



PT. ANDAMAR MARIN SEGARA

AKR Tower Lt. 16 Unit A - JL. Panjang No. 5 Jakarta Barat – 11530, Telepon (021) 3457439

Jakarta, 28 Januari 2021

No. : 03/SPH/AMS/I/2021
Perihal : Pengadaan Full Mission Ship Simulator

Kepada :
Politeknik Ilmu Pelayaran Semarang
Jl. Singosari Raya No. 2A, Wonodri,
Kec. Semarang Selatan, Kota Semarang,
Jawa Tengah

Dengan hormat,

Bersama dengan ini kami sampaikan penawaran harga untuk Pengadaan Full Mission Ship Simulator di Politeknik Ilmu Pelayaran Semarang dengan rincian dibawah ini :

N O.	URAIAN BARANG	QTY	Harga Satuan (Rp.)	Total Harga (Rp.)
	SISTEM PELATIHAN ANT STCW			
	1 x Class A Bridge Assessment System with 360 HFOV Using LED Monitor with 1 x Instructor Station, 1 x Briefing/De-Briefing Station and 1 x Server Station			
A	Trainee Station			
	Hardware			
	1. Console and Equipment			
	1.1 Visual System incl.			
	1.1.1 75 inch LED Monitor Merk NEC type C751Q	12 unit	87,000,000	1,044,000,000
	Spesifikasi :			
	Resolution: 3840x2160			
	Contrast Ratio 12000:1			
	View Angle 178 Deg			
	Power 100-240 VAC/195W			
	Inputs: Display Port x 2, HDMI x3			
	1.1.2 Computer for Visual Merk HP type Z4	7 unit	60,000,000	420,000,000
	-Intel Xeon W-2125 (4.0 GHz / 4-cores)			
	- RAM : 8 GB			
	- HDD 500 GB SATA 7200 rpm			
	- 1xDVI-D (DL) / 2xDP / 2xHDMI			
	- USB Standart keyboard, USB Standart mouse			
	- GFX: GeForce RTX2070 AORUS			
	1.1.3 Bridge Fronts Merk Kongsberg type Panel	12 unit	47,250,000	567,000,000
	Spesifikasi :			
	- Material Aluminium			
	- The angle between bridge front are 30 degrees			
	- The screen at the back are mounted edge to edge (about 20mm between display content)			
	1.2 Navigation Aids			
	1.2.1 Navigation Aid and Communication Table Merk Kongberg type	2 unit	120,000,000	240,000,000
	Communications Table			
	Spesifikasi :			
	- Chart Table, min 1300mm			
	1.2.2 Monitor for Communication Merk Dell type U2412M	1 unit	4,500,000	4,500,000
	Spesifikasi :			
	- Supporting a resolution : 1920 x 1200			
	- Screen Size : 24" LED High Performance			
	- Pixel Pitch : 0,277mm			
	- Aspect Ratio : 10:16			
	- Contrast Ratio : 1:1000			
	- Response Time : 1 ms			
	- Support : VGA and DVI, Display Port			
	- Brightness : 300cd/m2			
	1.2.3 Monitor for Navaid Merk Dell type U2412M	1 unit	4,500,000	4,500,000
	Spesifikasi :			



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- Supporting a resolution : 1920 x 1200				
- Screen Size : 24" LED High Performance				
- Pixel Pitch : 0.277mm				
- Aspect Ratio : 10:16				
- Contrast Ratio : 1:1000				
- Response Time : 1 ms				
- Support : VGA and DVI, Display Port				
- Brightness : 300cd/m2				
1.2.4 Communication Systems (Only on Communication Table) Merl Sennheiser type PC131	1	unit	1,000,000	1,000,000
Spesifikasi :				
- Frequency response : 30-180,000Hz				
- Impedance : 32Ω				
- SPL (at 1 KHz, 1 Mrms) : 119 dB				
- Microphone				
- Frequency response : 8-hz-15,000Hz				
- Pick-up pattern : Unidirectional				
- Sensitivity : (-) 38dBV/Pa				
- Impedance : 2kΩ				
- Cable length : 3m/10ft				
- Connector plug : 2x3.5mm for PC/Laptop				
1.2.5 Computer for communication and Navaid Merk HP type 800 G4 SFF	1	unit	20,000,000	20,000,000
- Intel Pentium Gold G5500/3.8 GHz (Dual core)				
- GFX: Intel HD Graphics				
- RAM : 8 GB				
- HDD: 128 GB SSD				
- 2 x Display Port (Adapter to DVI-D not included)				
- USB Standart keyboard, USB Standart mouse				
1.3 Multifunctional Console incl.				
1.3.1 ECDIS/Radar Type Approved Operator Station Console Merk Kongsberg type Console	2	unit	62,000,000	124,000,000
Spesifikasi :				
- Material Metal				
- Console minimal width 650mm				
- Bezel for 24 inch monitor				
- Hidden Keyboard drawer including Cherry Keyboard for maintenance				
- Type Approved				
1.3.2 Monitor Merk Dell tipe U2412M	2	unit	4,500,000	9,000,000
Spesifikasi :				
- Supporting a resolution : 1920 x 1200				
- Screen Size : 24" LED High Performance				
- Pixel Pitch : 0.277mm				
- Aspect Ratio : 10:16				
- Contrast Ratio : 1:1000				
- Response Time : 1 ms				
- Support : VGA and DVI, Display Port				
- Brightness : 300cd/m2				
1.3.3 Computer Merk HP type 800 G4 SFF	2	unit	20,000,000	40,000,000
- Intel Pentium Gold G5500/3.8 GHz (Dual core)				
- GFX: Intel HD Graphics				
- RAM : 8 GB				
- HDD: 128 GB SSD				
- 2 x Display Port (Adapter to DVI-D not included)				
- USB Standart keyboard, USB Standart mouse				
1.3.4 1 x Radar and 1 x ECDIS (Multifunctional Display) Operator panel consisting of Merk Kongsberg type Operator Panel	2	unit	52,000,000	104,000,000
Spesifikasi :				
- Navigator panel				
- Input panel				
- Heading Wheel panel				
- Alarm panel				



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1.4 Radar Console incl.				
1.4.1 Radar Operator Station Console Merk Kongsberg type Console	2	unit	62,000,000	124,000,000
Spesifikasi :				
- Console, min 650mm, Dimensi disesuaikan dengan Hardware				
- Type Approved				
- Bezel for 24 inch monitor				
- Hidden Keyboard drawer including Cherry Keyboard for maintenance				
- Radar Generic panel consisting of: input panel				
1.4.2 Monitor Merk Dell type U2412M	2	unit	4,500,000	9,000,000
Spesifikasi minimum:				
- Supporting a resolution : 1920 x 1200				
- Screen Size : 24" LED High Performance				
- Pixel Pitch : 0,277mm				
- Aspect Ratio : 10:16				
- Contrast Ratio : 1:1000				
- Response Time : 1 ms				
- Support : VGA and DVI, Display Port				
- Brightness : 300cd/m2				
1.4.3 Computer Merk HP type 800 G4 SFF	2	unit	20,000,000	40,000,000
-Intel Pentium Gold G5500/3.8 GHz (Dual core)				
- GFX: Intel HD Graphics				
- RAM : 8 GB				
- HDD: 128 GB SSD				
- 2 x Display Port (Adapter to DVI-D not included)I				
- USB Standart keyboard, USB Standart mouse				
1.5 Overhead Displays incl.				
1.5.1 Monitor for Overhead with bracket Merk Dell type U2412M	2	unit	4,500,000	9,000,000
Spesifikasi minimum:				
- Supporting a resolution : 1920 x 1200				
- Screen Size : 24" LED High Performance				
- Pixel Pitch : 0,277mm				
- Aspect Ratio : 10:16				
- Contrast Ratio : 1:1000				
- Response Time : 1 ms				
- Support : VGA and DVI, Display Port				
- Brightness : 300cd/m2				
1.5.2 Computer Merk HP type 800 G4 SFF	1	unit	20,000,000	20,000,000
- Intel Pentium Gold G5500/3.8 GHz (Dual core)				
- GFX: Intel HD Graphics				
- RAM : 8 GB				
- HDD: 128 GB SSD				
- 2 x Display Port (Adapter to DVI-D not included)I				
- USB Standart keyboard, USB Standart mouse				
1.6 Corner Consoles for Binocular, Navigation Aids, Engine Information and Sensor Stations				
1.6.1 Operator Corner Console Merk Kongsberg type Console	4	unit	62,000,000	248,000,000
Spesifikasi minimum:				
- Manufacturer Specific				
- Type Approved				
- Bezel for 24 inch monitor				
1.6.2 Monitor Merk Dell type U2412M	4	unit	4,500,000	18,000,000
Spesifikasi minimum:				
- Supporting a resolution : 1920 x 1200				
- Screen Size : 24" LED High Performance				
- Pixel Pitch : 0,277mm				
- Aspect Ratio : 10:16				
- Contrast Ratio : 1:1000				
- Response Time : 1 ms				
- Support : VGA and DVI, Display Port				
- Brightness : 300cd/m2				
1.6.3 Computer Merk HP type 800 G4 SFF	3	unit	20,000,000	60,000,000



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	- Intel Pentium Gold G5500/3.8 GHz (Dual core)			
	- GFX: Intel HD Graphics			
	- RAM : 8 GB			
	- HDD: 128 GB SSD			
	- 2 x Display Port (Adapter to DVI-D not included)			
	- USB Standart keyboard, USB Standart mouse			
	1.6.4 Joystick for Binocular Control Merk Kongsberg type Joystick	1	unit	20,000,000
	Spesifikasi :			
	- Industrial quality joystick			
	- Self centering, omi directional functionality			
	- Robust mechanics for long lifetime			
	1.6.5 Industrial Trackball Merk Kongsberg type Tracker Ball	3	unit	10,000,000
	Spesifikasi :			
	- 3 button tracker ball			
	- Industrial quality			
	- Resin ball for smoothly running			
	- Low friction base smoothly glides over work surface			
	- Rugged black aluminium panel mounted mouse			
	1.7 Conning Console			
	1.7.1 Operator console Merk Kongsberg type Console	1	unit	62,000,000
	Spesifikasi :			
	- minimum width 650mm			
	- Space for 8 full instument panels or 16 x 1/2 panels			
	- Shall be possible to remove and install panel by use of lock/unlock from top			
	- Bezel for 24 inch monitor			
	- Type Approved			
	1.7.2 Monitor for Conning and Software instrument Merk Dell ttype U2412M	1	unit	4,500,000
	Spesifikasi :			
	- Supporting a resolution : 1920 x 1200			
	- Screen Size : 24" LED High Performance			
	- Pixel Pitch : 0,277mm			
	- Aspect Ratio : 10:16			
	- Contrast Ratio : 1:1000			
	- Response Time : 1 ms			
	- Support : VGA and DVI, Display Port			
	- Brightness : 300cd/m2			
	1.7.3 Computer Merk HP type 800 G4 SFF	1	unit	20,000,000
	- Intel Pentium Gold G5500/3.8 GHz (Dual core)			
	- GFX: Intel HD Graphics			
	- RAM : 8 GB			
	- HDD: 128 GB SSD			
	- 2 x Display Port (Adapter to DVI-D not included)			
	- USB Standart keyboard, USB Standart mouse			
	1.7.4 Instrumentation and Control Hardware Panel including Merk Kongsberg type Control Panel	1	unit	320,000,000
	Spesifikasi :			
	- Multiflex Panel			
	- Industrial Trackball			
	- Intercom PTT with cable			
	- VHF Handset			
	- General Alarm Panel			
	- Industrial Tracker ball			
	1.8 Instrumentation Console			
	1.8.1 Instrument console Merk Kongsberg type Console	1	unit	62,000,000
	Spesifikasi :			
	- Material Metal			
	- Minimum width : 650mm			
	- Space for 8 full instument panels or 16 x 1/2 panels			
	- Shall be possible to remove and install panel by use of lock/unlock from top			
	- Type Approved			

1.8.2 Instrumentation and Control Hardware Merk Kongsberg type Console	1	unit	320,000,000	320,000,000
Spesifikasi :				
- Multiflex Panel				
- Dual Thruster Panel				
- Dual Throttle Panel				
- NFU Panel				
- Azimuth L. Panel				
- Azimuth R Panel				
- Anchor winch panel				
- Rudder Tillers				
1.9 Steering Console				
1.9.1 Deckstand Steering Console Merk Kongsberg type Console	1	unit	62,000,000	62,000,000
Spesifikasi :				
- Plate thickness 5mm				
- Custom made console with small footprints and space for 3 panels				
1.9.2 Instrumentation and Control Merk Kongsberg type Console	1	unit	320,000,000	320,000,000
Spesifikasi :				
- Multiflex Panel				
1.9.3 Steering Wheel Merk Lilaas type LF150	1	unit	36,000,000	36,000,000
Spesifikasi :				
- Mounting bracket				
- Polished stainless steel wheel				
- High precise pot meter and sturdy construction deliver reliable performance				
- Diameter 342mm				
1.10 Sound System Merk Logitech type Z906	1	unit	7,500,000	7,500,000
- Surround Sound Speakers				
-Control panel				
-Cables				
-Four Satellite Speakers				
-Subwoofer				
1.11 Pelorus Stand complete with Bearing Repeater and Bearing Sight Merk Sperry	1	unit	220,000,000	220,000,000
Type : C. Plath				
Spesifikasi :				
- Stand				
- Bearing device with connection box				
- Azimuth Device				
Software				
1 Visual Channel Merk Kongsberg type K-Sim	12	unit	355,000,000	4,260,000,000
Spesifikasi				
- Latest generation of visual system with more realistic, detail and depth perception and ability to realistically recreate the various conditions at sea				
Some of the feature available :				
- Dynamic geometry, e.g. flapping flags, fumes, lines and hawsers				
- Dynamic 3D sea state with breakwater effect				
- Water effects like fog, rain, snow, dynamic clouds, sun/sun and moon angle stars				
- Special effects including spotlight, thrusters wake, smoke and vapor trails, leaning buoys				
- Visual system flat screen with 360 degree HFOV				
2 ECDIS Merk Kongsberg type K-Bridge ECDIS	2	set	50,000,000	100,000,000
Spesifikasi				
- Fully compliant and easy to operate ECDIS for new builds and retrofit installations.				
- Designed to assist the mariner in route planning and route monitoring, and by displaying additional navigation-related information				
ECDIS functions :				
- Radar video overlay from ARPA radar & RADAR				
- Full route planning and validation functions				
- Continuous monitoring of own ship in relation to route plan and waters				
- Displays targets and information from AIS - Automatic Identification System				
- EBL / VRM gives the correct range and bearing from own ship				
- Voyage recording and replay				

	- IMO defined functions			
	- Type approved			
3	Radar/ARPA Merk Kongsberg type K-Bridge RADAR	2 set	50,000,000	100,000,000
	Spesifikasi			
	The functionality of the K-Sim Radar/ARPA is in accordance with IMO Resolution A.823 (19) and Annex 4. All functions and features found in a real Radar/ARPA are present and the operation is like that of a real Radar/ARPA.			
	MSC.64 (67) Annex 4. All functions and features found in a real Radar/ARPA are present			
	and the operation is like that of a real Radar/ARPA.			
	In addition to Radar/ARPA functions, many navigational functions are included. Position fixing			
	can be done using dead reckoning, a fixed target (with known position) or from a DGPS connected to the simulator.			
	- The route planning enables to insert way-points and fairways			
	- May select it to be an S or X- band radar			
	- Track steering will operate the autopilot according to the programmed way-points.			
	- 4 additional Radar/ ARPA Radar Skin			
	- Our radar system generates all the signals required to present authentic radar pictures.			
	- It considers the adjustments done on the master radar to give training in realistic radar operation.			
4	Instrument Panels Merk Kongsberg type K-Sim	1 set	220,000,000	220,000,000
	Spesifikasi			
	- AIS Display			
	- Alarms			
	- Anchor Control			
	- Day Symbols			
	- DGPS Navigator			
	- Echo Sounder			
	- Engine Telegraph (ETU)			
	- Engine Alarms			
	- Fire Indicator			
	- Flags			
	- Gyro Repeater			
	- Gyro and Steering Gear Control			
	- LOG			
	- Magnetic Compass repeater			
	- Navigation Lights			
	- Propulsion Indicator			
	- Sound Reception System			
	- Sound Signals			
	- Watch Responsibility			
	- Weather Indicators			
	- Window Wiper Control			
	- Visual View Control			
	- Bridge Watch Unit			
	- Morse			
	- Clinometer			
	- Fire Doors			
5	Instrument Panels Communications Merk Kongsberg type K-Sim	1 set	220,000,000	220,000,000
	Spesifikasi			
	- Distress Beacon/LRIT/SSAS			
	- MF/HF/DSC			
	- VHF/DSC			
	- Navtex Receiver			
	- Telephone			
	- Intercom			
6	Trainee Station	1 set	9,520,000,000	9,520,000,000
	Merek : Kongsberg			
	Type : K-Sim			
	Spesifikasi			
	- Searchlight			
	- K-Sim Conning			

	The Conning Display is automatically configured based on the model that is being simulated in the bridge. Standard information displayed on the Conning Display is: heading, rate of turn, propellers, thrusters, Gyro, log, depth (with graph), ship position (GPS- based), date, time, engine start air and engine alarm status. A generic hull structure represents all ship models. The elements presented inside the hull structure are: thrusters with indicators, Doppler log speed display with arrow(s), propeller/engine power applied with "LED" indication and direction forward/astern			
	- Binocular			
	- Environment : 10 Local Ports and 10 World Ports			
	- CMAP world wide			
	- Physics engine			
	K-Sim Navigation delivers the most realistic training. It integrates an advanced physics engine, which in addition to state-of-the-art hydrodynamic modeling allows vessels, objects and equipment to behave and interact realistically, significantly improving the quality of training. The physics engine supports full interaction including 3D hull collision detection with shore and maritime based objects and vessels. It provides high realism in i.e., how lines, ropes and chains behave, and calculates in detail the winch load and line forces in i.e., tug and mooring exercises. Soft grounding calculations make it possible to fully experience a vessel's real-life behavior when such accidents occur.			
	Support of multi-bodies physics, Line simulation including multi-line and long lines, Support for comprehensive system of joint and constraints with force and speed order input as well as power and speed limitations, Support for friction based on materials and loads			
	- At least 20 Hydrodynamic Models and At least 50 Objects			
	3D Hydrodynamic vessel modeling with six degrees of motion provides an excellent level of vessel motion accuracy. This is particularly important in advanced training scenarios, such as towing, search and rescue, and offshore or military operations. Also, important for enhanced realism, is the optional: SMART visual functionality (change color/name plates/logos), power management, dynamic loading, ballast control and possible integration to load calculators. To support advanced deck operations, the system supports a highly advanced system known as smart objects. All conditions on the container such as color, connections and mass variation can be modified.			
	- Ownship Licence			
	- Tugging Operations			
	The same 3-D physical and propulsion model of the tug is used whether the tug is under student control or operated in "Automated" or Instructor Tugging Mode. All actions including line connections, disconnections and force orders are recorded and can be saved to a playback file. Student and Automated multi-tug operations can be combined to produce extremely realistic ship maneuvers. Student controlled tug and Automated Tugging			
	- Exercise Areas			
	Simulator Navigation's sophisticated SeaView R6 visual system is recognized for its very high degree of realism in details, depth perception and motions. Vessels and objects in all possible weather conditions are brought to life in training scenarios. A range of geographical sailing areas (major international ports and sailing routes) are available to accommodate different training objectives. The depth databases cover the same area as for the radar databases. Resolution is 1 meter or better, and the content of the database contains typically, but not limited to 5,000 depth points. Soundings are developed for a full range of depths and heights, including drying areas, which are submerged in high tidal condition. Landmarks of significant importance are made with accurate and realistic size and shape. The radar database contains all relevant navigation information such as detailed coastline and buoys to give a realistic radar picture of the simulated area. The radar database includes the correct modeling of the radar image in all tidal states. Aids to navigation has been given special attention during visual scene development, and is created to accurately represent actual size, shape and color characteristics in accordance with light list publications and supporting photographs.			
B	Instructor Station			
	Hardware			
	1 Computer Assessor merk HP type Z4	1 unit	60,000,000	60,000,000
	-Intel Xeon W-2125 (4.0 GHz / 4-cores)			



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	- RAM : 8 GB			
	- HDD 500 GB SATA 7200 rpm			
	- 1xDVI-D (DL) / 2xDP / 2xHDMI			
	- USB Standard keyboard, USB Standard mouse			
	- GFX: GeForce RTX2070 AORUS			
2	Monitor Merk Dell type U2412M	2	unit	4,500,000
	Spesifikasi :			
	- Supporting a resolution : 1920 x 1200			
	- Screen Size : 24" LED High Performance			
	- Pixel Pitch : 0,277mm			
	- Aspect Ratio : 10:16			
	- Contrast Ratio : 1:1000			
	- Response Time : 1 ms			
	- Support : VGA and DVI, Display Port			
	- Brightness : 300cd/m2			
3	A3 Colour Printer Merk HP type 7110	1	unit	2,750,000
	Platform Printer : Color Inkjet			
	Print Speed : Up to 15 ppm black, Up to 8 ppm color			
	Print Speed Mono : 15 ips			
	Print Resolution Black : Up to 600 x 1200 dpi			
	Print Resolution Color : Up to 4800 x 1200 optimized dpi color			
	Weight : 8.5 kg			
4	55 inch LED TV for Overview Merk NEC type C551	2	unit	39,000,000
	Panel Technology : VA			
	Native Resolution : 1920 x 1080 1920 x 1080			
	Contrast Ratio (typical) : 4000 : 1 2000:1			
	Refresh Rate : 60 Hz 89 Deg			
	Aspect Ratio : 16 : 9 100-240 VAC/50W			
	Backlight Type : LED Edge-lit VGA, Display Port, 3 x HDMI			
	Viewing Angle (typical) : 178° Vertical, 178° Horizontal			
	Active Screen Area : 47.6 x 26.8 in/1209.6 x 680.4 mm			
	Displayable Colors : More than 1.08 billion (8-bit+FRC)			
	Power : on 75w			
	Weight : 18.8kg			
5	3D Mouse for Visual Control Merk Connexion type Space Navigator	1	unit	5,500,000
	Spesifikasi :			
	- Six degree of freedom (6Dof) Sensor			
	- 3D Space Navigator			
	- 2.4 Ghz via Micro USB			
6	CCTV System including:			
6.1	Monitor for CCTV Merk Dell type U2412M	1	unit	4,500,000
	Spesifikasi :			
	- Supporting a resolution : 1920 x 1200			
	- Screen Size : 24" LED High Performance			
	- Pixel Pitch : 0,277mm			
	- Aspect Ratio : 10:16			
	- Contrast Ratio : 1:1000			
	- Response Time : 1 ms			
	- Support : VGA and DVI, Display Port			
	- Brightness : 300cd/m2			
6.2	Zoom Camera with zoom and motorized position Merk Axis type P5515	1	unit	19,000,000
	• Day night Camera			
	• Resolution 1920x1080			
	• Mounting Kit			
	• PoE			
6.3	CCTV NAS Server Merk Synology type RS819	1	unit	29,300,000
	- 2 x HDD 2TB			
	- Weight 4.34kg			
	- Size : 44mm x 430.5mm x 295.5mm			
	- CPU frequency Quad Core 1.4 GHz			



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6.4 Simulator File Server Merk Synology type RS819	1 unit	29,300,000	29,300,000
- 2 x HDD 2TB			
- Weight 4.34kg			
- Size : 44mm x 430.5mm x 295.5mm			
- CPU frequency Quad Core 1.4 GHz			
6.5 Monitor for Server Merk Dell type U2412M	1 unit	4,500,000	4,500,000
Spesifikasi :			
- Supporting a resolution : 1920 x 1200			
- Screen Size : 24" LED High Performance			
- Pixel Pitch : 0.277mm			
- Aspect Ratio : 10:16			
- Contrast Ratio : 1:1000			
- Response Time : 1 ms			
- Support : VGA and DVI, Display Port			
- Brightness : 300cd/m2			
6.6 Server PC Merk HP type Z4	1 unit	60,000,000	60,000,000
-Intel Xeon W-2125 (4.0 GHz / 4-cores)			
- RAM : 8 GB			
- HDD 500 GB SATA 7200 rpm			
- 1xDVI-D (DL) / 2xDP / 2xHDMI			
- USB Standart keyboard, USB Standart mouse			
- GFX: GeForce RTX2070 AORUS			
7 Switch Merk HP type Procurve 1920	1 unit	11,000,000	11,000,000
24x 10/100/1000 RJ-45			
2 x SFP 1920-8G (Mini-GBIC)			
4 x SFP 1920-16G/24G/48G (Mini-GBIC)			
100-240 VAC			
8 Router Merk Zyxel type Zywall USG20	1 unit	3,500,000	3,500,000
Spesifikasi :			
- 4x LAN 10/100/1000 RJ45			
- 1x WAN 10/100/1000 RJ45			
- 1x USB ports			
- Input Voltage : 100-240 V AC, 50/60Hz, 1.5A			
- Power consumption : 15 watt			
9 UPS Merk APC type SRT6KRMXLi	6 unit	56,750,000	340,500,000
Spesifikasi :			
Output			
- Output Power Capacity 6 kilowatts/6.0 kVA			
- Nominal Output Voltage 230V			
- Waveform Type Sine wave			
10 Microphone Merk Audix type USB12	1 unit	5,500,000	5,500,000
Transducer Type : Pre-Polarized Condensor			
Frequency Response : 50Hz-16kHz			
Polar Pattern : Cardioid			
Output Impedance : 1000 Ohms			
Open Circuit Sensitivity : 1.3mV/PA			
Signal to Noise Ratio : 64 dB, 1k@ 1Pa			
Maximum SPL @1% THD : 115 dB			
Dynamic Range : 85 dB			
Operating Voltage : 5 Volts via USB connection			
Switch Type : Membrane			
Weight : 567g/20 ounces			
Length : 210mm/12.2 inches			
11 Speaker Merk Dell type AX510	1 unit	3,000,000	3,000,000
Product Type : Speaker for PC			
Speaker Type : Active			
Nominal output Power (total) : 10 Watt			
Frequency response : 135-20000 Hz			
Amplifier : Integrated			
Color : Black			
Dimension : 13.2 x 2.2 x 1.6 inch			



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12	Rack Merk Inorack type Pro 11532	1 unit	14,000,000	14,000,000
	- 19" cabinet rack			
	- 32 U			
	- Standing heavy duty close rack			
	- D 1150 x W 600 x H 1620 mm			
	- Weight : 152 kg			
13	Rack Merk Inorack type IR11532G	1 unit	12,000,000	12,000,000
	- 19" cabinet rack			
	- 32 U			
	- Standing heavy duty glass door rack			
	- D 1150 x W 600 x H 1620 mm			
	- Weight : 121 kg			
Briefing/Debriefing Station				
1	Computer Merk HP type Z4	1 unit	60,000,000	60,000,000
	-Intel Xeon W-2125 (4.0 GHz / 4-cores)			
	- RAM : 8 GB			
	- HDD 500 GB SATA 7200 rpm			
	- 1xDVI-D (DL) / 2xDP / 2xHDMI			
	- USB Standart keyboard, USB Standart mouse			
	- GFX: GeForce RTX2070 AORUS			
2	Monitor Merk Dell type U2412M	2 unit	4,500,000	9,000,000
	Spesifikasi :			
	- Supporting a resolution : 1920 x 1200			
	- Screen Size : 24" LED High Performance			
	- Pixel Pitch : 0,277mm			
	- Aspect Ratio : 10:16			
	- Contrast Ratio : 1:1000			
	- Response Time : 1 ms			
	- Support : VGA and DVI, Display Port			
	- Brightness : 300cd/m2			
3	Interactive Whiteboard Screen Merk SMART type 685	1 unit	100,000,000	100,000,000
	Spesifikasi :			
	- Resolution: 1280x800 (16:10)			
	- Diagonal Screen size: 87" (221cm)			
	- Surface Type : Touch-on			
	- AC Power Consumption : 1.50W			
	- Size : 1257 (H) x 1969 (W) x 120 (D) mm			
	- Weight (approximately) : 19.10kg			
4	3D Mouse for Visual Control Merk Connexion type Space Navigator	1 unit	5,500,000	5,500,000
	Spesifikasi :			
	- Six degree of freedom (6Dof) Sensor			
	- 3D Space Navigator			
	- 2.4 Ghz via Micro USB			
Software				
	Instructor and Debriefing Station Merk Kongsberg type K-Sim	2 unit	710,000,000	1,420,000,000
	- Creating Scenario, Evaluation and Assessment Feature			
	- Debrief session can be supported by logging and assessment details from the exercise, dynamic graph on screen or as paper print out			
	- Automated recording during exercise			
	- Review and debriefing include replay of the entire exercise, or a selected segment from any point in the exercise to focus on a specific learning objective			
	- Creating and editing the exercise.			
	- Supervising the student(s) while the exercise is running. This includes an assessment system which makes scores to the student behaviour.			
	- Control of simulator actions derived from input variables and malfunctions, that can be initiated instantaneously, or pre-programmed as part of the exercise, e.g., extreme weather conditions, power blackout, debris in the sea, approaching vessels etc			

	- Playing the role of "other people" on the vessel or in the scenario by communicating with the student(s) by communication channels like VHF, UHF, PA, AIS, engine telegraph and more or operating equipment, objects and vessels visible or interacting with the students.			
	- Customization of menus and pages for enhanced flexibility and user experience			
	- Modified ECDIS chart as starting point for easily creating a geographical area for the exercises			
	- Intuitive drag & drop function for choosing ship models and all other variables to create the exercise			
	- Advanced Seagen GIS (Geographical Information System) tool for simple importing of third party environmental data such as current, tide, wave and wind to create optimum realism			
	- Control of the student station configuration to define what information should be accessible and visible to students			
	- Guidance and feedback possibilities through triggers and e-coach messages during the exercise			
	- Control of men on deck (flag signalling, non verbal communication, flight deck) as well as the ability to play the role of a other operator positions for enhanced team and communication training			
	- Underwater view to observe the realistic behaviour of chains, wires and anchor below the water to monitor the student's performance			
	- Stop, go back and resume simulation for guidance			
	- Automatic recording of the simulated scenario and all parameters for full replay			
	- Debriefing station. The exercise is recorded, and the instructor station is used for replay to show the students what happened during the exercise.			
C				
	Accessories			
	1 Air Conditioning Cassette Merk Panasonic type S-18PU1H5	1	unit	25,000,000
	Current : 7,8 A (220V/I phase 50hz)			
	Refrigerant : R-410a			
	2 Air Conditioning Split 1Pk Merk Panasonic type CS-PN9TKJ	1	unit	6,725,000
	Current : 3,9 A (220V/I phase 50hz)			
	Refrigerant : R32			
	3 Air Conditioning Split 2Pk Merk Panasonic type CS-PN18SKP	4	unit	8,000,000
	Current : 9,5 A (220V/I phase 50hz)			
	Refrigerant : R32			
	4 Kursi Instruktur Merk Donati type Cope 1 AL TC	2	unit	3,000,000
	- Bahan oscar			
	- Rangka kaki aluminium			
	- Armrest, Gaslift			
	- Sandaran kursi tilting control			
	- Dimensi kursi : W63xD63x111-119cm			
	- Dimensi dudukan W51xD50xH111-119cm			
	5 Meja Instruktur	1	unit	2,072,000
	Merek Donati			
	Type : DOD 11H			
	- Meja Kntor 1/2 biro			
	- Bahan Particle Board			
	- Warna Beeech			
	- Ukuran : W 120 x D 75 x H 75 cm			
	6 Meja Instruktur Merk Donati type DOD 16H	3	unit	2,900,000
	- Meja Kntor 1/2 biro			
	- Bahan Particle Board			
	- Warna Beeech			
	- Ukuran : W 160 x D 75 x H 75 cm			
	7 Kursi Murid Merk Donati type ARSLEY 2K	30	unit	2,100,000
	- Ukuran : W 46 x D 56 x H 83 cm			
	- Terdapat meja kecil lipat			
	8 Pemasangan dan Start Up	1	lot	375,000,000



PT. ANDAMAR MARIN SEGARA

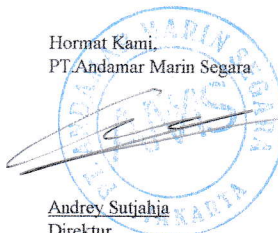
AKR Tower Lt. 16 Unit A - Jl. Panjang No. 5 Jakarta Barat – 11530, Telepon (021) 3457439

- Mobilisasi alat simulator, pemasangan dan startup ke dalam ruangan			
- Setting ruangan sesuai layout			
- Pemasangan partisi ruangan			
- Instalasi jaringan listrik dan LAN			
- Raisedfloor (Ukuran menyesuaikan Ruang FMLCHS)			
Subtotal			21.814.347,000
PPN 10%			2.181.434,700
Total			23.995.781,700

Terbilang : Dua puluh tiga milyar sembilan ratus sembilan puluh lima juta tujuh ratus delapan puluh satu ribu tujuh ratus rupiah.

Demikianlah Surat Penawaran Harga dari kami, atas perhatian dan kerjasamanya Kami ucapkan terima kasih.

Hormat Kami,
PT Andamar Marin Segara


Andrey Sutjahja
Direktur