



Know what you have onboard.

Keep it secure.

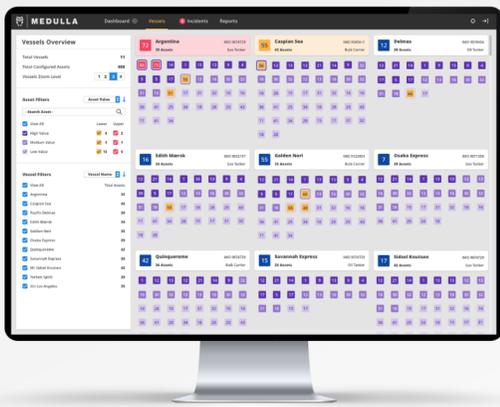
Prove you have secured it.



Cyber security monitoring and analytics for shipping

Shipboard systems are not like enterprise IT. Visualising the cyber risks and knowing when, what and how urgently to take action can be challenging. Ship operators are also struggling to prove that the cyber policies they documented have really been enforced. This is why we have developed Medulla - the maritime sector's most advanced cyber security monitoring and analytics system.

Easy to deploy, optimised for shipping



Medulla is built to overcome the technical and operational challenges of shipping

- Deployable remotely, without the need for vessel visit.
- Resilient to communication blackouts.
- Flexibility to tune data and bandwidth usage limits.
- Option for local, onboard alerting and dashboard for crew.
- Recommends easy to understand, "plain English" actions, so you don't need a skilled cyber team.

VISIBILITY: Gain visibility of your shipboard systems



In 80% of our deployments, we find significant vulnerabilities related to unexpected assets or unpermitted network connections.

Medulla provides accurate, real-time data on what systems are connected and how they are being used. It discovers and maintains an accurate asset inventory and network topology. This enables you to make better decisions and improve the cyber risk management of your shipboard systems.

SECURITY: Know when there is a cyber risk, how to take action and how urgently



The vast majority of ship operators have less than 5 fleet IT engineers. Nearly all of them have never dealt with a cyber incident before.

Medulla's sensors cover networks, business assets and OT systems to give the widest coverage. It applies behavioural analytics to find suspicious misconfigurations, unwanted or malicious activity and prioritises alerts based on risk.

COMPLIANCE: Verify your controls are working. Prove it to inspectors

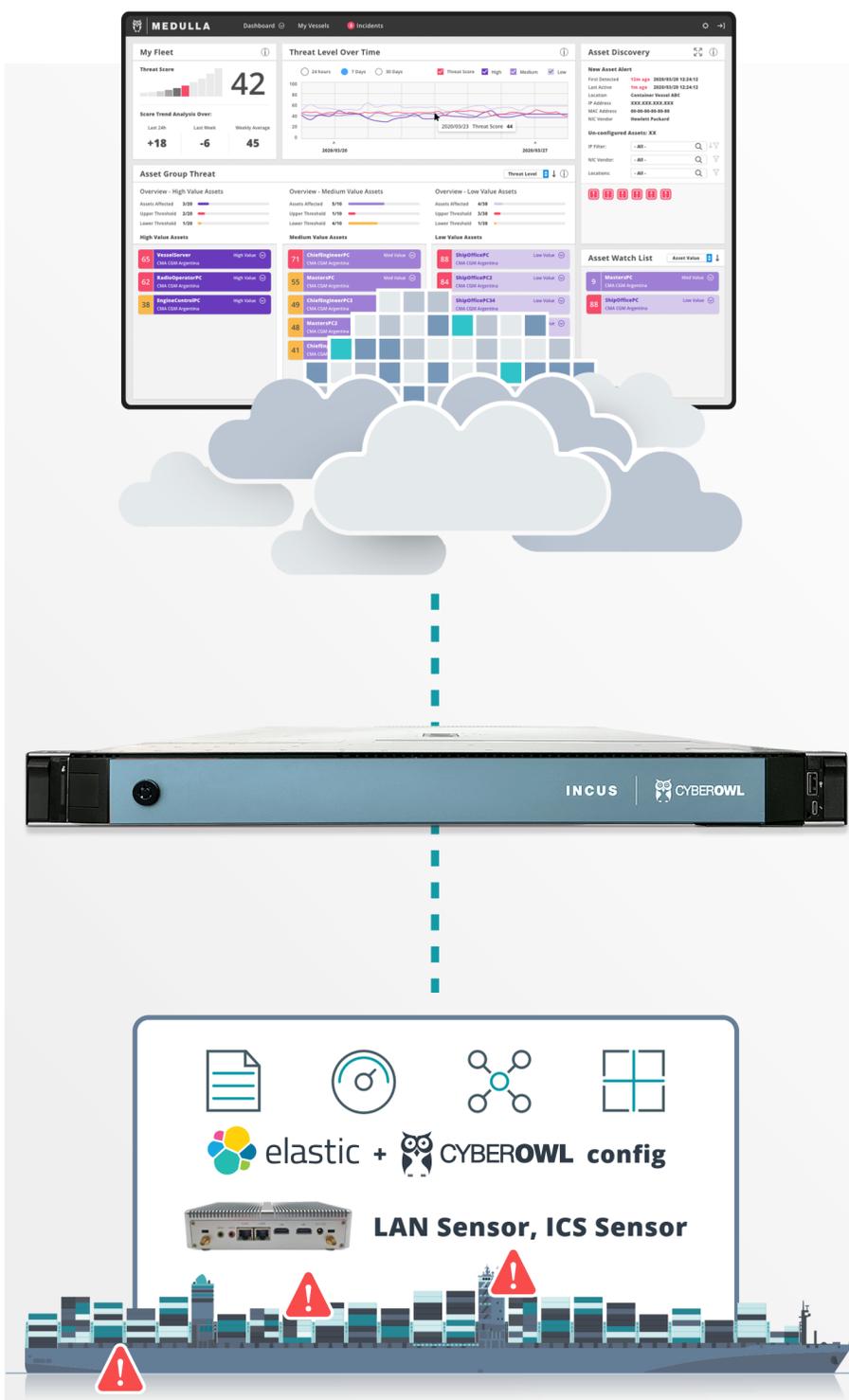


9 out of 10 operators cannot evidence that their documented cyber policies have been implemented, maintained and are working effectively.

Operators are under pressure to demonstrate compliance with IMO2021, but there is no established practice to fall back on. Medulla helps provide watertight evidence that security controls will work when they are needed.

## Award-winning technology, flexible to deploy on any vessel architecture

Vessel network architectures can be very diverse. So we have designed Medulla to comprise flexible, modular components for maximum coverage and minimum deployment complexity.



### Fleet-wide view of cyber risk

- Accurate, up-to-date asset inventory and network topology.
- Real-time cyber risk scoring for every shipboard asset.
- Machine learning detection of cyber risk and anomalous behaviour.
- Alerting, cyber risk prioritisation and recommended actions.
- Metrics on security control effectiveness, aligned with the BIMCO guidance.

### Shipboard local processor

- Easy deployment as virtual machine or physical appliance.
- Aggregates and optimises data from sensors for transmission via satellite.
- Option for local, onboard alerting and dashboard for crew.

### Flexible data collection options for IT, IoT and OT systems coverage

- Software agent for Windows machines
- Traffic sensor for internal networks
- Operational Technology protocol sensor

### Leading maritime cyber security experts in your corner

We recognise that many shipping IT teams are already overstretched, lack expertise or need extra help to secure shipboard systems. So we provide Medulla as part of a managed service.

This gives you access to CyberOwl's experts to support your fleet security operations, deliver risk assessments, provide assurance of compliance with IMO 2021 or tailored security advice. This ensures you deliver meaningful improvements to securing your shipboard systems.

### Trusted by leading fleet operators in Europe and Asia Pacific

*"Medulla makes it **easy to take effective action** and focus on protecting our high value assets onboard.."*

- Head of Digital Solutions, Eastern Pacific Shipping -

*"Medulla provides **visibility of cyber risks in a way that we previously struggled with...**"*

- CIO, Metrostar -

You can't protect what you can't see. Visualise your fleet cyber risks, so you can manage them.

[Test Drive Medulla](#)

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