

# SeaScope™ MARINE SYSTEM

An Advanced AIS Solutions for Maritime Safety and Navigation on a Sea-Port



The Automatic Identification System (AIS) is a tracking system used for identifying and monitoring vessel movements in real-time. Originally developed for collision avoidance at sea, AIS has now become an essential tool for ports, maritime authorities, and vessel operators to enhance maritime traffic management and security. AIS works by broadcasting vessel information, including position, speed, heading, and other critical navigational details, using VHF radio signals.. The system operates within a limited range, typically covering only a few nautical miles from the port, making it an ideal solution for monitoring port entries and exits.

## Why Choose SeaScope™ MARINE SYSTEM AIS Solutions (Package D)

**User-Friendly Navigation System:** Standard OpenCPN and CM93 pre-installed.

**Comprehensive Support:** Installation kit included for easy setup.

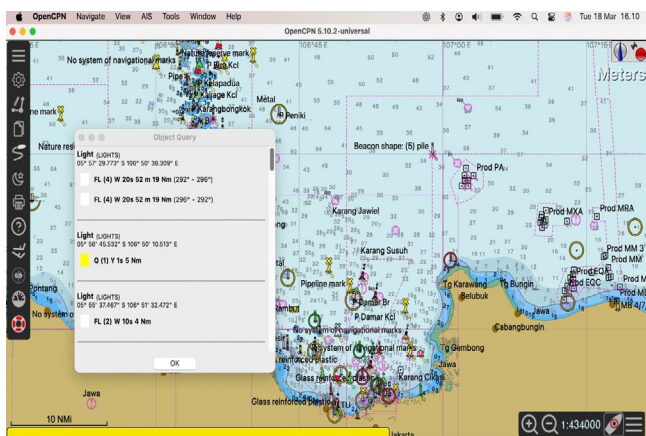
**Optimized for Port Monitoring:** Ideal for tracking vessel arrivals and departures within a few nautical miles of the port.

**Enhanced Security & Compliance:** Supports regulatory standards and improves port security measures.

**Improved Port Efficiency:** Helps streamline docking, vessel scheduling, and traffic control.

## Benefits of AIS Technology for Ports

- ✓ **Enhanced Vessel Tracking:** Enables real-time monitoring of ships entering and leaving the port.
- ✓ **Improved Maritime Security:** Helps identify unauthorized vessels and enhance surveillance.
- ✓ **Efficient Traffic Management:** Streamlines port operations by reducing congestion and improving docking coordination.
- ✓ **Regulatory Compliance:** Meets international maritime safety and security standards.
- ✓ **Incident Prevention:** Assists in collision avoidance and reduces risks in crowded port areas.
- ✓ **Optimized Resource Allocation:** Ports can efficiently plan pilotage, tugboat services, and berthing assignments.
- ✓ **Data Analytics for Port Operations:** Provides valuable historical data to analyse port traffic trends and improve future planning.



Typical Interface OpenCPN with C93 Chart

## OpenCPN Features

### Chart Management

Raster & Vector Chart Support – Supports S-57, S-63, BSB, and CM93 charts.

Quilted Charts – Seamlessly stitches multiple charts for a smooth display.

Worldwide Chart Support – Works with ENC, RNC, and custom chart formats.

Chart Tides & Currents – Displays tide levels and current information.

### GPS & AIS Support

Real-Time GPS Navigation – Shows vessel's live position, speed, and heading.

### Weather & Environmental Data

Weather Overlay – Displays wind, waves, and pressure forecasts.

Radar Integration – Supports certain third-party radar plugins.

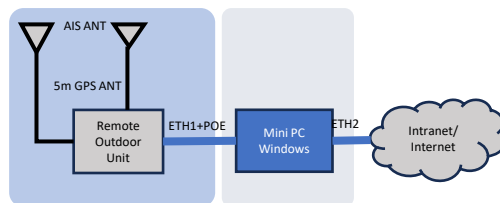
Tide & Current Predictions – Shows predicted tidal movements on charts.

### Plugin Support & Customization

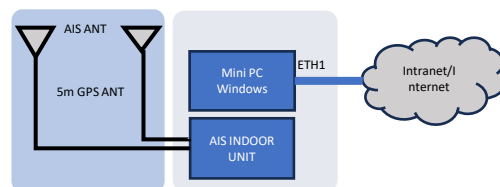
Extensive Plugin Library – Expand capabilities with radar, autopilot, AIS filtering, and more.

NMEA 0183 & NMEA 2000 – Compatible with most marine instruments.

Offline Navigation – Works without an internet connection



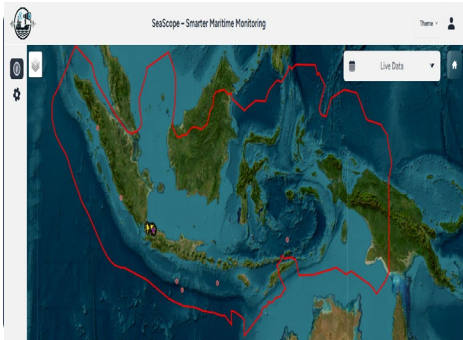
Typical Configuration Of Package A



Typical Configuration Of Packages B-C-D

# SeaScope™ MARINE SYSTEM

## Specifications



| Order No. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MS-A-000  | Package A, Standard AIS Receiver with Remote Capability; <b>Include</b> VHF Antenna, GPS Antenna with 3m cable, 5m RG8 Cable with connector, 50m STP Cable, POE Converter and adapter, 1 Set Mini PC core i5 10 gen 8GB RAM 512 SSD with Pre-Install Open CPN and C93 Map (Indonesia Area)                                                                                                                                                         |
| MS-B-000  | Package B, Standard AIS Receiver; <b>Include</b> VHF Antenna, GPS Antenna with 3m cable, 35m RG8 Cable with connector, 1 Set Mini PC core i5 10 gen 8GB RAM 512 SSD with Pre-Install Open CPN and C93 Map (Indonesia Area)                                                                                                                                                                                                                         |
| MS-C-000  | Package C, Standard AIS Receiver with SeaScope; <b>Include</b> VHF Antenna, GPS Antenna with 3m cable, 35m RG8 Cable with connector, 1 Set Mini PC core i5 10 gen 8GB RAM 512 SSD with Pre-Install Open CPN and C93 Map (Indonesia Area), S63 License for Open CPN (MS-X-001), One region S63 Chart (MS-X-002), 1 Client license Connectivity (MS-X-003)                                                                                           |
| MS-D-000  | Package D, Standard AIS Receiver with SeaScope and Long Range PTZ Camera; <b>Include</b> VHF Antenna, GPS Antenna with 3m cable, 35m RG8 Cable with connector, 1 Set Mini PC core i5 10 gen 8GB RAM 512 SSD with Pre-Install Open CPN and C93 Map (Indonesia Area), S63 License for Open CPN (MS-X-001), One region S63 Chart (MS-X-002), 1 Client license Connectivity (MS-X-003), 1 Camera Connectivity (MS-X-005), 1 unit Long Range PTZ Camera |
| MS-X-001  | S-63 License for OpenCPN                                                                                                                                                                                                                                                                                                                                                                                                                           |
| MS-X-002  | Additional each S-63 chart of one specific region                                                                                                                                                                                                                                                                                                                                                                                                  |
| MS-X-003  | Additional each Client License Connectivity ( $\leq 10$ license)                                                                                                                                                                                                                                                                                                                                                                                   |
| MS-X-004  | Additional each Client License Connectivity ( $> 10$ clients, for client 11 to unlimited)                                                                                                                                                                                                                                                                                                                                                          |
| MS-X-005  | Additional each Camera Connectivity License                                                                                                                                                                                                                                                                                                                                                                                                        |
| MS-X-006  | Cloud Integration Package                                                                                                                                                                                                                                                                                                                                                                                                                          |
| MS-X-007  | Long Range PTZ Camera                                                                                                                                                                                                                                                                                                                                                                                                                              |

| SeaScope™<br>MARINE SYSTEM<br>Features   | Package A<br>(Standard AIS Receiver<br>With Remote Capability)                                                                                                                                                                                   | Package B<br>(Standard AIS Receiver)                                                                                                                                                   | Package C<br>(Package B with<br>SeaScope™ Dashboard)                                                                                                | Package D<br>(Package C with Long<br>Range PTZ Camera)                                                                                                                                                                      |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mode AIS Receiver                        | Network AIS Receiver,                                                                                                                                                                                                                            | Serial AIS Receiver, 38400 baud rate                                                                                                                                                   |                                                                                                                                                     |                                                                                                                                                                                                                             |
| Real-time Display                        | Yes                                                                                                                                                                                                                                              |                                                                                                                                                                                        |                                                                                                                                                     |                                                                                                                                                                                                                             |
| NMEA Re-Route                            | Support                                                                                                                                                                                                                                          |                                                                                                                                                                                        |                                                                                                                                                     |                                                                                                                                                                                                                             |
| NMEA Playback                            | No, Upgradeable                                                                                                                                                                                                                                  |                                                                                                                                                                                        | Support                                                                                                                                             |                                                                                                                                                                                                                             |
| Server - Clients                         | No, Upgradeable                                                                                                                                                                                                                                  |                                                                                                                                                                                        | Yes, Configurable                                                                                                                                   |                                                                                                                                                                                                                             |
| OpenCPN and<br>Maps                      | OpenCPN, CM93 Maps pre-installed,                                                                                                                                                                                                                |                                                                                                                                                                                        | OpenCPN, CM93 Maps, S63 Maps (free one specific region)                                                                                             |                                                                                                                                                                                                                             |
| SeaScope™<br>Dashboard*                  | No, upgradeable                                                                                                                                                                                                                                  |                                                                                                                                                                                        | Yes, Basic License (1 Server<br>License, 1 Client License)                                                                                          | Yes, Customize License (included 1<br>Server, 1 Client, 1 camera License)                                                                                                                                                   |
| Surveillance<br>Camera*                  | No, upgradeable                                                                                                                                                                                                                                  |                                                                                                                                                                                        | No, upgradeable                                                                                                                                     | Yes, Included 1 Long Range PTZ<br>Camera, NVR Included, Support<br>I-Motion Integration**                                                                                                                                   |
| Costume Functions,<br>Costume Analytical | No                                                                                                                                                                                                                                               |                                                                                                                                                                                        | Optional by request: Water Level Sensor Integration, Long Range PTZ remote<br>Control, Database and reporting Integrations, AI Integration. etc.*** |                                                                                                                                                                                                                             |
| Cloud Integration                        | No                                                                                                                                                                                                                                               |                                                                                                                                                                                        | Optional by request                                                                                                                                 |                                                                                                                                                                                                                             |
| Main Package<br>components               | 1 unit Remote Outdoor Unit, 1<br>Unit 3dBi VHF Omni Antenna, 1<br>GPS Antenna with 3m cable, 5m<br>RG8 Cable with connector, 50m<br>STP Cat5 Cable, 1 Mini PC<br>complete with OpenCPN and<br>CM93 Installed.<br>Optional: S63 License and Chart | 1 Unit dBi VHF omni Antenna<br>1 Unit GPS Antenna with 3m cable,<br>35m RG8 Cable with connector,<br>1 Mini PC integrated AIS Module, OpenCPN and CM93 Installed.<br>Optional: S63 Map |                                                                                                                                                     | 1 Unit 3 dBi VHF Omni Antenna<br>1 Unit GPS Antenna with 5m cable,<br>35m RG8 Cable with connector,<br>1 Mini PC integrated AIS Module,<br>OpenCPN and CM93 Installed. 1<br>Unit Long Range PTZ Camera<br>Optional: S63 Map |

\*Separate Specification for SeaScope™ Dashboard and Surveillance PTZ Camera

\*\* IP Public and other IP Infrastructures should provided and configured separately

\*\*\*Additional customs features by request on SeaScope™ Dashboard, will charged separately from this package

Pictures and specifications subject to change without notice



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# SeaScope™ MARINE SYSTEM



## Solusi AIS Terdepan untuk Keamanan Maritim dan Navigasi di Pelabuhan Laut

Sistem Identifikasi Otomatis (AIS) merupakan sistem pelacakan yang dirancang untuk mengidentifikasi dan memantau pergerakan kapal secara real-time. Awalnya dikembangkan untuk mencegah tabrakan di laut, AIS kini telah menjadi alat yang sangat penting bagi pelabuhan, otoritas maritim, dan operator kapal dalam meningkatkan manajemen serta keamanan lalu lintas maritim. AIS berfungsi dengan menyiarkan informasi kapal, termasuk posisi, kecepatan, arah, dan detail navigasi penting lainnya, melalui sinyal radio VHF. Sistem ini beroperasi dalam jangkauan terbatas, biasanya hanya mencakup beberapa mil laut dari pelabuhan, sehingga menjadikannya solusi yang ideal untuk memantau pintu masuk dan keluar pelabuhan.

### Mengapa Memilih Solusi AIS SISTEM MARINE SeaScope™ (Paket D)

**Sistem Navigasi yang mudah dipelajari:** OpenCPN dan CM93 telah terpasang.

**Dukungan menyeluruh:** Paket instalasi disertakan untuk kemudahan pemasangan.

**Pengawasan Pelabuhan lebih optimal:** Sempurna untuk memantau kedatangan dan keberangkatan kapal dalam jarak beberapa mil laut dari pelabuhan.

**Mendukung standard regulasi:** Mendukung standar regulasi yang berlaku di Indonesiaserta

**Meningkatkan Efisiensi Pelabuhan:** Memfasilitasi proses tambatan, penjadwalan kapal, dan pengaturan lalu lintas.

### Manfaat Teknologi AIS untuk Pelabuhan

**Pelacakan Kapal:** Memungkinkan pemantauan secara langsung terhadap kapal yang masuk dan keluar dari pelabuhan.

**Fitur Keamanan Maritim:** Membantu dalam mengidentifikasi kapal ilegal dan memperkuat pengawasan.

**Manajemen Lalu Lintas yang Efisien:** Mengoptimalkan operasi pelabuhan dengan mengurangi kemacetan dan meningkatkan koordinasi dermaga.

**Kepatuhan terhadap Peraturan:** Memenuhi standar keselamatan dan keamanan maritim internasional.

**Pencegahan Insiden:** Membantu mencegah tabrakan dan mengurangi risiko di kawasan pelabuhan yang padat.

**Pengaturan Sumber Daya:** Pelabuhan dapat merencanakan pemanduan, layanan kapal tunda, dan penugasan berlabuh dengan lebih efisien.

**Analisis Data untuk Operasi Pelabuhan:** Menyediakan data historis yang penting untuk menganalisis tren lalu lintas pelabuhan dan meningkatkan perencanaan di masa mendatang.

### Fitur OpenCPN

**Desain dan Manajemen Grafik Dukungan**  
Bagan Raster dan Vektor – Mendukung chart S-57, S-63, BSB, serta CM93.  
Bagan ber-layer – Menggabungkan beberapa bagan secara mulus untuk menciptakan tampilan yang halus.  
Dukungan Bagan Global – Bekerja dengan ENC, RNC, dan format bagan kustom.  
Grafik Pasang Surut dan Arus – Menyajikan tingkat pasang surut serta informasi terbaru.

### Dukungan GPS & AIS

**Real-Time GPS Navigation** – menunjukkan posisi kapal terkini, kecepatan dan arah.

### Data Informasi Cuaca

**Weather Overlay** – Menampilkan prediksi , gelombang dan tekanan udara

**Radar Integration** – Supports certain third-party radar plugins.

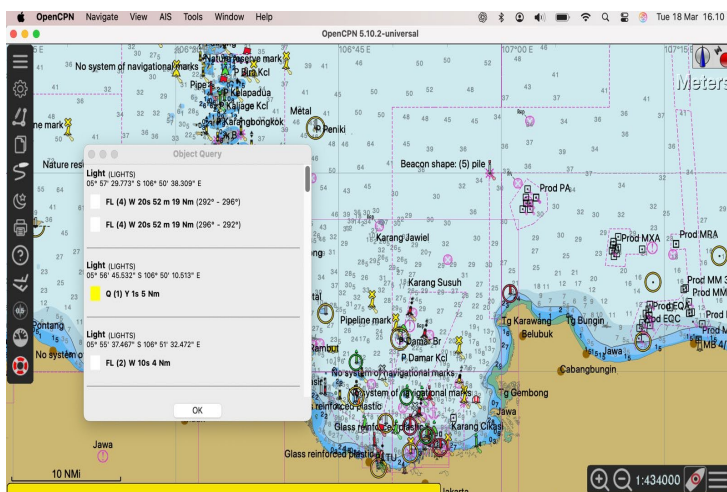
**Tide & Current Predictions** – menunjukkan prediksi pergerakan pasang surut dalam bentuk grafik predicted

### Dukungan Plugins & Kustomisasi

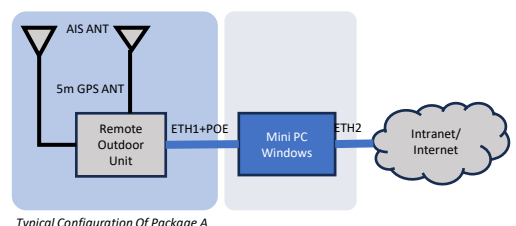
tersediannya Plugin Library – yang dapat mengekspansi kemampuan lain seperti fitur radar, autopilot, AIS filtering, dan lain sebagainya.

**NMEA 0183 & NMEA 2000** – Kompatibel dengan banyak instrumen kelautan..

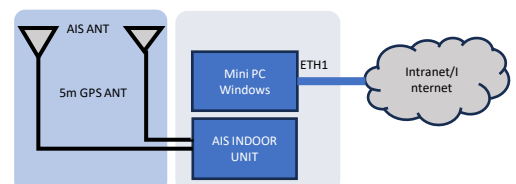
**Navigasi Tanpa Koneksi** – Berfungsi tanpa akses internet



Tampilan OpenCPN dengan C93



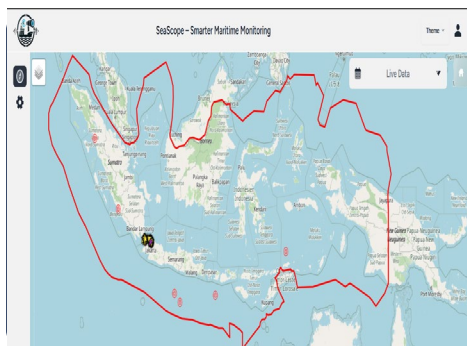
Typical Configuration Of Package A



Typical Configuration Of Packages B-C-D

# SeaScope™ MARINE SYSTEM

## Spesifikasi Teknis



| Order No. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MS-A-000  | Paket A, Penerima AIS Standar dengan kemampuan remote ; Termasuk Antena VHF, Antena GPS dengan kabel 3m, Kabel RG8 5m dengan konektor, Kabel STP 50m, Konverter POE dan adaptor, 1 Set Mini PC core i5 generasi 10 RAM 8GB SSD 512 dengan Pra-Instal Open CPN dan Peta C93 (Area Indonesia)                                                                                                                                                                                                          |
| MS-B-000  | Paket B, Penerima AIS Standar; Termasuk Antena VHF, Antena GPS dengan kabel 3m, Kabel RG8 35m dengan konektor, 1 Set Mini PC core i5 generasi 10 RAM 8GB SSD 512 dengan Pra-Instal Open CPN dan Peta C93 (Area Indonesia)                                                                                                                                                                                                                                                                            |
| MS-C-000  | Paket C, Penerima AIS Standar dengan SeaScope; Termasuk Antena VHF, Antena GPS dengan kabel 3m, Kabel RG8 35m dengan konektor, 1 Set Mini PC core i5 generasi 10 RAM 8GB SSD 512 dengan Pra-Instal Open CPN dan Peta C93 (Area Indonesia), Lisensi S63 untuk Open CPN (MS-X-001), Satu Peta S63 wilayah (MS-X-002), 1 buah <i>Client License Connectivity</i> (MS-X-003)                                                                                                                             |
| MS-D-000  | Paket D, Penerima AIS Standar dengan SeaScope dan Kamera PTZ Jarak Jauh; Termasuk Antena VHF, Antena GPS dengan kabel 3m, Kabel RG8 35m dengan konektor, 1 Set Mini PC core i5 generasi 10 RAM 8GB SSD 512 dengan Pra-Instal Open CPN dan Peta C93 (Area Indonesia), Lisensi S63 untuk Open CPN (MS-X-001), Satu Peta S63 wilayah (MS-X-002), 1 buah <i>Client License Connectivity</i> (MS-X-003), 1 Lisensi <i>Camera Connectivity License</i> (MS-X-005), 1 buah Long Range PTZ Camera (MS-X-007) |
| MS-X-001  | S-63 License untuk OpenCPN                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| MS-X-002  | Tambahan setiap S-63 peta pada wilayah tertentu                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| MS-X-003  | Tambahan setiap <i>Client License Connectivity</i> ( $\leq 10$ license)                                                                                                                                                                                                                                                                                                                                                                                                                              |
| MS-X-004  | Tambahan setiap <i>Client License Connectivity</i> ( $> 10$ clients, for client 11 to unlimited)                                                                                                                                                                                                                                                                                                                                                                                                     |
| MS-X-005  | Tambahan setiap <i>Camera Connectivity License</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| MS-X-006  | <i>Cloud Integration Package</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| MS-X-007  | Long Range Camera PTZ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

| Fitur SeaScope™ MARINE SYSTEM     | Paket A<br>(Penerima AIS dengan kemampuan remote)                                                                                                                          | Paket B<br>(Penerima AIS)                                                                                                                                                                         | Paket C<br>(Paket B Dengan Dashboard SeaScope™)                                                                                                                    | Paket D<br>(Paket C Dengan Long Range PTZ Camera)                                                                                                                                              |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mode penerima AIS                 | Network AIS Receiver,                                                                                                                                                      | Serial AIS Receiver, 38400 baud rate                                                                                                                                                              |                                                                                                                                                                    |                                                                                                                                                                                                |
| Tampilan Real-time                | Yes                                                                                                                                                                        |                                                                                                                                                                                                   |                                                                                                                                                                    |                                                                                                                                                                                                |
| NMEA Re-Route                     | Mendukung                                                                                                                                                                  |                                                                                                                                                                                                   |                                                                                                                                                                    |                                                                                                                                                                                                |
| NMEA Playback                     | Tidak ada, dapat ditambahkan kemudian dengan SeaScope Dashboard                                                                                                            |                                                                                                                                                                                                   | Mendukung                                                                                                                                                          |                                                                                                                                                                                                |
| Server - Clients                  | Tidak ada, dapat ditambahkan kemudian dengan SeaScope Dashboard                                                                                                            |                                                                                                                                                                                                   | Yes, dapat di konfigurasi                                                                                                                                          |                                                                                                                                                                                                |
| OpenCPN dan Peta                  | OpenCPN, CM93 Maps pre-installed,                                                                                                                                          |                                                                                                                                                                                                   | OpenCPN, CM93 Maps, S63 Maps (termasuk 1 peta region tertentu)                                                                                                     |                                                                                                                                                                                                |
| SeaScope™ Dashboard*              | Tidak ada, dapat ditambahkan kemudian                                                                                                                                      |                                                                                                                                                                                                   | Ya, Basic License (1 Server License, 1 Client License)                                                                                                             | Ya, included 1 Server, 1 Client, 1 camera License                                                                                                                                              |
| Surveillance Camera*              | Tidak ada, dapat ditambahkan kemudian dengan SeaScope Dashboard dan IP Kamera                                                                                              |                                                                                                                                                                                                   | Tidak, dapat ditambahkan kemudian                                                                                                                                  | Ya, termasuk 1 Long Range PTZ Camera, NVR, dukungan I-Motion Integration**                                                                                                                     |
| Fungsi Khusus dan Fungsi Analitik | Tidak                                                                                                                                                                      |                                                                                                                                                                                                   | Berdasarkan permintaan: seperti Integrasi sensor Water Level Sensor Integration, Long Range PTZ remote Control, Integrasi Database dan pelaporan, Integrasi AI *** |                                                                                                                                                                                                |
| Integrasi Cloud                   | Tidak                                                                                                                                                                      |                                                                                                                                                                                                   | Berdasarkan permintaan                                                                                                                                             |                                                                                                                                                                                                |
| Komponen Paket                    | 1 buah Remote Outdoor Unit, 1 buah 3dBi VHF Omni Antenna, 1 buah GPS Antenna dengan kabel 3m, 5m RG8 kabel, 50m kabel STP Cat5, 1 Mini PC lengkap dengan OpenCPN dan CM93. | 1 buah dBi VHF omni Antenna, 1 buah GPS Antenna dengan kabel 3m, 35m RG8 kabel, 1 Mini PC integrated AIS Module, OpenCPN and CM93 Installed.<br>Paket B: Tanpa S63 Map, Paket C: termasuk S63 Map |                                                                                                                                                                    | 1 buah 3 dBi VHF Omni Antenna<br>1 buah GPS Antenna dengan kabel 5m, 35m kabel RG8, 1 Mini PC integrated AIS Module, OpenCPN dan CM93. 1 buah Long Range PTZ Camera termasuk S63 Map 1 wilayah |

\*Spesifikasi terpisah untuk SeaScope™ Dashboard dan Surveillance PTZ Camera

\*\* IP Public dan Infrastruktur lainnya perlu disediakan dan di konfigurasi secara terpisah

\*\*\* fungsi khusus berdasarkan permintaan dimungkinkan ditambahkan pada SeaScope™ Dashboard, harga tidak termasuk dalam paket.

Gambar dan spesifikasi dapat mengalami perubahan tanpa pemberitahuan sebelumnya.



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