: rapid
Closed Length: 40 cm
Colour: black/silver
Easy Link: Yes
Front Tilt: -90°/+65°
Head Type: Video/Fluid Head
Leg Type: Single
Leg Angles: 22°, 54°, 89°
Leg Lock Type: Twist Lock
Leg Sections: 4
Legs Tube Diameter: 12, 15.5, 19, 22.5 mm
Material: Aluminium
Maximum Height: 150 cm
Maximum Height (With Center Column Down): 129 cm
Maximum Working Temperature: 60 °C
Min Height: 40 cm
Minimum Working Temperature: -30 °C
Pan Bar Included: Yes
Pan Drag: fluid cartridge with fixed drag
Panoramic Rotation: 360 °
Plate Type: 501PL
Quick Release: Yes
Tilt Drag: fluid cartridge with fixed drag

		Upper Disc Diameter: 40 mm		
13	Projection screen	Next minimum requirements: Control: Electric Aspect ratio: 16:10 External dimensions (W x H): exactly 300 x 191 cm Viewing area (W x H): exactly 290 x 181 cm Weight: 24.0 kg	1.00	pcs
14	projector	Next minimum requirements: Native resolution: 1920x1080 or higher Native refresh rate: 50Hz or higher Light source: laser Light output: 5000lm or better Time until light output declines to 50%: 20000 hours or longer Max screen size: at least 5 metres AV input connections: at least 2x HDMI and DIGITAL LINK (video/network/serial control, HDBaseT compliant) AV output connections: audio out (3,5mm stereo jack) Installation options: ceiling/floor, front/rear Possibility to control projector via IP (should use wired ethernet connection), availability of API document for IP projector control Keystone correction: +/-25% or more (vertical and horizontal) Optical axis shift: at least +/-20% (horizontal) and +40% (vertical)	1.00	pcs
15	Projector mount	Next minimum	1.00	pcs

		requirements: Type: Projector ceiling mount Colour: Silver TÜV certified: Yes Min. distance to ceiling: 550mm Max. distance to ceiling: 850mm Turn: Up to 360° Tilt: Up to 15° Roll: 15° Max. weight load: 30kg Range (diameter): 30mm - 410mm Height range: 550mm - 850mm		
	16	Warranty	Warranty for whole set minimum 1 year.	1.00 year
	17	A mobile set of equipment for capture of the pedagogical process on the field: Camera	Next minimum requirements: Compact live streaming 4K camcorder with SDI output Dual codec advanced streaming technology Tele-macro mode for better focus on close objects Lower-third and full-screen titling graphic solutions 4:2:2 4K Video at 24/30p Real-Time Broadcast Info Overlay LAN Configuration with 1 button 3G-SDI & HDMI Out, Live HDMI UHD 4K Out 12x Optical Zoom Lens 2-Channel XLR Audio Inputs 4K Ultra HD recording (150 Mbps, 24/30p) to SDXC (UHS-I Speed class3) card Single 1/2.3-inch CMOS image sensor with 12.4 million pixels	1.00 pcs

						(9.03 active) Integrated 12x F1.2-3.5 zoom lens (35mm equivalent: 29.5-354mm) Dynamic zoom in HD mode combines optical zoom and pixel mapping to create seamless and lossless 24x zoom Broadcast features Customizable graphic overlays (on/off switchable) Option for custom broadcaster logos, watermark, time and temperature Selectable pre-loaded logos Wired remote control supported HD-SDI (3G) and HDMI outputs (4K output via HDMI only) Live 4K UHD output via HDMI connector Streaming engine compatible with Wowza Streaming Engine IP network remote control, remote viewing, metadata editing, FTP clips uploading 4:2:2 full HD recording at 50Mbps (24-60p) 120fps HD slow motion recording Dual SDHC/SDXC slots enable dual, backup and continuous recording 9 user button assignable functions 2 position ND filter (1/4, 1/16) 0.24-inch colour viewfinder (1.56M pixel) with smart focus assist function		
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		3.5-inch colour LCD display (920K pixel) with smart focus assist function Built-in stereo microphone Includes handle unit, battery and AC Adapter		
	18	Charger and additional batteries for camera	Next minimum requirements: Compatible kit consisting of one charger of two batteries. Charger: Automatic safety and protection features include low voltage charging, thermal monitoring and overcharge protection Status LED indicator provides detailed display of charging process and fault detection Charging will automatically stop when the battery is fully charged Capable of multiple configurations for use as stand alone charger or joint connection to a second one Universal AC input for worldwide use. Charger Input Voltage: AC Adapter 100-240V 60/50Hz Charger Input Voltage 2: DC Input DC 14-19V Charger Power Consumption: 36W Charger Charge Current: 1.6A Charger Indications: Yes, LED for Charging process and fault detection	1.00 kit

		<p>Battery: Capacity: 7350mAh, 55Wh Battery Protection: Over charge, Over discharge, Over current Separate DC output</p> <p>Compatible parts with camera from this segment of tender are required, also compatible cables for direct connection to mentioned devices should be included</p>		
	19 Tripod for camera	<p>Next minimum requirements: Video tripod kit with fluid video head and carrying bag Twin legs and middle spreader Fluid Drag System on pan and tilt movements Counterbalance system on tilt movement Sliding plate for camera connection and set up Leveling bubble for setup Weight: 3100 g Material: Aluminum Safety Payload Weight: 5 kg Min Height: 67.5 cm Maximum Height: 154 cm Head Type: Video/Fluid Head Leg Sections: 3 Legs Tube Diameter: 15.2, 18.5, 21.7 mm Quick Release: Yes Counterbalanced Weight: 2.4 kg Center of gravity: 55 mm</p>	1.00	pcs

					Spreader: mid level - fixed arm length Closed Length: 72 cm Ball Flat: 60 Ball Top Attachment: 1/4" screw, 3/8" screw Powered by (batteries): 0 Bubble Spirit Level (No.): 1 Center Column: no center column Color: Black Front Tilt: -70° / +90° Leg Type: Twin Leg Angles: 19° Leg Lock Type: Flip Lock Maximum Working Temperature: 60 C Minimum Working Temperature: -20 C Pan Bar Included: Yes Pan Drag: luid cartridge with fixed drag Panoramic Rotation: 360 Tilt Drag: fluid cartridge with fixed drag Compatible product with camera, additional batteries, wireless receiver for tie microphone, microphone for camera from this segment of tender are required		
	20	SD card for camera			Next minimum requirements: Capacity: 128 GB Read Speed: up to 170 MB/s Write Speed: up to 90 MB/s Video Speed: C10, U3, V30 Form Factor: SDXC Compatible parts with camera from this segment of tender are	2.00	pcs

		required		
21	Tie microphone with wireless transmitter and receiver	Next minimum requirements: Compatible kit consisting of 1 wireless bodypack transmitter, 1 lavalier microphone, 1 wireless on-camera receiver Up to 88 MHz bandwidth, up to 32 channels Increased RF output power (10/30/50 mW) Transmission Range: up to 100 meters Remote control switch available for the bodypack transmitter Up to 8 hours of operation time Batteries for transmitter and receiver are included Compatible parts with camera and headphones from this segment of tender are required, also compatible cables and mounts for direct connection and installation to mentioned devices should be included	1.00	kit
22	Microphone for camera	Next minimum requirements: XLR Output Connection 48V Phantom Power Includes Foam Windscreen Compatible product with camera from this segment of tender is required, also compatible cables and mounts for direct connection and installation to mentioned devices should be included	1.00	pcs

				23	Headphones for camera	<p>Next minimum requirements: Circumaural Closed-Back Monitor Headphones Collapsible design with swiveling earcups Rejection of outside noise is high, rated up to -32 dB Neodymium magnets Padded leatherette earcups and adjustable padded headband Frequency response: 8 - 25000 Hz Jack plug: 3,5 / 6,3 mm stereo Cable length: Coiled Cable (min. 1.3m / max. 3m) Weight w/o cable: 285 g Compatible product with camera and tie microphone with wireless transmitter and receiver from this segment of tender is required, also compatible cables for direct connection to mentioned devices should be included</p>	1.00	pcs
				24	Triple lightning kit with tripods and bag	<p>Next minimum requirements: On or off camera LED lighting fixture Location/studio lighting kit with 3 lights on compact stands and with carrying case and 22 filters (including diffusion, skin tone, magenta and colour FX) Hot-shoe mount adapters 360° ball head swivels Power supplies Impact-resistant</p>	1.00	kit

		carrying case Each light with: Continuous Light and Flash Modes Built-In HSS flash sync reciever CRI at least 96 and TLCI at least 91 Color Temperature: 3150 to 6300K Continuous Light Output: 2000 Lux at 90cm Flash Output: f/8 at ISO 200 at 90cm Runs on AA Batteries, D-Tap or AC Three 1/4"-20 Threads; Camera Shoe Mount Filter Pack and Holder; Belt Pouch		
25	Bag for equipment	Next minimum requirements: Handheld, soft carry bag with protection for equipment on the field Compatible product with camera, charger and additional batteries for camera, tie microphone with wireless transmitter and receiver, microphone for camera and headphones for camera from this segment of tender is required (enough place to fit all of them at once inside)	1.00	pcs
26	Warranty	Warranty for whole set	1.00	year
27	A mobile set of equipment for hybrid implementation of the pedagogical process in the pedagogues' offices Camera and speakerphone kit	Next minimum requirements: Camera: Use low-light 2Mega pixel sensor for imaging in low-light conditions. Wide field of view (DFOV) 84.5° Focal lens of 3.9mm (wide) ~ 47.3mm (tele)	1.00	kit

Lens F1.8 (wide)~2.8 (tele)
Smart Frame for automatic FOV adjustment to fit all participants.
True WDR up to 120 dB (Superb backlight compensation technology for optimizing light balance in high-contrast conditions.)
18X total zoom (12X optical zoom)
Pan: $\pm 170^{\circ}$. Tilt: $+90^{\circ}$ (up) -30° (down)
Image Mirror, Flip, AE, white balance (auto, manual override via PC based app)
Minimum focus distance is 1.5m.
10 camera presets (through remote control)
Standard tripod screw holes and Kensington slot.

Speakerphone:
Full duplex microphone array with echo cancellation.
Advanced noise suppression.
Dual-microphone array.
3.5mm phone-in jack.
3.5mm line out.
Speaker volume adjustment: Adjustable to 90 dB SPL at 0.5 m.
Touch control for volume down/up, mute, phone input, call and hang-up.
Support to bridge phone-in and USB connection into one call.
Includes Kensington slot.

Video:

Video compression
format of H.264, YUV,
YUY2, MJPEG, NV12.

Network video
compression format of
H.264.

Support the below
resolution: (16:9) 1920
x 1080, 1600 x 900,
1280 x 720, 960 x 540,
848 x 480, 800 x 448,
640 x 360, 424 x 240,
320 x 180; (4:3) 800 x
600, 640 x 480, 480 x
360, 320 x 240 at 60,
30, 15fps

IP streaming resolution
(Not for USB video
stream): 1080p, 720p,
480p and 360p.

Support bit rate:
512Kbps, 1Mbps,
2Mbps, 4Mbps,
8Mbps, 16Mbps and
32Mbps.

Audio:

AAC-LC

Echo cancellation.

Network:

Support the network
protocol: RTSP, RTMP

Support 10/100/1000
Mbps. (LAN, RJ45
interface)

Support VISCA over
IP.

Support remote
management via PC
based software.

Support real-time
streaming via PC
based software.

Support DHCP / Static
IP address setting.

Support NTP Server.

Security:

Support password
protection.

					Support SSL certificate import. General: Support IR remote control. Support 3rd party integration: VISCA, Pelco-P, Pelco-D via RS232 (128 preset points via VISCA command) Support VISCA over IP. Support standard UVC/UAC plug-and-play. Support Web UI management. Support basic camera settings adjustment via AVer PTZApp. Support camera wall-mount method. Warranty: For whole set minimum 1 year.		
13	Nabavka opreme za podršku distance learning-a za potrebe Univerziteta u Draču „Aleksander Moisiu“ (Albanija)/ PROUREMENT OF DISTANCE LEARNING SUPPORTING EQUIPMENT	6500.00	1	Notebook #1	Notebook with next minimum requirements: Processor: Intel i5-1245U or equivalent , up to 4.4 GHz,12 MB cache, 10 cores, 12 threads with Vpro Chipset Intel PCH-LP or equivalent Memory: 8GB DDR4 3200 MHz, Two SODIMM slots Internal storage: 256 GB SSD NVME Wireless 6, Bluetooth 5.2 Display:14” diagonal FHD, WVA, anti glare high brightness 250 nita Graphic: integrated Camera: FHD RGB camera with privacy shutter	3.00	pcs

						<p>Ports: 1 x RJ45, 1 x USB 3.2 gen 1, 1 x USB 3.2 gen 1 with powershare, Two Thunderbolt 4 ports with DisplayPort Alt Mode/USBC/USB4 /Power Delivery, 1 x universal audio port, 1 x HDMI 2.0, 1 x microsd card slot, 1 x USB type C power input, 1x wedge-shaped lock slot Backlit keyboard Security: Fingerprint-reader sensor technology Capacitive, Fingerprint-reader sensor resolution 508 dpi, Fingerprint-reader sensor pixel size 256 x 360, Trusted Platform Module (TPM) 2.0 FIPS 140-2 Certified, Fingerprint Reader in Power Button tied to ControlVault 3, Battery: 4-cell, 58 Whr Operating system: Windows 11 Professional or equivalent Warranty: min 3 year Weight maximum 1.4 kg</p> <p>The bidder is obliged to provide proof that (if he is not the equipment manufacturer) he is in partnership with the equipment manufacturer, which is proven by the authorization of the equipment manufacturer (MAF) or an authorized distributor, agent of the equipment manufacturer that is offered. If an</p>	
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		<p>authorization is submitted from an authorized distributor, representative of the manufacturer of the offered equipment, it is necessary to submit a certificate proving that it is authorized for sale by the manufacturer for the procedure in question</p> <p>The bidder is obliged to submit the manufacturer's certificate on the duration of the warranty period of the specific equipment offered.</p> <p>Warranty minimum 1 year</p>		
	2	Notebook #2	<p>Notebook with next minimum requirements:</p> <p>Processor: up to 4.8 GHz,18 MB cache, 12 cores, 16 threads</p> <p>Chipset Intel P28 or equivalent</p> <p>Memory: 16GB DDR5 4800 MHz, 2 sodimm</p> <p>Internal storage: 512 GB SSD NVME</p> <p>Wireless 6, Bluetooth 5.2</p> <p>Display:14" diagonal FHD, WVA, anti glare high brightness 250 nita</p> <p>Graphic: integrated</p> <p>Camera: FHD RGB camera 2.07 megapixel with privacy shutter</p> <p>Ports 1x RJ45, 1x USB 3.2 Gen 1 port 1x USB 3.2 Gen 1 port with PowerShare 2x Thunderbolt 4 ports with DisplayPort Alt Mode/ USB4/Power</p>	1.00 pcs

						<p>Delivery, 1 x headphone/microphon e combo, 1 x HDMI, 1 x microSD card slot, 1 x USB type C power input, 1x wedge- shaped lock slot Backlit keyboard Security: Fingerprint- reader sensor technology Capacitive, Fingerprint-reader sensor resolution 508 dpi ,Fingerprint-reader sensor pixel size 108 x 88 Battery: 4-cell, 64 Whr Operating system: Windows 11 Professional or equivalent Warranty: min 3 year Weight maximum 1.5 kg The bidder is obliged to provide proof that (if he is not the equipment manufacturer) he is in partnership with the equipment manufacturer, which is proven by the authorization of the equipment manufacturer (MAF) or an authorized distributor, agent of the equipment manufacturer that is offered. If an authorization is submitted from an authorized distributor, representative of the manufacturer of the offered equipment, it is necessary to submit a certificate proving that it is authorized for sale by the manufacturer for the procedure in question</p>	
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					The bidder is obliged to submit the manufacturer's certificate on the duration of the warranty period of the specific equipment offered. Warranty minimum 1 year		
	3	Portable touchscreen device			Tablet with next minimum requirements: 8 GB RAM 256 GB storage Chip M1 chip or equivalent 8-core CPU with 4 performance cores and 4 efficiency cores 8-core GPU,16-core Neural Engine Liquid Retina display 11-inch (diagonal) LED backlit Multi-Touch display with IPS technology 2388-by-1668-pixel resolution at 264 pixels per inch (ppi) ProMotion technology Wide color display (P3) True Tone display Fingerprint-resistant oleophobic coating Fully laminated display Antireflective coating 1.8% reflectivity SDR brightness: 600 nits max Camera Wide: 12MP, <i>f</i> /1.8 aperture Ultra Wide: 10MP, <i>f</i> /2.4 aperture, and 125° field of view 2x optical zoom out Digital zoom up to 5x Five-element lens (Wide and Ultra Wide) Brighter True Tone flash	1.00	pcs

Panorama (up to 63MP)
Sapphire crystal lens cover
Autofocus with Focus Pixels (Wide)
Smart HDR 3
Speakers Four speaker audio
Microphones Five studio-quality microphones for calls, video recording, and audio recording
Thunderbolt / USB 4 port with support for: Charging, DisplayPort, Thunderbolt 3 (up to 40Gb/s), USB 4 (up to 40Gb/s), USB 3.1 Gen 2 (up to 10Gb/s)
Operating System iPadOS 15 or equivalent
Power and Battery Built-in 28.65-watt-hour rechargeable lithium-polymer battery

The bidder is obliged to provide proof that (if he is not the equipment manufacturer) he is in partnership with the equipment manufacturer, which is proven by the authorization of the equipment manufacturer (MAF) or an authorized distributor, agent of the equipment manufacturer that is offered. If an authorization is submitted from an authorized distributor, representative of the manufacturer of the offered equipment, it is necessary to submit a certificate proving that

					<p>it is authorized for sale by the manufacturer for the procedure in question</p> <p>The bidder is obliged to submit the manufacturer's certificate on the duration of the warranty period of the specific equipment offered.</p> <p>Warranty minimum 1 year</p>		
14	<p>: Nabavka opreme za podmorsko istraživanje za potrebe Univerziteta u Draču „Aleksander Moisiu“ (Albanija),/</p> <p>PROCUREMENT OF UNDERWATER EQUIPMENT FOR SEAWATER VISUAL AND QUALITY MONITORING WITH ACCESSORIES</p>	26500.00	1	Underwater Remotely Operated Vehicle – ROV with accessories	<p>Underwater remotely operated vehicle – ROV with next minimum characteristics:</p> <ul style="list-style-type: none"> • Dimensions at least: Length 455 mm; Width 338 mm; Height 250 mm • Weight in Air (without Ballast) max 10 kg • Watertight enclosure dimensions at least: inner diameter 102 mm; inner Length 298 mm • Constructed from HDPE (for frame), aluminum flanges and end caps and acrylic tubes • Maximum rated depth at least 100 m • Maximum forward speed at least 1.5 m/s • Equipped with at least 8 thrusters – 4 vectored and 4 vertical • Forward Bollard Thrust at least 9 kgf • Vertical Bollard Thrust at least 7kgf • Lateral Bollard Thrust at least 9 kgf • Tether at least 100 m, working strength at least 45 kgf, breaking strength at least 160 	1.00	PCS

kgf, strengthened with Kevlar, including at least 4 twisted pairs of conductors

- Four lights with minimal specification:
 - o 1500 lumens each or better with dimming control
 - o Color Temperature 5,700 kelvin or better
 - o Light beam angle – 135 degrees in water each or better with adjustable tilt
- Equipped with Gyroscope, Accelerometer, Magnetometer, Current and Voltage sensing and Leak detection

Scope of supply:

- One base Underwater ROV unit
- Fathom Spool for 100 m Tether
- 4 underwater sea lights
- Heavy Configuration Retrofit kit – adding Pitch movement to original ROV, increased buoyancy, and external thruster guards
- Two batteries, quickly swappable at working location providing the ROV with at least 2 hours of normal use each
- Battery charger
- Subsea Gripper with minimum specification:
 - o grip force at tip at least 97 N, in middle at least 124 N,
 - o jaw opening at least 62 mm
 - o Push-rod Axial Load Rating 3kg or better

- o Minimum Linear Piston Travel 13.5 mm or better
- o Time to Open/Close 1.6 seconds or better
- o Cable Used CAB-A-3 -22AWG or better
- o Cable Length 635 mm or better
- o Conductor Gauge 22 AWG or better
- o Installed Penetrators: Device Side WLP-M06-4.5MM-LC; Cable End WLP-M10-4.5MM-LC; or better
- o Housing Material Aluminum 6061-T6 or better
- o Pressure Rating 300 m or better
- o Weight in Air (w/ cable) 524 g or less
- o Weight in Water (w/ cable) 267 g or less
- Logitech F310 Controller or equivalent to control the ROV
- Laptop computer with appropriate software to control and monitor the ROV recommended by the manufacturer with next minimum requirements:
 - o Processor I5 last generation or equivalent
 - o RAM 8 GB
 - o SSD 256 GB
 - o Screen 15" full HD
 - o LAN connection 10/100
 - o USB 3.0 connection
 - o HDMI/DP port
 - o Windows 11 or equivalent
- A set of spare parts recommended by the manufacturer
- Payload Skid - a modular frame for

additional watertight enclosures, lights, and ballast weights

- Niskin water sampler or similar, for integration with the ROV – at least 1 l capacity

- Sea temperature sensor minimal specification:

- o Operating Temperature: -40 to +125°C or better

o Storage
Temperature: -55 to
+150°C or better

- o Absolute Accuracy:
 - o $\pm 0.1^{\circ}\text{C}$ (between -5 to 50°C) or better

0 ± 0.5°C (between -40 to 125°C) or better

o Operating Temperature: -40 to +125°C or better

- o Operating Depth: 0 - 900m or better

o ArduSub
Compatible: yes

Development

Libraries: At least

TSYS01 Arduino,

TSYS01 Python,

TSYS01 ArduPilot

- Temperature sensor interface board

- Pressure sensor minimal specification:

0 Maximum

Mechanical Pressure:
At least 50 bar

o Operating Pressure:
0 - 30 bar or better

o Operating Depth: At least 0 - 300m

o Relative Accuracy (0
-45°C): ± 200 mbar

(204 cm in fresh water)
or better

o Resolution: .2 mbar
(2 mm in fresh water)

or better

- o In Air Operating

Temperature: At least
-20 to +85°C
o In Water Operating
Temperature: At least
2 to 40°C
o Storage
Temperature: At least
-40 to +85°C
o Absolute Accuracy: ±
1.5°C (between 0 to
60°C) or better
o ArduSub
Compatible: Yes
o Development
Libraries: At least
MS5837 Arduino,
MS5837 Python,
MS5xxx ArduPilot
• Pressure sensor
interface board
• Low-Light HD USB
Camera minimal
specification:
o Physical
o Camera PCB
Dimensions: 32mm x
32mm
o Mounting Hole
Spacing: 28mm x
28mm
o Connector: JST-PH
to USB or better
o Working
Temperature: -20 -
75°C or better
o Mass (total): max.
17g
o Mass (without cable):
max. 13.5g
o Lens
o Mount Type: M12 x
0.5
o Field of View
(Horizontal): 80° or
better
o Field of View
(Vertical): 64° or better
o Focal Length: 2.97
mm or better
o Sensor
o Type Sony Exmor
IMX322 / IMX323 or
equivalent

						<ul style="list-style-type: none">o Format: 1/2.9" or bettero Pixel Size: 2.8µm (H) x 2.8µm (V) or smallero Distortion: max. 1%o Total pixels: 2000(H) x 1121(V) or bettero Recording pixels: 1920(H) x 1080(V) or bettero Minimum Illumination: 0.01 lux or bettero Sensitivity: 5.0V/lux-sec@550nm or bettero Video Streamo Standard (min - max): 240p15 - 1080p30 or bettero Compression format: H.264 / MJPEG / YUV2 (YUYV)o Audio Streamo Channels: single-channel, 44.1 kHz or bettero Format: Linear-PCM (L16) or bettero Electricalo Supply Voltage: 5 Vo Max Power Draw: 220 mA or less• Protective casingo Minimal internal dimensions 800x610x535 mmo Case material – body made of water resistant plywood, edges made of aluminum, corner protection made of aluminum.o At least four handles on sides for carryingo Four wheels with stopperso Protective hard foam inside the case – at least 10 mm thicko At least one secure lid lock	
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					<p>Authorization:</p> <ul style="list-style-type: none"> • Authorization from manufacturer needed <p>Warranty:</p> <ul style="list-style-type: none"> • Minimum one year for all equipment <p>Training:</p> <p>Minimum two days on the spot in Durres</p>		
	2	Sea water quality measurement instrument with accessories			<p>Sea water quality measurement instrument with the following characteristics</p> <ul style="list-style-type: none"> • Handheld • Conforms to the following standards: EN61326-1 Class B, EN IEC 63000 9, • Sensor probe detachable from control unit • Sensor probe cable length at least 30m • Capable of measuring following parameters: pH, Dissolved oxygen, Electrical conductivity, Salinity, Total dissolved solid, Seawater specific gravity, Temperature, Turbidity, Water depth, Oxidation reduction potential, GPS location • Software for data transfer to a PC • One hand operation • Auto calibration feature • Auto hold function • Possibility to set a site name for repeated measurements at the same location(s); at least 20 sites can be stored • Possibility for single and repeated (interval) 	1.00	pcs

measurements;
Interval settable
between 10 seconds
and 24 hours

- Possibility to select different units of measurement for various parameters
- Inbuilt compensation capabilities: Salinity compensation and atmospheric pressure compensation for dissolved oxygen (DO); Temperature compensation for conductivity (COND); Setting total dissolved solid (TDS) coefficient for TDS
- Multiple language user menu selectable – English language must be present
- User settable Auto power off function
- Display contrast settable

Sensor head characteristics

- Measurement temperature range -10°C to 55°C
 - Outer diameter maximum 97 mm
 - Sensor head length maximum 345 mm
 - Cable length at least 30m
 - Mass maximum 1850 g
 - IP-68 waterproofing, or better
 - Shock resistant cover
- Control unit characteristics:
- Outer dimensions (WxDxH) 115 mm x 66 mm x 335 mm ±5%
 - Mass maximum 825 g
 - Monochromatic graphic LCD with

- backlight 320x240 mm
- Memory: at least 10000 data items
- USB connection
- IP-67 waterproofing, or better

- GPS unit: Reception method (12 channel parallel); Measurement precision [With PDOP (high precision): 30 m or less (2 drms)] or better

- Ambient temperature range: at least -5°C to 45°C

pH sensor:

- Measurement method: Glass

electrode method

- Range: at least pH 0 to 14

- Resolution: 0.01 pH or better

- Precision: at least ± 0.1 pH

DO sensor:

- Measurement

method: Polarographic method

- Film thickness: up to 25 μm

- Range: at least 0 mg/L to 50.0 mg/L

- Resolution: 0.01 mg/L or better

- Precision: 0 mg/L to 20 mg/L: ± 0.2 mg/L; 20 mg/L to 50 mg/L: ± 0.5 mg/L or better

- Salinity conversion: (0 to 70 PPT, automatic) or better

- Automatic

temperature

compensation

Electrical conductivity probe:

- Measurement

method: Four-AC-electrode method

- Range: 0 S/m to 10 S/m (0 mS/cm to 100 mS/cm)

mS/cm) or better

- Auto range function
- Resolution: at least:
 - o 0.000 mS/cm to 0.999 mS/cm: 0.001
 - o 1.00 mS/cm to 9.99 mS/cm: 0.01
 - o 10.0 mS/cm to 99.9 mS/cm: 0.1
 - o 0.0 mS/m to 99.9 mS/m: 0.1
 - o 0.100 S/m to 0.999 S/m: 0.001
 - o 1.00 S/m to 9.99 S/m: 0.01
- Precision: 1% of full-scale (midpoint of two calibration points) or better

- Automatic temperature

conversion (25°C)

Salinity measurement:

- Measurement method: Electrical conductivity conversion

- Range: at least 0 to 70 parts per thousand
- Resolution: 0.01 part per thousand or better
- Precision: ± 3 part per thousand or better

TDS (total dissolved solid) measurement:

- Measurement method: Electrical conductivity conversion

- Conversion

coefficient setting

- Range: at least 0 g/L to 100 g/L
- Resolution: 0.1% of full-scale or better
- Repeatability: ± 2 g/L or better
- Precision: ± 5 g/L or better

Seawater specific gravity measurement:

- Measurement method: Electrical

					<p>conductivity conversion</p> <ul style="list-style-type: none"> • □t, □0, □15 display • Range: at least 0 □t to 50 □ • Resolution: 0.1 □ or better • Precision: ±5 □ or better <p>Temperature probe:</p> <ul style="list-style-type: none"> • Measurement method: Platinum temperature sensor • Range: at least -10□C to 55□C • Resolution: at least 0.01□C • Sensor: Platinum temperature sensor, JIS Class B (0.3+0.005 t) or better <p>Turbidity measurement:</p> <ul style="list-style-type: none"> • Measurement method: LED 90□ scattering method • Range: at least 0 NTU to 1000 NTU • Resolution: 0.01 NTU or better • Precision: ±5% of read-out or ±1 NTU (whichever is larger) or better • Conforms to EN ISO 7027 <p>Water depth measurement:</p> <ul style="list-style-type: none"> • Measurement method: Pressure method • Range: at least 0 m to 30 m • Resolution: 0.05 m or better • Precision: ±0.3 m or better <p>ORP (oxidation reduction potential) measurement:</p> <ul style="list-style-type: none"> • Measurement method: Platinum electrode method
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- Range: at least -2000 mV to +2000 mV
 - Resolution: 1 mV or better
 - Precision: ± 15 mV or better
- Scope of supply:
- One water quality measurement instrument with the above stated characteristics
 - Spare pH sensor – appropriate for the instrument
 - pH 4.01 Standard Solution for auto calibration, at least 4l
 - Spare ORP sensor – appropriate for the instrument
 - Spare DO membrane cap (at least 3 pieces) – appropriate for the instrument
 - Spare Reference Electrode tip with liquid junction – appropriate for the instrument
 - Internal solution for DO
 - pH sensor protect cover – 3 pieces at least
 - DO sensor protect cover – 3 pieces at least
 - Rubber Cap for sensor guard – at least 8 pieces
 - Backpack to carry the instrument
 - Carrying case for the instrument – hard plastic with foam inside to protect the instrument, or better
- Authorization:
- Authorization from manufacturer needed
- Warranty:
- Minimum one year for all equipment

					Training: Minimum two days on the spot in Durres		
15	Nabavka vazdušnog drona za potrebe Univerziteta u Draču „Aleksander Moisiu“ (Albanija) / AIR DRONE FOR VISUAL SEA AND COASTAL MONITORING	3000.00	1	Air drone	Aircraft • Takeoff Weight: 895 g • Dimensions (Folded/Unfolded) o Folded (without propellers) 221×96.3×90.3 mm (Length×Width×Height) o Unfolded (without propellers) 347.5×283×107.7 mm (Length×Width×Height) • Diagonal Length: 380.1 mm • Max Ascent Speed: o 1 m/s (C mode) o 6 m/s (N mode) o 8 m/s (S mode) • Max Descent Speed: o 1 m/s (C mode) o 6 m/s (N mode) o 6 m/s (S mode) • Max Flight Speed (at sea level, no wind): o 5 m/s (C mode) o 15 m/s (N mode) o 19 m/s (S mode) • Max Service Ceiling Above Sea Level: 6000 m • Max Flight Time (no wind): 46 minutes • Max Hovering Time (no wind): 40 minutes • Max Flight Distance: 30 km • Max Wind Speed Resistance: 12 m/s • Max Tilt Angle: o 25° (C mode) o 30° (N mode) o 35° (S mode) • Max Angular Velocity: 200°/s • Operating Temperature: -10° to	1.00	SET

40° C (14° to 104° F)

- GNSS: GPS + Galileo + BeiDou
- Hovering Accuracy Range:
 - Vertical: ±0.1 m (with Vision Positioning); ±0.5 m (with GNSS Positioning)
 - Horizontal: ±0.3 m (with Vision Positioning); ±0.5 m (with High-Precision Positioning System)
- Internal Storage: 8 GB (available space is approx. 7.2 GB)

Hasselblad Camera

- Sensor: 4/3 CMOS, Effective pixels: 20 MP
- Lens:
 - o FOV: 84°
 - o Format Equivalent: 24 mm
 - o Aperture: f/2.8 to f/11
 - o Focus: 1 m to ∞ (with autofocus)
- ISO Range:
 - o Video: 100-6400
 - o Still Image: 100-6400
- Shutter Speed: Electronic Shutter 8-1/8000 s
- Max Image Size: Main Unit: 5280×3956
- Still Photography Modes:
 - o Single shot: 20MP Photos
 - o Automatic Exposure Bracketing (AEB): 20 MP, 3/5 bracketed frames at 0.7 EV
 - o Burst shooting: 20 MP, 3/5/7
 - o Timed: 20 MP, 2/3/5/7/10/15/20/30/60 s
- Video Resolution:
 - o H.264/H.265
 - o 5.1K: 5120×2700@

24/25/30/48/50fps
o DCI 4K:
4096×2160@
24/25/30/48/50/60/120
*fps
o 4K:
3840×2160@
24/25/30/48/50/60/120
*fps
o FHD:
1920×1080@
24/25/30/48/50/60/120
*/200*fps
• Max Video Bitrate:
H.264/H.265 Bitrate
200 Mbps
• Supported File
Formats: exFAT
• Photo Format:
JPEG/DNG (RAW)
• Video Formats:
MP4/MOV (MPEG-4
AVC/H.264,
HEVC/H.265)

Tele Camera
• Sensor: 1/2-inch
CMOS
• Shutter Speed:
Electronic Shutter: 2-
1/8000 s
• Lens:
o FOV: 15°
o Format Equivalent:
162mm
o Aperture: f/4.4
o Focus: 3 m to ∞
• ISO Range:
o Video: 100-6400
o Still Image: 100-6400
• Max Image Size:
4000×3000
• Photo Format:
JPEG/DNG (RAW)
• Video Formats:
MP4/MOV (MPEG-4
AVC/H.264,
HEVC/H.265)
• Still Photography
Modes:
o Single shot: 12MP
Photos
o Automatic Exposure

Bracketing (AEB): 12 MP, 3/5 bracketed frames at 0.7 EV
o Burst shooting: 12 MP, 3/5/7
o Timed: 12 MP, 2/3/5/7/10/15/20/30/60 s
• Video Resolution:
o H.264/H.265
o 4K: 3840×2160@25/30/50 fps
o FHD: 1920×1080@25/30/50 fps
o Digital Zoom: 4x

Gimbal
• Stabilization: 3-axis motorized (tilt, roll, pan)
• Mechanical Range:
o Tilt: -135° to 100°
o Roll: -45° to 45°
o Pan: -27° to 27°
• Controllable Range:
o Tilt: -90° to 35°
o Pan: -5° to 5°
• Max Control Speed (tilt): 100°/s
• Angular Vibration Range: ±0.007°

Sensing
• Sensing System: Omnidirectional binocular vision system, supplemented with an infrared sensor at the bottom of the aircraft
• Forward:
o Measurement Range: 0.5-20 m
o Detection Range: 0.5-200 m
o Effective Sensing Speed: Flight Speed ≤ 15m/s
o FOV: Horizontal 90°, Vertical 103°
• Backward:

						<ul style="list-style-type: none">o Measurement<ul style="list-style-type: none">Range: 0.5-16 mo Effective Sensing<ul style="list-style-type: none">Speed: Flight Speed $\leq$ 12m/so FOV: Horizontal 90°, Vertical 103°• Lateral:<ul style="list-style-type: none">o Measurement<ul style="list-style-type: none">Range: 0.5-25 mo Effective Sensing<ul style="list-style-type: none">Speed: Flight Speed $\leq$ 15m/so FOV: Horizontal 90°, Vertical 85°• Upward:<ul style="list-style-type: none">o Measurement<ul style="list-style-type: none">Range: 0.2-10 mo Effective Sensing<ul style="list-style-type: none">Speed: Flight Speed $\leq$ 6m/so FOV: Front and Back 100°, Left and Right 90°• Downward:<ul style="list-style-type: none">o Measurement<ul style="list-style-type: none">Range: 0.3-18 mo Effective Sensing<ul style="list-style-type: none">Speed: Flight Speed $\leq$ 6m/so FOV: Front and Back 130°, Left and Right 160°• Operating Environment:<ul style="list-style-type: none">o Forward, Backward, Left, Right, and Upward: Surface with a clear pattern and adequate lighting (lux>15)o Downward: Surface with a clear pattern and adequate lighting (lux >15). Diffuse reflective surface with diffuse reflectivity>20% (e.g. wall, tree, person)<p>Video Transmission</p><ul style="list-style-type: none">• Video Transmission System: O3+		
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						<ul style="list-style-type: none">• Live View Quality: Remote Controller 1080p@30fps/1080p@60fps• Operation Frequency:<ul style="list-style-type: none">o 2.400-2.4835 GHzo 5.725-5.850 GHz• Max Transmission Distance (unobstructed, free of interference and aligned with controller):<ul style="list-style-type: none">o 2.400-2.4835 GHz; 5.725-5.850 GHzo FCC: 15 kmo CE: 8 kmo SRRC: 8 kmo MIC: 8 km• Signal Transmission Ranges (FCC):<ul style="list-style-type: none">o Strong Interference (urban landscape, limited line of sight, many competing signals): Approx. 1.5-3 kmo Medium Interference (suburban landscape, open line of sight, some competing signals): Approx. 3-9 kmo Low Interference (open landscape abundant line of sight, few competing signals): Approx. 9-15 kmo Data is tested under different standards in open areas free of interference. It only refers to the maximum, one-way flight distance without considering Return to Home. Please pay attention to RTH prompts in the DJI Fly app during actual flight.• Max Download Bitrate:<ul style="list-style-type: none">o O3+:		
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o 5.5MB/s (with RC-N1 remote controller)
o 15MB/s (with DJI RC Pro remote controller)
o Wi-Fi 6:
o 80MB/s*

- Latency (depending on environmental conditions and mobile device):
 - o 130 ms (with RC-N1 remote controller)
 - o 120 ms (with DJI RC Pro remote controller)
- Antennas: 4 antennas, 2T4R
- Transmitter Power (EIRP):
 - 2.4 GHz: ≤33 dBm (FCC); ≤20 dBm (CE/SRRC/MIC)
 - 5.8 GHz: ≤33 dBm (FCC), ≤30 dBm (SRRC), ≤14 dBm(CE)

Battery

- Capacity: 5000 mAh
- Voltage: 15.4 V
- Charging Voltage Limit: 17.6 V
- Battery Type: LiPo 4S
- Energy: 77 Wh
- Weight: 335.5 g
- Charging Temperature: 5° to 40° C (41° to 104° F)

Battery Charger

- Input: 100-240 V AC, 47-63 Hz, 2.0 A
- USB-C Output: USB-C: 5.0 V□5.0 A/9.0 V□5.0 A/12.0 V□5.0 A/15.0 V□4.3 A/20.0 V□3.25 A/5.0~20.0 V□3.25 A
- USB-A output: USB-A: 5 V□2 A
- Rated Power: 65 W

Charging Hub

• Input: USB-C: 5-20 V□5.0 A max
• Output: Battery: 12-17.6 V□5.0 A max
• Rated Power: 65 W
• Charging Type: Charges three batteries in sequence.
• Charging Temperature Range: 5° to 40° C (41° to 104° F)

Car Charger
• Input: Car Power Input: 12.7-16 V□6.5 A, rated voltage 14 V DC
• Output:
o USB-C: 5.0 V□5.0 A/9.0 V□5.0 A/12.0 V□5.0 A/15.0 V□4.3A/20.0 V□3.25 A/5.0~20.0 V□3.25 A
o USB-A: 5 V□2 A
• Rated Power: 65 W
• Charging Time: Approx. 96 minutes
• Charging Temperature Range: 5° to 40° C (41° to 104° F)

Storage
• microSD Card: High bitrate video microSD Cards of minimum 256 GB
• SSD Specs: 8 GB (available space is approx. 7.2 GB)

Remote Controller
• Remote Controller Transmission System:
• Max Supported Mobile Device Size: 180×86×10 mm (Length×Width×Height)
• Operating Temperature: 0° to 40° C (32° to 104° F)

					<ul style="list-style-type: none">• Transmitter Power (EIRP):<ul style="list-style-type: none">o 2.4 GHz:<ul style="list-style-type: none">o ≤26 dBm (FCC), ≤20 dBm (CE/SRRC/MIC)o 5.8 GHz:<ul style="list-style-type: none">o ≤26 dBm (FCC/SRRC), ≤14 dBm (CE)• Battery Life:<ul style="list-style-type: none">o Without charging any mobile device: 6 hr;o when charging mobile device: 4 hr• Supported USB Port Types: Lightning, Micro USB, USB-C Carrying bag <ul style="list-style-type: none">• Original manufacturers bag for air drone set			
				2	Training	<ul style="list-style-type: none">• Training course in-vivo in Durres	2.00	days
				3	Warranty	<ul style="list-style-type: none">• Minimum warranty for the whole set	1.00	years
16	Nabavka stručne literature u elektronskoj formi za potrebe Univerziteta u Draču „Aleksander Moisiu“ (Albanija)/ PROCUREMENT OF ELECTRONIC BOOKS	3000.00	1	e-books	Book title Editor/Author Year Publisher ISBN e-book Air Pollution Calculations Vallero, Daniel 2019 Elsevier 9780128149348 An Introduction to Aquatic Toxicology Nikinmaa, Mikko 2014 Elsevier 9780124115743 Applied Statistics for Environmental Science with R Al-Karkhi, Abbas 2019 Elsevier 9780128186220 Assessing and Measuring Environmental Impact and Sustainability Klemes, Jiri 2015 Elsevier 9780127999685 Assessing Progress toward Sustainability:	1.00	SET	

						Frameworks, Tools and Case Studies Carmen Teodosiu 2022 Elsevier 9780323858519 Best Practices for Environmental Project Teams Massey, Stephen 2011 Elsevier 9780444537218 Climate Change Letcher, Trevor 2021 Elsevier 9780128215753 Coastal and Marine Hazards Risks and Disasters Ellis, Jean 2014 Elsevier 9780123964830 Coastal Risk Management in a Changing Climate Zanuttigh, Barbara 2014 Elsevier 9780123973108 Coastal Zone Management Ramkumar, Mu 2018 Elsevier 9780128143506 Data, Statistics, and Useful Numbers for Environmental Sustainability: Bringing the Numbers to Life Benoit Cushman- Roisin 2021 Elsevier 9780128229583 Elements of Marine Ecology Frances Dipper 2022 Elsevier 9780081028261 Energy for Sustainable Development Hasanuzzaman, MD. 2019 Elsevier 9780128146453 Environmental and Pollution Science Mark Brusseau, Ian Pepper, Charles Gerba 2019 Elsevier 9780128147191		
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					<p>Environmental Management Krishna, I.V Murali 2017 Elsevier 9780128119891</p> <p>Financing Entrepreneurship and Innovation in Emerging Markets Lourdes Casanova, Peter Cornelius, Soumitra Dutta 2017 Elsevier 9780128040256</p> <p>To be latest editions. To be with permanent access and for multiple users.</p>		
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Tehnička specifikacija nakon izmjena

Redni broj partije	Opis	Procijenjena vrijednost bez PDV	Redni broj predmeta nabavke	Opis predmeta nabavke	Bitne karakteristike predmeta nabavke	Količina	Jedinica mjere
1	Nabavka opreme za distance learning za potrebe Univerziteta Crne Gore (Crna Gora)/ DISTANCE LEARNING EQUIPMENT : A mobile set of equipment for hybrid implementation and capture of the pedagogical process in lecture halls and laboratories	31000.00	1	Network switch	<p>Next minimum requirements:</p> <p>Networking Interfaces: 24x 10/100/1000 RJ45 Port, 2x 1/10G SFP+ Ethernet Ports</p> <p>Total Non-Blocking Throughput: 44 Gbps</p> <p>Switching Capacity: 88 Gbps</p> <p>Forwarding Rate: 65.472 Mpps</p> <p>Power Method: Universal 100-240VAC/50-60 Hz and DC Input</p> <p>Power Supply: Internal AC</p> <p>Max. Power Consumption (Excluding PoE Output): 50W</p> <p>LEDs: System, RJ45</p>	1.00	pcs

Data Ports, SFP+ Data Ports
Status: PoE;
Speed/Link/Activity
ESD/EMP Protection
Air: ± 16 kV,
Contact: ± 12 kV
Shock and Vibration
ETSI300-019-1.4
Standard
Operating
Temperature: -5 to 40°
C (23 to 104° F)
Operating Humidity: 10
to 90%
Noncondensing
Certifications: CE,
FCC, IC
Total Available PoE:
400W
PoE Interfaces
all ports: PoE/PoE+
at least 8 ports: 60W
PoE++
Max. PoE Wattage per
Port by PSE
PoE+: 32W
PoE++: 64W
Compatible product
with access point from
this segment of tender
is required

2 Access point

Next minimum
requirements:
Weatherproofing: IP54
Management
interfaces: Ethernet,
Bluetooth
Networking interface:
1x GbE RJ45 port,
Button, Factory reset
LED: White/Blue
Power method: PoE+,
passive PoE (48V)
Max. power
consumption: 16.5W
Max. TX power
2.4 GHz: 26 dBm
5 GHz: 26 dBm
MIMO
2.4 GHz: 4 x 4
5 GHz: 4 x 4

1.00 pcs

Throughput rate
2.4 GHz: 600 Mbps
5 GHz: 2400 Mbps
Antenna gain
2.4 GHz: 4 dBi
5 GHz: 5.5 dBi
Mounting: Wall/ceiling
(included)
Operating
temperature: -30 to 60°
C (-22 to 140° F)
Operating humidity: 5 -
95% noncondensing
Certifications: CE,
FCC, IC
WiFi standards:
802.11a/b/g/WiFi
4/WiFi 5/WiFi 6
Wireless security:
WPA-PSK, WPA-
Enterprise
(WPA/WPA2/WPA3)
BSSID: 8 per radio
VLAN: 802.1Q
Advanced QoS
Per-user rate limiting
Guest traffic isolation
Supported Concurrent
clients : 300
Supported Data Rates
802.11a: 6, 9, 12, 18,
24, 36, 48, 54 Mbps
802.11b: 1, 2, 5.5, 11
Mbps
802.11g: 6, 9, 12, 18,
24, 36, 48, 54 Mbps
802.11n (WiFi 4): 6.5
Mbps to 600 Mbps
(MCS0 - MCS31, HT
20/40)
802.11ac (WiFi 5): 6.5
Mbps to 1.7 Gbps
(MCS0 - MCS9
NSS1/2/3/4, VHT
20/40/80/160)
802.11ax (WiFi 6): 7.3
Mbps to 2.4 Gbps
(MCS0 - MCS11
NSS1/2/3/4, HE
20/40/80/160)

Compatible product
with access point from

		this segment of tender is required		
3	Wireless mouse and keyboard	<p>Next minimum requirements:</p> <p>Keyboard</p> <p>Weight (with batteries): 498 g</p> <p>Silent buttons technology</p> <p>Adjustable keyboard height</p> <p>Spill-resistant design</p> <p>Caps lock indicator light</p> <p>On/Off power switch</p> <p>2 AAA batteries (Alkaline Battery)</p> <p>Mouse</p> <p>Weight (with batteries): 75.2 g</p> <p>Silent buttons technology</p> <p>On/off power button</p> <p>1 AA batteries (Alkaline Battery)</p> <p>Compact shape</p> <p>Signal frequency: 2.4Ghz</p> <p>Signal range (in meters): 10 m</p> <p>Small USB receiver</p> <p>Compatible product with network switch from this segment of tender is required</p>	1.00	kit
4	PTZ camera	<p>Next minimum requirements:</p> <p>Image Sensor: 1/2.8"</p> <p>4K Exmor CMOS</p> <p>Output Resolutions: 4K/30, 4K/29.97, 4K/25, 1080p/60, 1080p/59.94, 1080p/50, 1080p/30,1080p/29.97, 1080p/25, 1080i/60, 1080i/59.94, 1080i/50, 720p/60, 720p/59.94,</p>	1.00	pcs

720p/50
Effective Picture
Elements: 8
Megapixels
S/N Ratio: $\geq 50\text{dB}$
Exposure Control:
Auto, Manual, Priority
AE (Shutter, IRIS),
BLC, WDR
Optical Zoom: 21X
Digital Zoom: 12X
Total Zoom: 252X
Viewing Angles:
DFOV: 66.4° (Wide) to
 3.3° (Tele)
HFOV: 52.26° (Wide)
to 2.66° (Tele)
VFOV: 41.26° (Wide)
to 2° (Tele)
Focal Length: $f = 5.3$
mm (Wide) to 110 mm
(Tele)
Aperture (Iris): $F = 1.6$
(Wide) to 3.8 (Tele)
Minimum Working
Distance: 1.5 m
(Wide), 1.5m (Tele)
Pan / Tilt Angles:
Pan: $\pm 170^\circ$,
Tilt: $+90^\circ / -30^\circ$
Pan / Tilt Speed
(Manual):
Pan: 0.1° to $100^\circ / \text{sec}$,
Tilt: 0.1° to $100^\circ / \text{sec}$
Preset Speed:
Pan: $200^\circ / \text{sec}$,
Tilt: $200^\circ / \text{sec}$
Preset Positions: 10
(IR), 255 (RS-232,
RS-422, IP)
Camera Control –
Interfaces: RS-232
(DIN8), RS-422
(RJ45), IP
Camera Control –
Protocols: VISCA
(RS-232 / RS-422 /
IP), PELCO-D &
PELCO-P (RS-232 /
RS-422), CGI (IP)
Image Processing:
Noise Reduction (2D /
3D), Flip, Mirror

Power Frequencies: 50Hz, 60Hz
Tracking Modes: Presenter Mode, Zone Mode, Hybrid Mode
Protection Mode: Sleep Mode
Audio Channels: 2ch Stereo
Audio Codecs: AAC-LC, PCM
Video Outputs: 3G-SDI, HDMI, IP, USB
Audio Outputs: 3G-SDI, HDMI, IP, USB
Audio Inputs: MIC in, Line in
Power Requirement: AC 100 - 240V to DC 12V/5A
Power Consumption: 19W
PoE: PoE+
Dimensions (W x H x D): 180.0 x 192.0 x 145.0 mm
Net Weight: 2.0 (±0.1) kg
Security: Kensington Slot
Operating Conditions: Temperature: 0°C to +40°C
Humidity: 20% to 80%
Storage Conditions: Temperature: -20°C to +60°C ; Humidity: 20% to 95%
IP Streaming: Resolution: 4K 30fps
Maximum Frame Rate: 4K 30fps
Network Protocols: IPv6, IPv4, TCP, UDP, ARP, ICMP, IGMP, HTTP, DHCP, RTP / RTCP, RTSP, RTMP, VISCA over IP
NDI®HX Capability: Yes
Connector: USB 3.0
USB Audio Class: UAC 1.0

USB Video Class:
UVC 1.1
Web UI Live Video
Preview: Yes
Web UI Camera PTZ
Control: Pan, Tilt,
Zoom, Focus, Preset
Control
Web UI Camera /
Image Adjustment:
Exposure, White
Balance, Picture
Web UI Network
Configuration: DHCP,
IP Address, Gateway,
Subnet Mask, DNS
Warranty: 3 Years
Package Contents:
Camera, Drilling
Paper, Ceiling Mount
Bracket (x2) Quick
Start Guide, Cable
Fixing Plate, M2 x 4
mm Screw (x3), Power
Adapter & Power Cord,
1/4"-20 L=6.5 mm
Screw (x2), Remote
Control, M3 x 6 mm
Screw (x3), DIN 8 to
D-Sub 9 Cable,
RS-232 In/Out Y
Cable, Cable Ties (x4)
API- available for
USB/IP programming

5 Interactive display with
built-in computer

Next minimum
requirements:
Diagonal size: 86"
Resolution: 3840 x
2160
Response time: 5 ms
Brightness: 420 cd/m2
Static contrast ratio:
4500:1
Glass hardness: AG
Tempered Glass -
Mohs Level 7
Glass type: Low
parallax - max 1mm air
gap between panel
and glass
Lifespan: 50.000 hours
Touch technology: IR

1.00 pcs

Simultaneous touch points: 20
Touch response time: 5 ms
Tracking Rate: 6 m/s
Touch Accuracy: 1.5mm
Windows Ink trigger with pens: Yes
Passive Pens included: 2
Writing with 2 different colors simultaneously: Yes
Palm Rejection: Yes
Classroom Essential Apps: Whiteboard, Annotate, Timer, Media Players, Browser, PDF Reader, Screen Record, Spinner, Voting, Math Tools
OPS slot: Intel® spec 80Pin
OPC PC: Intel i7-10510U, 16GB RAM, 250GB SSD, Windows 10 Pro licence
HDMI IN: 3
HDMI Out: 1
USB-A 2.0: 1
USB-B for Touch: 2
USB-A 3.0: 4
USB-C front mounted with support for Audio, Video, Touch and Ethernet: 1
USB-C side mounted with support for Audio, Video, Touch and Power Charge 65W: 1
LAN In (RJ45): 1
LAN Out (RJ45): 1
WiFi: IEEE 802.11a/b/g/n/ac with 2 × 2 MIMO (hotspot only) 2.4 and 5 GHz bands
Bluetooth: 5.0
Built In computer: Android 11, 6GB RAM, 64GB storage, 4K

		resolution Built in 2.1 speakers: 2 x 15W + 15W subwoofer Built In Line Array Microphones with 8m pickup range: Yes Embedded digital signage system with cloud management: Yes, 2GB Free cloud space included MDM remote management from cloud: Yes - 5 year licence Mirroring Any Device To The Board: Built in AirServer with support for Miracast, Airplay and Chromecast. Enclosed 1 USB-C button dongle for wifi direct mirroring from Windows, iOS/macOS and Android devices. Warranty: 5 year Authorisation needed.		
	6 Interactive display motorized stand	Next minimum requirements: Black colour frame VESA 800x600 Maximum Width 117,8 cm, Depth 77,7 cm Anti-collision - When the screen touches something during a movement, the movement stops and the lift goes back a bit in the opposite direction. Minimum Height: 91,2 cm Maximum Height: 156,2 cm Stroke 650 mm, speed up to 38 mm/s Maximum load: 120 kg Screen position: Landscape, Portrait Max. 86 inch Screen	1.00 pcs	

				7	Presentation remote	<p>Next minimum requirements: Presentation remote Weight (with batteries): 49,2 g Motion sensor 3D accelerometer and Gyroscope Battery: Rechargeable Lithium Polymer, 85 mAh Battery Life (rechargeable): 3 months, (May vary based on usage) Receiver Charging cable Length: 140 mm</p> <p>Connection Type: Bluetooth Low Energy and 2.4 GHz wireless connection Wireless range: 30 m (May vary based on environmental and computing conditions) LED Indicator Lights: Battery and Connectivity</p>	1.00	pcs
				8	HDMI-USB encoder	<p>Next minimum requirements: Convert Ultra HD to USB 3.0 with an HDMI loop and external power for BYOM applications HDMI capture to USB 3.0 Compatible with USB 2.0 (high-quality MJPEG) HDMI loop output Up to Ultra HD 4K (3840/4096x2160) at 30 fps and 1080p at 60 fps HDMI audio support Analogue audio I/O Internal frame buffers maximize frame rates Hardware-based color</p>	1.00	pcs

		space and sampling conversion Automatic scaling and frame rate conversion (UHD up-scaling not supported) Image controls: Brightness, contrast, saturation, and hue settings Supports multiple devices on the same PC Compatible with Windows, Mac OSX, Linux and Android Powered from external adapter or USB A USB cable is included No driver required		
	9	Tie microphone, pocket microphone transmitter, microphone receiver	Next minimum requirements: Compatible kit consisting of 1 wireless bodypack transmitter, 1 lavalier microphone, 1 rackmount receiver and 1 rack mountable kit Integrated RJ45 network port allows control, monitoring and setup Up to 88 MHz bandwidth, up to 32 channels Increased RF output power (10/30/50 mW) Transmission Range: up to 100 meters Remote control switch available for the bodypack transmitter Compatible and interchangeable parts with other microphone kits required in this tender	1.00 kit
	10	Handheld microphone with transmitter, microphone receiver	Next minimum requirements: Compatible kit	1.00 kit

		<p>consisting of 1 handheld microphone with mute switch, 1 microphone capsule (supercardioid, condenser), 1 rackmount receiver, 1 rack mountable kit and 1 mic clip</p> <p>Integrated RJ45 network port allows control, monitoring and setup</p> <p>Up to 88 MHz bandwidth, up to 32 channels</p> <p>Increased RF output power (10/30/50 mW)</p> <p>Transmission Range: up to 100 meters</p> <p>Remote control switch available for the bodypack transmitter</p> <p>Compatible and interchangeable parts with other microphone kits required in this tender</p>		
	11	Headphones for computer	<p>Next minimum requirements:</p> <p>Circumaural Closed-Back Monitor Headphones</p> <p>Collapsible design with swiveling earcups</p> <p>Rejection of outside noise is high, rated up to -32 dB Neodymium magnets</p> <p>Padded leatherette earcups and adjustable padded headband</p> <p>Frequency response: 8 - 25000 Hz</p> <p>Jack plug: 3,5 / 6,3 mm stereo</p> <p>Cable length: Coiled Cable (min. 1.3m / max. 3m)</p> <p>Weight w/o cable: 285 g</p>	1.00 pcs

				12	Camera tripod	<p>Next minimum requirements:</p> <p>Video tripod kit with fluid video head and carrying bag</p> <p>Side pull selector ensures quick setup with both hands</p> <p>Fluid head with spirit level and quick release plate</p> <p>Pan and tilt locking knobs allow for single axis movement</p> <p>Twist leg locking system, enabled by simply turning each knob 90°</p> <p>Pan bar included for fluid movement; can be removed</p> <p>Weight: 1.64 kg</p> <p>Top Attachment: 1/4" screw, 3/8" screw</p> <p>Ball Flat: Ball</p> <p>Safety Payload</p> <p>Weight: 4 kg</p> <p>Base Diameter: 40 mm</p> <p>Bubble Spirit Level (No.): 1</p> <p>Carrying Bag Included: Yes</p> <p>Center Column: rapid</p> <p>Closed Length: 40 cm</p> <p>Colour: black/silver</p> <p>Easy Link: Yes</p> <p>Front Tilt: -90°/+65°</p> <p>Head Type: Video/Fluid Head</p> <p>Leg Type: Single</p> <p>Leg Angles: 22°, 54°, 89°</p> <p>Leg Lock Type: Twist Lock</p> <p>Leg Sections: 4</p> <p>Legs Tube Diameter: 12, 15.5, 19, 22.5 mm</p> <p>Material: Aluminium</p> <p>Maximum Height: 150 cm</p> <p>Maximum Height (With Center Column Down): 129 cm</p>	1.00	kit
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		Maximum Working Temperature: 60 °C Min Height: 40 cm Minimum Working Temperature: -30 °C Pan Bar Included: Yes Pan Drag: fluid cartridge with fixed drag Panoramic Rotation: 360 ° Plate Type: 501PL Quick Release: Yes Tilt Drag: fluid cartridge with fixed drag Upper Disc Diameter: 40 mm		
	13	Projection screen	Next minimum requirements: Control: Electric Aspect ratio: 16:10 External dimensions (W x H): exactly 300 x 191 cm Viewing area (W x H): exactly 290 x 181 cm Weight: 24.0 kg	1.00 pcs
	14	Projector	Next minimum requirements: Native resolution: 1920x1080 or higher Native refresh rate: 50Hz or higher Light source: laser Light output: 5000lm or better Time until light output declines to 50%: 20000 hours or longer Max screen size: at least 5 metres AV input connections: at least 2x HDMI and DIGITAL LINK (video/network/serial control, HDBaseT compliant) AV output connections: audio out (3,5mm stereo jack) Installation options:	1.00 pcs

		ceiling/floor, front/rear Possibility to control projector via IP (should use wired ethernet connection), availability of API document for IP projector control Keystone correction: +/-25% or more (vertical and horizontal) Optical axis shift: at least +/-20% (horizontal) and +40% (vertical)		
	15	Projector mount	Next minimum requirements: Type: Projector ceiling mount Colour: Silver TÜV certified: Yes Min. distance to ceiling: 550mm Max. distance to ceiling: 850mm Turn: Up to 360° Tilt: Up to 15° Roll: 15° Max. weight load: 30kg Range (diameter): 30mm - 410mm Height range: 550mm - 850mm	1.00 pcs
	16	Warranty	Warranty for whole set minimum 1 year.	1.00 year
	17	A mobile set of equipment for capture of the pedagogical process on the field: camera	Next minimum requirements: Compact live streaming 4K camcorder with SDI output Dual codec advanced streaming technology Tele-macro mode for better focus on close objects Lower-third and full-screen titling graphic solutions 4:2:2 4K Video at 24/30p Real-Time Broadcast	1.00 pcs

Info Overlay
 LAN Configuration with
 1 button
 3G-SDI & HDMI Out,
 Live HDMI UHD 4K
 Out
 12x Optical Zoom Lens
 2-Channel XLR Audio
 Inputs
 4K Ultra HD recording
 (150 Mbps, 24/30p) to
 SDXC (UHS-I Speed
 class3) card
 Single 1/2.3-inch
 CMOS image sensor
 with 12.4 million pixels
 (9.03 active)
 Integrated 12x F1.2-
 3.5 zoom lens (35mm
 equivalent: 29.5-
 354mm)
 Dynamic zoom in HD
 mode combines optical
 zoom and pixel
 mapping to create
 seamless and lossless
 24x zoom
 Broadcast features
 Customizable graphic
 overlays (on/off
 switchable)
 Option for custom
 broadcaster logos,
 watermark, time and
 temperature
 Selectable pre-loaded
 logos
 Wired remote control
 supported
 HD-SDI (3G) and
 HDMI outputs (4K
 output via HDMI only)
 Live 4K UHD output
 via HDMI connector
 Streaming engine
 compatible with
 Wowza Streaming
 Engine
 IP network remote
 control, remote
 viewing, metadata
 editing, FTP clips
 uploading

4:2:2 full HD recording
at 50Mbps (24-60p)
120fps HD slow motion
recording
Dual SDHC/SDXC
slots enable dual,
backup and continuous
recording
9 user button
assignable functions
2 position ND filter
(1/4, 1/16)
0.24-inch colour
viewfinder (1.56M
pixel) with smart focus
assist function
3.5-inch colour LCD
display (920K pixel)
with smart focus assist
function
Built-in stereo
microphone
Includes handle unit,
battery and AC
Adapter

Next minimum
requirements:
Compact live
streaming 4K
camcorder with SDI
output
Dual codec advanced
streaming technology
Tele-macro mode for
better focus on close
objects
Lower-third and full-
screen titling graphic
solutions
4:2:2 4K Video at
24/30p
Real-Time Broadcast
Info Overlay
LAN Configuration with
1 button
3G-SDI & HDMI Out,
Live HDMI UHD 4K
Out
12x Optical Zoom Lens
2-Channel XLR Audio
Inputs
4K Ultra HD recording

(150 Mbps, 24/30p) to SDXC (UHS-I Speed class3) card
Single 1/2.3-inch CMOS image sensor with 12.4 million pixels (9.03 active)
Integrated 12x F1.2-3.5 zoom lens (35mm equivalent: 29.5-354mm)
Dynamic zoom in HD mode combines optical zoom and pixel mapping to create seamless and lossless 24x zoom
Broadcast features
Customizable graphic overlays (on/off switchable)
Option for custom broadcaster logos, watermark, time and temperature
Selectable pre-loaded logos
Wired remote control supported
HD-SDI (3G) and HDMI outputs (4K output via HDMI only)
Live 4K UHD output via HDMI connector
Streaming engine compatible with Wowza Streaming Engine
IP network remote control, remote viewing, metadata editing, FTP clips uploading
4:2:2 full HD recording at 50Mbps (24-60p)
120fps HD slow motion recording
Dual SDHC/SDXC slots enable dual, backup and continuous recording
9 user button assignable functions

				2 position ND filter (1/4, 1/16) 0.24-inch colour viewfinder (1.56M pixel) with smart focus assist function 3.5-inch colour LCD display (920K pixel) with smart focus assist function Built-in stereo microphone Includes handle unit, battery and AC Adapter		
	18	Charger and additional batteries for camera		Next minimum requirements: Compatible kit consisting of one charger of two batteries. Charger: Automatic safety and protection features include low voltage charging, thermal monitoring and overcharge protection Status LED indicator provides detailed display of charging process and fault detection Charging will automatically stop when the battery is fully charged Capable of multiple configurations for use as stand alone charger or joint connection to a second one Universal AC input for worldwide use. Charger Input Voltage: AC Adapter 100-240V 60/50Hz Charger Input Voltage 2: DC Input DC 14-19V Charger Power Consumption: 36W	1.00	kit

Charger Charge
Current: 1.6A
Charger Indications:
Yes, LED for Charging
process and fault
detection

Battery:
Capacity: 7350mAh,
55Wh
Battery Protection:
Over charge, Over
discharge, Over
current
Separate DC output

Compatible parts with
camera from this
segment of tender are
required, also
compatible cables for
direct connection to
mentioned devices
should be included

19 Tripod for camera

Next minimum
requirements:
Video tripod kit with
fluid video head and
carrying bag
Twin legs and middle
spreader
Fluid Drag System on
pan and tilt
movements
Counterbalance
system on tilt
movement
Sliding plate for
camera connection
and set up
Leveling bubble for
setup
Weight: 3100 g
Material: Aluminum
Safety Payload
Weight: 5 kg
Min Height: 67.5 cm
Maximum Height: 154
cm
Head Type:
Video/Fluid Head
Leg Sections: 3

1.00 pcs

Legs Tube Diameter:
15.2, 18.5, 21.7 mm
Quick Release: Yes
Counterbalanced
Weight: 2.4 kg
Center of gravity: 55
mm
Spreader: mid level -
fixed arm length
Closed Length: 72 cm
Ball Flat: 60 Ball
Top Attachment: 1/4"
screw, 3/8" screw
Powered by
(batteries): 0
Bubble Spirit Level
(No.): 1
Center Column: no
center column
Color: Black
Front Tilt: -70° / +90°
Leg Type: Twin
Leg Angles: 19°
Leg Lock Type: Flip
Lock
Maximum Working
Temperature: 60 C
Minimum Working
Temperature: -20 C
Pan Bar Included: Yes
Pan Drag: luid
cartridge with fixed
drag
Panoramic Rotation:
360
Tilt Drag: fluid
cartridge with fixed
drag
Compatible product
with camera, additional
batteries, wireless
receiver for tie
microphone,
microphone for camera
from this segment of
tender are required

20 SD card for camera

Next minimum
requirements:
Capacity: 128 GB
Read Speed: up to 170
MB/s
Write Speed: up to 90

2.00 pcs

		MB/s Video Speed: C10, U3, V30 Form Factor: SDXC Compatible parts with camera from this segment of tender are required		
21	Tie microphone with wireless transmitter and receiver	Next minimum requirements: Compatible kit consisting of 1 wireless bodypack transmitter, 1 lavalier microphone, 1 wireless on-camera receiver Up to 88 MHz bandwidth, up to 32 channels Increased RF output power (10/30/50 mW) Transmission Range: up to 100 meters Remote control switch available for the bodypack transmitter Up to 8 hours of operation time Batteries for transmitter and receiver are included Compatible parts with camera and headphones from this segment of tender are required, also compatible cables and mounts for direct connection and installation to mentioned devices should be included	1.00	kit
22	Microphone for camera	Next minimum requirements: XLR Output Connection 48V Phantom Power Includes Foam Windscreen Compatible product with camera from this segment of tender is	1.00	pcs

		required, also compatible cables and mounts for direct connection and installation to mentioned devices should be included		
23	Headphones for camera	Next minimum requirements: Circumaural Closed-Back Monitor Headphones Collapsible design with swiveling earcups Rejection of outside noise is high, rated up to -32 dB Neodymium magnets Padded leatherette earcups and adjustable padded headband Frequency response: 8 - 25000 Hz Jack plug: 3,5 / 6,3 mm stereo Cable length: Coiled Cable (min. 1.3m / max. 3m) Weight w/o cable: 285 g Compatible product with camera and tie microphone with wireless transmitter and receiver from this segment of tender is required, also compatible cables for direct connection to mentioned devices should be included	1.00	pcs
24	Triple lightning kit with tripods and bag	Next minimum requirements: On or off camera LED lighting fixture Location/studio lighting kit with 3 lights on compact stands and with carrying case and 22 filters (including diffusion, skin tone,	1.00	kit

		magenta and colour FX) Hot-shoe mount adapters 360° ball head swivels Power supplies Impact-resistant carrying case Each light with: Continuous Light and Flash Modes Built-In HSS flash sync reciever CRI at least 96 and TLCI at least 91 Color Temperature: 3150 to 6300K Continuous Light Output: 2000 Lux at 90cm Flash Output: f/8 at ISO 200 at 90cm Runs on AA Batteries, D-Tap or AC Three 1/4"-20 Threads; Camera Shoe Mount Filter Pack and Holder; Belt Pouch		
	25	Bag for equipment	Next minimum requirements: Handheld, soft carry bag with protection for equipment on the field Compatible product with camera, charger and additional batteries for camera, tie microphone with wireless transmitter and receiver, microphone for camera and headphones for camera from this segment of tender is required (enough place to fit all of them at once inside)	1.00 pcs
	26	warranty	Warranty for whole set	1.00 year
	27	A mobile set of equipment for hybrid implementation of the	Next minimum requirements: Camera: Use low-light 2Mega	1.00 kit

				<p>pedagogical process in the pedagogues' offices</p> <p>Camera and speakerphone kit</p>	<p>pixel sensor for imaging in low-light conditions.</p> <p>Wide field of view (DFOV) 84.5°</p> <p>Focal lens of 3.9mm (wide) ~ 47.3mm (tele)</p> <p>Lens F1.8 (wide)~2.8 (tele)</p> <p>Smart Frame for automatic FOV adjustment to fit all participants.</p> <p>True WDR up to 120 dB (Superb backlight compensation technology for optimizing light balance in high-contrast conditions.)</p> <p>18X total zoom (12X optical zoom)</p> <p>Pan: ±170°. Tilt: +90° (up) -30° (down)</p> <p>Image Mirror, Flip, AE, white balance (auto, manual override via PC based app)</p> <p>Minimum focus distance is 1.5m.</p> <p>10 camera presets (through remote control)</p> <p>Standard tripod screw holes and Kensington slot.</p> <p>Speakerphone:</p> <p>Full duplex microphone array with echo cancellation.</p> <p>Advanced noise suppression.</p> <p>Dual-microphone array.</p> <p>3.5mm phone-in jack.</p> <p>3.5mm line out.</p> <p>Speaker volume adjustment: Adjustable to 90 dB SPL at 0.5 m.</p> <p>Touch control for volume down/up, mute, phone input, call</p>	
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and hang-up.
Support to bridge
phone-in and USB
connection into one
call.
Includes Kensington
slot.

Video:
Video compression
format of H.264, YUV,
YUY2, MJPEG, NV12.
Network video
compression format of
H.264.
Support the below
resolution: (16:9) 1920
x 1080, 1600 x 900,
1280 x 720, 960 x 540,
848 x 480, 800 x 448,
640 x 360, 424 x 240,
320 x 180; (4:3) 800 x
600, 640 x 480, 480 x
360, 320 x 240 at 60,
30, 15fps
IP streaming resolution
(Not for USB video
stream): 1080p, 720p,
480p and 360p.
Support bit rate:
512Kbps, 1Mbps,
2Mbps, 4Mbps,
8Mbps, 16Mbps and
32Mbps.

Audio:
AAC-LC
Echo cancellation.

Network:
Support the network
protocol: RTSP, RTMP
Support 10/100/1000
Mbps. (LAN, RJ45
interface)
Support VISCA over
IP.
Support remote
management via PC
based software.
Support real-time
streaming via PC
based software.

					Support DHCP / Static IP address setting. Support NTP Server. Security: Support password protection. Support SSL certificate import. General: Support IR remote control. Support 3rd party integration: VISCA, Pelco-P, Pelco-D via RS232 (128 preset points via VISCA command) Support VISCA over IP. Support standard UVC/UAC plug-and-play. Support Web UI management. Support basic camera settings adjustment via AVer PTZApp. Support camera wall-mount method. Warranty: For whole set minimum 1 year.		
2	Nabavka opreme za podršku distance learning-a za potrebe Univerziteta Crne Gore (Crna Gora)/ PROCUREMENT OF DISTANCE LEARNING SUPPORTING EQUIPMENT	10000.00	1	Notebook #1	Notebook with next minimum requirements: Processor: Intel i5-1245U or equivalent , up to 4.4 GHz,12 MB cache, 10 cores, 12 threads with Vpro Chipset Intel PCH-LP or equivalent Memory: 8GB DDR4 3200 MHz, Two SODIMM slots Internal storage: 256 GB SSD NVME Wireless 6, Bluetooth 5.2	3.00	pcs

Display:14" diagonal
FHD, WVA, anti glare
high brightness 250
nita

Graphic: integrated
Camera: FHD RGB
camera with privacy
shutter

Ports: 1 x RJ45, 1 x USB 3.2 gen 1, 1 x USB 3.2 gen 1 with powershare, Two Thunderbolt 4 ports with DisplayPort Alt Mode/USBC/USB4 /Power Delivery, 1 x universal audio port, 1 x HDMI 2.0, 1 x microsd card slot, 1 x USB type C power input, 1x wedge-shaped lock slot
Backlit keyboard
Security: Fingerprint-reader sensor technology
Capacitive,Fingerprint-reader sensor resolution 508 dpi, Fingerprint-reader sensor pixel size 256 x 360, Trusted Platform Module (TPM) 2.0 FIPS 140-2 Certified, Fingerprint Reader in Power Button tied to ControlVault 3,
Battery: 4-cell, 58 Whr
Operating system: Windows 11
Professional or equivalent
Warranty: min 3 year
Weight maximum 1.4 kg

The bidder is obliged to provide proof that (if he is not the equipment manufacturer) he is in partnership with the equipment manufacturer, which is

provided by the
authorization of the
equipment
manufacturer (MAF) or
an authorized
distributor, agent of the
equipment
manufacturer that is
offered. If an
authorization is
submitted from an
authorized distributor,
representative of the
manufacturer of the
offered equipment, it is
necessary to submit a
certificate proving that
it is authorized for sale
by the manufacturer
for the procedure in
question
The bidder is obliged
to submit the
manufacturer's
certificate on the
duration of the
warranty period of the
specific equipment
offered.
Warranty minimum 1
year

2	Notebook #2	Notebook with next minimum requirements: Processor: up to 4.8 GHz,12 MB cache, 10 cores, 12 threads Chipset Intel PCH-LP or equivalent Memory: 16GB DDR4 3200 MHz Internal storage: 512 GB SSD NVME Wireless 6, Bluetooth 5.2 Display:13.3" diagonal FHD, WVA, anti glare high brightness 250 nits Graphic: integrated Camera: FHD IR RGB camera with privacy shutter	1.00	pcs
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						<p>Ports 2x USB Type-C Thunderbolt 4.0 ports with Power Delivery and DisplayPort 1.4 Alt mode, 1x USB 3.2 Gen 1 port with PowerShare, universal audio port, HDMI 2.0 port, Power-adapter port Power Delivery (PD) supported by two USB Type-C Thunderbolt 4.0 ports , Security-cable slot One wedge-shaped lock slot Backlit keyboard Security: Fingerprint-reader sensor technology Capacitive Fingerprint-reader sensor resolution 500 dpi , Fingerprint-reader sensor pixel size 108 x 88, Trusted Platform Module (TPM) 2.0 discrete, FIPS 140-2 certification for TPM, Trusted Computing Group (TCG) Certification for TPM, Contacted smart card and Control vault 3, Contactless smart card, NFC, and Control vault 3 Battery: 4-cell, 58 Whr Operating system: Windows 11 Professional or equivalent Warranty: min 3 year Weight maximum 1.15 kg</p> <p>The bidder is obliged to provide proof that (if he is not the equipment manufacturer) he is in partnership with the equipment manufacturer, which is proven by the</p>	
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authorization of the equipment manufacturer (MAF) or an authorized distributor, agent of the equipment manufacturer that is offered. If an authorization is submitted from an authorized distributor, representative of the manufacturer of the offered equipment, it is necessary to submit a certificate proving that it is authorized for sale by the manufacturer for the procedure in question
The bidder is obliged to submit the manufacturer's certificate on the duration of the warranty period of the specific equipment offered.
Warranty minimum 1 year

3 Headphones

Wireless Headphones
Ear coupling Around ear
Transducer principle – dynamic Acoustic principle - closed
Adapter - 3.5mm, angled
Cable lengt - 1.4m
Frequency response (speaker)
6 Hz to 22,000 Hz
Impedance
Active: 470 Ω,
Passive: 100 Ω
Sound pressure level (SPL) 118 dB (1 kHz, 1V)
Total harmonic distortion (THD) < 0.3 %
Microphone pick-up

5.00 pcs

pattern, Dual
Beamforming
Wearing style, Around-
ear, Transducer size
42 mm
Charging time 3 hrs
Operating time 17 hrs
Bluetooth version -
Bluetooth 5.0
AptX™, AptX™ Low
Latency, AAC,
SBCActive Noise
Cancellation True
Warranty minimum 1
year

4 Portable touchscreen
device #1

Tablet with next
minimum
requirements:
8 GB RAM
256 GB storage
Chip M1 chip or
equivalent
8-core CPU with 4
performance cores and
4 efficiency cores
8-core GPU,16-core
Neural Engine
Liquid Retina display
11-inch (diagonal) LED
backlit Multi-Touch
display with IPS
technology
2388-by-1668-pixel
resolution at 264 pixels
per inch (ppi)
ProMotion technology
Wide color display (P3)
True Tone display
Fingerprint-resistant
oleophobic coating
Fully laminated display
Antireflective coating
1.8% reflectivity
SDR brightness: 600
nits max
Camera
Wide: 12MP, *f*/1.8
aperture
Ultra Wide: 10MP,
f/2.4 aperture, and
125° field of view
2x optical zoom out

2.00 pcs

Digital zoom up to 5x
Five□element lens
(Wide and Ultra Wide)
Brighter True Tone
flash
Panorama (up to
63MP)
Sapphire crystal lens
cover
Autofocus with Focus
Pixels (Wide)
Smart HDR 3
Speakers Four
speaker audio
Microphones Five
studio-quality
microphones for calls,
video recording, and
audio recording
Thunderbolt / USB 4
port with support for:
Charging, DisplayPort,
Thunderbolt 3 (up to
40Gb/s), USB 4 (up to
40Gb/s), USB 3.1 Gen
2 (up to 10Gb/s)
Operating System
iPadOS 15 or
equivalent
Power and Battery
Built-in 28.65-watt-
hour rechargeable
lithium-polymer battery

The bidder is obliged
to provide proof that (if
he is not
the equipment
manufacturer) he is in
partnership with the
equipment
manufacturer, which is
proven by the
authorization of the
equipment
manufacturer (MAF) or
an authorized
distributor or agent of
the
equipment
manufacturer that is
offered.. The bidder is
obliged to

submit the manufacturer's certificate or an authorized distributor certificate duration of the warranty period of the specific equipment offered.

Warranty min 1 year

5 Portable touchscreen device #2

Tablet with next minimum requirements:
8GB RAM
256GB Storage
Liquid Retina XDR display
12.9-inch (diagonal) mini-LED backlit Multi-Touch display with IPS technology
2D backlighting system with 2596 full-array local dimming zones
2732-by-2048-pixel resolution at 264 pixels per inch (ppi)
ProMotion technology
Wide color display (P3)
True Tone display
Fingerprint-resistant oleophobic coating
Fully laminated display
Antireflective coating
1.8% reflectivity
SDR brightness: 600 nits max
XDR brightness: 1000 nits max full screen, 1600 nits peak (HDR content only)
1,000,000:1 contrast ratio
M1 chip
8-core CPU with 4 performance cores and 4 efficiency cores
8-core GPU
16-core Neural Engine
Camera
Pro camera system: Wide and Ultra Wide

1.00 pcs

					<p>cameras Wide: 12MP, <i>f</i>/1.8 aperture Ultra Wide: 10MP, <i>f</i>/2.4 aperture, and 125° field of view 2x optical zoom out Digital zoom up to 5x Five-element lens (Wide and Ultra Wide) Speakers Four speaker audio Microphones Five studio-quality microphones for calls, video recording, and audio recording Built-in 40.88-watt- hour rechargeable lithium-polymer battery Operating System iPadOS 15 or equivalent The bidder is obliged to provide proof that (if he is not the equipment manufacturer) he is in partnership with the equipment manufacturer, which is proven by the authorization of the equipment manufacturer (MAF) or an authorized distributor or agent of the equipment manufacturer that is offered.. The bidder is obliged to submit the manufacturer's certificate or an authorized distributor certificate duration of the warranty period of the specific equipment offered. Warranty min 1 year</p>	
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	3	Nabavka opreme za podmorsko istraživanje za potrebe Univerziteta Crne Gore (Crna Gora)/ PROCUREMENT OF UNDERWATER EQUIPMENT FOR SEAWATER VISUAL AND QUALITY MONITORING WITH ACCESSORIES	37000.00	1	Underwater Remotely Operated Vehicle – ROV with accessories	Underwater remotely operated vehicle – ROV with next minimum characteristics: • Dimensions at least: Length 455 mm; Width 338 mm; Height 250 mm • Weight in Air (without Ballast) max 10 kg • Watertight enclosure dimensions at least: inner diameter 102 mm; inner Length 298 mm • Constructed from HDPE (for frame), aluminum flanges and end caps and aluminum tubes • Maximum rated depth at least 300 m • Maximum forward speed at least 1.5 m/s • Equipped with at least 8 thrusters – 4 vectored and 4 vertical • Forward Bollard Thrust at least 9 kgf • Vertical Bollard Thrust at least 7kgf • Lateral Bollard Thrust at least 9 kgf • Tether at least 300 m, working strength at least 45 kgf, breaking strength at least 160 kgf, strengthened with Kevlar, including at least 4 twisted pairs of conductors • Four lights with minimal specification: o 1500 lumens each or better with dimming control o Color Temperature 5,700 kelvin or better o Light beam angle – 135 degrees in water each or better with adjustable tilt	1.00	pcs
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• Equipped with Gyroscope, Accelerometer, Magnetometer, Current and Voltage sensing and Leak detection

Scope of supply:

- One base Underwater ROV unit
- 4 underwater sea lights
- Heavy Configuration Retrofit kit – adding Pitch movement to original ROV, increased buoyancy, and external thruster guards
- Fathom Spool for 300 m Tether
- Two batteries, quickly swappable at working location providing the ROV with at least 2 hours of normal use each
- Battery charger
- Subsea Gripper with minimum specification:
 - o grip force at tip at least 97 N, in middle at least 124 N,
 - o jaw opening at least 62 mm
 - o Push-rod Axial Load Rating 3kg or better
 - o Minimum Linear Piston Travel 13.5 mm or better
 - o Time to Open/Close 1.6 seconds or better
 - o Cable Used CAB-A-3 -22AWG or better
 - o Cable Length 635 mm or better
 - o Conductor Gauge 22 AWG or better
 - o Installed Penetrators: Device Side WLP-M06-4.5MM-LC; Cable End WLP-M10-4.5MM-

- o LC; or better
- o Housing Material Aluminum 6061-T6 or better
- o Pressure Rating 300 m or better
- o Weight in Air (w/ cable) 524 g or less
- o Weight in Water (w/ cable) 267 g or less
- Logitech F310 Controller or equivalent to control the ROV
- Laptop computer with appropriate software to control and monitor the ROV recommended by the manufacturer with next minimum requirements:
 - o Processor I5 last generation or equivalent
 - o RAM 8 GB
 - o SSD 256 GB
 - o Screen 15" full HD
 - o LAN connection 10/100
 - o USB 3.0 connection
 - o HDMI/DP port
 - o Windows 11 or equivalent
- A set of spare parts recommended by the manufacturer
- Payload Skid - a modular frame for additional watertight enclosures, lights, and ballast weights
- Niskin water sampler or similar, for integration with the ROV – at least 1 l capacity
- Sea temperature sensor minimal specification:
 - o Operating Temperature: -40 to +125°C or better
 - o Storage

					<ul style="list-style-type: none"> Temperature: -55 to +150°C or better o Absolute Accuracy: <ul style="list-style-type: none"> o $\pm 0.1^{\circ}\text{C}$ (between -5 to 50°C) or better o $\pm 0.5^{\circ}\text{C}$ (between -40 to 125°C) or better o Operating Temperature: -40 to +125°C or better o Operating Depth: 0 - 900m or better o ArduSub Compatible: yes o Development Libraries: At least TSYS01 Arduino, TSYS01 Python, TSYS01 ArduPilot • Temperature sensor interface board • Pressure sensor minimal specification: <ul style="list-style-type: none"> o Maximum Mechanical Pressure: At least 50 bar o Operating Pressure: 0 - 30 bar or better o Operating Depth: At least 0 - 300m o Relative Accuracy (0 -45°C): ± 200 mbar (204 cm in fresh water) or better o Resolution: .2 mbar (2 mm in fresh water) or better o In Air Operating Temperature: At least -20 to +85°C o In Water Operating Temperature: At least 2 to 40°C o Storage Temperature: At least -40 to +85°C o Absolute Accuracy: $\pm 1.5^{\circ}\text{C}$ (between 0 to 60°C) or better o ArduSub Compatible: Yes o Development Libraries: At least
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MS5837 Arduino,
MS5837 Python,
MS5xxx ArduPilot

- Pressure sensor interface board
- Low-Light HD USB Camera minimal specification:
 - o Physical
 - o Camera PCB
 - Dimensions: 32mm x 32mm
 - o Mounting Hole Spacing: 28mm x 28mm
 - o Connector: JST-PH to USB or better
 - o Working Temperature: -20 - 75°C or better
 - o Mass (total): max. 17g
 - o Mass (without cable): max. 13.5g
 - o Lens
 - o Mount Type: M12 x 0.5
 - o Field of View (Horizontal): 80° or better
 - o Field of View (Vertical): 64° or better
 - o Focal Length: 2.97 mm or better
 - o Sensor
 - o Type Sony Exmor IMX322 / IMX323 or equivalent
 - o Format: 1/2.9" or better
 - o Pixel Size: 2.8µm (H) x 2.8µm (V) or smaller
 - o Distortion: max. 1%
 - o Total pixels: 2000(H) x 1121(V) or better
 - o Recording pixels: 1920(H) x 1080(V) or better
 - o Minimum Illumination: 0.01 lux or better
 - o Sensitivity: 5.0V/lux-sec@550nm or better

						<ul style="list-style-type: none">o Video Streamo Standard (min - max): 240p15 - 1080p30 or bettero Compression format: H.264 / MJPEG / YUV2 (YUYV)o Audio Streamo Channels: single-channel, 44.1 kHz or bettero Format: Linear-PCM (L16) or bettero Electricalo Supply Voltage: 5 Vo Max Power Draw: 220 mA or less• Scanning Imaging Sonar – range at least 50m, depth rating at least 300m, including everything needed to mount the Sonar on the ROV• Scanning Imaging Sonar minimal specifications:<ul style="list-style-type: none">o Electricalo Maximum Supply Voltage: 25 voltso Minimum Supply Voltage: 11 voltso Maximum Power Consumption: 5 Wo Communicationo Signal Protocols: USB, Ethernet (UDP), RS485o Message Protocol: Ping Protocol or equivalento Message Subsets: common, ping360 or equivalento Code Library Implementations: Python, C++, Arduinoo Cableo Cable Used: CAB-PUR-3UTP-28AWG or bettero Cable Length: 755 mm or better		
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- o Conductor Gauge: 28 AWG
- o Installed Penetrators
- o Device Side: WLP-M10-4.5MM-LC or equivalent
- o Cable End: WLP-M10-4.5MM-LC or equivalent
- o Acoustics
- o Frequency: 750 kHz or better
- o Beamwidth – Horizontal 2° or better
- o Beamwidth – Vertical 25° or better
- o Minimum Range: 0.75 m
- o Maximum Range: 50 m
- o Range Resolution: 0.08% of range
- o Range Resolution at 50m: 4.1 cm
- o Range Resolution at 2m: 1.6 mm
- o Mechanical Resolution: 0.9°
- o Scanned Sector: Variable up to 360°
- o Scan Speed at 2 m: 9 sec / 360° or better
- o Scan Speed at 50 m: 35 sec / 360° or better
- o Continuous 360 degree scan available: yes
- o Mounting Angle Offset available: yes
- o Physical
- o Pressure Rating: 300 m or better
- o Temperature Range: 0-30°C or better
- o Weight in Air (w/ cable): 510 g or less
- o Weight in Water (w/ cable): 175 g or less
- o Sonar Mounting Screw Size: M3x0.5 x 5 mm
- o Mounting Bracket Screw Size: M5x0.8 x

12 mm

- Protective casing
- o Minimal internal dimensions 800x610x535 mm
- o Case material – body made of water resistant plywood, edges made of aluminum, corner protection made of aluminum.
- o At least four handles on sides for carrying
- o Four wheels with stoppers
- o Protective hard foam inside the case – at least 10 mm thick
- o At least one secure lid lock

Authorization:

- Authorization from manufacturer needed

Warranty:

- Minimum one year for all equipment

Training:

Minimum two days on the spot in Kotor

2 Sea water quality measurement instrument with accessories

Sea water quality measurement instrument with the following characteristics

- Handheld
- Conforms to the following standards: EN61326-1 Class B, EN IEC 63000 9,
- Sensor probe detachable from control unit
- Sensor probe cable length at least 30m
- Capable of measuring following parameters: pH, Dissolved oxygen, Electrical conductivity, Salinity, Total dissolved solid,

1.00 pcs

Seawater specific gravity, Temperature, Turbidity, Water depth, Oxidation reduction potential, GPS location

- Software for data transfer to a PC
- One hand operation
- Auto calibration feature
- Auto hold function
- Possibility to set a site name for repeated measurements at the same location(s); at least 20 sites can be stored
- Possibility for single and repeated (interval) measurements; Interval settable between 10 seconds and 24 hours
- Possibility to select different units of measurement for various parameters
- Inbuilt compensation capabilities: Salinity compensation and atmospheric pressure compensation for dissolved oxygen (DO); Temperature compensation for conductivity (COND); Setting total dissolved solid (TDS) coefficient for TDS
- Multiple language user menu selectable – English language must be present
- User settable Auto power off function
- Display contrast settable

Sensor head characteristics

- Measurement temperature range -10°C to 55°C

- Outer diameter maximum 97 mm
- Sensor head length maximum 345 mm
- Cable length at least 30m
- Mass maximum 1850 g
- IP-68 waterproofing, or better
- Shock resistant cover

Control unit characteristics:

- Outer dimensions (WxDxH) 115 mm x 66 mm x 335 mm $\pm 5\%$
- Mass maximum 825 g
- Monochromatic graphic LCD with backlight 320x240 mm
- Memory: at least 10000 data items
- USB connection
- IP-67 waterproofing, or better
- GPS unit: Reception method (12 channel parallel); Measurement precision [With PDOP (high precision): 30 m or less (2 drms)] or better
- Ambient temperature range: at least -5°C to 45°C

pH sensor:

- Measurement method: Glass electrode method
- Range: at least pH 0 to 14
- Resolution: 0.01 pH or better
- Precision: at least ± 0.1 pH

DO sensor:

- Measurement method: Polarographic method

- Film thickness: up to 25 μ m
- Range: at least 0 mg/L to 50.0 mg/L
- Resolution: 0.01 mg/L or better
- Precision: 0 mg/L to 20 mg/L: ± 0.2 mg/L; 20 mg/L to 50 mg/L: ± 0.5 mg/L or better
- Salinity conversion: (0 to 70 PPT, automatic) or better
- Automatic temperature compensation

Electrical conductivity probe:

- Measurement method: Four-AC-electrode method
- Range: 0 S/m to 10 S/m (0 mS/cm to 100 mS/cm) or better
- Auto range function
- Resolution: at least:
 - o 0.000 mS/cm to 0.999 mS/cm:0.001
 - o 1.00 mS/cm to 9.99 mS/cm:0.01
 - o 10.0 mS/cm to 99.9 mS/cm: 0.1
 - o 0.0 mS/m to 99.9 mS/m: 0.1
 - o 0.100 S/m to 0.999 S/m: 0.001
 - o 1.00 S/m to 9.99 S/m: 0.01
- Precision: 1% of full-scale (midpoint of two calibration points) or better
- Automatic temperature conversion (25°C)

- Salinity measurement:
- Measurement method: Electrical conductivity conversion
 - Range: at least 0 to

70 parts per thousand
• Resolution: 0.01 part per thousand or better
• Precision: ± 3 part per thousand or better

TDS (total dissolved solid) measurement:
• Measurement method: Electrical conductivity conversion
• Conversion coefficient setting
• Range: at least 0 g/L to 100 g/L
• Resolution: 0.1% of full-scale or better
• Repeatability: ± 2 g/L or better
• Precision: ± 5 g/L or better

Seawater specific gravity measurement:
• Measurement method: Electrical conductivity conversion
• $\square$ t, $\square 0$, $\square 15$ display
• Range: at least 0 $\square$ t to 50 $\square$
• Resolution: 0.1 $\square$ or better
• Precision: ± 5 $\square$ or better

Temperature probe:
• Measurement method: Platinum temperature sensor
• Range: at least $-10\square C$ to $55\square C$
• Resolution: at least $0.01\square C$
• Sensor: Platinum temperature sensor, JIS Class B ($0.3+0.005|t|$) or better

Turbidity measurement:
• Measurement

method: LED 90°
scattering method
• Range: at least 0 NTU to 1000 NTU
• Resolution: 0.01 NTU or better
• Precision: $\pm 5\%$ of read-out or ± 1 NTU (whichever is larger) or better
• Conforms to EN ISO 7027

Water depth measurement:
• Measurement method: Pressure method
• Range: at least 0 m to 30 m
• Resolution: 0.05 m or better
• Precision: ± 0.3 m or better

ORP (oxidation reduction potential) measurement:
• Measurement method: Platinum electrode method
• Range: at least -2000 mV to +2000 mV
• Resolution: 1 mV or better
• Precision: ± 15 mV or better

Scope of supply:
• One water quality measurement instrument with the above stated characteristics
• Spare pH sensor – appropriate for the instrument
• pH 4.01 Standard Solution for auto calibration, at least 4l
• Spare ORP sensor – appropriate for the instrument

• Spare DO membrane cap (at least 3 pieces)
– appropriate for the instrument

• Spare Reference Electrode tip with liquid junction – appropriate for the instrument

• Internal solution for DO

• pH sensor protect cover – 3 pieces at least

• DO sensor protect cover – 3 pieces at least

• Rubber Cap for sensor guard – at least 8 pieces

• Backpack to carry the instrument

• Carrying case for the instrument – hard plastic with foam inside to protect the instrument, or better

Authorization:

• Authorization from manufacturer needed

Warranty:

• Minimum one year for all equipment

Training:

Minimum two days on the spot in Kotor

3 Underwater device for sound recording with accessories

Underwater device for sound recording with accessories has to meet the following minimal characteristics:

• Frequency Range at least:1 Hz – 24,000 Hz *

• Hydrophone Transducer Type:MPC (Piezo) 40mm Diameter or better

• Configuration: OmniDirectional

1.00 pcs

• Hydrophone
Packaging: Rugged epoxy case,
• Dimensions: approx. 60mm Dia x 7.5 mm Thick or larger
• Hydrophone Operating Temperature: –40C to +60C or broader
• Cable Type: High Quality, Low Noise, Neoprene/PVC jacketed
• Cable Length: at least 32 metres
• Preamp: Supplied with Line/Earphone Output
• Audio Output: MONO. Adjustable Level ~ 50 mW or better
• Output Connector: 3.5mm (1/8") stereo jack
• Earphones: HQ Earbud type ('walkman-style') or better
• Power: Approx 7 mA at 9V or better
• Battery: Alkaline 9V (PP3) transistor radio battery (lasts at least 50 hrs)
• External Power: Possible to operate from 12V battery with suitable adapter.
• Amplifier Dimensions: L: 122 mm W: 66 mm H: 43 mm or smaller

Scope of delivery:
• Hydrophone with at least 32 m cable
• Headphone Amplifier
• Earphones
• Software to record audio and spectrum analysis of underwater sounds

					<ul style="list-style-type: none"> • Appropriate recording device capable of independent recording of the hydrophone signals. Memory at least 512 GB. Working on batteries and external power source. • Waterproof housing for recording device <p>Warranty:</p> <ul style="list-style-type: none"> • Minimum one year for all equipment <p>Training:</p> <p>Minimum two days on the spot in Kotor</p>		
4	Nabavka vazdušnog drona za potrebe Univerziteta Crne Gore (Crna Gora/ PROCUREMENT OF AIR DRONE FOR VISUAL SEA AND COASTAL MONITORING	3000.00	1	AIR DRONE FOR VISUAL SEA AND COASTAL MONITORING	<p>Aircraft</p> <ul style="list-style-type: none"> • Takeoff Weight: 895 g • Dimensions (Folded/Unfolded) <ul style="list-style-type: none"> o Folded (without propellers) 221×96.3×90.3 mm (Length×Width×Height) o Unfolded (without propellers) 347.5×283×107.7 mm (Length×Width×Height) • Diagonal Length: 380.1 mm • Max Ascent Speed: <ul style="list-style-type: none"> o 1 m/s (C mode) o 6 m/s (N mode) o 8 m/s (S mode) • Max Descent Speed: <ul style="list-style-type: none"> o 1 m/s (C mode) o 6 m/s (N mode) o 6 m/s (S mode) • Max Flight Speed (at sea level, no wind): <ul style="list-style-type: none"> o 5 m/s (C mode) o 15 m/s (N mode) o 19 m/s (S mode) • Max Service Ceiling Above Sea Level: 6000 m • Max Flight Time (no wind): 46 minutes 	1.00	set

- Max Hovering Time (no wind): 40 minutes
- Max Flight Distance: 30 km
- Max Wind Speed Resistance: 12 m/s
- Max Tilt Angle:
 - o 25° (C mode)
 - o 30° (N mode)
 - o 35° (S mode)
- Max Angular Velocity: 200°/s
- Operating Temperature: -10° to 40° C (14° to 104° F)
- GNSS: GPS + Galileo + BeiDou
- Hovering Accuracy Range:
 - Vertical: ±0.1 m (with Vision Positioning); ±0.5 m (with GNSS Positioning)
 - Horizontal: ±0.3 m (with Vision Positioning); ±0.5 m (with High-Precision Positioning System)
- Internal Storage: 8 GB (available space is approx. 7.2 GB)

Hasselblad Camera

- Sensor: 4/3 CMOS, Effective pixels: 20 MP
- Lens:
 - o FOV: 84°
 - o Format Equivalent: 24 mm
 - o Aperture: f/2.8 to f/11
 - o Focus: 1 m to ∞ (with autofocus)
- ISO Range:
 - o Video: 100-6400
 - o Still Image: 100-6400
- Shutter Speed: Electronic Shutter 8-1/8000 s
- Max Image Size: Main Unit: 5280×3956
- Still Photography Modes:
 - o Single shot: 20MP

Photos

- o Automatic Exposure Bracketing (AEB): 20 MP, 3/5 bracketed frames at 0.7 EV
- o Burst shooting: 20 MP, 3/5/7
- o Timed: 20 MP, 2/3/5/7/10/15/20/30/60 S

• Video Resolution:

- o H.264/H.265
- o 5.1K: 5120×2700@ 24/25/30/48/50fps
- o DCI 4K: 4096×2160@ 24/25/30/48/50/60/120 *fps
- o 4K: 3840×2160@ 24/25/30/48/50/60/120 *fps
- o FHD: 1920×1080@ 24/25/30/48/50/60/120 */200*fps

- Max Video Bitrate: H.264/H.265 Bitrate 200 Mbps

- Supported File Formats: exFAT

- Photo Format: JPEG/DNG (RAW)

- Video Formats: MP4/MOV (MPEG-4 AVC/H.264, HEVC/H.265)

Tele Camera

- Sensor: 1/2-inch CMOS
- Shutter Speed: Electronic Shutter: 2-1/8000 s
- Lens:
 - o FOV: 15°
 - o Format Equivalent: 162mm
 - o Aperture: f/4.4
 - o Focus: 3 m to ∞
- ISO Range:
 - o Video: 100-6400

						<ul style="list-style-type: none">o Still Image: 100-6400• Max Image Size: 4000×3000• Photo Format: JPEG/DNG (RAW)• Video Formats: MP4/MOV (MPEG-4 AVC/H.264, HEVC/H.265)• Still Photography Modes:<ul style="list-style-type: none">o Single shot: 12MP Photoso Automatic Exposure Bracketing (AEB): 12 MP, 3/5 bracketed frames at 0.7 EVo Burst shooting: 12 MP, 3/5/7o Timed: 12 MP, 2/3/5/7/10/15/20/30/60 s• Video Resolution:<ul style="list-style-type: none">o H.264/H.265o 4K: 3840×2160@25/30/50 fpso FHD: 1920×1080@25/30/50 fpso Digital Zoom: 4x <p>Gimbal</p> <ul style="list-style-type: none">• Stabilization: 3-axis motorized (tilt, roll, pan)• Mechanical Range:<ul style="list-style-type: none">o Tilt: -135° to 100°o Roll: -45° to 45°o Pan: -27° to 27°• Controllable Range:<ul style="list-style-type: none">o Tilt: -90° to 35°o Pan: -5° to 5°• Max Control Speed (tilt): 100°/s• Angular Vibration Range: ±0.007° <p>Sensing</p> <ul style="list-style-type: none">• Sensing System: Omnidirectional binocular vision system, supplemented
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with an infrared sensor
at the bottom of the
aircraft

- Forward:

- o Measurement

Range: 0.5-20 m

o Detection Range: 0.5
-200 m

o Effective Sensing

Speed: Flight Speed $\leq$ 15m/s

o FOV: Horizontal 90°, Vertical 103°

- Backward:

- o Measurement

Range: 0.5-16 m

- o Effective Sensing

Speed: Flight Speed $\leq$ 12m/s

o FOV: Horizontal 90°, Vertical 103°

- Lateral:

- o Measurement

Range: 0.5-25 m

o Effective Sensing

Speed: Flight Speed $\leq$ 15m/s

o FOV: Horizontal 90°, Vertical 85°

- Upward:

- o Measurement

Range: 0.2-10 m

o Effective Sensing

Speed: Flight Speed $\leq$ 6m/s

- o FOV: Front and Back 100°, Left and Right 90°

- Downward:

- o Measurement

Range: 0.3-18 m

o Effective Sensing

Speed: Flight Speed $\leq$ 6m/s

- o FOV: Front and Back
130°, Left and Right
160°

- Operating

Environment:

o Forward, Backward,
Left, Right, and

Upward: Surface with
a clear pattern and

adequate lighting
(lux>15)
o Downward: Surface with a clear pattern and adequate lighting (lux >15). Diffuse reflective surface with diffuse reflectivity>20% (e.g. wall, tree, person)

Video Transmission
• Video Transmission System: O3+
• Live View Quality: Remote Controller 1080p@30fps/1080p@60fps
• Operation Frequency:
o 2.400-2.4835 GHz
o 5.725-5.850 GHz
• Max Transmission Distance (unobstructed, free of interference and aligned with controller):
o 2.400-2.4835 GHz; 5.725-5.850 GHz
o FCC: 15 km
o CE: 8 km
o SRRC: 8 km
o MIC: 8 km
• Signal Transmission Ranges (FCC):
o Strong Interference (urban landscape, limited line of sight, many competing signals): Approx. 1.5-3 km
o Medium Interference (suburban landscape, open line of sight, some competing signals): Approx. 3-9 km
o Low Interference (open landscape abundant line of sight, few competing signals): Approx. 9-15 km
o Data is tested under

different standards in open areas free of interference. It only refers to the maximum, one-way flight distance without considering Return to Home. Please pay attention to RTH prompts in the DJI Fly app during actual flight.

- Max Download Bitrate:
 - o O3+:
 - o 5.5MB/s (with RC-N1 remote controller)
 - o 15MB/s (with DJI RC Pro remote controller)
 - o Wi-Fi 6:
 - o 80MB/s*

- Latency (depending on environmental conditions and mobile device):
 - o 130 ms (with RC-N1 remote controller)
 - o 120 ms (with DJI RC Pro remote controller)
- Antennas: 4 antennas, 2T4R
- Transmitter Power (EIRP):
 - 2.4 GHz: ≤33 dBm (FCC); ≤20 dBm (CE/SRRC/MIC)
 - 5.8 GHz: ≤33 dBm (FCC), ≤30 dBm (SRRC), ≤14 dBm(CE)

- Battery
- Capacity: 5000 mAh
 - Voltage: 15.4 V
 - Charging Voltage Limit: 17.6 V
 - Battery Type: LiPo 4S
 - Energy: 77 Wh
 - Weight: 335.5 g
 - Charging Temperature: 5° to 40° C (41° to 104° F)

Battery Charger

- Input: 100-240 V AC, 47-63 Hz, 2.0 A
- USB-C Output: USB-C: 5.0 V□5.0 A/9.0 V□5.0 A/12.0 V□5.0 A/15.0 V□4.3 A/20.0 V□3.25 A/5.0~20.0 V□3.25 A
- USB-A output: USB-A: 5 V□2 A
- Rated Power: 65 W

Battery charging Hub

- Input: USB-C: 5-20 V□5.0 A max
- Output: Battery: 12-17.6 V□5.0 A max
- Rated Power: 65 W
- Charging Type: Charges three batteries in sequence.
- Charging Temperature Range: 5° to 40° C (41° to 104° F)

Car Charger

- Input: Car Power Input: 12.7-16 V□6.5 A, rated voltage 14 V DC
- Output:
 - o USB-C: 5.0 V□5.0 A/9.0 V□5.0 A/12.0 V□5.0 A/15.0 V□4.3A/20.0 V□3.25 A/5.0~20.0 V□3.25 A
 - o USB-A: 5 V□2 A
- Rated Power: 65 W
- Charging Time: Approx. 96 minutes
- Charging Temperature Range: 5° to 40° C (41° to 104° F)

Storage

- microSD Card: High bitrate video microSD Cards of minimum 256 GB
- SSD Specs: 8 GB

(available space is approx. 7.2 GB)

Remote Controller

- Remote Controller

Transmission System:

- Max Supported Mobile Device Size: 180×86×10 mm (Length×Width×Height)

- Operating Temperature: 0° to 40° C (32° to 104° F)

- Transmitter Power (EIRP):
 - o 2.4 GHz:
 - o ≤26 dBm (FCC), ≤20 dBm (CE/SRRC/MIC)
 - o 5.8 GHz:
 - o ≤26 dBm (FCC/SRRC), ≤14 dBm (CE)

- Battery Life:
 - o Without charging any mobile device: 6 hr;
 - o when charging mobile device: 4 hr

- Supported USB Port Types: Lightning, Micro USB, USB-C

Remote Controller and Remote Controller Control Sticks

Batteries included x3

Battery charger hub

Low-Noise propellers (pair) x6

Portable charger

Storage cover

ND filter set

Carrying bag

cables: RC USB type-C connector, RC Micro-USB connector, RC lightning connector

Carrying Bag

- Original manufacturer

2 • Training

Training course in-vivo in Kotor

1.00 Days

3 • warranty for the whole

Minimum warranty for

1.00 Years

				set	the whole set		
5	Upgrade postojećeg sistema za kontrolu kvaliteta vazduha za potrebe Univerziteta Crne Gore (Crna Gora/ UPGRADE OF KUNAK AIR QUALITY MONITORING SYSTEM	20000.00	1	NO2 sensor	KUNAK base station applicable NO2 sensor with next minimum requirements: <ul style="list-style-type: none"> • Sensor type: Electrochemical • Unit: µg/m3, ppb • Resolution: 1 µg/m³ or better • Operating life: min. 24 months • RH range: min. 15 - 85 % RH • Temperature range: min. -30 to 40°C • Measurement range: 0 – 5000 ppb or better • Limit of detection: max.2 ppb • Accuracy:± 5 ppb or better Warranty: min 2 years	4.00	pcs
			2	CO sensor	KUNAK base station applicable CO sensor with next minimum requirements: <ul style="list-style-type: none"> • Sensor type: Electrochemical • Unit: µg/m3, ppb • Resolution: 0,1 ppm or better • Operating life: min. 24 months • RH range: min. 15 - 90 % RH • Temperature range: min. -30 to 50°C • Measurement range: 0 – 500 ppm or better • Limit of detection: max.10 ppb • Accuracy:± 0.08 ppm or better Warranty: min 2 years	4.00	pcs

5	Upgrade postojećeg sistema za kontrolu kvaliteta vazduha za potrebe Univerziteta Crne Gore (Crna Gora/ UPGRADE OF KUNAK AIR QUALITY MONITORING SYSTEM	20000.00	3	O3 sensor	KUNAK base station applicable O3 sensor with next minimum requirements: • Sensor type: Electrochemical • Unit: µg/m3, ppb • Resolution: 1 µg/m³ or better • Operating life: min. 24 months • RH range: min. 15 - 85 % RH or better • Temperature range: - 30 to 40°C or better • Measurement range: 0 – 2000 ppb or better • Limit of detection: 2 ppb or better • Accuracy: ± 8 ppb or better • Warranty: min 2 years	4.00	pcs
			4	SO2 sensor	KUNAK base station applicable SO2 sensor with next minimum requirements: • Sensor type: Electrochemical • Unit: µg/m3, ppb • Resolution: 1 µg/m³ or better • Operating life: min. 24 months • RH range: min. 15 - 90 % RH or better • Temperature range: - 30 to 40°C or better • Measurement range: 0 – 10000 ppb or better • Limit of detection: 5 ppb or better • Accuracy: ± 15 ppb or better Warranty: min 2 years	4.00	pcs

	5 Upgrade postojećeg sistema za kontrolu kvaliteta vazduha za potrebe Univerziteta Crne Gore (Crna Gora/ UPGRADE OF KUNAK AIR QUALITY MONITORING SYSTEM	20000.00	5	Rain gauge	<p>KUNAK base station applicable Rain gauge with next minimum requirements</p> <ul style="list-style-type: none"> • Accuracy ± 0.2 mm • Resolution 0.2 mm • Measuring range 0°C to 60°C • Operating range -40°C to 60°C • Orifice area Ø200 cm2 <p>Warranty: min 2 years</p>	1.00	pcs
			6	Software	<ul style="list-style-type: none"> • KUNAK applicable software • Diagnostics: Overview network health, check logs and diagnostics automatically 24/7. Automatic pre-validation tool. • Visualization: Dashboards, maps, multidevice charts, tables, statistics and CSV, AQI calculations. • Operation: Change configurations remotely, set thresholds, confirm warnings & operation alarms (sensor malfunctions, station problems...) and consult the online suggestions to solve the detected issues. • Locations: Manage map positions with the different devices that have passed through that location. • Calibration: Calibrate gas baseline and span and adjust particle sensors. • CMMS: Register any maintenance work, 	4.00	set

					upload picture and documents, access to the configuration history, activity journal, etc... • Validation: Tag your data for you and your clients. • Analysis: Open-air suite with trends, calendar plots, pollution roses and more (Open Air tool). • Reporting: Create customized reports and export or share them with your clients online. • Network and device status monitoring. • Cloud usage. • Incident management and customer notification and Quarterly baseline and span adjustment without reference. Valid for existing 4 KUNAK base stations and for 2 years		
			7	Care pack & technical consultancy	Online remote assistance, consultancy, support and resolution of doubts and questions	5.00	hours
			8	Training online course	• Online training in the use of the Kunak Cloud platform and hardware. • Use of advanced analysis graphics, calibration tool, validation tool and report generation tool. Operation of the device and complements.	2.00	hours
			9	Authorisation	Authorisation from manufactureur needed	1.00	pcs

	6	Nabavka stručne literature u elektronskoj formi (e-books) za potrebe Univerziteta Crne Gore (Crna Gora), / PROCUREMENT OF ELECTRONIC BOOKS	4000.00	1	Ebooks	E-book title Editor/Author Year Publisher ISBN e-book Beach Management: Principles and Practice Allan Williams, Anton Micallef 2011 Taylor& Francis 9781849770033 Bioremediation: Green Approaches for a Clean and Sustainable Environment Ram Naresh Bharagava, Sandhya Mishra, Ganesh Dattatraya Saratale, Rijuta Ganesh Saratale, Luiz Fernando Romanholo Ferreira 2022 Taylor& Francis 9781003181224 Climate Change and the Coast: Building Resilient Communities Bruce Glavovic, Mick Kelly, Robert Kay, Ailbhe Travers 2019 Taylor& Francis 9780429182884 Coastal and Deep Ocean Pollution Andres Hugo Arias, Sandra Elizabeth Botte 2020 Taylor& Francis 9780203704271 Environmental Problems in Marine Biology: Methodological Aspects and Applications Tamara Garcia Barrera, Jose Luis Gomez Ariza 2017 Taylor& Francis 9781315119113 Global Blue Economy: Analysis, Developments, and	1.00	SET
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					Challenges Md. Nazrul Islam, Steven M. Bartell 2022 Taylor& Francis 9781003184287 Global Change in Marine Systems: Societal and Governing Responses Patrice Guillotreau, Alida Bundy, R. Ian Perry 2019 Taylor& Francis 9781315163765 Higher Education Research Methodology: A Step-by-Step Guide to the Research Process Ben Kei Daniel, Tony Harland 2017 Taylor& Francis 9781315149783 Managing Start-ups for Success: Entrepreneurship in Difficult Times Rajat Kanti Baisya 2021 Taylor& Francis 9781003002574 Marine and Coastal Resource Management: Principles and Practice David R. Green, Jeffrey L. Payne 2017 Taylor& Francis 9780203127087 Marine biodiversity conservation: A practical approach Keith Hiscock 2014 Taylor& Francis 9781315857640 Marine Biology: A Functional Approach to the Oceans and their Organisms Jerónimo Pan, Paula D. Pratolongo 2022	
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Taylor & Francis
9780429399244
Marine Microbial
Bioremediation Anjana
K Vala, Dushyant R
Dudhagara, Bharti P
Dave 2021 Taylor &
Francis
9781003001072
Marine Policy: An
Introduction to
Governance and
International Law of
the Oceans Mark
Zacharias, Jeff Ardron
2020 Taylor &
Francis
9781351216227
Marine Pollution and
Climate Change
Andres Hugo Arias,
Jorge Eduardo
Marcovecchio 2017
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Francis
9781315119243
Marine Pollution
Control: Legal and
Managerial
Frameworks Iliana
Christodoulou-Varotsi
2020 Taylor &
Francis
9781315709925
Offshore Operations
and Engineering
Shashi Shekhar
Prasad Singh, Jatin
Agarwal, Nag Mani
2020 Taylor &
Francis
9780429354533
Routledge Handbook
of Ocean Resources
and Management
Hance D. Smith, Juan
Luis Suárez de Vivero,
Tundi S. Agardy 2016
Taylor &
Francis
9780203115398

					To be latest editions. To be with permanent access and for multiple users.		
7	Nabavka opreme za distance learning za potrebe Univerziteta u Valoni „Ismail Ćemali“ (Albanija) / PROCUREMENT OF DISTANCE LEARNING EQUIPMENT	31000.00	1	DISTANCE LEARNING EQUIPMENT A mobile set of equipment for hybrid implementation and capture of the pedagogical process in lecture halls and laboratories Network switch	Next minimum requirements: Networking Interfaces: 24x 10/100/1000 RJ45 Port, 2x 1/10G SFP+ Ethernet Ports Total Non-Blocking Throughput: 44 Gbps Switching Capacity: 88 Gbps Forwarding Rate: 65.472 Mpps Power Method: Universal 100-240VAC/50-60 Hz and DC Input Power Supply: Internal AC Max. Power Consumption (Excluding PoE Output): 50W LEDs: System, RJ45 Data Ports, SFP+ Data Ports Status: PoE; Speed/Link/Activity ESD/EMP Protection Air: ± 16 kV, Contact: ± 12 kV Shock and Vibration ETSI300-019-1.4 Standard Operating Temperature: -5 to 40° C (23 to 104° F) Operating Humidity: 10 to 90% Noncondensing Certifications: CE, FCC, IC Total Available PoE: 400W PoE Interfaces all ports: PoE/PoE+ at least 8 ports: 60W PoE++ Max. PoE Wattage per	1.00	pcs

Port by PSE
PoE+: 32W
PoE++: 64W

Compatible product
with access point from
this segment of tender
is required

2 Access point

Next minimum
requirements:
Weatherproofing: IP54
Management
interfaces: Ethernet,
Bluetooth
Networking interface:
1x GbE RJ45 port,
Button, Factory reset
LED: White/Blue
Power method: PoE+,
passive PoE (48V)
Max. power
consumption: 16.5W
Max. TX power
2.4 GHz: 26 dBm
5 GHz: 26 dBm
MIMO
2.4 GHz: 4 x 4
5 GHz: 4 x 4
Throughput rate
2.4 GHz: 600 Mbps
5 GHz: 2400 Mbps
Antenna gain
2.4 GHz: 4 dBi
5 GHz: 5.5 dBi
Mounting: Wall/ceiling
(included)
Operating
temperature: -30 to 60°
C (-22 to 140° F)
Operating humidity: 5 -
95% noncondensing
Certifications: CE,
FCC, IC
WiFi standards:
802.11a/b/g/WiFi
4/WiFi 5/WiFi 6
Wireless security:
WPA-PSK, WPA-
Enterprise
(WPA/WPA2/WPA3)
BSSID: 8 per radio
VLAN: 802.1Q

1.00 pcs

Advanced QoS
Per-user rate limiting
Guest traffic isolation
Supported Concurrent
clients : 300
Supported Data Rates
802.11a: 6, 9, 12, 18,
24, 36, 48, 54 Mbps
802.11b: 1, 2, 5.5, 11
Mbps
802.11g: 6, 9, 12, 18,
24, 36, 48, 54 Mbps
802.11n (WiFi 4): 6.5
Mbps to 600 Mbps
(MCS0 - MCS31, HT
20/40)
802.11ac (WiFi 5): 6.5
Mbps to 1.7 Gbps
(MCS0 - MCS9
NSS1/2/3/4, VHT
20/40/80/160)
802.11ax (WiFi 6): 7.3
Mbps to 2.4 Gbps
(MCS0 - MCS11
NSS1/2/3/4, HE
20/40/80/160)

Compatible product
with network switch
from this segment of
tender is required

3 Wireless mouse and
keyboard

Next minimum
requirements:
Keyboard
Weight (with batteries):
498 g
Silent buttons
technology
Adjustable keyboard
height
Spill-resistant design
Caps lock indicator
light
On/Off power switch
2 AAA
batteries (Alkaline
Battery)

Mouse
Weight (with batteries):
75.2 g
Silent buttons

1.00 kit

		<p>technology</p> <p>On/off power button</p> <p>1 AA batteries (Alkaline Battery)</p> <p>Compact shape</p> <p>Signal frequency: 2.4Ghz</p> <p>Signal range (in meters): 10 m</p> <p>Small USB receiver</p>		
	4 PTZ camera	<p>Next minimum requirements:</p> <p>Image Sensor: 1/2.8"</p> <p>4K Exmor CMOS</p> <p>Output Resolutions: 4K/30, 4K/29.97, 4K/25, 1080p/60, 1080p/59.94, 1080p/50, 1080p/30,1080p/29.97, 1080p/25, 1080i/60, 1080i/59.94, 1080i/50, 720p/60, 720p/59.94, 720p/50</p> <p>Effective Picture Elements: 8 Megapixels</p> <p>S/N Ratio: ≥ 50dB</p> <p>Exposure Control: Auto, Manual, Priority AE (Shutter, IRIS), BLC, WDR</p> <p>Optical Zoom: 21X</p> <p>Digital Zoom: 12X</p> <p>Total Zoom: 252X</p> <p>Viewing Angles: DFOV: 66.4° (Wide) to 3.3° (Tele)</p> <p>HFOV: 52.26° (Wide) to 2.66° (Tele)</p> <p>VFOV: 41.26° (Wide) to 2° (Tele)</p> <p>Focal Length: f = 5.3 mm (Wide) to 110 mm (Tele)</p> <p>Aperture (Iris): F = 1.6 (Wide) to 3.8 (Tele)</p> <p>Minimum Working Distance: 1.5 m (Wide), 1.5m (Tele)</p> <p>Pan / Tilt Angles:</p>	1.00	pcs

Pan: ±170° ,
Tilt: +90° / -30°
Pan / Tilt Speed
(Manual):
Pan: 0.1° to 100° /sec,
Tilt: 0.1° to 100° /sec
Preset Speed:
Pan: 200° /sec,
Tilt: 200° /sec
Preset Positions: 10
(IR), 255 (RS-232,
RS-422, IP)
Camera Control –
Interfaces: RS-232
(DIN8), RS-422
(RJ45), IP
Camera Control –
Protocols: VISCA
(RS-232 / RS-422 /
IP), PELCO-D &
PELCO-P (RS-232 /
RS-422), CGI (IP)
Image Processing:
Noise Reduction (2D /
3D), Flip, Mirror
Power Frequencies:
50Hz, 60Hz
Tracking Modes:
Presenter Mode, Zone
Mode, Hybrid Mode
Protection Mode:
Sleep Mode
Audio Channels: 2ch
Stereo
Audio Codecs: AAC-
LC, PCM
Video Outputs: 3G-
SDI, HDMI, IP, USB
Audio Outputs: 3G-
SDI, HDMI, IP, USB
Audio Inputs: MIC in,
Line in
Power Requirement:
AC 100 - 240V to DC
12V/5A
Power Consumption:
19W
PoE: PoE+
Dimensions (W x H x
D): 180.0 x 192.0 x
145.0 mm
Net Weight: 2.0 (±0.1)
kg

Security: Kensington Slot
Operating Conditions:
Temperature: 0°C to +40°C
Humidity: 20% to 80%
Storage Conditions:
Temperature: -20°C to +60°C ;
Humidity: 20% to 95%
IP Streaming:
Resolution: 4K 30fps
Maximum Frame Rate: 4K 30fps
Network Protocols:
IPv6, IPv4, TCP, UDP, ARP, ICMP, IGMP, HTTP, DHCP, RTP / RTCP, RTSP, RTMP, VISCA over IP
NDI®HX Capability: Yes
Connector: USB 3.0
USB Audio Class: UAC 1.0
USB Video Class: UVC 1.1
Web UI Live Video Preview: Yes
Web UI Camera PTZ Control: Pan, Tilt, Zoom, Focus, Preset Control
Web UI Camera / Image Adjustment: Exposure, White Balance, Picture
Web UI Network Configuration: DHCP, IP Address, Gateway, Subnet Mask, DNS
Warranty: 3 Years
Package Contents: Camera, Drilling Paper, Ceiling Mount Bracket (x2) Quick Start Guide, Cable Fixing Plate, M2 x 4 mm Screw (x3), Power Adapter & Power Cord, 1/4"-20 L=6.5 mm Screw (x2), Remote Control, M3 x 6 mm

Screw (x3), DIN 8 to D-Sub 9 Cable, RS-232 In/Out Y Cable, Cable Ties (x4) API- available for USB/IP programming

5 Interactive display with built-in computer

Next minimum requirements:
Diagonal size: 86"
Resolution: 3840 x 2160
Response time: 5 ms
Brightness: 420 cd/m2
Static contrast ratio: 4500:1
Glass hardness: AG Tempered Glass - Mohs Level 7
Glass type: Low parallax - max 1mm air gap between panel and glass
Lifespan: 50.000 hours
Touch technology: IR Simultaneous touch points: 20
Touch response time: 5 ms
Tracking Rate: 6 m/s
Touch Accuracy: 1.5mm
Windows Ink trigger with pens: Yes
Passive Pens included: 2
Writing with 2 different colors simultaneously: Yes
Palm Rejection: Yes
Classroom Essential Apps: Whiteboard, Annotate, Timer, Media Players, Browser, PDF Reader, Screen Record, Spinner, Voting, Math Tools
OPS slot: Intel® spec 80Pin
OPC PC: Intel i7-10510U, 16GB RAM, 250GB SSD, Windows

1.00 pcs

10 Pro licence
HDMI IN: 3
HDMI Out: 1
USB-A 2.0: 1
USB-B for Touch: 2
USB-A 3.0: 4
USB-C front mounted
with support for Audio,
Video, Touch and
Ethernet: 1
USB-C side mounted
with support for Audio,
Video, Touch and
Power Charge 65W: 1
LAN In (RJ45): 1
LAN Out (RJ45): 1
WiFi: IEEE
802.11a/b/g/n/ac with
2 × 2 MIMO (hotspot
only) 2.4 and 5 GHz
bands
Bluetooth: 5.0
Built In computer:
Android 11, 6GB RAM,
64GB storage, 4K
resolution
Built in 2.1 speakers: 2
x 15W + 15W
subwoofer
Built In Line Array
Microphones with 8m
pickup range: Yes
Embedded digital
signage system with
cloud management:
Yes, 2GB Free cloud
space included
MDM remote
management from
cloud: Yes - 5 year
licence
Mirroring Any Device
To The Board: Built in
AirServer with support
for Miracast, Airplay
and Chromecast.
Enclosed 1 USB-C
button dongle for wifi
direct mirroring from
Windows, iOS/macOS
and Android devices.
Warranty: 5 year
Authorisation needed.

Clevertouch Impact
Plus 2 86" 4K or
equivalent
Next minimum
requirements:
Diagonal size: 86"
Resolution: 3840 x
2160
Response time: 5 ms
Brightness: 420 cd/m2
Static contrast ratio:
4500:1
Glass hardness: AG
Tempered Glass -
Mohs Level 7
Glass type: Low
parallax - max 1mm air
gap between panel
and glass
Lifespan: 50.000 hours
Touch technology: IR
Simultaneous touch
points: 20
Touch response time:
5 ms
Tracking Rate: 6 m/s
Touch Accuracy:
1.5mm
Windows Ink trigger
with pens: Yes
Passive Pens
included: 2
Writing with 2 different
colors simultaneously:
Yes
Palm Rejection: Yes
Classroom Essential
Apps: Whiteboard,
Annotate, Timer,
Media Players,
Browser, PDF Reader,
Screen Record,
Spinner, Voting, Math
Tools
OPS slot: Intel® spec
80Pin
OPC PC: Intel i7-
10510U, 16GB RAM,
250GB SSD, Windows
10 Pro licence
HDMI IN: 3
HDMI Out: 1

USB-A 2.0: 1
USB-B for Touch: 2
USB-A 3.0: 4
USB-C front mounted with support for Audio, Video, Touch and Ethernet: 1
USB-C side mounted with support for Audio, Video, Touch and Power Charge 65W: 1
LAN In (RJ45): 1
LAN Out (RJ45): 1
WiFi: IEEE 802.11a/b/g/n/ac with 2 × 2 MIMO (hotspot only) 2.4 and 5 GHz bands
Bluetooth: 5.0
Built In computer: Android 11, 6GB RAM, 64GB storage, 4K resolution
Built in 2.1 speakers: 2 x 15W + 15W subwoofer
Built In Line Array Microphones with 8m pickup range: Yes
Embeded digital signage system with cloud management: Yes, 2GB Free cloud space included
MDM remote management from cloud: Yes - 5 year licence
Mirroring Any Device To The Board: Built in AirServer with support for Miracast, Airplay and Chromecast.
Enclosed 1 USB-C button dongle for wifi direct mirroring from Windows, iOS/macOS and Android devices.
Warranty: 5 year
Authorisation needed.

6 Interactive display motorized stand

Next minimum requirements:
Black colour frame

1.00 pcs

		<p>VESA 800x600 Maximum Width 117,8 cm, Depth 77,7 cm Anti-collision - When the screen touches something during a movement, the movement stops and the lift goes back a bit in the opposite direction. Minimum Height: 91,2 cm Maximum Height: 156,2 cm Stroke 650 mm, speed up to 38 mm/s Maximum load: 120 kg Screen position: Landscape, Portrait Max. 86 inch Screen</p>		
7	Presentation remote	<p>Next minimum requirements: Presentation remote Weight (with batteries): 49,2 g Motion sensor 3D accelerometer and Gyroscope Battery: Rechargeable Lithium Polymer, 85 mAh Battery Life (rechargeable): 3 months, (May vary based on usage) Receiver Charging cable Length: 140 mm</p> <p>Connection Type: Bluetooth Low Energy and 2.4 GHz wireless connection Wireless range: 30 m (May vary based on environmental and computing conditions) LED Indicator Lights: Battery and Connectivity</p>	1.00	pcs
8	HDMI-USB encoder	Next minimum	1.00	pcs

requirements:
Convert Ultra HD to
USB 3.0 with an HDMI
loop and external
power for BYOM
applications
HDMI capture to USB
3.0
Compatible with USB
2.0 (high-quality
MJPEG)
HDMI loop output
Up to Ultra HD 4K
(3840/4096x2160) at
30 fps and 1080p at 60
fps
HDMI audio support
Analogue audio I/O
Internal frame buffers
maximize frame rates
Hardware-based color
space and sampling
conversion
Automatic scaling and
frame rate conversion
(UHD up-scaling not
supported)
Image controls:
Brightness, contrast,
saturation, and hue
settings
Supports multiple
devices on the same
PC
Compatible with
Windows, Mac OSX,
Linux and Android
Powered from external
adapter or USB
A USB cable is
included
No driver required

9 Tie microphone, pocket
microphone transmitter,
microphone receiver

Next minimum
requirements:
Compatible kit
consisting of 1 wireless
bodypack transmitter,
1 lavalier microphone,
1 rackmount receiver
and 1 rack mountable
kit
Integrated RJ45

1.00

kit

		<p>network port allows control, monitoring and setup</p> <p>Up to 88 MHz bandwidth, up to 32 channels</p> <p>Increased RF output power (10/30/50 mW)</p> <p>Transmission Range: up to 100 meters</p> <p>Remote control switch available for the bodypack transmitter</p> <p>Compatible and interchangeable parts with other microphone kits required in this tender</p>		
10	Handheld microphone with transmitter, microphone receiver	<p>Next minimum requirements:</p> <p>Compatible kit consisting of 1 handheld microphone with mute switch, 1 microphone capsule (supercardioid, condenser), 1 rackmount receiver, 1 rack mountable kit and 1 mic clip</p> <p>Integrated RJ45 network port allows control, monitoring and setup</p> <p>Up to 88 MHz bandwidth, up to 32 channels</p> <p>Increased RF output power (10/30/50 mW)</p> <p>Transmission Range: up to 100 meters</p> <p>Remote control switch available for the bodypack transmitter</p> <p>Compatible and interchangeable parts with other microphone kits required in this tender</p>	1.00	kit
11	Headphones for computer	<p>Next minimum requirements:</p> <p>Circumaural Closed-</p>	1.00	pcs

Back Monitor
Headphones
Collapsible design with
swiveling earcups
Rejection of outside
noise is high, rated up
to -32 dB Neodymium
magnets
Padded leatherette
earcups and
adjustable padded
headband
Frequency response: 8
- 25000 Hz
Jack plug: 3,5 / 6,3
mm stereo
Cable length: Coiled
Cable (min. 1.3m /
max. 3m)
Weight w/o cable: 285
g

12 Camera tripod

Next minimum
requirements:
Video tripod kit with
fluid video head and
carrying bag
Side pull selector
ensures quick setup
with both hands
Fluid head with spirit
level and quick release
plate
Pan and tilt locking
knobs allow for single
axis movement
Twist leg locking
system, enabled by
simply turning each
knob 90°
Pan bar included for
fluid movement; can
be removed
Weight: 1.64 kg
Top Attachment: 1/4"
screw, 3/8" screw
Ball Flat: Ball
Safety Payload
Weight: 4 kg
Base Diameter: 40 mm
Bubble Spirit Level
(No.): 1
Carrying Bag Included:

1.00 kit

		Yes Center Column: rapid Closed Length: 40 cm Colour: black/silver Easy Link: Yes Front Tilt: -90°/+65° Head Type: Video/Fluid Head Leg Type: Single Leg Angles: 22°, 54°, 89° Leg Lock Type: Twist Lock Leg Sections: 4 Legs Tube Diameter: 12, 15.5, 19, 22.5 mm Material: Aluminium Maximum Height: 150 cm Maximum Height (With Center Column Down): 129 cm Maximum Working Temperature: 60 °C Min Height: 40 cm Minimum Working Temperature: -30 °C Pan Bar Included: Yes Pan Drag: fluid cartridge with fixed drag Panoramic Rotation: 360 ° Plate Type: 501PL Quick Release: Yes Tilt Drag: fluid cartridge with fixed drag Upper Disc Diameter: 40 mm		
	13	Projection screen	Next minimum requirements: Control: Electric Aspect ratio: 16:10 External dimensions (W x H): exactly 300 x 191 cm Viewing area (W x H): exactly 290 x 181 cm Weight: 24.0 kg	1.00 pcs
	14	Projector	Next minimum requirements:	1.00 pcs

Native resolution:
1920x1080 or higher
Native refresh rate:
50Hz or higher
Light source: laser
Light output: 5000lm or better
Time until light output declines to 50%:
20000 hours or longer
Max screen size: at least 5 metres
AV input connections: at least 2x HDMI and DIGITAL LINK (video/network/serial control, HDBaseT compliant)
AV output connections: audio out (3,5mm stereo jack)
Installation options: ceiling/floor, front/rear
Possibility to control projector via IP (should use wired ethernet connection), availability of API document for IP projector control
Keystone correction: +/-25% or more (vertical and horizontal)
Optical axis shift: at least +/-20% (horizontal) and +40% (vertical)

15 Projector mount

Next minimum requirements:
Type: Projector ceiling mount
Colour: Silver
TÜV certified: Yes
Min. distance to ceiling: 550mm
Max. distance to ceiling: 850mm
Turn: Up to 360°
Tilt: Up to 15°
Roll: 15°
Max. weight load: 30kg
Range (diameter):

1.00 pcs

		30mm - 410mm Height range: 550mm - 850mm		
16	Warranty	Warranty for whole set minimum 1 year.	1.00	year
17	A mobile set of equipment for capture of the pedagogical process on the field: camera	Next minimum requirements: Compact live streaming 4K camcorder with SDI output Dual codec advanced streaming technology Tele-macro mode for better focus on close objects Lower-third and full-screen titling graphic solutions 4:2:2 4K Video at 24/30p Real-Time Broadcast Info Overlay LAN Configuration with 1 button 3G-SDI & HDMI Out, Live HDMI UHD 4K Out 12x Optical Zoom Lens 2-Channel XLR Audio Inputs 4K Ultra HD recording (150 Mbps, 24/30p) to SDXC (UHS-I Speed class3) card Single 1/2.3-inch CMOS image sensor with 12.4 million pixels (9.03 active) Integrated 12x F1.2-3.5 zoom lens (35mm equivalent: 29.5-354mm) Dynamic zoom in HD mode combines optical zoom and pixel mapping to create seamless and lossless 24x zoom Broadcast features Customizable graphic overlays (on/off	1.00	pcs

				switchable) Option for custom broadcaster logos, watermark, time and temperature Selectable pre-loaded logos Wired remote control supported HD-SDI (3G) and HDMI outputs (4K output via HDMI only) Live 4K UHD output via HDMI connector Streaming engine compatible with Wowza Streaming Engine IP network remote control, remote viewing, metadata editing, FTP clips uploading 4:2:2 full HD recording at 50Mbps (24-60p) 120fps HD slow motion recording Dual SDHC/SDXC slots enable dual, backup and continuous recording 9 user button assignable functions 2 position ND filter (1/4, 1/16) 0.24-inch colour viewfinder (1.56M pixel) with smart focus assist function 3.5-inch colour LCD display (920K pixel) with smart focus assist function Built-in stereo microphone Includes handle unit, battery and AC Adapter		
	18	Charger and additional batteries for camera	Next minimum requirements: Compatible kit consisting of one	1.00	kit	

charger of two
batteries.

Charger:

Automatic safety and
protection features
include low voltage
charging, thermal
monitoring and
overcharge protection
Status LED indicator
provides detailed
display of charging
process and fault
detection

Charging will
automatically stop
when the battery is
fully charged

Capable of multiple
configurations for use
as stand alone charger
or joint connection to a
second one

Universal AC input for
worldwide use.

Charger Input Voltage:
AC Adapter 100-240V
60/50Hz

Charger Input Voltage

2: DC Input DC 14-19V

Charger Power

Consumption: 36W

Charger Charge

Current: 1.6A

Charger Indications:

Yes, LED for Charging
process and fault
detection

Battery:

Capacity: 7350mAh,
55Wh

Battery Protection:

Over charge, Over
discharge, Over
current

Separate DC output

Compatible parts with
camera from this
segment of tender are
required, also

compatible cables for direct connection to mentioned devices should be included

19 Tripod for camera

Next minimum requirements:
Video tripod kit with fluid video head and carrying bag
Twin legs and middle spreader
Fluid Drag System on pan and tilt movements
Counterbalance system on tilt movement
Sliding plate for camera connection and set up
Leveling bubble for setup
Weight: 3100 g
Material: Aluminum
Safety Payload
Weight: 5 kg
Min Height: 67.5 cm
Maximum Height: 154 cm
Head Type:
Video/Fluid Head
Leg Sections: 3
Legs Tube Diameter: 15.2, 18.5, 21.7 mm
Quick Release: Yes
Counterbalanced
Weight: 2.4 kg
Center of gravity: 55 mm
Spreader: mid level - fixed arm length
Closed Length: 72 cm
Ball Flat: 60 Ball
Top Attachment: 1/4" screw, 3/8" screw
Powered by (batteries): 0
Bubble Spirit Level (No.): 1
Center Column: no center column
Color: Black

1.00 pcs

		Front Tilt: -70° / +90° Leg Type: Twin Leg Angles: 19° Leg Lock Type: Flip Lock Maximum Working Temperature: 60 C Minimum Working Temperature: -20 C Pan Bar Included: Yes Pan Drag: fluid cartridge with fixed drag Panoramic Rotation: 360 Tilt Drag: fluid cartridge with fixed drag Compatible product with camera, additional batteries, wireless receiver for tie microphone, microphone for camera from this segment of tender are required		
	20	SD card for camera	Next minimum requirements: Capacity: 128 GB Read Speed: up to 170 MB/s Write Speed: up to 90 MB/s Video Speed: C10, U3, V30 Form Factor: SDXC Compatible parts with camera from this segment of tender are required	2.00 pcs
	21	Tie microphone with wireless transmitter and receiver	Next minimum requirements: Compatible kit consisting of 1 wireless bodypack transmitter, 1 lavalier microphone, 1 wireless on-camera receiver Up to 88 MHz bandwidth, up to 32 channels Increased RF output	1.00 kit

		power (10/30/50 mW) Transmission Range: up to 100 meters Remote control switch available for the bodypack transmitter Up to 8 hours of operation time Batteries for transmitter and receiver are included Compatible parts with camera and headphones from this segment of tender are required, also compatible cables and mounts for direct connection and installation to mentioned devices should be included		
	22	Microphone for camera	Next minimum requirements: XLR Output Connection 48V Phantom Power Includes Foam Windscreen Compatible product with camera from this segment of tender is required, also compatible cables and mounts for direct connection and installation to mentioned devices should be included	1.00 pcs
	23	Headphones for camera	Next minimum requirements: Circumaural Closed- Back Monitor Headphones Collapsible design with swiveling earcups Rejection of outside noise is high, rated up to -32 dB Neodymium magnets Padded leatherette earcups and	1.00 pcs

adjustable padded headband
Frequency response: 8 - 25000 Hz
Jack plug: 3,5 / 6,3 mm stereo
Cable length: Coiled Cable (min. 1.3m / max. 3m)
Weight w/o cable: 285 g
Compatible product with camera and tie microphone with wireless transmitter and receiver from this segment of tender is required, also compatible cables for direct connection to mentioned devices should be included

24 Triple lightning kit with tripods and bag

Next minimum requirements:
On or off camera LED lighting fixture
Location/studio lighting kit with 3 lights on compact stands and with carrying case and 22 filters (including diffusion, skin tone, magenta and colour FX)
Hot-shoe mount adapters
360° ball head swivels
Power supplies
Impact-resistant carrying case
Each light with:
Continuous Light and Flash Modes
Built-In HSS flash sync reciever
CRI at least 96 and TLCI at least 91
Color Temperature: 3150 to 6300K
Continuous Light Output: 2000 Lux at 90cm

1.00 kit

		Flash Output: f/8 at ISO 200 at 90cm Runs on AA Batteries, D-Tap or AC Three 1/4"-20 Threads; Camera Shoe Mount Filter Pack and Holder; Belt Pouch		
	25	Bag for equipment	Next minimum requirements: Handheld, soft carry bag with protection for equipment on the field Compatible product with camera, charger and additional batteries for camera, tie microphone with wireless transmitter and receiver, microphone for camera and headphones for camera from this segment of tender is required (enough place to fit all of them at once inside)	1.00 pcs
	26	Warranty	Warranty for whole set	1.00 year
	27	A mobile set of equipment for hybrid implementation of the pedagogical process in the pedagogues' offices Camera and speakerphone kit	Next minimum requirements: Camera: Use low-light 2Mega pixel sensor for imaging in low-light conditions. Wide field of view (DFOV) 84.5° Focal lens of 3.9mm (wide) ~ 47.3mm (tele) Lens F1.8 (wide)~2.8 (tele) Smart Frame for automatic FOV adjustment to fit all participants. True WDR up to 120 dB (Superb backlight compensation technology for optimizing light balance in high-contrast conditions.)	1.00 KIT

18X total zoom (12X optical zoom)
Pan: ±170°. Tilt: +90° (up) -30° (down)
Image Mirror, Flip, AE, white balance (auto, manual override via PC based app)
Minimum focus distance is 1.5m.
10 camera presets (through remote control)
Standard tripod screw holes and Kensington slot.

Speakerphone:
Full duplex microphone array with echo cancellation.
Advanced noise suppression.
Dual-microphone array.
3.5mm phone-in jack.
3.5mm line out.
Speaker volume adjustment: Adjustable to 90 dB SPL at 0.5 m.
Touch control for volume down/up, mute, phone input, call and hang-up.
Support to bridge phone-in and USB connection into one call.
Includes Kensington slot.

Video:
Video compression format of H.264, YUV, YUY2, MJPEG, NV12.
Network video compression format of H.264.
Support the below resolution: (16:9) 1920 x 1080, 1600 x 900, 1280 x 720, 960 x 540, 848 x480, 800 x 448,

640 x 360, 424 x 240, 320 x 180; (4:3) 800 x 600, 640 x 480, 480 x 360, 320 x 240 at 60, 30, 15fps
IP streaming resolution (Not for USB video stream): 1080p, 720p, 480p and 360p.
Support bit rate: 512Kbps, 1Mbps, 2Mbps, 4Mbps, 8Mbps, 16Mbps and 32Mbps.

Audio:
AAC-LC
Echo cancellation.

Network:
Support the network protocol: RTSP, RTMP
Support 10/100/1000 Mbps. (LAN, RJ45 interface)
Support VISCA over IP.
Support remote management via PC based software.
Support real-time streaming via PC based software.
Support DHCP / Static IP address setting.
Support NTP Server.

Security:
Support password protection.
Support SSL certificate import.

General:
Support IR remote control.
Support 3rd party integration: VISCA, Pelco-P, Pelco-D via RS232 (128 preset points via VISCA command)
Support VISCA over

					<p>IP. Support standard UVC/UAC plug-and-play. Support Web UI management. Support basic camera settings adjustment via AVer PTZApp. Support camera wall-mount method.</p> <p>Warranty: For whole set minimum 1 year.</p>		
8	Nabavka opreme za podršku distance learning-a za potrebe Univerziteta u Valoni „Ismail Ćemali“ (Albanija) / procurement of DISTANCE LEARNING SUPPORTING EQUIPMENT	6500.00	1	DISTANCE LEARNING SUPPORTING EQUIPMENT Notebook #1	<p>Notebook with next minimum requirements: Processor: Intel i5-1245U or equivalent , up to 4.4 GHz,12 MB cache, 10 cores, 12 threads with Vpro Chipset Intel PCH-LP or equivalent Memory: 8GB DDR4 3200 MHz, Two SODIMM slots Internal storage: 256 GB SSD NVME Wireless 6, Bluetooth 5.2 Display:14” diagonal FHD, WVA, anti glare high brightness 250 nita Graphic: integrated Camera: FHD RGB camera with privacy shutter Ports: 1 x RJ45, 1 x USB 3.2 gen 1, 1 x USB 3.2 gen 1 with powershare, Two Thunderbolt 4 ports with DisplayPort Alt Mode/USBC/USB4 /Power Delivery, 1 x universal audio port, 1 x HDMI 2.0, 1 x microsd card slot, 1 x USB type C power input, 1x wedge-</p>	3.00	PCS

shaped lock slot
Backlit keyboard
Security: Fingerprint-reader sensor technology Capacitive, Fingerprint-reader sensor resolution 508 dpi, Fingerprint-reader sensor pixel size 256 x 360, Trusted Platform Module (TPM) 2.0 FIPS 140-2 Certified, Fingerprint Reader in Power Button tied to ControlVault 3, Battery: 4-cell, 58 Whr
Operating system: Windows 11 Professional or equivalent
Warranty: min 3 year
Weight maximum 1.4 kg
The bidder is obliged to provide proof that (if he is not the equipment manufacturer) he is in partnership with the equipment manufacturer, which is proven by the authorization of the equipment manufacturer (MAF) or an authorized distributor, agent of the equipment manufacturer that is offered. If an authorization is submitted from an authorized distributor, representative of the manufacturer of the offered equipment, it is necessary to submit a certificate proving that it is authorized for sale by the manufacturer for the procedure in question
The bidder is obliged

to submit the manufacturer's certificate on the duration of the warranty period of the specific equipment offered.
Warranty minimum 1 year

2 Notebook #2

Notebook with next minimum requirements:
Processor: up to 4.8 GHz,18 MB cache, 12 cores, 16 threads
Chipset Intel P28 or equivalent
Memory: 16GB DDR5 4800 MHz, 2 sodimm
Internal storage: 512 GB SSD NVME
Wireless 6, Bluetooth 5.2
Display:14" diagonal FHD, WVA, anti glare high brightness 250 nita
Graphic: integrated
Camera: FHD RGB camera 2.07 megapixel with privacy shutter
Ports 1x RJ45, 1x USB 3.2 Gen 1 port 1x USB 3.2 Gen 1 port with PowerShare 2x Thunderbolt 4 ports with DisplayPort Alt Mode/ USB4/Power Delivery, 1 x headphone/microphone combo, 1 x HDMI, 1 x microSD card slot, 1 x USB type C power input, 1x wedge-shaped lock slot
Backlit keyboard
Security: Fingerprint-reader sensor technology Capacitive, Fingerprint-reader sensor resolution 508

1.00 PCS

dpi ,Fingerprint-reader
sensor pixel size 108 x 88
Battery: 4-cell, 64 Whr
Operating system:
Windows 11
Professional or equivalent
Warranty: min 3 year
Weight maximum 1.5 kg
The bidder is obliged to provide proof that (if he is not the equipment manufacturer) he is in partnership with the equipment manufacturer, which is proven by the authorization of the equipment manufacturer (MAF) or an authorized distributor, agent of the equipment manufacturer that is offered. If an authorization is submitted from an authorized distributor, representative of the manufacturer of the offered equipment, it is necessary to submit a certificate proving that it is authorized for sale by the manufacturer for the procedure in question
The bidder is obliged to submit the manufacturer's certificate on the duration of the warranty period of the specific equipment offered.
Warranty minimum 1 year

3 Portable touchscreen device

Tablet with next minimum

1.00 PCS

requirements:
8 GB RAM
256 GB storage
Chip M1 chip or equivalent
8-core CPU with 4 performance cores and 4 efficiency cores
8-core GPU, 16-core Neural Engine
Liquid Retina display
11-inch (diagonal) LED backlit Multi-Touch display with IPS technology
2388-by-1668-pixel resolution at 264 pixels per inch (ppi)
ProMotion technology
Wide color display (P3)
True Tone display
Fingerprint-resistant oleophobic coating
Fully laminated display
Antireflective coating
1.8% reflectivity
SDR brightness: 600 nits max
Camera
Wide: 12MP, $f/1.8$ aperture
Ultra Wide: 10MP, $f/2.4$ aperture, and 125° field of view
2x optical zoom out
Digital zoom up to 5x
Five-element lens (Wide and Ultra Wide)
Brighter True Tone flash
Panorama (up to 63MP)
Sapphire crystal lens cover
Autofocus with Focus Pixels (Wide)
Smart HDR 3
Speakers Four speaker audio
Microphones Five studio-quality microphones for calls, video recording, and

					<p>audio recording Thunderbolt / USB 4 port with support for: Charging, DisplayPort, Thunderbolt 3 (up to 40Gb/s), USB 4 (up to 40Gb/s), USB 3.1 Gen 2 (up to 10Gb/s) Operating System iPadOS 15 or equivalent Power and Battery Built-in 28.65-watt-hour rechargeable lithium-polymer battery The bidder is obliged to provide proof that (if he is not the equipment manufacturer) he is in partnership with the equipment manufacturer, which is proven by the authorization of the equipment manufacturer (MAF) or an authorized distributor or agent of the equipment manufacturer that is offered.. The bidder is obliged to submit the manufacturer's certificate or an authorized distributor certificate duration of the warranty period of the specific equipment offered.</p> <p>Warranty minimum 1 year</p>		
9	<p>Nabavka opreme za podmorsko istraživanje za potrebe Univerziteta u Valoni „Ismail Ćemali“ (Albanija) / PROCUREMENT OF UNDERWATER EQUIPMENT FOR SEAWATER VISUAL AND QUALITY MONITORING WITH ACCESSORIES</p>	26500.00	1	Underwater Remotely Operated Vehicle – ROV with accessories	<p>Underwater remotely operated vehicle – ROV with next minimum characteristics:</p> <ul style="list-style-type: none"> • Dimensions at least: Length 455 mm; Width 	1.00	PCS

338 mm; Height 250 mm

- Weight in Air (without Ballast) max 10 kg
- Watertight enclosure dimensions at least: inner diameter 102 mm; inner Length 298 mm
- Constructed from HDPE (for frame), aluminum flanges and end caps and acrylic tubes
- Maximum rated depth at least 100 m
- Maximum forward speed at least 1.5 m/s
- Equipped with at least 8 thrusters – 4 vectored and 4 vertical
- Forward Bollard Thrust at least 9 kgf
- Vertical Bollard Thrust at least 7kgf
- Lateral Bollard Thrust at least 9 kgf
- Tether at least 100 m, working strength at least 45 kgf, breaking strength at least 160 kgf, strengthened with Kevlar, including at least 4 twisted pairs of conductors
- Four lights with minimal specification:
 - o 1500 lumens each or better with dimming control
 - o Color Temperature 5,700 kelvin or better
 - o Light beam angle – 135 degrees in water each or better with adjustable tilt
- Equipped with Gyroscope, Accelerometer, Magnetometer, Current and Voltage sensing and Leak detection

						<p>Scope of supply:</p> <ul style="list-style-type: none">• One base Underwater ROV unit• Fathom Spool for 100 m Tether• 4 underwater sea lights• Heavy Configuration Retrofit kit – adding Pitch movement to original ROV, increased buoyancy, and external thruster guards• Two batteries, quickly swappable at working location providing the ROV with at least 2 hours of normal use each• Battery charger• Subsea Gripper with minimum specification:<ul style="list-style-type: none">o grip force at tip at least 97 N, in middle at least 124 N,o jaw opening at least 62 mmo Push-rod Axial Load Rating 3kg or bettero Minimum Linear Piston Travel 13.5 mm or bettero Time to Open/Close 1.6 seconds or bettero Cable Used CAB-A-3 -22AWG or bettero Cable Length 635 mm or bettero Conductor Gauge 22 AWG or bettero Installed Penetrators: Device Side WLP-M06-4.5MM-LC; Cable End WLP-M10-4.5MM-LC; or bettero Housing Material Aluminum 6061-T6 or bettero Pressure Rating 300 m or bettero Weight in Air (w/		
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- cable)524 g or less
- Weight in Water (w/ cable)267 g or less
- Logitech F310 Controller or equivalent to control the ROV
- Laptop computer with appropriate software to control and monitor the ROV recommended by the manufacturer with next minimum requirements:
 - Processor I5 last generation or equivalent
 - RAM 8 GB
 - SSD 256 GB
 - Screen 15" full HD
 - LAN connection 10/100
 - USB 3.0 connection
 - HDMI/DP port
 - Windows 11 or equivalent
- A set of spare parts recommended by the manufacturer
- Payload Skid - a modular frame for additional watertight enclosures, lights, and ballast weights
- Niskin water sampler or similar, for integration with the ROV – at least 1 l capacity
- Sea temperature sensor minimal specification:
 - Operating Temperature: -40 to +125°C or better
 - Storage Temperature: -55 to +150°C or better
 - Absolute Accuracy:
 - $\pm 0.1^{\circ}\text{C}$ (between -5 to 50°C) or better
 - $\pm 0.5^{\circ}\text{C}$ (between -40 to 125°C) or better

						<ul style="list-style-type: none">o Operating Temperature: -40 to +125°C or bettero Operating Depth: 0 - 900m or bettero ArduSub Compatible: yeso Development Libraries: At least TSYS01 Arduino, TSYS01 Python, TSYS01 ArduPilot• Temperature sensor interface board• Pressure sensor minimal specification:<ul style="list-style-type: none">o Maximum Mechanical Pressure: At least 50 baro Operating Pressure: 0 - 30 bar or bettero Operating Depth: At least 0 - 300mo Relative Accuracy (0 -45°C): ± 200 mbar (204 cm in fresh water) or bettero Resolution: .2 mbar (2 mm in fresh water) or bettero In Air Operating Temperature: At least -20 to +85°Co In Water Operating Temperature: At least 2 to 40°Co Storage Temperature: At least -40 to +85°Co Absolute Accuracy: ± 1.5°C (between 0 to 60°C) or bettero ArduSub Compatible: Yeso Development Libraries: At least MS5837 Arduino, MS5837 Python, MS5xxx ArduPilot• Pressure sensor interface board• Low-Light HD USB Camera minimal	
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specification:

- o Physical
- o Camera PCB
- Dimensions: 32mm x 32mm
- o Mounting Hole
- Spacing: 28mm x 28mm
- o Connector: JST-PH to USB or better
- o Working Temperature: -20 - 75°C or better
- o Mass (total): max. 17g
- o Mass (without cable): max. 13.5g
- o Lens
- o Mount Type: M12 x 0.5
- o Field of View (Horizontal): 80° or better
- o Field of View (Vertical): 64° or better
- o Focal Length: 2.97 mm or better
- o Sensor
- o Type Sony Exmor IMX322 / IMX323 or equivalent
- o Format: 1/2.9" or better
- o Pixel Size: 2.8µm (H) x 2.8µm (V) or smaller
- o Distortion: max. 1%
- o Total pixels: 2000(H) x 1121(V) or better
- o Recording pixels: 1920(H) x 1080(V) or better
- o Minimum Illumination: 0.01 lux or better
- o Sensitivity: 5.0V/lux-sec@550nm or better
- o Video Stream
- o Standard (min - max): 240p15 - 1080p30 or better
- o Compression format: H.264 / MJPEG / YUV2 (YUYV)

			<ul style="list-style-type: none"> o Audio Stream o Channels: single-channel, 44.1 kHz or better o Format: Linear-PCM (L16) or better o Electrical o Supply Voltage: 5 V o Max Power Draw: 220 mA or less • Protective casing o Minimal internal dimensions 800x610x535 mm o Case material – body made of water resistant plywood, edges made of aluminum, corner protection made of aluminum. o At least four handles on sides for carrying o Four wheels with stoppers o Protective hard foam inside the case – at least 10 mm thick o At least one secure lid lock <p>Authorization:</p> <ul style="list-style-type: none"> • Authorization from manufacturer needed <p>Warranty:</p> <ul style="list-style-type: none"> • Minimum one year for all equipment <p>Training:</p> <p>Minimum two days on the spot in Vlore</p>		
	2	Sea water quality measurement instrument with accessories	<p>Sea water quality measurement instrument with the following characteristics</p> <ul style="list-style-type: none"> • Handheld • Conforms to the following standards: EN61326-1 Class B, EN IEC 63000 9, 	1.00	PCS

					<ul style="list-style-type: none">• Sensor probe detachable from control unit• Sensor probe cable length at least 30m• Capable of measuring following parameters: pH, Dissolved oxygen, Electrical conductivity, Salinity, Total dissolved solid, Seawater specific gravity, Temperature, Turbidity, Water depth, Oxidation reduction potential, GPS location• Software for data transfer to a PC• One hand operation• Auto calibration feature• Auto hold function• Possibility to set a site name for repeated measurements at the same location(s); at least 20 sites can be stored• Possibility for single and repeated (interval) measurements; Interval settable between 10 seconds and 24 hours• Possibility to select different units of measurement for various parameters• Inbuilt compensation capabilities: Salinity compensation and atmospheric pressure compensation for dissolved oxygen (DO); Temperature compensation for conductivity (COND); Setting total dissolved solid (TDS) coefficient for TDS• Multiple language user menu selectable	
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- English language must be present
- User settable Auto power off function
- Display contrast settable

Sensor head characteristics

- Measurement temperature range -10°C to 55°C
- Outer diameter maximum 97 mm
- Sensor head length maximum 345 mm
- Cable length at least 30m
- Mass maximum 1850 g
- IP-68 waterproofing, or better
- Shock resistant cover

Control unit characteristics:

- Outer dimensions (WxDxH) 115 mm x 66 mm x 335 mm ±5%
- Mass maximum 825 g
- Monochromatic graphic LCD with backlight 320x240 mm
- Memory: at least 10000 data items
- USB connection
- IP-67 waterproofing, or better
- GPS unit: Reception method (12 channel parallel); Measurement precision [With PDOP (high precision): 30 m or less (2 drms)] or better
- Ambient temperature range: at least -5°C to 45°C

pH sensor:

- Measurement method: Glass electrode method
- Range: at least pH 0 to 14

						<ul style="list-style-type: none">• Resolution: 0.01 pH or better• Precision: at least ±0.1 pH DO sensor: <ul style="list-style-type: none">• Measurement method: Polarographic method• Film thickness: up to 25 μm• Range: at least 0 mg/L to 50.0 mg/L• Resolution: 0.01 mg/L or better• Precision: 0 mg/L to 20 mg/L: ±0.2 mg/L; 20 mg/L to 50 mg/L: ±0.5 mg/L or better• Salinity conversion: (0 to 70 PPT, automatic) or better Automatic temperature compensation	
						Electrical conductivity probe: <ul style="list-style-type: none">• Measurement method: Four-AC-electrode method• Range: 0 S/m to 10 S/m (0 mS/cm to 100 mS/cm) or better• Auto range function• Resolution: at least:<ul style="list-style-type: none">o 0.000 mS/cm to 0.999 mS/cm:0.001o 1.00 mS/cm to 9.99 mS/cm:0.01o 10.0 mS/cm to 99.9 mS/cm: 0.1o 0.0 mS/m to 99.9 mS/m: 0.1o 0.100 S/m to 0.999 S/m: 0.001o 1.00 S/m to 9.99 S/m: 0.01• Precision: 1% of full-scale (midpoint of two calibration points) or better• Automatic temperature conversion (25°C)	

					Salinity measurement: • Measurement method: Electrical conductivity conversion • Range: at least 0 to 70 parts per thousand • Resolution: 0.01 part per thousand or better • Precision: ±3 part per thousand or better TDS (total dissolved solid) measurement: • Measurement method: Electrical conductivity conversion • Conversion coefficient setting • Range: at least 0 g/L to 100 g/L • Resolution: 0.1% of full-scale or better • Repeatability: ±2 g/L or better • Precision: ±5 g/L or better Seawater specific gravity measurement: • Measurement method: Electrical conductivity conversion • □t, □0, □15 display • Range: at least 0 □t to 50 □ • Resolution: 0.1 □ or better • Precision: ±5 □ or better Temperature probe: • Measurement method: Platinum temperature sensor • Range: at least -10□C to 55□C • Resolution: at least 0.01□C • Sensor: Platinum temperature sensor, JIS Class B (0.3+0.005 t) or better Turbidity	
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measurement:
• Measurement method: LED 90° scattering method
• Range: at least 0 NTU to 1000 NTU
• Resolution: 0.01 NTU or better
• Precision: $\pm 5\%$ of read-out or ± 1 NTU (whichever is larger) or better
• Conforms to EN ISO 7027

Water depth measurement:
• Measurement method: Pressure method
• Range: at least 0 m to 30 m
• Resolution: 0.05 m or better
• Precision: ± 0.3 m or better

ORP (oxidation reduction potential) measurement:
• Measurement method: Platinum electrode method
• Range: at least -2000 mV to +2000 mV
• Resolution: 1 mV or better
• Precision: ± 15 mV or better

Scope of supply:
• One water quality measurement instrument with the above stated characteristics
• Spare pH sensor – appropriate for the instrument
• pH 4.01 Standard Solution for auto calibration, at least 4l
• Spare ORP sensor – appropriate for the instrument
• Spare DO membrane

					cap (at least 3 pieces) – appropriate for the instrument • Spare Reference Electrode tip with liquid junction – appropriate for the instrument • Internal solution for DO • pH sensor protect cover – 3 pieces at least • DO sensor protect cover – 3 pieces at least • Rubber Cap for sensor guard – at least 8 pieces • Backpack to carry the instrument • Carrying case for the instrument – hard plastic with foam inside to protect the instrument, or better Authorization: • Authorization from manufacturer needed Warranty: • Minimum one year for all equipment Training: Minimum two days on the spot in Vlore		
10	Nabavka vazdušnog drona za potrebe Univerziteta u Valoni „Ismail Ćemali“ (Albanija) / PROCUREMENT OF AIR DRONE FOR VISUAL SEA AND COASTAL MONITORING	3000.00	1	Air Drone	Aircraft • Takeoff Weight: 895 g • Dimensions (Folded/Unfolded) o Folded (without propellers) 221×96.3×90.3 mm (Length×Width×Height)) o Unfolded (without propellers) 347.5×283×107.7 mm (Length×Width×Height)) • Diagonal Length: 380.1 mm • Max Ascent Speed:	1.00	SET

						<ul style="list-style-type: none">o 1 m/s (C mode)o 6 m/s (N mode)o 8 m/s (S mode)• Max Descent Speed:<ul style="list-style-type: none">o 1 m/s (C mode)o 6 m/s (N mode)o 6 m/s (S mode)• Max Flight Speed (at sea level, no wind):<ul style="list-style-type: none">o 5 m/s (C mode)o 15 m/s (N mode)o 19 m/s (S mode)• Max Service Ceiling Above Sea Level: 6000 m• Max Flight Time (no wind): 46 minutes• Max Hovering Time (no wind): 40 minutes• Max Flight Distance: 30 km• Max Wind Speed Resistance: 12 m/s• Max Tilt Angle:<ul style="list-style-type: none">o 25° (C mode)o 30° (N mode)o 35° (S mode)• Max Angular Velocity: 200°/s• Operating Temperature: -10° to 40° C (14° to 104° F)• GNSS: GPS + Galileo + BeiDou• Hovering Accuracy Range:<ul style="list-style-type: none">• Vertical: ±0.1 m (with Vision Positioning); ±0.5 m (with GNSS Positioning)• Horizontal: ±0.3 m (with Vision Positioning); ±0.5 m (with High-Precision Positioning System)• Internal Storage: 8 GB (available space is approx. 7.2 GB) <p>Hasselblad Camera</p> <ul style="list-style-type: none">• Sensor: 4/3 CMOS, Effective pixels: 20 MP• Lens:
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o FOV: 84°
o Format Equivalent:
24 mm
o Aperture: f/2.8 to f/11
o Focus: 1 m to ∞ (with autofocus)
• ISO Range:
o Video: 100-6400
o Still Image: 100-6400
• Shutter Speed:
Electronic Shutter 8-1/8000 s
• Max Image Size:
Main Unit: 5280×3956
• Still Photography
Modes:
o Single shot: 20MP Photos
o Automatic Exposure Bracketing (AEB): 20 MP, 3/5 bracketed frames at 0.7 EV
o Burst shooting: 20 MP, 3/5/7
o Timed: 20 MP, 2/3/5/7/10/15/20/30/60 S
• Video Resolution:
o H.264/H.265
o 5.1K: 5120×2700@ 24/25/30/48/50fps
o DCI 4K: 4096×2160@ 24/25/30/48/50/60/120 *fps
o 4K: 3840×2160@ 24/25/30/48/50/60/120 *fps
o FHD: 1920×1080@ 24/25/30/48/50/60/120 */200*fps
• Max Video Bitrate: H.264/H.265 Bitrate 200 Mbps
• Supported File Formats: exFAT
• Photo Format: JPEG/DNG (RAW)
• Video Formats: MP4/MOV (MPEG-4

AVC/H.264,
HEVC/H.265)

Tele Camera

- Sensor: 1/2-inch CMOS
- Shutter Speed: Electronic Shutter: 2-1/8000 s
- Lens:
 - o FOV: 15°
 - o Format Equivalent: 162mm
 - o Aperture: f/4.4
 - o Focus: 3 m to ∞
- ISO Range:
 - o Video: 100-6400
 - o Still Image: 100-6400
- Max Image Size: 4000×3000
- Photo Format: JPEG/DNG (RAW)
- Video Formats: MP4/MOV (MPEG-4 AVC/H.264, HEVC/H.265)
- Still Photography Modes:
 - o Single shot: 12MP Photos
 - o Automatic Exposure Bracketing (AEB): 12 MP, 3/5 bracketed frames at 0.7 EV
 - o Burst shooting: 12 MP, 3/5/7
 - o Timed: 12 MP, 2/3/5/7/10/15/20/30/60 s
- Video Resolution:
 - o H.264/H.265
 - o 4K: 3840×2160@25/30/50 fps
 - o FHD: 1920×1080@25/30/50 fps
 - o Digital Zoom: 4x

Gimbal

- Stabilization: 3-axis motorized (tilt, roll, pan)

- Mechanical Range:
 - o Tilt: -135° to 100°
 - o Roll: -45° to 45°
 - o Pan: -27° to 27°
- Controllable Range:
 - o Tilt: -90° to 35°
 - o Pan: -5° to 5°
- Max Control Speed (tilt): 100°/s
- Angular Vibration Range: ±0.007°

Sensing

- Sensing System: Omnidirectional binocular vision system, supplemented with an infrared sensor at the bottom of the aircraft
- Forward:
 - o Measurement Range: 0.5-20 m
 - o Detection Range: 0.5-200 m
 - o Effective Sensing Speed: Flight Speed ≤ 15m/s
 - o FOV: Horizontal 90°, Vertical 103°
- Backward:
 - o Measurement Range: 0.5-16 m
 - o Effective Sensing Speed: Flight Speed ≤ 12m/s
 - o FOV: Horizontal 90°, Vertical 103°
- Lateral:
 - o Measurement Range: 0.5-25 m
 - o Effective Sensing Speed: Flight Speed ≤ 15m/s
 - o FOV: Horizontal 90°, Vertical 85°
- Upward:
 - o Measurement Range: 0.2-10 m
 - o Effective Sensing Speed: Flight Speed ≤ 6m/s
 - o FOV: Front and Back

100°, Left and Right
90°

- Downward:
 - o Measurement Range: 0.3-18 m
 - o Effective Sensing Speed: Flight Speed $\leq$ 6m/s
 - o FOV: Front and Back 130°, Left and Right 160°

- Operating Environment:

- o Forward, Backward, Left, Right, and Upward: Surface with a clear pattern and adequate lighting ($\text{lux} > 15$)
- o Downward: Surface with a clear pattern and adequate lighting ($\text{lux} > 15$). Diffuse reflective surface with diffuse reflectivity $> 20\%$ (e.g. wall, tree, person)

Video Transmission

- Video Transmission System: O3+
- Live View Quality: Remote Controller 1080p@30fps/1080p@60fps
- Operation Frequency:
 - o 2.400-2.4835 GHz
 - o 5.725-5.850 GHz
- Max Transmission Distance (unobstructed, free of interference and aligned with controller):
 - o 2.400-2.4835 GHz; 5.725-5.850 GHz
 - o FCC: 15 km
 - o CE: 8 km
 - o SRRC: 8 km
 - o MIC: 8 km
- Signal Transmission Ranges (FCC):
 - o Strong Interference (urban landscape,

						<p>limited line of sight, many competing signals): Approx. 1.5-3 km</p> <ul style="list-style-type: none">o Medium Interference (suburban landscape, open line of sight, some competing signals): Approx. 3-9 kmo Low Interference (open landscape abundant line of sight, few competing signals): Approx. 9-15 kmo Data is tested under different standards in open areas free of interference. It only refers to the maximum, one-way flight distance without considering Return to Home. Please pay attention to RTH prompts in the DJI Fly app during actual flight. <ul style="list-style-type: none">• Max Download Bitrate:<ul style="list-style-type: none">o O3+:<ul style="list-style-type: none">o 5.5MB/s (with RC-N1 remote controller)o 15MB/s (with DJI RC Pro remote controller)o Wi-Fi 6:<ul style="list-style-type: none">o 80MB/s* <ul style="list-style-type: none">• Latency (depending on environmental conditions and mobile device):<ul style="list-style-type: none">o 130 ms (with RC-N1 remote controller)o 120 ms (with DJI RC Pro remote controller)• Antennas: 4 antennas, 2T4R• Transmitter Power (EIRP):<ul style="list-style-type: none">• 2.4 GHz: ≤33 dBm (FCC); ≤20 dBm (CE/SRRC/MIC)
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• 5.8 GHz: ≤33 dBm (FCC), ≤30 dBm (SRRC), ≤14 dBm(CE)

Battery

- Capacity: 5000 mAh
- Voltage: 15.4 V
- Charging Voltage Limit: 17.6 V
- Battery Type: LiPo 4S
- Energy: 77 Wh
- Weight: 335.5 g
- Charging Temperature: 5° to 40° C (41° to 104° F)

Battery Charger

- Input: 100-240 V AC, 47-63 Hz, 2.0 A
- USB-C Output: USB-C: 5.0 V□5.0 A/9.0 V□5.0 A/12.0 V□5.0 A/15.0 V□4.3 A/20.0 V□3.25 A/5.0~20.0 V□3.25 A
- USB-A output: USB-A: 5 V□2 A
- Rated Power: 65 W

Charging Hub

- Input: USB-C: 5-20 V□5.0 A max
- Output: Battery: 12-17.6 V□5.0 A max
- Rated Power: 65 W
- Charging Type: Charges three batteries in sequence.
- Charging Temperature Range: 5° to 40° C (41° to 104° F)

Car Charger

- Input: Car Power Input: 12.7-16 V□6.5 A, rated voltage 14 V DC
- Output:
 - o USB-C: 5.0 V□5.0 A/9.0 V□5.0 A/12.0 V□5.0 A/15.0

V□4.3A/20.0 V□3.25 A/5.0~20.0 V□3.25 A
o USB-A: 5 V□2 A
• Rated Power: 65 W
• Charging Time:
Approx. 96 minutes
• Charging
Temperature Range:
5° to 40° C (41° to
104° F)

Storage
• microSD Card: High
bitrate video microSD
Cards of minimum 256
GB
• SSD Specs: 8 GB
(available space is
approx. 7.2 GB)

Remote Controller
• Remote Controller
Transmission System:
• Max Supported
Mobile Device Size:
180×86×10 mm
(Length×Width×Height
)
• Operating
Temperature: 0° to 40°
C (32° to 104° F)
• Transmitter Power
(EIRP):
o 2.4 GHz:
o ≤26 dBm (FCC), ≤20
dBm (CE/SRRC/MIC)
o 5.8 GHz:
o ≤26 dBm
(FCC/SRRC), ≤14
dBm (CE)
• Battery Life:
o Without charging any
mobile device: 6 hr;
o when charging
mobile device: 4 hr
• Supported USB Port
Types: Lightning,
Micro USB, USB-C
Remote Controller and
Remote Controller
Control Sticks
Batteries included x3
Battery charger hub

					Low-Noise propellers (pair) x6 Portable charger Storage cover ND filter set Carrying bag cables: RC USB type-C connector, RC Micro-USB connector, RC lightning connector Carrying bag Original manufacturers bag for air drone set		
				2	Training	Training course in-vivo in Vlore	2.00 Days
				3	Warranty	• Minimum warranty for the whole set	1.00 YEARS
11	Nabavka stručne literature u elektronskoj formi za potrebe Univerziteta u Valoni „Ismail Ćemali“ (Albanija) / procurement of ELECTRONIC BOOKS	3000.00	1	e-books	Book title Editor/Author Year Publisher ISBN e-book Green Ports Ricard Bertgqvist, Jason Monios 2018 Elsevier 9780128140543 Innovation Strategies in Environmental Science Galanakis, Charis 2019 Elsevier 9780128173824 Marine Ecotoxicology Blasco, Julián 2016 Elsevier 9780128033715 Marine pollution: sources, fate and effects of pollutants in coastal ecosystems Beiras, R 2018 Elsevier 9780128137369 Marine Protected Areas, Science, Policy and Management John Humphreys, Robert Clark, 2019 Elsevier 9780081026984 Measuring Sustainable Development Goals Performance Sten Thore 2021 Elsevier 9780323902687	1.00	set

Methods in Stream Ecology, Volume 2: Ecosystem Function Gary Lamberti and F. Hauer, 2017 Elsevier 9780128130476
Modern Treatment Strategies for Marine Pollution Senthil Kumar 2020 Elsevier 9780128222799
Petroleum Waste Treatment and Pollution Control Jafarinejad, Shahryar 2017 Elsevier 9780128092439
Plastic Pollution and Marine Conservation Giuseppe Bonanno 2022 Elsevier 9780128224717
Remote Sensing of Ocean and Coastal Environments Rani, Meenu 2020 Elsevier 9780128196045
Spatial Modeling in GIS and R for Earth and Environmental Science Pourghasemi, Hamid Reza 2019 Elsevier 9780128152263
Sustainable Development Strategies Roy, Mousumi 2020 Elsevier 9780128189207
Sustainable Fish Production and Processing Charis Galanakis 2021 Elsevier 9780128242964
Writing for Science and Engineering Silyn-Roberts, Heather 2012 Elsevier 9780080982854

To be latest editions.

					To be with permanent access and for multiple users.		
12	Nabavka opreme za distance learning za potrebe Univerziteta u Draču „Aleksander Moisiu“ (Albanija)/DISTANCE LEARNING EQUIPMENT A mobile set of equipment for hybrid implementation and capture of the pedagogical process in lecture halls and laboratories	31000.00	1	Network switch	<p>Next minimum requirements:</p> <p>Networking Interfaces:</p> <p>24x 10/100/1000 RJ45 Port, 2x 1/10G SFP+ Ethernet Ports</p> <p>Total Non-Blocking Throughput: 44 Gbps</p> <p>Switching Capacity: 88 Gbps</p> <p>Forwarding Rate: 65.472 Mpps</p> <p>Power Method: Universal 100-240VAC/50-60 Hz and DC Input</p> <p>Power Supply: Internal AC</p> <p>Max. Power Consumption (Excluding PoE Output): 50W</p> <p>LEDs: System, RJ45 Data Ports, SFP+ Data Ports</p> <p>Status: PoE; Speed/Link/Activity</p> <p>ESD/EMP Protection</p> <p>Air: ± 16 kV, Contact: ± 12 kV</p> <p>Shock and Vibration ETSI300-019-1.4 Standard</p> <p>Operating Temperature: -5 to 40° C (23 to 104° F)</p> <p>Operating Humidity: 10 to 90%</p> <p>Noncondensing</p> <p>Certifications: CE, FCC, IC</p> <p>Total Available PoE: 400W</p> <p>PoE Interfaces</p> <p>all ports: PoE/PoE+ at least 8 ports: 60W PoE++</p> <p>Max. PoE Wattage per Port by PSE</p>	1.00	pcs

PoE+: 32W
PoE++: 64W

Compatible product
with access point from
this segment of tender
is required

2 Access point

Next minimum
requirements:
Weatherproofing: IP54
Management
interfaces: Ethernet,
Bluetooth
Networking interface:
1x GbE RJ45 port,
Button, Factory reset
LED: White/Blue
Power method: PoE+,
passive PoE (48V)
Max. power
consumption: 16.5W
Max. TX power
2.4 GHz: 26 dBm
5 GHz: 26 dBm
MIMO
2.4 GHz: 4 x 4
5 GHz: 4 x 4
Throughput rate
2.4 GHz: 600 Mbps
5 GHz: 2400 Mbps
Antenna gain
2.4 GHz: 4 dBi
5 GHz: 5.5 dBi
Mounting: Wall/ceiling
(included)
Operating
temperature: -30 to 60°
C (-22 to 140° F)
Operating humidity: 5 -
95% noncondensing
Certifications: CE,
FCC, IC
WiFi standards:
802.11a/b/g/WiFi
4/WiFi 5/WiFi 6
Wireless security:
WPA-PSK, WPA-
Enterprise
(WPA/WPA2/WPA3)
BSSID: 8 per radio
VLAN: 802.1Q
Advanced QoS

1.00 pcs

Per-user rate limiting
Guest traffic isolation
Supported Concurrent
clients : 300
Supported Data Rates
802.11a: 6, 9, 12, 18,
24, 36, 48, 54 Mbps
802.11b: 1, 2, 5.5, 11
Mbps
802.11g: 6, 9, 12, 18,
24, 36, 48, 54 Mbps
802.11n (WiFi 4): 6.5
Mbps to 600 Mbps
(MCS0 - MCS31, HT
20/40)
802.11ac (WiFi 5): 6.5
Mbps to 1.7 Gbps
(MCS0 - MCS9
NSS1/2/3/4, VHT
20/40/80/160)
802.11ax (WiFi 6): 7.3
Mbps to 2.4 Gbps
(MCS0 - MCS11
NSS1/2/3/4, HE
20/40/80/160)

Compatible product
with network switch
from this segment of
tender is required

3 Wireless mouse and
keyboard

Next minimum
requirements:
Keyboard
Weight (with batteries):
498 g
Silent buttons
technology
Adjustable keyboard
height
Spill-resistant design
Caps lock indicator
light
On/Off power switch
2 AAA
batteries (Alkaline
Battery)

Mouse
Weight (with batteries):
75.2 g
Silent buttons
technology

1.00 kit

			On/off power button 1 AA batteries (Alkaline Battery) Compact shape Signal frequency: 2.4Ghz Signal range (in meters): 10 m Small USB receiver		
	4	PTZ camera	Next minimum requirements: Image Sensor: 1/2.8" 4K Exmor CMOS Output Resolutions: 4K/30, 4K/29.97, 4K/25, 1080p/60, 1080p/59.94, 1080p/50, 1080p/30,1080p/29.97, 1080p/25, 1080i/60, 1080i/59.94, 1080i/50, 720p/60, 720p/59.94, 720p/50 Effective Picture Elements: 8 Megapixels S/N Ratio: ≥ 50dB Exposure Control: Auto, Manual, Priority AE (Shutter, IRIS), BLC, WDR Optical Zoom: 21X Digital Zoom: 12X Total Zoom: 252X Viewing Angles: DFOV: 66.4° (Wide) to 3.3° (Tele) HFOV: 52.26° (Wide) to 2.66° (Tele) VFOV: 41.26° (Wide) to 2° (Tele) Focal Length: f = 5.3 mm (Wide) to 110 mm (Tele) Aperture (Iris): F = 1.6 (Wide) to 3.8 (Tele) Minimum Working Distance: 1.5 m (Wide), 1.5m (Tele) Pan / Tilt Angles: Pan: ±170°,	1.00	pcs

Tilt: +90° / -30°
Pan / Tilt Speed
(Manual):
Pan: 0.1° to 100° /sec,
Tilt: 0.1° to 100° /sec
Preset Speed:
Pan: 200° /sec,
Tilt: 200° /sec
Preset Positions: 10
(IR), 255 (RS-232,
RS-422, IP)
Camera Control –
Interfaces: RS-232
(DIN8), RS-422
(RJ45), IP
Camera Control –
Protocols: VISCA
(RS-232 / RS-422 /
IP), PELCO-D &
PELCO-P (RS-232 /
RS-422), CGI (IP)
Image Processing:
Noise Reduction (2D /
3D), Flip, Mirror
Power Frequencies:
50Hz, 60Hz
Tracking Modes:
Presenter Mode, Zone
Mode, Hybrid Mode
Protection Mode:
Sleep Mode
Audio Channels: 2ch
Stereo
Audio Codecs: AAC-
LC, PCM
Video Outputs: 3G-
SDI, HDMI, IP, USB
Audio Outputs: 3G-
SDI, HDMI, IP, USB
Audio Inputs: MIC in,
Line in
Power Requirement:
AC 100 - 240V to DC
12V/5A
Power Consumption:
19W
PoE: PoE+
Dimensions (W x H x
D): 180.0 x 192.0 x
145.0 mm
Net Weight: 2.0 (±0.1)
kg
Security: Kensington

Operating Conditions:

Temperature: 0°C to

Humidity: 20% to 80%

Storage Conditions:

Temperature: -20°C to

Humidity: 20% to 95%

IP Streaming:

Resolution: 4K 30fps

Rate: 4K 30fps

Network Protocols:

IPv6, IPv4, TCP, UDP,
ARP, ICMP, ICMPv6

HTTP, DHCP, RTP /

RTCP, RTSP, RTMP,

NDI®HX Capability:

Yes

Connector: USB 3.0

USB Audio Class:

UAC 1.0

USB Video Class:
UVC 1.1

UVC 1.1
www.

Web UI Live Video

Preview: Yes

Web UI Camera P1Z
Control Box Tilt

Control: Pan, Tilt, Zoom, Focus, Bre

Zoom, Focus, Preset Control

Control
Web UI

Web UI Camera / Image Adjustment

Image Adjustment.
Exposure, White

Exposure, White
Balance, Picture

Balance, Picture
Web, IL Network

Web UI Network Configuration: D

Configuration. DHCP, IP Address, Gateway,

IP Address, Gateway,
Subnet Mask, DNS

Warranty: 3 Years

Package Contents:

Package Content

Camera, Drilling
Paper, Ceiling Mount

Paper, Ceiling Mount
Bracket (x2) QuickBracket (xz) Quick
Start Guide, Cable

Fixing Plate, M2 x 4

mm Screw (x3) Power

Adapter & Power (1)

1/4"-20 1 = 6.5 mm

Screw (x2) Remote

Screw (x2), Remote Control M3 x 6 mm

Screw (x3) DIN 8 to

Screw (XS), DIN 913 to

D-Sub 9 Cable,
RS-232 In/Out Y
Cable, Cable Ties (x4)
API- available for
USB/IP programming

5 Interactive display with
built-in computer

Next minimum
requirements:
Diagonal size: 86"
Resolution: 3840 x
2160
Response time: 5 ms
Brightness: 420 cd/m2
Static contrast ratio:
4500:1
Glass hardness: AG
Tempered Glass -
Mohs Level 7
Glass type: Low
parallax - max 1mm air
gap between panel
and glass
Lifespan: 50.000 hours
Touch technology: IR
Simultaneous touch
points: 20
Touch response time:
5 ms
Tracking Rate: 6 m/s
Touch Accuracy:
1.5mm
Windows Ink trigger
with pens: Yes
Passive Pens
included: 2
Writing with 2 different
colors simultaneously:
Yes
Palm Rejection: Yes
Classroom Essential
Apps: Whiteboard,
Annotate, Timer,
Media Players,
Browser, PDF Reader,
Screen Record,
Spinner, Voting, Math
Tools
OPS slot: Intel® spec
80Pin
OPC PC: Intel i7-
10510U, 16GB RAM,
250GB SSD, Windows
10 Pro licence

1.00 pcs

		HDMI IN: 3 HDMI Out: 1 USB-A 2.0: 1 USB-B for Touch: 2 USB-A 3.0: 4 USB-C front mounted with support for Audio, Video, Touch and Ethernet: 1 USB-C side mounted with support for Audio, Video, Touch and Power Charge 65W: 1 LAN In (RJ45): 1 LAN Out (RJ45): 1 WiFi: IEEE 802.11a/b/g/n/ac with 2 x 2 MIMO (hotspot only) 2.4 and 5 GHz bands Bluetooth: 5.0 Built In computer: Android 11, 6GB RAM, 64GB storage, 4K resolution Built in 2.1 speakers: 2 x 15W + 15W subwoofer Built In Line Array Microphones with 8m pickup range: Yes Embedded digital signage system with cloud management: Yes, 2GB Free cloud space included MDM remote management from cloud: Yes - 5 year licence Mirroring Any Device To The Board: Built in AirServer with support for Miracast, Airplay and Chromecast. Enclosed 1 USB-C button dongle for wifi direct mirroring from Windows, iOS/macOS and Android devices. Warranty: 5 year Authorisation needed.		
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				6	Interactive display motorized stand	<p>Next minimum requirements: Black colour frame VESA 800x600 Maximum Width 117,8 cm, Depth 77,7 cm Anti-collision - When the screen touches something during a movement, the movement stops and the lift goes back a bit in the opposite direction. Minimum Height: 91,2 cm Maximum Height: 156,2 cm Stroke 650 mm, speed up to 38 mm/s Maximum load: 120 kg Screen position: Landscape, Portrait Max. 86 inch Screen</p>	1.00	pcs
				7	Presentation remote	<p>Next minimum requirements: Presentation remote Weight (with batteries): 49,2 g Motion sensor 3D accelerometer and Gyroscope Battery: Rechargeable Lithium Polymer, 85 mAh Battery Life (rechargeable): 3 months, (May vary based on usage) Receiver Charging cable Length: 140 mm</p> <p>Connection Type: Bluetooth Low Energy and 2.4 GHz wireless connection Wireless range: 30 m (May vary based on environmental and computing conditions) LED Indicator Lights:</p>	1.00	pcs

		Battery and Connectivity		
8	HDMI-USB encoder	Next minimum requirements: Convert Ultra HD to USB 3.0 with an HDMI loop and external power for BYOM applications HDMI capture to USB 3.0 Compatible with USB 2.0 (high-quality MJPEG) HDMI loop output Up to Ultra HD 4K (3840/4096x2160) at 30 fps and 1080p at 60 fps HDMI audio support Analogue audio I/O Internal frame buffers maximize frame rates Hardware-based color space and sampling conversion Automatic scaling and frame rate conversion (UHD up-scaling not supported) Image controls: Brightness, contrast, saturation, and hue settings Supports multiple devices on the same PC Compatible with Windows, Mac OSX, Linux and Android Powered from external adapter or USB A USB cable is included No driver required	1.00	pcs
9	Tie microphone, pocket microphone transmitter, microphone receiver	Next minimum requirements: Compatible kit consisting of 1 wireless bodypack transmitter, 1 lavalier microphone, 1 rackmount receiver	1.00	kit

		and 1 rack mountable kit Integrated RJ45 network port allows control, monitoring and setup Up to 88 MHz bandwidth, up to 32 channels Increased RF output power (10/30/50 mW) Transmission Range: up to 100 meters Remote control switch available for the bodypack transmitter Compatible and interchangeable parts with other microphone kits required in this tender		
10	Handheld microphone with transmitter, microphone receiver	Next minimum requirements: Compatible kit consisting of 1 handheld microphone with mute switch, 1 microphone capsule (supercardioid, condenser), 1 rackmount receiver, 1 rack mountable kit and 1 mic clip Integrated RJ45 network port allows control, monitoring and setup Up to 88 MHz bandwidth, up to 32 channels Increased RF output power (10/30/50 mW) Transmission Range: up to 100 meters Remote control switch available for the bodypack transmitter Compatible and interchangeable parts with other microphone kits required in this tender	1.00	kit

				11	Headphones for computer	<p>Next minimum requirements: Circumaural Closed-Back Monitor Headphones Collapsible design with swiveling earcups Rejection of outside noise is high, rated up to -32 dB Neodymium magnets Padded leatherette earcups and adjustable padded headband Frequency response: 8 - 25000 Hz Jack plug: 3,5 / 6,3 mm stereo Cable length: Coiled Cable (min. 1.3m / max. 3m) Weight w/o cable: 285 g</p>	1.00	pcs
				12	Camera tripod	<p>Next minimum requirements: Video tripod kit with fluid video head and carrying bag Side pull selector ensures quick setup with both hands Fluid head with spirit level and quick release plate Pan and tilt locking knobs allow for single axis movement Twist leg locking system, enabled by simply turning each knob 90° Pan bar included for fluid movement; can be removed Weight: 1.64 kg Top Attachment: 1/4" screw, 3/8" screw Ball Flat: Ball Safety Payload Weight: 4 kg Base Diameter: 40 mm</p>	1.00	kit

Bubble Spirit Level
(No.): 1
Carrying Bag Included:
Yes
Center Column: rapid
Closed Length: 40 cm
Colour: black/silver
Easy Link: Yes
Front Tilt: -90°/+65°
Head Type:
Video/Fluid Head
Leg Type: Single
Leg Angles: 22°, 54°,
89°
Leg Lock Type: Twist
Lock
Leg Sections: 4
Legs Tube Diameter:
12, 15.5, 19, 22.5 mm
Material: Aluminium
Maximum Height: 150
cm
Maximum Height (With
Center Column Down):
129 cm
Maximum Working
Temperature: 60 °C
Min Height: 40 cm
Minimum Working
Temperature: -30 °C
Pan Bar Included: Yes
Pan Drag: fluid
cartridge with fixed
drag
Panoramic Rotation:
360 °
Plate Type: 501PL
Quick Release: Yes
Tilt Drag: fluid
cartridge with fixed
drag
Upper Disc Diameter:
40 mm

13 Projection screen

Next minimum
requirements:
Control: Electric
Aspect ratio: 16:10
External dimensions
(W x H): exactly 300 x
191 cm
Viewing area (W x H):
exactly 290 x 181 cm

1.00 pcs

		Weight: 24.0 kg	
14	projector	<p>Next minimum requirements:</p> <p>Native resolution: 1920x1080 or higher</p> <p>Native refresh rate: 50Hz or higher</p> <p>Light source: laser</p> <p>Light output: 5000lm or better</p> <p>Time until light output declines to 50%: 20000 hours or longer</p> <p>Max screen size: at least 5 metres</p> <p>AV input connections: at least 2x HDMI and DIGITAL LINK (video/network/serial control, HDBaseT compliant)</p> <p>AV output connections: audio out (3,5mm stereo jack)</p> <p>Installation options: ceiling/floor, front/rear</p> <p>Possibility to control projector via IP (should use wired ethernet connection), availability of API document for IP projector control</p> <p>Keystone correction: +/-25% or more (vertical and horizontal)</p> <p>Optical axis shift: at least +/-20% (horizontal) and +40% (vertical)</p>	1.00 pcs
15	Projector mount	<p>Next minimum requirements:</p> <p>Type: Projector ceiling mount</p> <p>Colour: Silver</p> <p>TÜV certified: Yes</p> <p>Min. distance to ceiling: 550mm</p> <p>Max. distance to ceiling: 850mm</p> <p>Turn: Up to 360°</p> <p>Tilt: Up to 15°</p>	1.00 pcs

		Roll: 15° Max. weight load: 30kg Range (diameter): 30mm - 410mm Height range: 550mm - 850mm		
16	Warranty	Warranty for whole set minimum 1 year.	1.00	year
17	A mobile set of equipment for capture of the pedagogical process on the field: Camera	Next minimum requirements: Compact live streaming 4K camcorder with SDI output Dual codec advanced streaming technology Tele-macro mode for better focus on close objects Lower-third and full-screen titling graphic solutions 4:2:2 4K Video at 24/30p Real-Time Broadcast Info Overlay LAN Configuration with 1 button 3G-SDI & HDMI Out, Live HDMI UHD 4K Out 12x Optical Zoom Lens 2-Channel XLR Audio Inputs 4K Ultra HD recording (150 Mbps, 24/30p) to SDXC (UHS-I Speed class3) card Single 1/2.3-inch CMOS image sensor with 12.4 million pixels (9.03 active) Integrated 12x F1.2-3.5 zoom lens (35mm equivalent: 29.5-354mm) Dynamic zoom in HD mode combines optical zoom and pixel mapping to create seamless and lossless 24x zoom	1.00	pcs

Broadcast features
Customizable graphic overlays (on/off switchable)
Option for custom broadcaster logos, watermark, time and temperature
Selectable pre-loaded logos
Wired remote control supported
HD-SDI (3G) and HDMI outputs (4K output via HDMI only)
Live 4K UHD output via HDMI connector
Streaming engine compatible with Wowza Streaming Engine
IP network remote control, remote viewing, metadata editing, FTP clips uploading
4:2:2 full HD recording at 50Mbps (24-60p)
120fps HD slow motion recording
Dual SDHC/SDXC slots enable dual, backup and continuous recording
9 user button assignable functions
2 position ND filter (1/4, 1/16)
0.24-inch colour viewfinder (1.56M pixel) with smart focus assist function
3.5-inch colour LCD display (920K pixel) with smart focus assist function
Built-in stereo microphone
Includes handle unit, battery and AC Adapter

18 Charger and additional

Next minimum

1.00 kit

						<p>batteries for camera</p> <p>requirements: Compatible kit consisting of one charger of two batteries.</p> <p>Charger: Automatic safety and protection features include low voltage charging, thermal monitoring and overcharge protection Status LED indicator provides detailed display of charging process and fault detection Charging will automatically stop when the battery is fully charged Capable of multiple configurations for use as stand alone charger or joint connection to a second one Universal AC input for worldwide use. Charger Input Voltage: AC Adapter 100-240V 60/50Hz Charger Input Voltage 2: DC Input DC 14-19V Charger Power Consumption: 36W Charger Charge Current: 1.6A Charger Indications: Yes, LED for Charging process and fault detection</p> <p>Battery: Capacity: 7350mAh, 55Wh Battery Protection: Over charge, Over discharge, Over current Separate DC output</p> <p>Compatible parts with</p>		
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camera from this segment of tender are required, also compatible cables for direct connection to mentioned devices should be included

19 Tripod for camera

Next minimum requirements:
Video tripod kit with fluid video head and carrying bag
Twin legs and middle spreader
Fluid Drag System on pan and tilt movements
Counterbalance system on tilt movement
Sliding plate for camera connection and set up
Leveling bubble for setup
Weight: 3100 g
Material: Aluminum
Safety Payload
Weight: 5 kg
Min Height: 67.5 cm
Maximum Height: 154 cm
Head Type:
Video/Fluid Head
Leg Sections: 3
Legs Tube Diameter: 15.2, 18.5, 21.7 mm
Quick Release: Yes
Counterbalanced
Weight: 2.4 kg
Center of gravity: 55 mm
Spreader: mid level - fixed arm length
Closed Length: 72 cm
Ball Flat: 60 Ball
Top Attachment: 1/4" screw, 3/8" screw
Powered by (batteries): 0
Bubble Spirit Level (No.): 1

1.00 pcs

		Center Column: no center column Color: Black Front Tilt: -70° / +90° Leg Type: Twin Leg Angles: 19° Leg Lock Type: Flip Lock Maximum Working Temperature: 60 C Minimum Working Temperature: -20 C Pan Bar Included: Yes Pan Drag: fluid cartridge with fixed drag Panoramic Rotation: 360 Tilt Drag: fluid cartridge with fixed drag Compatible product with camera, additional batteries, wireless receiver for tie microphone, microphone for camera from this segment of tender are required		
	20	SD card for camera	Next minimum requirements: Capacity: 128 GB Read Speed: up to 170 MB/s Write Speed: up to 90 MB/s Video Speed: C10, U3, V30 Form Factor: SDXC Compatible parts with camera from this segment of tender are required	2.00 pcs
	21	Tie microphone with wireless transmitter and receiver	Next minimum requirements: Compatible kit consisting of 1 wireless bodypack transmitter, 1 lavalier microphone, 1 wireless on-camera receiver Up to 88 MHz	1.00 kit

		bandwidth, up to 32 channels Increased RF output power (10/30/50 mW) Transmission Range: up to 100 meters Remote control switch available for the bodypack transmitter Up to 8 hours of operation time Batteries for transmitter and receiver are included Compatible parts with camera and headphones from this segment of tender are required, also compatible cables and mounts for direct connection and installation to mentioned devices should be included		
	22	Microphone for camera	Next minimum requirements: XLR Output Connection 48V Phantom Power Includes Foam Windscreen Compatible product with camera from this segment of tender is required, also compatible cables and mounts for direct connection and installation to mentioned devices should be included	1.00 pcs
	23	Headphones for camera	Next minimum requirements: Circumaural Closed-Back Monitor Headphones Collapsible design with swiveling earcups Rejection of outside noise is high, rated up to -32 dB Neodymium	1.00 pcs

				magnets Padded leatherette earcups and adjustable padded headband Frequency response: 8 - 25000 Hz Jack plug: 3,5 / 6,3 mm stereo Cable length: Coiled Cable (min. 1.3m / max. 3m) Weight w/o cable: 285 g Compatible product with camera and tie microphone with wireless transmitter and receiver from this segment of tender is required, also compatible cables for direct connection to mentioned devices should be included		
	24	Triple lightning kit with tripods and bag	Next minimum requirements: On or off camera LED lighting fixture Location/studio lighting kit with 3 lights on compact stands and with carrying case and 22 filters (including diffusion, skin tone, magenta and colour FX) Hot-shoe mount adapters 360° ball head swivels Power supplies Impact-resistant carrying case Each light with: Continuous Light and Flash Modes Built-In HSS flash sync reciever CRI at least 96 and TLCI at least 91 Color Temperature: 3150 to 6300K	1.00	kit	

		Continuous Light Output: 2000 Lux at 90cm Flash Output: f/8 at ISO 200 at 90cm Runs on AA Batteries, D-Tap or AC Three 1/4"-20 Threads; Camera Shoe Mount Filter Pack and Holder; Belt Pouch		
	25	Bag for equipment	Next minimum requirements: Handheld, soft carry bag with protection for equipment on the field Compatible product with camera, charger and additional batteries for camera, tie microphone with wireless transmitter and receiver, microphone for camera and headphones for camera from this segment of tender is required (enough place to fit all of them at once inside)	1.00 pcs
	26	Warranty	Warranty for whole set	1.00 year
	27	A mobile set of equipment for hybrid implementation of the pedagogical process in the pedagogues' offices Camera and speakerphone kit	Next minimum requirements: Camera: Use low-light 2Mega pixel sensor for imaging in low-light conditions. Wide field of view (DFOV) 84.5° Focal lens of 3.9mm (wide) ~ 47.3mm (tele) Lens F1.8 (wide)~2.8 (tele) Smart Frame for automatic FOV adjustment to fit all participants. True WDR up to 120 dB (Superb backlight compensation technology for	1.00 kit

optimizing light balance in high-contrast conditions.)
18X total zoom (12X optical zoom)
Pan: ±170°. Tilt: +90° (up) -30° (down)
Image Mirror, Flip, AE, white balance (auto, manual override via PC based app)
Minimum focus distance is 1.5m.
10 camera presets (through remote control)
Standard tripod screw holes and Kensington slot.

Speakerphone:
Full duplex microphone array with echo cancellation.
Advanced noise suppression.
Dual-microphone array.
3.5mm phone-in jack.
3.5mm line out.
Speaker volume adjustment: Adjustable to 90 dB SPL at 0.5 m.
Touch control for volume down/up, mute, phone input, call and hang-up.
Support to bridge phone-in and USB connection into one call.
Includes Kensington slot.

Video:
Video compression format of H.264, YUV, YUY2, MJPEG, NV12.
Network video compression format of H.264.
Support the below resolution: (16:9) 1920

x 1080, 1600 x 900,
1280 x 720, 960 x 540,
848 x 480, 800 x 448,
640 x 360, 424 x 240,
320 x 180; (4:3) 800 x
600, 640 x 480, 480 x
360, 320 x 240 at 60,
30, 15fps
IP streaming resolution
(Not for USB video
stream): 1080p, 720p,
480p and 360p.
Support bit rate:
512Kbps, 1Mbps,
2Mbps, 4Mbps,
8Mbps, 16Mbps and
32Mbps.

Audio:
AAC-LC
Echo cancellation.

Network:
Support the network
protocol: RTSP, RTMP
Support 10/100/1000
Mbps. (LAN, RJ45
interface)
Support VISCA over
IP.
Support remote
management via PC
based software.
Support real-time
streaming via PC
based software.
Support DHCP / Static
IP address setting.
Support NTP Server.

Security:
Support password
protection.
Support SSL certificate
import.

General:
Support IR remote
control.
Support 3rd party
integration: VISCA,
Pelco-P, Pelco-D via
RS232 (128 preset

					points via VISCA command) Support VISCA over IP. Support standard UVC/UAC plug-and-play. Support Web UI management. Support basic camera settings adjustment via AVer PTZApp. Support camera wall-mount method. Warranty: For whole set minimum 1 year.		
13	Nabavka opreme za podršku distance learning-a za potrebe Univerziteta u Draču „Aleksander Moisiu“ (Albanija)/ PROUREMENT OF DISTANCE LEARNING SUPPORTING EQUIPMENT	6500.00	1	Notebook #1	Notebook with next minimum requirements: Processor: Intel i5-1245U or equivalent , up to 4.4 GHz,12 MB cache, 10 cores, 12 threads with Vpro Chipset Intel PCH-LP or equivalent Memory: 8GB DDR4 3200 MHz, Two SODIMM slots Internal storage: 256 GB SSD NVME Wireless 6, Bluetooth 5.2 Display:14” diagonal FHD, WVA, anti glare high brightness 250 nita Graphic: integrated Camera: FHD RGB camera with privacy shutter Ports: 1 x RJ45, 1 x USB 3.2 gen 1, 1 x USB 3.2 gen 1 with powershare, Two Thunderbolt 4 ports with DisplayPort Alt Mode/USBC/USB4 /Power Delivery, 1 x universal audio port, 1 x HDMI 2.0, 1 x	3.00	pcs

						<p>microsd card slot, 1 x USB type C power input, 1x wedge- shaped lock slot Backlit keyboard Security: Fingerprint- reader sensor technology Capacitive, Fingerprint-reader sensor resolution 508 dpi, Fingerprint-reader sensor pixel size 256 x 360, Trusted Platform Module (TPM) 2.0 FIPS 140-2 Certified, Fingerprint Reader in Power Button tied to ControlVault 3, Battery: 4-cell, 58 Whr Operating system: Windows 11 Professional or equivalent Warranty: min 3 year Weight maximum 1.4 kg The bidder is obliged to provide proof that (if he is not the equipment manufacturer) he is in partnership with the equipment manufacturer, which is proven by the authorization of the equipment manufacturer (MAF) or an authorized distributor, agent of the equipment manufacturer that is offered. If an authorization is submitted from an authorized distributor, representative of the manufacturer of the offered equipment, it is necessary to submit a certificate proving that it is authorized for sale by the manufacturer</p>	
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for the procedure in question
The bidder is obliged to submit the manufacturer's certificate on the duration of the warranty period of the specific equipment offered.
Warranty minimum 1 year

2 Notebook #2

Notebook with next minimum requirements:
Processor: up to 4.8 GHz,18 MB cache, 12 cores, 16 threads
Chipset Intel P28 or equivalent
Memory: 16GB DDR5 4800 MHz, 2 sodimm
Internal storage: 512 GB SSD NVME
Wireless 6, Bluetooth 5.2
Display:14" diagonal FHD, WVA, anti glare high brightness 250 nita
Graphic: integrated
Camera: FHD RGB camera 2.07 megapixel with privacy shutter
Ports 1x RJ45, 1x USB 3.2 Gen 1 port 1x USB 3.2 Gen 1 port with PowerShare 2x Thunderbolt 4 ports with DisplayPort Alt Mode/ USB4/Power Delivery, 1 x headphone/microphone combo, 1 x HDMI, 1 x microSD card slot, 1 x USB type C power input, 1x wedge-shaped lock slot
Backlit keyboard
Security: Fingerprint-reader sensor

1.00 pcs

					<p>technology Capacitive, Fingerprint-reader sensor resolution 508 dpi ,Fingerprint-reader sensor pixel size 108 x 88</p> <p>Battery: 4-cell, 64 Whr</p> <p>Operating system: Windows 11 Professional or equivalent</p> <p>Warranty: min 3 year</p> <p>Weight maximum 1.5 kg</p> <p>The bidder is obliged to provide proof that (if he is not the equipment manufacturer) he is in partnership with the equipment manufacturer, which is proven by the authorization of the equipment manufacturer (MAF) or an authorized distributor, agent of the equipment manufacturer that is offered. If an authorization is submitted from an authorized distributor, representative of the manufacturer of the offered equipment, it is necessary to submit a certificate proving that it is authorized for sale by the manufacturer for the procedure in question</p> <p>The bidder is obliged to submit the manufacturer's certificate on the duration of the warranty period of the specific equipment offered.</p> <p>Warranty minimum 1 year</p>		
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				3	Portable touchscreen device	Tablet with next minimum requirements: 8 GB RAM 256 GB storage Chip M1 chip or equivalent 8-core CPU with 4 performance cores and 4 efficiency cores 8-core GPU, 16-core Neural Engine Liquid Retina display 11-inch (diagonal) LED backlit Multi-Touch display with IPS technology 2388-by-1668-pixel resolution at 264 pixels per inch (ppi) ProMotion technology Wide color display (P3) True Tone display Fingerprint-resistant oleophobic coating Fully laminated display Antireflective coating 1.8% reflectivity SDR brightness: 600 nits max Camera Wide: 12MP, <i>f</i> /1.8 aperture Ultra Wide: 10MP, <i>f</i> /2.4 aperture, and 125° field of view 2x optical zoom out Digital zoom up to 5x Five-element lens (Wide and Ultra Wide) Brighter True Tone flash Panorama (up to 63MP) Sapphire crystal lens cover Autofocus with Focus Pixels (Wide) Smart HDR 3 Speakers Four speaker audio Microphones Five studio-quality	1.00	pcs
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					<p>microphones for calls, video recording, and audio recording</p> <p>Thunderbolt / USB 4 port with support for: Charging, DisplayPort, Thunderbolt 3 (up to 40Gb/s), USB 4 (up to 40Gb/s), USB 3.1 Gen 2 (up to 10Gb/s)</p> <p>Operating System</p> <p>iPadOS 15 or equivalent</p> <p>Power and Battery</p> <p>Built-in 28.65-watt-hour rechargeable lithium-polymer battery</p> <p>The bidder is obliged to provide proof that (if he is not the equipment manufacturer) he is in partnership with the equipment manufacturer, which is proven by the authorization of the equipment manufacturer (MAF) or an authorized distributor or agent of the equipment manufacturer that is offered.. The bidder is obliged to submit the manufacturer's certificate or an authorized distributor certificate duration of the warranty period of the specific equipment offered.</p> <p>Warranty minimum 1 year</p>	
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	14 : Nabavka opreme za podmorsko istraživanje za potrebe Univerziteta u Draču „Aleksander Moisiu“ (Albanija),/PROCUREMENT OF UNDERWATER EQUIPMENT FOR SEAWATER VISUAL AND QUALITY MONITORING WITH ACCESSORIES	26500.00	1	Underwater Remotely Operated Vehicle – ROV with accessories	Underwater remotely operated vehicle – ROV with next minimum characteristics: • Dimensions at least: Length 455 mm; Width 338 mm; Height 250 mm • Weight in Air (without Ballast) max 10 kg • Watertight enclosure dimensions at least: inner diameter 102 mm; inner Length 298 mm • Constructed from HDPE (for frame), aluminum flanges and end caps and acrylic tubes • Maximum rated depth at least 100 m • Maximum forward speed at least 1.5 m/s • Equipped with at least 8 thrusters – 4 vectored and 4 vertical • Forward Bollard Thrust at least 9 kgf • Vertical Bollard Thrust at least 7kgf • Lateral Bollard Thrust at least 9 kgf • Tether at least 100 m, working strength at least 45 kgf, breaking strength at least 160 kgf, strengthened with Kevlar, including at least 4 twisted pairs of conductors • Four lights with minimal specification: o 1500 lumens each or better with dimming control o Color Temperature 5,700 kelvin or better o Light beam angle – 135 degrees in water each or better with adjustable tilt	1.00	PCS
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• Equipped with Gyroscope, Accelerometer, Magnetometer, Current and Voltage sensing and Leak detection

Scope of supply:

- One base Underwater ROV unit
- Fathom Spool for 100 m Tether
- 4 underwater sea lights
- Heavy Configuration Retrofit kit – adding Pitch movement to original ROV, increased buoyancy, and external thruster guards
- Two batteries, quickly swappable at working location providing the ROV with at least 2 hours of normal use each
- Battery charger
- Subsea Gripper with minimum specification:
 - o grip force at tip at least 97 N, in middle at least 124 N,
 - o jaw opening at least 62 mm
 - o Push-rod Axial Load Rating 3kg or better
 - o Minimum Linear Piston Travel 13.5 mm or better
 - o Time to Open/Close 1.6 seconds or better
 - o Cable Used CAB-A-3 -22AWG or better
 - o Cable Length 635 mm or better
 - o Conductor Gauge 22 AWG or better
 - o Installed Penetrators: Device Side WLP-M06-4.5MM-LC; Cable End WLP-M10-4.5MM-

- o LC; or better
- o Housing Material Aluminum 6061-T6 or better
- o Pressure Rating 300 m or better
- o Weight in Air (w/ cable) 524 g or less
- o Weight in Water (w/ cable) 267 g or less
- Logitech F310 Controller or equivalent to control the ROV
- Laptop computer with appropriate software to control and monitor the ROV recommended by the manufacturer with next minimum requirements:
 - o Processor I5 last generation or equivalent
 - o RAM 8 GB
 - o SSD 256 GB
 - o Screen 15" full HD
 - o LAN connection 10/100
 - o USB 3.0 connection
 - o HDMI/DP port
 - o Windows 11 or equivalent
- A set of spare parts recommended by the manufacturer
- Payload Skid - a modular frame for additional watertight enclosures, lights, and ballast weights
- Niskin water sampler or similar, for integration with the ROV – at least 1 l capacity
- Sea temperature sensor minimal specification:
 - o Operating Temperature: -40 to +125°C or better
 - o Storage

					<ul style="list-style-type: none"> Temperature: -55 to +150°C or better o Absolute Accuracy: o ± 0.1°C (between -5 to 50°C) or better o ± 0.5°C (between -40 to 125°C) or better o Operating Temperature: -40 to +125°C or better o Operating Depth: 0 - 900m or better o ArduSub Compatible: yes o Development Libraries: At least TSYS01 Arduino, TSYS01 Python, TSYS01 ArduPilot • Temperature sensor interface board • Pressure sensor minimal specification: o Maximum Mechanical Pressure: At least 50 bar o Operating Pressure: 0 - 30 bar or better o Operating Depth: At least 0 - 300m o Relative Accuracy (0 -45°C): ± 200 mbar (204 cm in fresh water) or better o Resolution: .2 mbar (2 mm in fresh water) or better o In Air Operating Temperature: At least -20 to +85°C o In Water Operating Temperature: At least 2 to 40°C o Storage Temperature: At least -40 to +85°C o Absolute Accuracy: ± 1.5°C (between 0 to 60°C) or better o ArduSub Compatible: Yes o Development Libraries: At least
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MS5837 Arduino,
MS5837 Python,
MS5xxx ArduPilot

- Pressure sensor interface board
- Low-Light HD USB Camera minimal specification:
 - o Physical
 - o Camera PCB
 - Dimensions: 32mm x 32mm
 - o Mounting Hole Spacing: 28mm x 28mm
 - o Connector: JST-PH to USB or better
 - o Working Temperature: -20 - 75°C or better
 - o Mass (total): max. 17g
 - o Mass (without cable): max. 13.5g
 - o Lens
 - o Mount Type: M12 x 0.5
 - o Field of View (Horizontal): 80° or better
 - o Field of View (Vertical): 64° or better
 - o Focal Length: 2.97 mm or better
 - o Sensor
 - o Type Sony Exmor IMX322 / IMX323 or equivalent
 - o Format: 1/2.9" or better
 - o Pixel Size: 2.8µm (H) x 2.8µm (V) or smaller
 - o Distortion: max. 1%
 - o Total pixels: 2000(H) x 1121(V) or better
 - o Recording pixels: 1920(H) x 1080(V) or better
 - o Minimum Illumination: 0.01 lux or better
 - o Sensitivity: 5.0V/lux-sec@550nm or better

			<ul style="list-style-type: none"> o Video Stream o Standard (min - max): 240p15 - 1080p30 or better o Compression format: H.264 / MJPEG / YUV2 (YUYV) o Audio Stream o Channels: single-channel, 44.1 kHz or better o Format: Linear-PCM (L16) or better o Electrical o Supply Voltage: 5 V o Max Power Draw: 220 mA or less • Protective casing o Minimal internal dimensions 800x610x535 mm o Case material – body made of water resistant plywood, edges made of aluminum, corner protection made of aluminum. o At least four handles on sides for carrying o Four wheels with stoppers o Protective hard foam inside the case – at least 10 mm thick o At least one secure lid lock <p>Authorization:</p> <ul style="list-style-type: none"> • Authorization from manufacturer needed <p>Warranty:</p> <ul style="list-style-type: none"> • Minimum one year for all equipment <p>Training:</p> <p>Minimum two days on the spot in Durres</p>		
	2	Sea water quality measurement instrument with accessories	Sea water quality measurement instrument with the	1.00	pcs

						<p>following characteristics</p> <ul style="list-style-type: none">• Handheld• Conforms to the following standards: EN61326-1 Class B, EN IEC 63000 9,• Sensor probe detachable from control unit• Sensor probe cable length at least 30m• Capable of measuring following parameters: pH, Dissolved oxygen, Electrical conductivity, Salinity, Total dissolved solid, Seawater specific gravity, Temperature, Turbidity, Water depth, Oxidation reduction potential, GPS location• Software for data transfer to a PC• One hand operation• Auto calibration feature• Auto hold function• Possibility to set a site name for repeated measurements at the same location(s); at least 20 sites can be stored• Possibility for single and repeated (interval) measurements; Interval settable between 10 seconds and 24 hours• Possibility to select different units of measurement for various parameters• Inbuilt compensation capabilities: Salinity compensation and atmospheric pressure compensation for dissolved oxygen (DO); Temperature	
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compensation for conductivity (COND); Setting total dissolved solid (TDS) coefficient for TDS

- Multiple language user menu selectable
 - English language must be present
- User settable Auto power off function
- Display contrast settable

Sensor head characteristics

- Measurement temperature range -10°C to 55°C
 - Outer diameter maximum 97 mm
 - Sensor head length maximum 345 mm
 - Cable length at least 30m
 - Mass maximum 1850 g
 - IP-68 waterproofing, or better
 - Shock resistant cover
- Control unit characteristics:
- Outer dimensions (WxDxH) 115 mm x 66 mm x 335 mm $\pm 5\%$
 - Mass maximum 825 g

- Monochromatic graphic LCD with backlight 320x240 mm

- Memory: at least 10000 data items
- USB connection
- IP-67 waterproofing, or better
- GPS unit: Reception method (12 channel parallel); Measurement precision [With PDOP (high precision): 30 m or less (2 drms)] or better
- Ambient temperature range: at least -5°C to

45°C

pH sensor:

- Measurement

method: Glass

electrode method

- Range: at least pH 0 to 14

- Resolution: 0.01 pH or better

- Precision: at least ± 0.1 pH

DO sensor:

- Measurement

method: Polarographic
method

- Film thickness: up to 25 μm

- Range: at least 0 mg/L to 50.0 mg/L

- Resolution: 0.01 mg/L or better

- Precision: 0 mg/L to 20 mg/L: ± 0.2 mg/L; 20 mg/L to 50 mg/L: ± 0.5 mg/L or better

- Salinity conversion: (0 to 70 PPT, automatic) or better

- Automatic temperature compensation

Electrical conductivity probe:

- Measurement

method: Four-AC-electrode method

- Range: 0 S/m to 10 S/m (0 mS/cm to 100 mS/cm) or better

- Auto range function

- Resolution: at least:
 - o 0.000 mS/cm to 0.999 mS/cm:0.001
 - o 1.00 mS/cm to 9.99 mS/cm:0.01

- o 10.0 mS/cm to 99.9 mS/cm: 0.1

- o 0.0 mS/m to 99.9
mS/m: 0.1

- o 0.100 S/m to 0.999 S/m: 0.001

- o 1.00 S/m to 9.99 S/m: 0.01

						<ul style="list-style-type: none">• Precision: 1% of full-scale (midpoint of two calibration points) or better• Automatic temperature conversion (25°C) Salinity measurement: <ul style="list-style-type: none">• Measurement method: Electrical conductivity conversion• Range: at least 0 to 70 parts per thousand• Resolution: 0.01 part per thousand or better• Precision: ± 3 part per thousand or better TDS (total dissolved solid) measurement: <ul style="list-style-type: none">• Measurement method: Electrical conductivity conversion• Conversion coefficient setting• Range: at least 0 g/L to 100 g/L• Resolution: 0.1% of full-scale or better• Repeatability: ± 2 g/L or better• Precision: ± 5 g/L or better Seawater specific gravity measurement: <ul style="list-style-type: none">• Measurement method: Electrical conductivity conversion• $\square$t, $\square$0, $\square$15 display• Range: at least 0 $\square$t to 50 $\square$• Resolution: 0.1 $\square$ or better• Precision: ± 5 $\square$ or better Temperature probe: <ul style="list-style-type: none">• Measurement method: Platinum temperature sensor• Range: at least -10°C to 55°C		
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						<ul style="list-style-type: none">• Resolution: at least 0.01℃• Sensor: Platinum temperature sensor, JIS Class B (0.3+0.005 t) or better Turbidity measurement: <ul style="list-style-type: none">• Measurement method: LED 90° scattering method• Range: at least 0 NTU to 1000 NTU• Resolution: 0.01 NTU or better• Precision: ±5% of read-out or ±1 NTU (whichever is larger) or better• Conforms to EN ISO 7027 Water depth measurement: <ul style="list-style-type: none">• Measurement method: Pressure method• Range: at least 0 m to 30 m• Resolution: 0.05 m or better• Precision: ±0.3 m or better ORP (oxidation reduction potential) measurement: <ul style="list-style-type: none">• Measurement method: Platinum electrode method• Range: at least -2000 mV to +2000 mV• Resolution: 1 mV or better• Precision: ±15 mV or better Scope of supply: <ul style="list-style-type: none">• One water quality measurement instrument with the above stated characteristics• Spare pH sensor – appropriate for the instrument		
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					<ul style="list-style-type: none"> • pH 4.01 Standard Solution for auto calibration, at least 4l • Spare ORP sensor – appropriate for the instrument • Spare DO membrane cap (at least 3 pieces) – appropriate for the instrument • Spare Reference Electrode tip with liquid junction – appropriate for the instrument • Internal solution for DO • pH sensor protect cover – 3 pieces at least • DO sensor protect cover – 3 pieces at least • Rubber Cap for sensor guard – at least 8 pieces • Backpack to carry the instrument • Carrying case for the instrument – hard plastic with foam inside to protect the instrument, or better <p>Authorization:</p> <ul style="list-style-type: none"> • Authorization from manufacturer needed <p>Warranty:</p> <ul style="list-style-type: none"> • Minimum one year for all equipment <p>Training:</p> <ul style="list-style-type: none"> • Minimum two days on the spot in Durres 		
15	Nabavka vazdušnog drona za potrebe Univerziteta u Draču „Aleksander Moisiu“ (Albanija) / AIR DRONE FOR VISUAL SEA AND COASTAL MONITORING	3000.00	1	Air drone	<p>Aircraft</p> <ul style="list-style-type: none"> • Takeoff Weight: 895 g • Dimensions (Folded/Unfolded) <ul style="list-style-type: none"> o Folded (without propellers) 221×96.3×90.3 mm (Length×Width×Height) o Unfolded (without propellers) 	1.00	SET

- **Diagonal Length:** 380.1 mm
- **Max Ascent Speed:**
 - o 1 m/s (C mode)
 - o 6 m/s (N mode)
 - o 8 m/s (S mode)
- **Max Descent Speed:**
 - o 1 m/s (C mode)
 - o 6 m/s (N mode)
 - o 6 m/s (S mode)
- **Max Flight Speed (at sea level, no wind):**
 - o 5 m/s (C mode)
 - o 15 m/s (N mode)
 - o 19 m/s (S mode)
- **Max Service Ceiling Above Sea Level:** 6000 m
- **Max Flight Time (no wind):** 46 minutes
- **Max Hovering Time (no wind):** 40 minutes
- **Max Flight Distance:** 30 km
- **Max Wind Speed Resistance:** 12 m/s
- **Max Tilt Angle:**
 - o 25° (C mode)
 - o 30° (N mode)
 - o 35° (S mode)
- **Max Angular Velocity:** 200°/s
- **Operating Temperature:** -10° to 40° C (14° to 104° F)
- **GNSS:** GPS + Galileo + BeiDou
- **Hovering Accuracy Range:**
 - **Vertical:** ±0.1 m (with Vision Positioning); ±0.5 m (with GNSS Positioning)
 - **Horizontal:** ±0.3 m (with Vision Positioning); ±0.5 m (with High-Precision Positioning System)
- **Internal Storage:** 8 GB (available space is

approx. 7.2 GB)

Hasselblad Camera

- Sensor: 4/3 CMOS, Effective pixels: 20 MP

- Lens:

 - o FOV: 84°

 - o Format Equivalent: 24 mm

 - o Aperture: f/2.8 to f/11

 - o Focus: 1 m to ∞ (with autofocus)

- ISO Range:

 - o Video: 100-6400

 - o Still Image: 100-6400

- Shutter Speed:

Electronic Shutter 8-1/8000 s

- Max Image Size:

Main Unit: 5280×3956

- Still Photography

Modes:

 - o Single shot: 20MP

Photos

 - o Automatic Exposure

Bracketing (AEB): 20

MP, 3/5 bracketed

frames at 0.7 EV

 - o Burst shooting: 20

MP, 3/5/7

 - o Timed: 20 MP,

2/3/5/7/10/15/20/30/60

s

- Video Resolution:

 - o H.264/H.265

 - o 5.1K:

5120×2700@

24/25/30/48/50fps

 - o DCI 4K:

4096×2160@

24/25/30/48/50/60/120

*fps

 - o 4K:

3840×2160@

24/25/30/48/50/60/120

*fps

 - o FHD:

1920×1080@

24/25/30/48/50/60/120

*/200*fps

- Max Video Bitrate:

H.264/H.265 Bitrate

200 Mbps

						<ul style="list-style-type: none">• Supported File Formats: exFAT• Photo Format: JPEG/DNG (RAW)• Video Formats: MP4/MOV (MPEG-4 AVC/H.264, HEVC/H.265) <p>Tele Camera</p> <ul style="list-style-type: none">• Sensor: 1/2-inch CMOS• Shutter Speed: Electronic Shutter: 2-1/8000 s• Lens:<ul style="list-style-type: none">o FOV: 15°o Format Equivalent: 162mmo Aperture: f/4.4o Focus: 3 m to ∞• ISO Range:<ul style="list-style-type: none">o Video: 100-6400o Still Image: 100-6400• Max Image Size: 4000×3000• Photo Format: JPEG/DNG (RAW)• Video Formats: MP4/MOV (MPEG-4 AVC/H.264, HEVC/H.265)• Still Photography Modes:<ul style="list-style-type: none">o Single shot: 12MP Photoso Automatic Exposure Bracketing (AEB): 12 MP, 3/5 bracketed frames at 0.7 EVo Burst shooting: 12 MP, 3/5/7o Timed: 12 MP, 2/3/5/7/10/15/20/30/60 s• Video Resolution:<ul style="list-style-type: none">o H.264/H.265o 4K: 3840×2160@25/30/50 fpso FHD: 1920×1080@25/30/50 fps		
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o Digital Zoom: 4x

Gimbal

- Stabilization: 3-axis motorized (tilt, roll, pan)
- Mechanical Range:
 - o Tilt: -135° to 100°
 - o Roll: -45° to 45°
 - o Pan: -27° to 27°
- Controllable Range:
 - o Tilt: -90° to 35°
 - o Pan: -5° to 5°
- Max Control Speed (tilt): $100^{\circ}/s$
- Angular Vibration Range: $\pm 0.007^{\circ}$

Sensing

- Sensing System: Omnidirectional binocular vision system, supplemented with an infrared sensor at the bottom of the aircraft
- Forward:
 - o Measurement Range: 0.5-20 m
 - o Detection Range: 0.5-200 m
 - o Effective Sensing Speed: Flight Speed $\leq 15m/s$
 - o FOV: Horizontal 90° , Vertical 103°
- Backward:
 - o Measurement Range: 0.5-16 m
 - o Effective Sensing Speed: Flight Speed $\leq 12m/s$
 - o FOV: Horizontal 90° , Vertical 103°
- Lateral:
 - o Measurement Range: 0.5-25 m
 - o Effective Sensing Speed: Flight Speed $\leq 15m/s$
 - o FOV: Horizontal 90° , Vertical 85°
- Upward:

						<ul style="list-style-type: none">o Measurement Range: 0.2-10 mo Effective Sensing Speed: Flight Speed ≤ 6m/so FOV: Front and Back 100°, Left and Right 90°• Downward:<ul style="list-style-type: none">o Measurement Range: 0.3-18 mo Effective Sensing Speed: Flight Speed ≤ 6m/so FOV: Front and Back 130°, Left and Right 160°• Operating Environment:<ul style="list-style-type: none">o Forward, Backward, Left, Right, and Upward: Surface with a clear pattern and adequate lighting (lux>15)o Downward: Surface with a clear pattern and adequate lighting (lux >15). Diffuse reflective surface with diffuse reflectivity>20% (e.g. wall, tree, person) <p>Video Transmission</p> <ul style="list-style-type: none">• Video Transmission System: O3+• Live View Quality: Remote Controller 1080p@30fps/1080p@60fps• Operation Frequency:<ul style="list-style-type: none">o 2.400-2.4835 GHzo 5.725-5.850 GHz• Max Transmission Distance (unobstructed, free of interference and aligned with controller):<ul style="list-style-type: none">o 2.400-2.4835 GHz; 5.725-5.850 GHzo FCC: 15 kmo CE: 8 km		
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						<ul style="list-style-type: none">o SRRC: 8 kmo MIC: 8 km• Signal Transmission Ranges (FCC):<ul style="list-style-type: none">o Strong Interference (urban landscape, limited line of sight, many competing signals): Approx. 1.5-3 kmo Medium Interference (suburban landscape, open line of sight, some competing signals): Approx. 3-9 kmo Low Interference (open landscape abundant line of sight, few competing signals): Approx. 9-15 kmo Data is tested under different standards in open areas free of interference. It only refers to the maximum, one-way flight distance without considering Return to Home. Please pay attention to RTH prompts in the DJI Fly app during actual flight.• Max Download Bitrate:<ul style="list-style-type: none">o O3+:<ul style="list-style-type: none">o 5.5MB/s (with RC-N1 remote controller)o 15MB/s (with DJI RC Pro remote controller)o Wi-Fi 6:<ul style="list-style-type: none">o 80MB/s*• Latency (depending on environmental conditions and mobile device):<ul style="list-style-type: none">o 130 ms (with RC-N1 remote controller)o 120 ms (with DJI RC Pro remote controller)• Antennas: 4		
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antennas, 2T4R

- Transmitter Power (EIRP):
- 2.4 GHz: ≤33 dBm (FCC); ≤20 dBm (CE/SRRC/MIC)
- 5.8 GHz: ≤33 dBm (FCC), ≤30 dBm (SRRC), ≤14 dBm(CE)

Battery

- Capacity: 5000 mAh
- Voltage: 15.4 V
- Charging Voltage Limit: 17.6 V
- Battery Type: LiPo 4S
- Energy: 77 Wh
- Weight: 335.5 g
- Charging Temperature: 5° to 40° C (41° to 104° F)

Battery Charger

- Input: 100-240 V AC, 47-63 Hz, 2.0 A
- USB-C Output: USB-C: 5.0 V□5.0 A/9.0 V□5.0 A/12.0 V□5.0 A/15.0 V□4.3 A/20.0 V□3.25 A/5.0~20.0 V□3.25 A
- USB-A output: USB-A: 5 V□2 A
- Rated Power: 65 W

Charging Hub

- Input: USB-C: 5-20 V□5.0 A max
- Output: Battery: 12-17.6 V□5.0 A max
- Rated Power: 65 W
- Charging Type: Charges three batteries in sequence.
- Charging Temperature Range: 5° to 40° C (41° to 104° F)

Car Charger

- Input: Car Power Input: 12.7-16 V□6.5

					Micro USB, USB-C Remote Controller and Remote Controller Control Sticks Batteries included x3 Battery charger hub Low-Noise propellers (pair) x6 Portable charger Storage cover ND filter set Carrying bag cables: RC USB type- C connector, RC Micro-USB connector, RC lightning connector Carrying bag • Original manufacturers bag for air drone set		
			2	Training	• Training course in- vivo in Durres	2.00	days
			3	Warranty	• Minimum warranty for the whole set	1.00	years
16	Nabavka stručne literature u elektronskoj formi za potrebe Univerziteta u Draču „Aleksander Moisiu“ (Albanija)/ PROCUREMENT OF ELECTRONIC BOOKS	3000.00	1	e-books	Book title Editor/Author Year Publisher ISBN e-book Air Pollution Calculations Vallero, Daniel 2019 Elsevier 9780128149348 An Introduction to Aquatic Toxicology Nikinmaa, Mikko 2014 Elsevier 9780124115743 Applied Statistics for Environmental Science with R Al-Karkhi, Abbas 2019 Elsevier 9780128186220 Assessing and Measuring Environmental Impact and Sustainability Klimes, Jiri 2015 Elsevier 9780127999685 Assessing Progress toward Sustainability: Frameworks, Tools	1.00	SET

and Case Studies
Carmen Teodosiu
2022 Elsevier
9780323858519
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Environmental Project
Teams Massey,
Stephen 2011 Elsevier
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Climate Change
Letcher, Trevor 2021
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Zanuttigh, Barbara
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Management
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Useful Numbers for
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Roisin 2021 Elsevier
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Casanova, Peter
Cornelius, Soumitra
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