

Project : Absheron Phase 2 - CPF Project
 Owner : TotalEnergies Absheron EP B.V.
 Client : Hyundai Engineering Co., Ltd.
 Attn. : 나진수 책임매니저님
 RFQ No. : AGSA-MR-CI-027_Material Requisition for Telecom & Security System
 Job No. : FP-HEC-Absheron Phase 2 - CPF -26-01
 Date : 2026-02-19
 Validity : 30 Days
 Subject : Proposal from KDA



Kuk Dong Automation Co., Ltd.
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 Tel. +82-52-288-6208
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Dear Sir,

We are pleased to forward our proposal as per your inquiry. Enclosed please see a detailed, itemized equipment list.
 The bid was prepared according to our experiences with similar installations and our understanding the specification for this project.
 Our scope of work consists of the followings:

[SCOPE of WORK]

(VAT: Excluded)

| Item No. | Description | | TOTAL Price (KRW) |
|---------------------------|--|--------------|-----------------------|
| I | TELECOM & SECURITY SYSTEM | 1 LOT | 10,093,200,000 |
| 1 | Data Network System | 1 SET | 357,946,800 |
| 2 | PAGA System | 1 SET | 2,423,699,655 |
| 3 | Radio System | 1 SET | 408,643,224 |
| 4 | Mobile 4G LTE System | 1 SET | 320,430,000 |
| 5 | CCTV System | 1 SET | 1,716,370,065 |
| 6 | Telephone & Structed System | 1 SET | 329,611,245 |
| 7 | Fiber Optic Network System | 1 SET | 50,600,000 |
| 8 | GPS System | 1 SET | 15,565,000 |
| 9 | Meteorological System | 1 SET | 51,059,122 |
| 10 | ACS(Access Control System) & ePOB | 1 SET | 382,719,194 |
| 11 | Entertainment System | 1 SET | 140,635,000 |
| 12 | Security System | 1 SET | 1,891,697,058 |
| 12.2 | ACS(Access Control System) | 1 SET | 395,826,717 |
| 12.3 | Perimeter Intrusion Detection System | 1 SET | 939,345,000 |
| 13 | Video Conference System | 1 SET | 617,731,130 |
| 14 | Other System | 1 SET | 50,050,000 |
| A | Spare Parts List for Start-up & Commissioning | 1 SET | 694,100 |
| B | Special tools | 1 SET | 586,300 |
| II | Engineering Cost and Other Services | 1 LOT | 226,400,000 |
| 1 | Detailed Engineering, Design, Drawing and Documentation | 1 LOT | 70,000,000 |
| 2 | System Fabrication/Integration, Factory Acceptance Test(FAT) at KDA Workshop in Korea , Inspection and Packing & FOB Transportation | 1 LOT | 10,000,000 |
| 3 | - Site Survey / Site Training | 90 days | 144,000,000 |
| | - Supervision 2man | 3 days | 2,400,000 |
| | - Training Fee 1man | | |
| Total Price (I+II) | | | 10,319,609,610 |
| OPTION | Spare Parts List for Operation (2 year) | 1 SET | 697,489,255 |
| | <ul style="list-style-type: none"> • Delivery Terms: FOB Korean port • Delivery Time: 22~28 weeks after Document Approval • Payment Terms: TBD | | |

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| Item No | Description | Manufacturer | Model | Q'ty | Unit | Unit Price | Total Price (KRW) |
|---------|--|----------------|-------------------|------|------|----------------|-------------------|
| I | TELECOM & SECURITY SYSTEM | | | 1 | SET | 10,093,209,610 | 10,093,209,610 |
| 1 | Data Network System | | | 1 | SET | 357,946,800 | 357,946,800 |
| 1.1 | Data Cabinet | | | 8 | SET | 24,108,525 | 192,868,200 |
| | - 800(W) x 800(D) x 2100(H) | RITTAL | VX 5307124 | 1 | | | |
| | - 48C FOPP x 2EA | | | 2 | | | |
| | - with F/O Patch cord | | | 48 | | | |
| | - Firewall with IPS Function | CISCO | FPR3110-NGFW-K9 | 1 | | | |
| | - Access Switch (48 port) | Alcatel lucent | OS6560-P48X4 | 1 | | | |
| | | Alcatel lucent | OS6560-BP-PX | 1 | | | |
| | - SFP modules, 1G | Alcatel lucent | SFP-GIG-LX | 2 | | | |
| | - SFP modules, 10G | Alcatel lucent | SFP-10G-LR | 2 | | | |
| | - UTP Patch Panel | | Cat.6a | 1 | | | |
| | - with UTP Patch cord | | | 24 | | | |
| | - Voice Gate Way | | | 1 | | | |
| | - Terminal Blocks | | | 1 | | | |
| | - Grounding Bus Bar | | | 1 | | | |
| | - Cable Trunk | | | 1 | | | |
| | -ATS for Redundant Input Power | | | 1 | | | |
| | - Surge Diverter | | | | | | |
| 1.2 | Data/Voice outlet | | | | EA | | |
| | - 2 Port | | | | | | |
| | - 4-port outlet configuration and mounted in standard 4"x4" electrical box(dual outlet power socket) | | | 325 | SET | 30,800 | 10,010,000 |
| | -Faceplate | | | 1 | | | |
| | -Cat.6a modular | | | 2 | | | |
| | - back box | | | 1 | | | |
| 1.3 | Wifi Access point | Aruba | AP515 | 41 | EA | 1,870,000 | 76,670,000 |
| | - Indoor | | | | | | |
| 1.4 | Wifi Access point | Aruba | AP-587EX | 14 | EA | 5,599,900 | 78,398,600 |
| | - Explosion proof outdoor (ATEX) / Class 1 Div 2 ATEX Zone 2 | | | | | | |
| 2 | PAGA System | | | 1 | SET | 2,423,699,655 | 2,423,699,655 |
| 2.1 | PAGA Central Cabinet | RITTAL | VX 5307124 | 1 | SET | 86,413,800 | 86,413,800 |
| | - 800(W) x 800(D) x 2100(H) | | | | | | |
| | - Surge Diverter | | | | | | |
| | -ATS for Redundant Input Power | | | 1 | | | |
| 2.2 | PAGA MDF Cabinet | RITTAL | VX 5307124 | 2 | SET | 37,789,400 | 75,578,800 |
| | - 800(W) x 800(D) x 2100(H) | | | | | | |
| | - Amplifier 300W x n (As per Speaker capacity + 20% spare) | | | | | | |
| | - N+1 configuration | | | | | | |
| | - Surge Diverter | | | | | | |
| | -ATS for Redundant Input Power | | | 2 | | 2,750,000 | 5,500,000 |
| 2.3 | PAGA Cabinet | RITTAL | VX 5307124 | 5 | SET | 30,231,520 | 151,157,600 |
| | - 800(W) x 800(D) x 2100(H) | | | | | | |
| | - Amplifier 300W x n (As per Speaker capacity + 20% spare) | | | | | | |
| | - N+1 configuration | | | | | | |
| | - Surge Diverter | | | | | | |
| | -ATS for Redundant Input Power | | | 5 | | 2,750,000 | 13,750,000 |
| 2.3 | PAGA Cabinet | RITTAL | VX 5307124 | 2 | SET | 30,231,520 | 60,463,040 |
| | - 800(W) x 800(D) x 2100(H) | | | | | | |
| | - Amplifier 300W x n (As per Speaker capacity + 20% spare) | | | | | | |
| | - Modular type UPS (mounted inside PAGA Cabinet) - 'Less than 10kVA x 2sets (A, B) | | | | | | |
| | - Backup time -1-hour | | | | | | |
| | - Battery 'Ni-Cd | | | | | | |
| | - N+1 configuration | | | | | | |
| | - Surge Diverter | | | | | | |
| | -ATS for Redundant Input Power | | | 2 | | 2,750,000 | 5,500,000 |
| 2.4 | Loudspeaker (6W) | DNH | BF-620(T) | 126 | EA | 287,958 | 36,282,708 |
| | - Wall structure mounted | | | | | | |
| | With adjustable SS316 mounting bracket | | | 126 | SET | 330,000 | 41,580,000 |
| | With JB(SUS316), Cable glands(SUS316) with Plugs | | | | | | |
| 2.5 | Loudspeaker (6W) | DNH | DSP-15EExmN(T) 8W | 7 | EA | 1,367,976 | 9,575,832 |
| | - Wall structure mounted (Explosion proof), ATEX certified | | | | | | |
| | Zone 1, IIA T3 | | | 7 | SET | 2,200,000 | 15,400,000 |
| | With adjustable SS316 mounting bracket | | | | | | |
| | With JB(SUS316), Cable glands(SUS316) with Plugs | | | | | | |
| 2.6 | Loudspeaker (25W) | DNH | DSP-25EExmNT | 355 | EA | 1,759,945 | 624,780,475 |
| | - Wall structure mounted | | | | | | |
| | - Explosion proof outdoor (ATEX certified) | | | | | | |

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| Item No | Description | Manufacturer | Model | Q'ty | Unit | Unit Price | Total Price (KRW) |
|----------|--|--------------------|--------------------------|----------|------------|--------------------|--------------------|
| | Zone 1, IIA T3 With adjustable SS316 mounting bracket With JB(SUS316), Cable glands(SUS316) with Plugs | | | 355 | SET | 2,200,000 | 781,000,000 |
| 2.7 | Ceiling speaker (1W) - Indoor | DNH | BF-620(T) | 100 | EA | 287,958 | 28,795,800 |
| 2.8 | PAGA ACU(Access Control Unit) | Industronic | AP 7x1 | 5 | EA | 4,723,700 | 23,618,500 |
| 2.9 | Beacon - Red & Yellow - Explosion proof outdoor | E2S | D1xC1X10R | 49 | EA | 4,799,900 | 235,195,100 |
| | Zone 1, IIA T3 With adjustable SS316 mounting bracket With JB(SUS316), Cable glands(SUS316) with Plugs | | | 49 | SET | 2,200,000 | 107,800,000 |
| 2.10 | Mounting Mast (Pole) - 3 meters | DAESAN | | 182 | EA | 594,000 | 108,108,000 |
| 2.11 | PMB (PAGA Marshalling Junction box) - Explosion proof outdoor (ATEX) - Zone 1 | | | 8 | EA | 1,100,000 | 8,800,000 |
| 2.12 | FJB (PAGA Flahing beacon Junction box) - Explosion proof outdoor (ATEX) - Zone 1 | | | 4 | EA | 1,100,000 | 4,400,000 |
| 3 | Radio System | | | 1 | SET | 408,643,224 | 408,643,224 |
| 3.1 | PMR/MARINE VHF Cabinet - 800(W) x 800(D) x 2100(H) - Base Station Transceiver (VHF) - Server - SII Gateway switch - 48C FOPP - with F/O Patch cord - Access Switch (24 port) - SFP modules, 1G - UTP Patch Panel - with UTP Patch cord - Surge Diverter -ATS for Redundant Input Power | RITTAL Motorola | VX 5307124 XiR M8668i | 2 | SET | 19,663,050 | 39,326,100 |
| | | Alcatel lucent | OS6560-P24X4 | 1 | | | |
| | | Alcatel lucent | OS6560-BP-PX | 1 | | | |
| | | Alcatel lucent | SFP-GIG-LX Cat.6a | 2 | | | |
| | | | | 1 | | | |
| | | | | 24 | | | |
| | | | | 1 | | - | - |
| 3.2 | PMR(Private Marine Radio) desktop console | Motorola | XiR M8668i | 2 | EA | 3,168,000 | 6,336,000 |
| 3.3 | Fixed PMR Radio | Motorola | XiR M8668i | 5 | EA | 3,168,000 | 15,840,000 |
| 3.4 | VHF Marine RCU(Remote Control Unit) | | | 3 | EA | 7,700,000 | 23,100,000 |
| 3.5 | Omni-directional Antenna - Outdoor - Building roof mounting | | | 5 | EA | 2,200,000 | 11,000,000 |
| | | | | | | - | - |
| | | | | | | - | - |
| 3.6 | Ceiling Omni-antenna - Indoor | | | 14 | EA | 1,312,366 | 18,373,124 |
| 3.7 | Telecom Tower (Radio antenna) - Air Craft Warning Light (LED twin) - 40 meters - PMR(Private Marine Radio) Antenna - VHF(Very High Frequency) Marine Antenna | | | 1 | EA | 16,500,000 | 16,500,000 |
| | | | | | | - | - |
| 3.8 | Hand Portable Radio (IS, ATEX Zone 1, IIA T3) | Motorola | XiR P8668Ex | 53 | EA | 2,860,000 | 151,580,000 |
| 3.9 | Multiway Charger for Radio | | | 5 | EA | 880,000 | 4,400,000 |
| 3.1 | Single Charger for Radio | | | 5 | EA | 220,000 | 1,100,000 |
| 3.11 | Headset Radio - Fixed desktop | Motorola | XiR M8668i | 6 | EA | 3,168,000 | 19,008,000 |
| 3.12 | Headset Radio (IS, ATEX Zone 1, IIA T3) - Fixed desktop | Motorola | XiR P8668Ex | 27 | EA | 2,860,000 | 77,220,000 |
| 3.13 | Vehicle Radio (IS, ATEX Zone 1, IIA T3) | Motorola | XiR P8668Ex | 6 | EA | 2,860,000 | 17,160,000 |
| 3.14 | Workstation - Rack mounted type - 42 inch monitor | | | 2 | EA | 3,850,000 | 7,700,000 |

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| Item No | Description | Manufacturer | Model | Q'ty | Unit | Unit Price | Total Price (KRW) |
|--|---|----------------|---|------------------|----------------------|---|---|
| 4 Mobile 4G LTE System | | | | 1 | SET | 320,430,000 | 320,430,000 |
| 4.1 | 4G LTE Cabinet - 800(W) x 800(D) x 2100(H) - Surge Diverter -ATS for Redundant Input Power | RITTAL | VX 5307124 | 1 1 1 1 | set | 43,450,000 - - - | 43,450,000 - - - |
| 4.3 | Mobile (ATEX Zone 1, IIA T3) | ECOM | Smart-Ex 03 | 27 | set | 5,060,000 | 136,620,000 |
| 4.4 | Smart Tablet (ATEX Zone 1, IIA T3) 21.5" FHD IP66 Intel Core I5-6300U 2.4GHz, fan less panel PC with accessories | ECOM | Tab-Ex® 04 P | 29 | set | 4,840,000 | 140,360,000 |
| 5 CCTV System | | | | 1 | SET | 1,716,370,065 | 1,716,370,065 |
| 5.1 | CCTV Cabinet - 800(W) x 800(D) x 2100(H) - NVR, Intelligent Video Surveillance Server - Access Switch (24 port) - SFP modules, 1G - UTP Patch Panel - 48C FOPP for Uplink - with F/O Patch cord - 48C FOPP for Camera Connection - with F/O Patch cord - Media Converters - KVM Switch - Surge Diverter -ATS for Redundant Input Power - VMS, Dell Server XProtect Expert Base License XProtect Expert Device License 1 year Care Plus for XProtect Expert Base License 1 year Care Plus for XProtect Expert Device License F/O Switch | RITTAL | VX 5307124 | 3 | SET | 14,361,600 | 43,084,800 |
| | | Alcatel lucent | OS6560-P24X4 | 1 | | | |
| | | Alcatel lucent | OS6560-BP-PX | 1 | | | |
| | | Alcatel lucent | SFP-GIG-LX | 2 | | | |
| | | | Cat.6a | 1 | | | |
| | | | | 1 | | | |
| | | | | 24 | | | |
| | | | | 1 | set | - | - |
| | | | | 24 | | - | - |
| | | | | 1 | | - | include JB |
| | | | | 1 | | - | - |
| | | | | 1 | | - | - |
| | | | | 1 | | 22,000,000 | 22,000,000 |
| | | Milestone | | 1 | | 2,871,000 | 2,871,000 |
| | | Milestone | | 158 | | 385,000 | 60,830,000 |
| | | Milestone | | 1 | | 515,900 | 515,900 |
| | | Milestone | | 158 | | 70,400 | 11,123,200 |
| | | | | 6 | set | 1,100,000 | 6,600,000 |
| 5.2 | Dome camera (security) - Indoor | Pelco | IMP331-1IRS | 22 | EA | 694,375 | 15,276,250 |
| 5.3 | Dome camera (security) - Weather proof outdoor Junction box | Pelco | P2230L | 81 | EA | 1,911,940 | 154,867,140 |
| 5.4 | Security camera - Explosion proof outdoor (ATEX Zone 1, IIA T3) - Junction box | Pelco | ExSite Enhanced 2 Series Fixed | 81 17 | set EA | 1,320,000 3,678,285 | 106,920,000 62,530,845 |
| 5.5 | PTZ CCTV camera - Explosion proof outdoor (ATEX Zone 1, IIA T3) - SS316L, IK10 protection - Wash and Wipe feature (10 liters wash tank SS316L) - Water hose - Spray nozzle - Junction box | Pelco Pelco | ExSite Pro IR PTZ WASEX2T4IC | 35 35 35 | EA EA EA | 17,275,418 2,508,000 3,850,000 | 604,639,630 87,780,000 134,750,000 |
| 5.6 | Thermal CCTV camera - Explosion proof outdoor (ATEX) - Fixed type(Image Sensor : 640 x 512) - SS316L, IK10 protection - Wash and Wipe feature (10 liters wash tank SS316L) - Water hose - Spray nozzle - Junction box | PELCO | ExSite Enhanced Bispectral PTZ 2 Series | 3 3 3 3 | EA EA EA EA | 28,799,100 3,850,000 2,508,000 3,850,000 | 86,397,300 11,550,000 7,524,000 11,550,000 |
| 5.7 | Tilt-Over Lattice Tower (CCTV camera) - Self-supporting - 6 meters | | | 37 | EA | 1,650,000 | 61,050,000 |
| 5.8 | PTZ Controller Keyboard | | | 2 | EA | 1,705,000 | 3,410,000 |
| 5.9 | Process CCTV Workstation | Dell | | 2 | EA | 3,850,000 | 7,700,000 |
| 5.10 | Security CCTV Workstation | Dell | | 2 | EA | 3,850,000 | 7,700,000 |
| 5.11 | CCTV 70 inch LED display - Wall mounted | | | 5 | EA | 1,100,000 | 5,500,000 |
| 6 Telephone & Structed System | | | | 1 | SET | 329,611,245 | 329,611,245 |
| 6.1 | SCS(Structural Cabling System) Cabinet - 800(W) x 800(D) x 2100(H) - Surge Diverter -ATS for Redundant Input Power | RITTAL | VX 5307124 | 3 1 1 | SET | 7,810,000 - - | 23,430,000 - - |

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Job No. : FP-HEC-Absheron Phase 2 - CPF -26-01



| Item No | Description | Manufacturer | Model | Q'ty | Unit | Unit Price | Total Price (KRW) |
|---------|---|--|--|---|-----------|-----------------------------------|-----------------------------------|
| 6.2 | Telephony Cabinet - 800(W) x 800(D) x 2100(H) - PABX - Analog Gateway - MDF - UTP Patch Panel - with UTP Patch cord - Access Switch (24 port) - SFP modules, 1G - Surge Diverter -ATS for Redundant Input Power | RITTAL | VX 5307124 | 1 1 1 1 1 24 6 6 12 | SET | 80,678,400 | 80,678,400 |
| 6.3 | VSAT(Very Small Aperture Terminal) Cabinet - 800(W) x 800(D) x 2100(H) - Surge Diverter -ATS for Redundant Input Power | RITTAL | VX 5307124 | 1 | SET | 4,950,000 | 4,950,000 |
| 6.4 | IP Phone -Indoor | Alcatel lucent | ALE-300 | 130 | EA | 539,000 | 70,070,000 |
| 6.5 | Reception phone with cordless headset Key expansionmodule | Alcatel lucent | ALE-500: 3ML37120AB | 2 | EA | 792,000 - | 1,584,000 - |
| 6.6 | Hotline Telephone | Viking | K-1900-D2 | 3 | EA | 548,591 | 1,645,773 |
| 6.7 | VSAT(Very Small Aperture Terminal) Telephone Satellite Modem and Antenna, Laptop and accessories | Iridium | Iridium 9555 | 3 | EA | 2,805,000 | 8,415,000 |
| 6.8 | Telephone station with Acoustic hood - Explosion proof outdoor (ATEX Zone 1, IIA T3) - Sounder & Beacon | FHF FHF | FHF11286180 TWIN-EExII | 34 1 1 | EA | 3,921,708 | 133,338,072 |
| 7 | Fiber Optic Network System | | | 1 | SET | 50,600,000 | 50,600,000 |
| 7.1 | FOPP Cabinet - 800(W) x 800(D) x 2100(H) - Surge Diverter -ATS for Redundant Input Power | RITTAL | VX 5307124 | 1 | SET | 4,950,000 | 4,950,000 |
| 7.2 | FOC Marshalling Cabinet - 800(W) x 800(D) x 2100(H) - Surge Diverter -ATS for Redundant Input Power | RITTAL | VX 5307124 | 1 | SET | 4,950,000 | 4,950,000 |
| 7.3 | FOJB (Fiber optic Junction box) - Explosion proof outdoor (ATEX Zone 1, IIA T3) as per IEC 60079-28 - Min. IP65 | | | 16 | set | 2,200,000 | 35,200,000 |
| 8 | GPS System | | | 1 | SET | 15,565,000 | 15,565,000 |
| 8.1 | Primary GPS Cabinet - 800(W) x 800(D) x 2100(H) - Time Server and Antenna Digital Clock - Surge Diverter -ATS for Redundant Input Power | RITTAL Master clock Master clock | VX 5307124 GMR5000 NTDS44 | 1 1 1 | SET ea | 4,950,000 5,500,000 825,000 | 4,950,000 5,500,000 825,000 |
| 8.2 | GPS Antenna | | | 2 | ea | 770,000 | 1,540,000 |
| 9 | Meteorological System | | | 1 | SET | 51,059,122 | 51,059,122 |
| 9.1 | Meteorological System Cabinet - 800(W) x 800(D) x 2100(H) -ATS for Redundant Input Power - Server - Access Switch - SFP modules, 1G - Surge Diverter | RITTAL Alcatel lucent Alcatel lucent Alcatel lucent | VX 5307124 OS6560-P24X4 OS6560-BP-PX SFP-GIG-LX | 1 1 1 1 1 | SET | 11,429,000 - - - - | 11,429,000 - - - - |
| 9.2 | Meteo System Workstation + monitor | | | 4 | EA | 3,850,000 | 15,400,000 |
| 9.3 | Telecom Mast (Weather monitoring) - Air Craft Warning Light (LED twin) - 20 meters | | | 1 | EA | 15,266,918 | 15,266,918 |
| 9.4 | Combined Wind Speed & Direction Sensor | Vaisala | WMT700 | 1 | | 2,713,279 | 2,713,279 |
| 9.5 | Precipitation Sensor | Vaisala | QMR102 | 1 | | 2,399,925 | 2,399,925 |
| 9.6 | Combined Temperature, Barometric Pressure And Humidity Sensor | | | | | | |
| 9.7 | Junction Box - Explosion proof outdoor (ATEX) - Min. IP 65 - Transdures / FO Converter - 230VAC UPS Power | | | 1 | | 3,850,000 | 3,850,000 |

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|-----------|---|----------------|-----------------------------|------|------|---------------|-------------------|
| 10 | ACS(Access Control System) & ePOB | | | 1 | SET | 382,719,194 | 382,719,194 |
| 10.1 | ACS & ePOB Cabinet - 800(W) x 800(D) x 2100(H) - ACS Server - ACS Management Software - ACS Controller - 48C FOPP - Access Switch (24 port) | RITTAL | VX 5307124 | 1 | SET | 39,769,400 | 39,769,400 |
| | | Suprema | | 1 | | - | - |
| | | Alcatel lucent | OS6560-P24X4 | 1 | | - | - |
| | | Alcatel lucent | OS6560-BP-PX | 1 | | - | - |
| | | Alcatel lucent | SFP-GIG-LX Cat.6a | 1 | | - | - |
| | - SFP modules, 1G - UTP Patch Panel -ATS for Redundant Input Power - Surge Diverter | | | 1 | | - | - |
| 10.2 | ACS Cabinet - 800(W) x 800(D) x 2100(H) - ACS Controller - 48C FOPP - Access Switch (24 port) | RITTAL | VX 5307124 | 6 | SET | 12,544,400 | 75,266,400 |
| | | Suprema | | 1 | | - | - |
| | | Alcatel lucent | OS6560-P24X4 | 1 | | - | - |
| | | Alcatel lucent | OS6560-BP-PX | 1 | | - | - |
| | | Alcatel lucent | SFP-GIG-LX Cat.6a | 1 | | - | - |
| | - SFP modules, 1G - UTP Patch Panel -ATS for Redundant Input Power - Surge Diverter | | | 1 | | - | - |
| | Redundant ACS Server, ACS Controller, FOPP, Access Switch, UTP Patch Panel and accessories | | | | | | |
| 10.3 | Card reader - Indoor | Suprema | BioLite N2 | 73 | EA | 1,204,775 | 87,948,575 |
| 10.4 | Card reader - Weather proof outdoor | Suprema | BioLite N2 | 33 | EA | 1,204,775 | 39,757,575 |
| 10.5 | Card reader - Explosion proof outdoor (ATEX Zone 1, IIA T3) | Suprema | BioLite N2 | 12 | EA | 1,204,775 | 14,457,300 |
| 10.6 | Card reader with Keypad - Indoor | Suprema | BioLite N2 | 35 | EA | 1,204,775 | 42,167,125 |
| 10.7 | Card reader with Keyboard - Outdoor | Suprema | BioLite N2 | 1 | EA | 1,204,775 | 1,204,775 |
| 10.8 | Door status contact | | | 165 | EA | 55,000 | 9,075,000 |
| 10.9 | Electro magnetic lock | IDTECK | IEM280LED | 112 | EA | 149,160 | 16,705,920 |
| 10.1 | Break glass unit | IDTECK | EBG02 | 97 | EA | 10,692 | 1,037,124 |
| 10.11 | ACS Intercom Master station, Substation, Built-in video camera, Keypad, Card reader or Biometric scanners | | | 5 | EA | 5,500,000 | 27,500,000 |
| 10.12 | ACS & ePOB Workstation | | | 4 | EA | 3,850,000 | 15,400,000 |
| 10.13 | ACS & ePOB 42" display - Wall mounted | | | 4 | EA | 1,100,000 | 4,400,000 |
| 10.14 | Horizontal Push Bar | | | 14 | EA | 55,000 | 770,000 |
| 10.15 | IN/OUT POB Reader - Explosion proof outdoor (ATEX) | | | 3 | EA | 770,000 | 2,310,000 |
| 10.16 | OCU(Override Control Unit) - Explosion proof outdoor (ATEX) | | | 3 | EA | 1,650,000 | 4,950,000 |
| 11 | Entertainment System | | | 1 | SET | 140,635,000 | 140,635,000 |
| 11.1 | Entertainment Cabinet - 800(W) x 800(D) x 2100(H) -ATS for Redundant Input Power Head End, 48P Entertainment switch, | RITTAL | VX 5307124 | 2 | SET | 45,408,000 | 90,816,000 |
| | | | | 1 | | 2,750,000 | 2,750,000 |
| | | | | 1 | | 33,000,000 | 33,000,000 |
| | | Alcatel lucent | OS6560-P48X4 | 1 | | 3,850,000 | 3,850,000 |
| | | Alcatel lucent | OS6560-BP-PX | 1 | | 660,000 | 660,000 |
| | | Alcatel lucent | SFP-GIG-LX | 2 | | 44,000 | 88,000 |
| | - SFP modules, 1G Controller, IT set-top box, TVRO SAT(Television Receive-Only Satellite) - Surge Diverter | | | | | - | - |
| 11.2 | Entertainment screen - 42 inch 4K UHD SMART TV | | | 13 | EA | 550,000 | 7,150,000 |
| 11.3 | Entertainment display - 55 inch | | | 2 | EA | 715,000 | 1,430,000 |
| 11.4 | TVRO SAT (Television Receive-Only Satellite) | | | 3 | SET | 297,000 | 891,000 |
| 12 | Security System | | | 1 | SET | 1,891,697,058 | 1,891,697,058 |
| 12.1 | CCTV System | | | | | | |
| 12.1.1 | Security CCTV camera | Pelco | Esprit Anti-Corrosion Fixed | 103 | SET | 6,349,436 | 653,991,908 |

Project : Absheron Phase 2 - CPF Project

Client : Hyundai Engineering Co., Ltd.

RFQ No. : AGSA-MR-CI-027_Material Requisition for Telecom & Security System

Job No. : FP-HEC-Absheron Phase 2 - CPF -26-01



| Item No | Description | Manufacturer | Model | Q'ty | Unit | Unit Price | Total Price (KRW) |
|-------------|---|-----------------|-----------------------------------|--------|------|-------------|-------------------|
| | - Fixed type | | | 1 | | | |
| | - Weather proof outdoor | | | 1 | | | |
| | - Junction Box | | | 1 | | | |
| | - Wash and Wipe feature | Pelco | WASPT0V23L11M00 | 1 | | | |
| | - Water hose | | | | | | |
| | - Spray nozzle | | | | | | |
| 12.1.2 | Security PTZ CCTV camera | Pelco | EspritAnti-corrosionPTZ | 33 | SET | 28,289,550 | 933,555,150 |
| | - Long range | | | 1 | | | |
| | - Weather proof | | | 1 | | | |
| | - Junction Box | | | 1 | | | |
| | - Wash and Wipe feature | Pelco | WAS0V5L5M00 | 1 | | | |
| | - Water hose | | | | | | |
| | - Spray nozzle | | | | | | |
| 12.1.3 | Tilt-Over Lattice Tower (CCTV camera) | | | 111 | EA | 1,650,000 | 183,150,000 |
| | - Self-supporting | | | | | | |
| | - 6 meters | | | | | | |
| 12.1.4 | Tilt-Over Lattice Tower (PTZ CCTV camera) | | | 20 | EA | 2,200,000 | 44,000,000 |
| | - Self-supporting | | | | | | |
| | - 10 meters | | | | | | |
| 12.1.5 | FEC(Field Equipment Cabinet) | RITTAL | VX 5307124 | 10 | SET | 4,950,000 | 49,500,000 |
| | -ATS for Redundant Input Power | | | 10 | | 2,750,000 | 27,500,000 |
| 12.2 | ACS(Access Control System) | | | 1 | SET | 395,826,717 | 395,826,717 |
| 12.2.1 | Card reader | Suprema | BioLite N2 | 27 | EA | 2,084,775 | 56,288,925 |
| | - Weather proof outdoor | | | | | | |
| 12.2.2 | ACS Intercom | | | 25 | EA | 1,100,000 | 27,500,000 |
| | - Weather proof outdoor | | | | | | |
| 12.2.3 | Turnstile | Optima | F100-003 | 4 | EA | 7,788,908 | 31,155,632 |
| 12.2.4 | Dome camera (Turnstile) | Pelco | Sanix value 2 Series Outdoor Dome | 8 | EA | 360 | 2,880 |
| | - Weather proof outdoor | | | | | | |
| | - Fixed type | | | | | | |
| 12.2.5 | Vehicle Arm Barrier 4m with ANPR camera with accessories | Optima | B600 | 4 | EA | 2,376,330 | 9,505,320 |
| | | Optima | ALPR-100 | 4 | | 40,318,740 | 161,274,960 |
| 12.2.6 | Sliding gate 15m (Motorized type, push button with accessories) for Plant Main Entrance | Optima | TSG | 1 | | 31,999,000 | 31,999,000 |
| 12.2.7 | X-Ray scanner | astrophysicsinc | XIS-5335S™ | 1 | | 55,000,000 | 55,000,000 |
| | | | SMD 600 PLUS | 1 | | 23,100,000 | 23,100,000 |
| 12.3 | Perimeter Intrusion Detection System | | | 1 | SET | 939,345,000 | 939,345,000 |
| 12.3.1 | PIDS System Cabinet | | | 1 | SET | 205,810,000 | 205,810,000 |
| | -ATS for Redundant Input Power | | | 1 | | - | - |
| | PIDS Controller (Up to 500m of sensing cable per zone) | Fiber sensys | FD-322 | 71 | | - | - |
| | Outdoor Enclosure | | | 1 | SET | 770,000 | 54,670,000 |
| | - Surge Diverter | | | | | | |
| 12.3.2 | Fiber Optic Sensing Cable (24C) | | 24C, SM | 9,799 | EA | 11,000 | 107,789,000 |
| | - Single-armor, single-jacket fiber optic sensor/lead cable, 24 fibers, recommended for buried applications | | | | | | |
| | IR Sensor (Weather proof) | OPTEX | SL-350QDP | 6 | | 330,000 | 1,980,000 |
| 12.3.4 | PIDS Workstation | | | 2 | SET | 6,050,000 | 12,100,000 |
| 12.4 | Anti Intrusion Detection System (OIL/GAS Pipe Line) | | | - | | | |
| | - Single-armor, single-jacket fiber optic sensor/lead cable, 24 fibers, recommended for buried applications | | | - | | | |
| 12.4.1 | Fiber Optic Sensing Cable (48C) | | 48C, SM | 10,910 | M | 22,000 | 240,020,000 |
| 12.4.2 | Fiber Optic Sensing Cable (48C) | | 48C, SM | 6,186 | M | 22,000 | 136,092,000 |
| 12.4.3 | Fiber Optic Sensing Cable (48C) | | 48C, SM | 3,176 | M | 22,000 | 69,872,000 |
| 12.4.4 | Fiber Optic Sensing Cable (48C) | | 48C, SM | 5,046 | M | 22,000 | 111,012,000 |
| 13 | Video Conference System | | | 1 | SET | 617,731,130 | 617,731,130 |
| 13.1 | Video conference system (Microphone) | | | 10 | EA | 59,947,113 | 599,471,130 |
| | Cisco Room Kit EQ | Cisco | | | | | |
| | Cisco Room Navigator For Table | Cisco | | | | | |
| | Pan-Tilt-Zoom 4K 20x Camera, Bracket for wall mounting of PTZ 4K camera, | Cisco | PTZ 4K Camera | | | | |
| | 42" LED display, | | | | | | |
| | Cisco Table Microphone with Euroblock plug | Cisco | CS-MIC-TABLE-J | | | | |
| 13.2 | Video Projector | | | 2 | EA | 1,100,000 | 2,200,000 |
| 13.3 | Video conference screen | | | 10 | EA | 1,100,000 | 11,000,000 |
| | - 55 inch display | | | | | | |
| 13.4 | IP STB | | | 2 | EA | 550,000 | 1,100,000 |
| 13.5 | EVR(Emer. Voice Recorder) Microphone | | | 12 | EA | 330,000 | 3,960,000 |
| 14 | Other System | | | 1 | SET | 50,050,000 | 50,050,000 |

Project : Absheron Phase 2 - CPF Project

Client : Hyundai Engineering Co., Ltd.

RFQ No. : AGSA-MR-CI-027_Material Requisition for Telecom & Security System

Job No. : FP-HEC-Absheron Phase 2 - CPF -26-01



| Item No | Description | Manufacturer | Model | Q'ty | Unit | Unit Price | Total Price (KRW) |
|----------|---|--------------|------------------|------|------|------------|-------------------|
| 14.1 | TSAS(Telecom Supervisory Alarm System) Cabinet - 800(W) x 800(D) x 2100(H) -ATS for Redundant Input Power | RITTAL | VX 5307124 | 1 | SET | 4,950,000 | 4,950,000 |
| | | | | 1 | | 2,750,000 | 2,750,000 |
| | Spare Cabinet | | | | | | |
| 14.2 | - 800(W) x 800(D) x 2100(H) | RITTAL | VX 5307124 | 4 | SET | 6,187,500 | 24,750,000 |
| 14.3 | - 800(W) x 1000(D) x 2100(H) for Server | RITTAL | VX 5307124 | 1 | SET | 8,800,000 | 8,800,000 |
| 14.3 | Flare Monitoring Workstation | | | 1 | EA | 3,850,000 | 3,850,000 |
| 14.4 | Flare Monitoring display | | | 1 | EA | 1,100,000 | 1,100,000 |
| 14.5 | TSAS(Telecom Supervisory Alarm System) Workstation | | | 1 | EA | 3,850,000 | 3,850,000 |
| A | Spare Parts List for Start-up & Commissioning | | | 1 | SET | 694,100 | 694,100 |
| | - FO Patch Panel 24 Port (SC type) | | | 1 | | 102,300 | 102,300 |
| | - FO Patch cord (3M), Single mode, SC-LC type | | | 24 | | 7,700 | 184,800 |
| | - UTP Patch Panel 24 Port, Cat.6 | | | 1 | | 275,000 | 275,000 |
| | - UTP Patch Code, Cat 6a | | | 24 | | 5,500 | 132,000 |
| B | Special tools | | | 1 | SET | 586,300 | 586,300 |
| | Punch-Down Tool with 110 Blade | Netmate | HT-364BR | 2 | ea | 55,000 | 110,000 |
| | RJ45 Crimping Tool, Cat.6 | LS | LS-CT-UC5E(6)-SH | 2 | ea | 88,000 | 176,000 |
| | LAN Tester | NEXT | NEXT-488PDT | 2 | ea | 59,400 | 118,800 |
| | Fiber Optic Power Meter | Prokit | MT-7601 | 1 | ea | 181,500 | 181,500 |

Project : Absheron Phase 2 - CPF Project

Client : Hyundai Engineering Co., Ltd.



RFQ No. : AGSA-MR-CI-027_Material Requisition for Telecom & Security System

Job No. : FP-HEC-Absheron Phase 2 - CPF -26-01

| Item No | Description | Manufacturer | Model | Unit | Q'ty | Unit Price | Total Price (KRW) |
|---------|--|----------------|--|------------|----------|--------------------|--------------------|
| I | Spare Parts List for Operation (2 year) | | | SET | 1 | 697,489,255 | 697,489,255 |
| 1 | - Access Switch (48 port) | Alcatel lucent | OS6560-P48X4 | | 3 | 4,375,000 | 13,125,000 |
| 2 | | Alcatel lucent | OS6560-BP-PX | | 3 | 750,000 | 2,250,000 |
| 3 | - SFP modules, 1G | Alcatel lucent | SFP-GIG-LX | | 3 | 50,000 | 150,000 |
| 4 | Data/Voice outlet | | | | | | |
| | - 4 Port | | | SET | 5 | 35,000 | 175,000 |
| | -Faceplate | | | | 1 | | |
| | -Cat.6a modular | | | | 2 | | |
| | - back box | | | | 1 | | |
| 5 | Wifi Access point | Aruba | AP515 | EA | 52 | 2,125,000 | 110,500,000 |
| | - Indoor | | | | | | |
| 6 | Wifi Access point | Aruba | AP-587EX | EA | 9 | 6,279,900 | 56,519,100 |
| | - Explosion proof outdoor (ATEX) | | | | | | |
| 7 | Loudspeaker (6W) | DNH | BF-620(T) | EA | 5 | 327,225 | 1,636,125 |
| | - Wall structure mounted | | | | | | |
| 8 | Loudspeaker (6W) | DNH | DSP-15EExmN(T) 8W | EA | 5 | 1,366,840 | 6,834,200 |
| | - Wall structure mounted (Explosion proof) | | | | | | |
| 9 | Loudspeaker (25W) | DNH | DSP-25EExmNT | EA | 5 | 1,973,675 | 9,868,375 |
| | - Wall structure mounted | | | | | | |
| | - Explosion proof outdoor | | | | | | |
| 10 | Ceiling speaker (1W) | DNH | BF-620(T) | EA | 3 | 327,225 | 981,675 |
| | - Indoor | | | | | | |
| 11 | Beacon | E2S | D1xC1X10R | EA | 3 | 6,279,900 | 18,839,700 |
| | - Red & Yellow | | | | | | |
| | - Explosion proof outdoor | | | | | | |
| 12 | PMR(Private Marine Radio) desktop console | Motorola | XiR M8668i | EA | 3 | 3,600,000 | 10,800,000 |
| 13 | Fixed PMR Radio | Motorola | XiR M8668i | EA | 3 | 3,600,000 | 10,800,000 |
| 14 | Hand Portable Radio (IS) | Motorola | R7 | EA | 5 | 1,875,000 | 9,375,000 |
| 15 | Multiway Charger for Radio | | | EA | 5 | 1,000,000 | 5,000,000 |
| 16 | Single Charqer for Radio | | | EA | 5 | 250,000 | 1,250,000 |
| 17 | Headset Radio | Motorola | XiR M8668i | EA | 1 | 3,600,000 | 3,600,000 |
| | - Fixed desktop | | | | | | |
| 18 | Headset Radio (IS) | Motorola | XiR M8668i | EA | 1 | 3,600,000 | 3,600,000 |
| | - Fixed desktop | | | | | | |
| 19 | Vehicle Radio (IS) | Motorola | XiR M8668i | EA | 1 | 3,600,000 | 3,600,000 |
| 20 | Mobile (ATEX) | ECOM | Smart-Ex 02 | set | 2 | 5,500,000 | 11,000,000 |
| 21 | Dome camera (security) | Pelco | IMP331-1IRS | EA | 3 | 789,063 | 2,367,189 |
| | - Indoor | | | | | | |
| 22 | Dome camera (security) | Pelco | P2230L | EA | 3 | 2,144,129 | 6,432,387 |
| | - Weahter proof outdoor | | | | | | |
| 23 | Security camera | Pelco | ExSite Enhanced 2 Series Fixed | EA | 3 | 4,124,981 | 12,374,943 |
| | - Explosion proof outdoor | | | | | | |
| 24 | PTZ CCTV camera | Pelco | ExSite Enhanced 2 Series PTZ | EA | 3 | 31,875,000 | 95,625,000 |
| | - Explosion proof outdoor (ATEX) | Pelco | WASN11V10L20M00 | EA | 3 | 2,500,000 | 7,500,000 |
| 25 | Thermal CCTV camera | PELCO | ExSite Enhanced Thermal 2 Series Fixed | EA | 3 | 32,296,500 | 96,889,500 |
| | - Explosion proof outdoor (ATEX) | | | | | - | - |
| | - Fixed type | | | | | | |
| 26 | IP Phone | Alcatel lucent | H2P | EA | 5 | 125,000 | 625,000 |
| | -Indoor | | | | | | |
| 27 | Reception phone with cordless headset | Alcatel lucent | H2P | EA | 1 | 125,000 | 125,000 |
| 28 | Hotline Telephone | Viking | K-1900-D2 | EA | 1 | 615,212 | 615,212 |
| | | | | | | - | - |
| 29 | Telephone station with Acoustic hood | FHF | FHF11286180 | EA | 2 | 3,918,450 | 7,836,900 |
| | - Explosion proof outdoor (ATEX) | | | | | | |
| | - Sounder & Beacon | FHF | TWIN-EExiI | | 2 | | |
| 30 | Combined Wind Speed & Direction Sensor | Vaisala | WMT700 | | 3 | 2,711,024 | 8,133,072 |

Project : Absheron Phase 2 - CPF Project

Client : Hyundai Engineering Co., Ltd.

RFQ No. : AGSA-MR-CI-027_Material Requisition for Telecom & Security System

Job No. : FP-HEC-Absheron Phase 2 - CPF -26-01



| Item No | Description | Manufacturer | Model | Unit | Q'ty | Unit Price | Total Price (KRW) |
|---------|---|--------------|-----------------------------------|------|------|------------|-------------------|
| 31 | Precipitation Sensor | Vaisala | QMR102 | | 3 | 2,691,375 | 8,074,125 |
| 32 | Combined Temperature, Barometric Pressure And Humidity Sensor | | | | | | |
| 33 | Card reader - Indoor | IDTECK | RF10 | EA | 5 | 168,000 | 840,000 |
| 34 | Card reader - Weather proof outdoor | IDTECK | RF10 | EA | 5 | 168,000 | 840,000 |
| 35 | Electro magnetic lock | IDTECK | IEM280LED | EA | 3 | 169,500 | 508,500 |
| 36 | Break glass unit | IDTECK | EBG02 | EA | 3 | 12,150 | 36,450 |
| 37 | CCTV System | | | | | | |
| 38 | Security CCTV camera | Pelco | Esprit Anti-Corrosion Fixed | SET | 3 | 8,056,787 | 24,170,360 |
| | - Fixed type | | | | 1 | | |
| | - Weather proof outdoor | | | | | | |
| | - Junction Box | | | | 1 | | |
| | - Wash and Wipe feature | Pelco | WAS0V5L5M00 | | 1 | | |
| | - Water hose | | | | | | |
| | - Spray nozzle | | | | | | |
| | | | | SET | 3 | 41,709,740 | 125,129,220 |
| 39 | Security PTZ CCTV camera | Pelco | EspritAnti-corrosionPTZ | | 1 | | |
| | - Long range | | | | | | |
| | - Weather proof | | | | | | |
| | - Junction Box | | | | 1 | | |
| | - Wash and Wipe feature | Pelco | WAS0V5L5M00 | | 1 | | |
| | - Water hose | | | | | | |
| | - Spray nozzle | | | | | | |
| 40 | Turnstile | Optima | F100-003 | EA | 2 | 8,851,031 | 17,702,062 |
| 41 | Dome camera (Turnstile) | Pelco | Sarix Value 2 Series Outdoor Dome | EA | 3 | 586,720 | 1,760,160 |
| | - Weather proof outdoor | | | | | | |
| | - Fixed type | | | | | | |