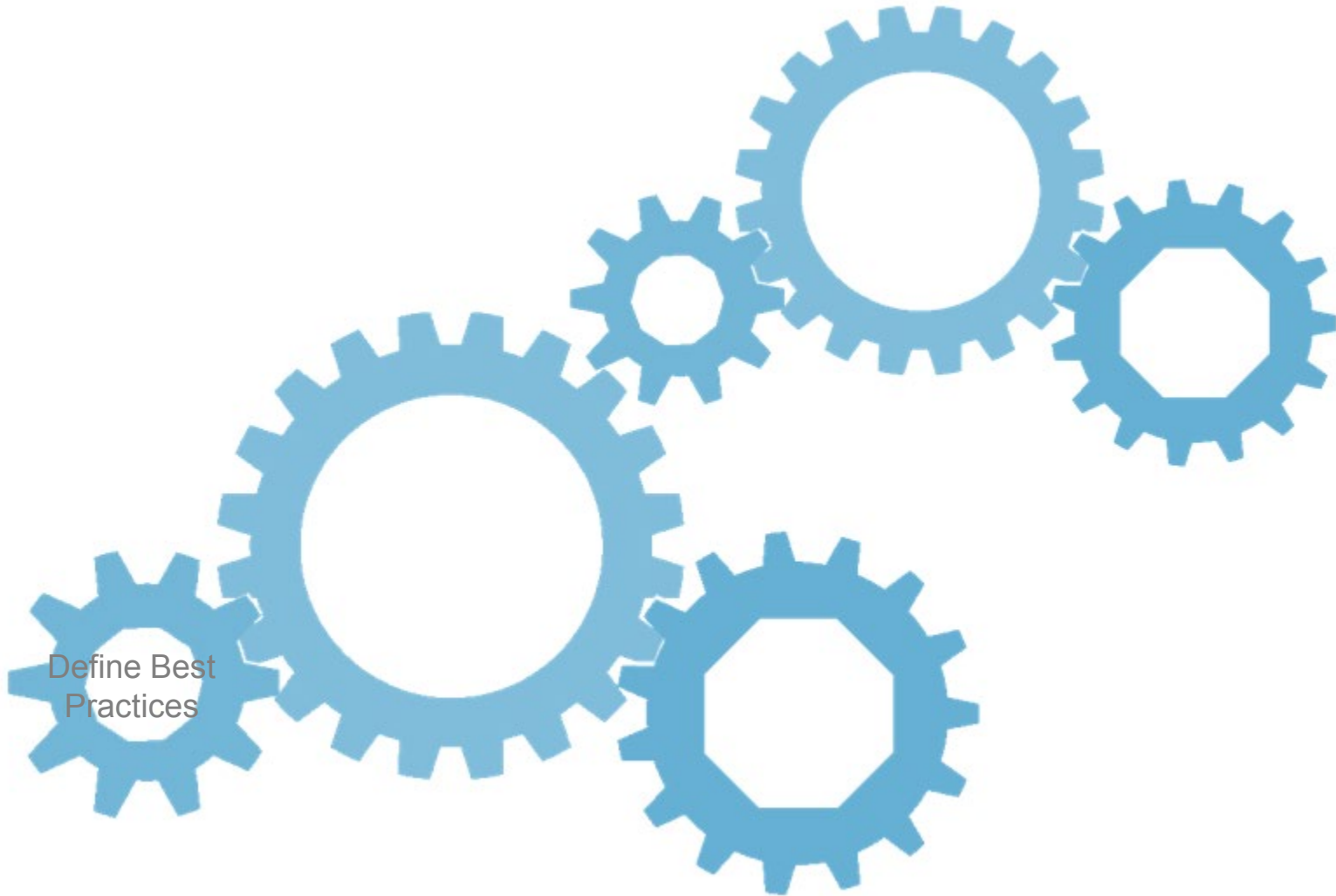




Tips to standardise, automate & secure your network in the new connected era

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Digital Ship Athens

Step 1. Define Best Practices



Step 1.

Define Best Practices



First companies need to lay the foundations

- Mapping your current state of affairs
- Cost & Benefits
- What do you want to achieve?

A diagram showing a three-step process. Three blue rounded rectangular boxes are arranged horizontally, each containing a step name. These boxes are set against a light blue background that features a large, stylized arrow pointing to the right, which encompasses the boxes.

THE AUDIT

THE
OBJECTIVE

THE
ROADMAP



Step 1.

Define Best Practices



THE AUDIT

Where are you now?



Understand your current business processes

- What processes are being carried out by individuals & departments within the organization today?
- Define, outline and document them.

Where will automation fit into your business?

- What are the triggers on which automation might execute?
- What needs to happen before and after the automation?
- What input variables will need to be automated for a successful outcome?

While analysing these processes, you'll want to answer the following questions:

- How does information enter into your organisation?
- Who receives, analyses, acts on, and approves this info?
- What department handles these steps and what info are they in charge of?
- Where is the information stored for retention and later archived?
- Why is our system currently set-up this way?

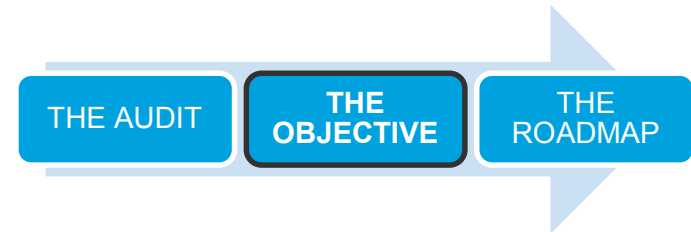
Step 1.

Define Best Practices



THE OBJECTIVE

Where do you want to go?



Evaluate your requirements and potential benefits

- Evaluate processes that consume a great deal of time
- Can complex, multi-step activities be simplified?
- Evaluate the time taken by manual activities and the frequency with which those activities are undertaken

Remove unnecessary steps

- Eliminate any processes that add no beneficial value to your organization
- Can you remove overlapping and duplicated tasks?
- Do processes still exist that are now being carried out by a separate process more effectively?
- Do processes or remnants of a process still exist that used to address needs your organisation no longer has?

Put the right people in the right places

- Move individuals into the process as needed
- What/who is needed for the process to function properly

Step 1.

Define Best Practices



THE ROADMAP

How are you going to get there?



Establish what will be automated

- Based on your objectives, which specific IT processes and workflows will actually be automated and in what order?
- Create an accurate scope of the overall strategy for implementing and maximizing automation

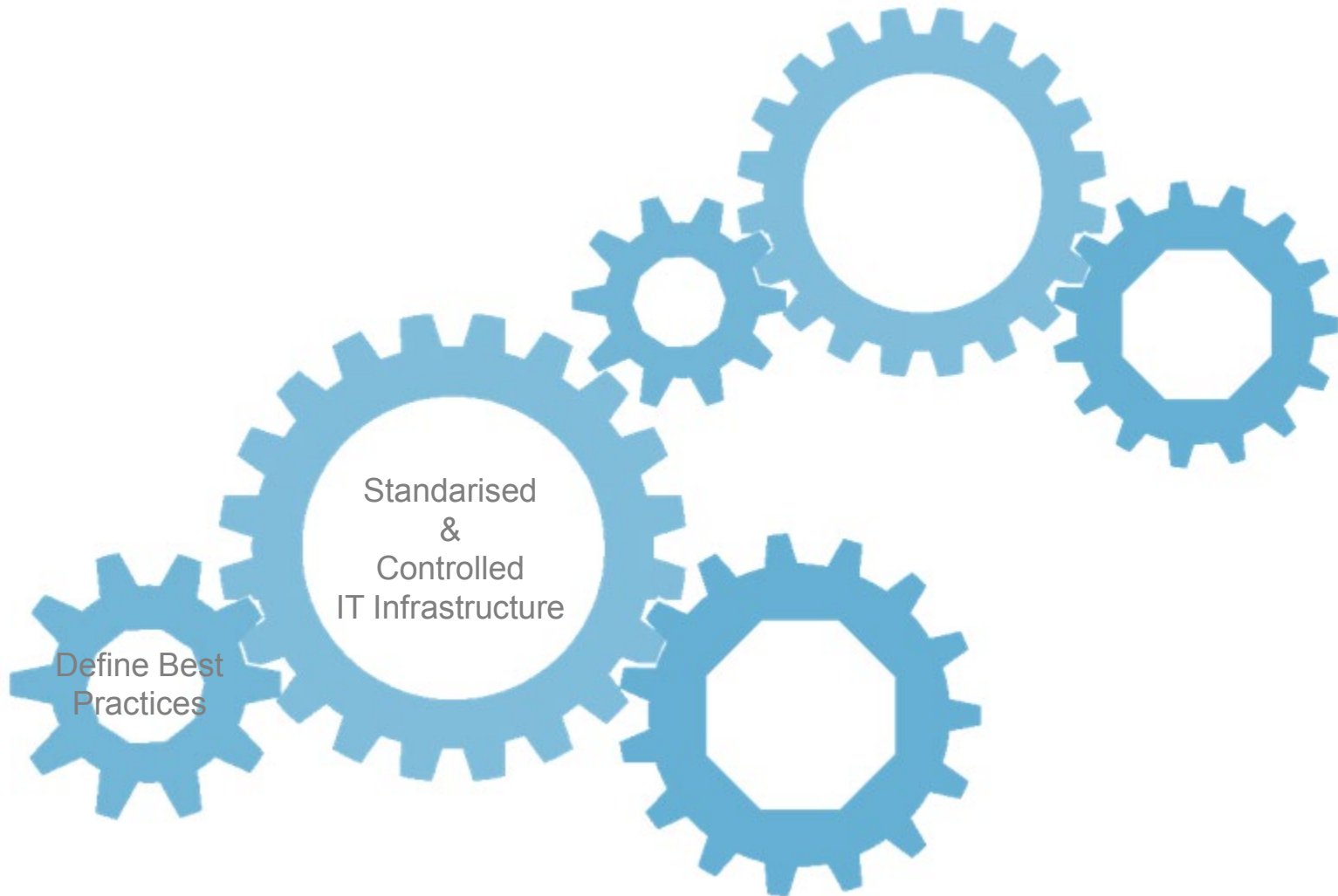
Set expectations

- Set expectations surrounding workload and cost reduction early and accurately
- Automating smaller tasks can be an excellent way to demonstrate value and provide a foundation

As a result, your organisation can expect the following benefits:

- Lower costs
- Increased reliability and performance
- Reduced complexity
- Streamline/automated repetitive tasks
- Lower risk of error
- Reduced need for checks and balances
- Improved tracking and reporting
- Reduced reliance on high level expertise

Step 2. Standardise & Control the IT Infrastructure





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What does IT standardisation look like?

Businesses using a standardised IT infrastructure use:

- The same hardware
- The same operating systems
- The same equipment
- The same applications
- Standardised policies
- Fewer vendors

Why standardise your IT Infrastructure?

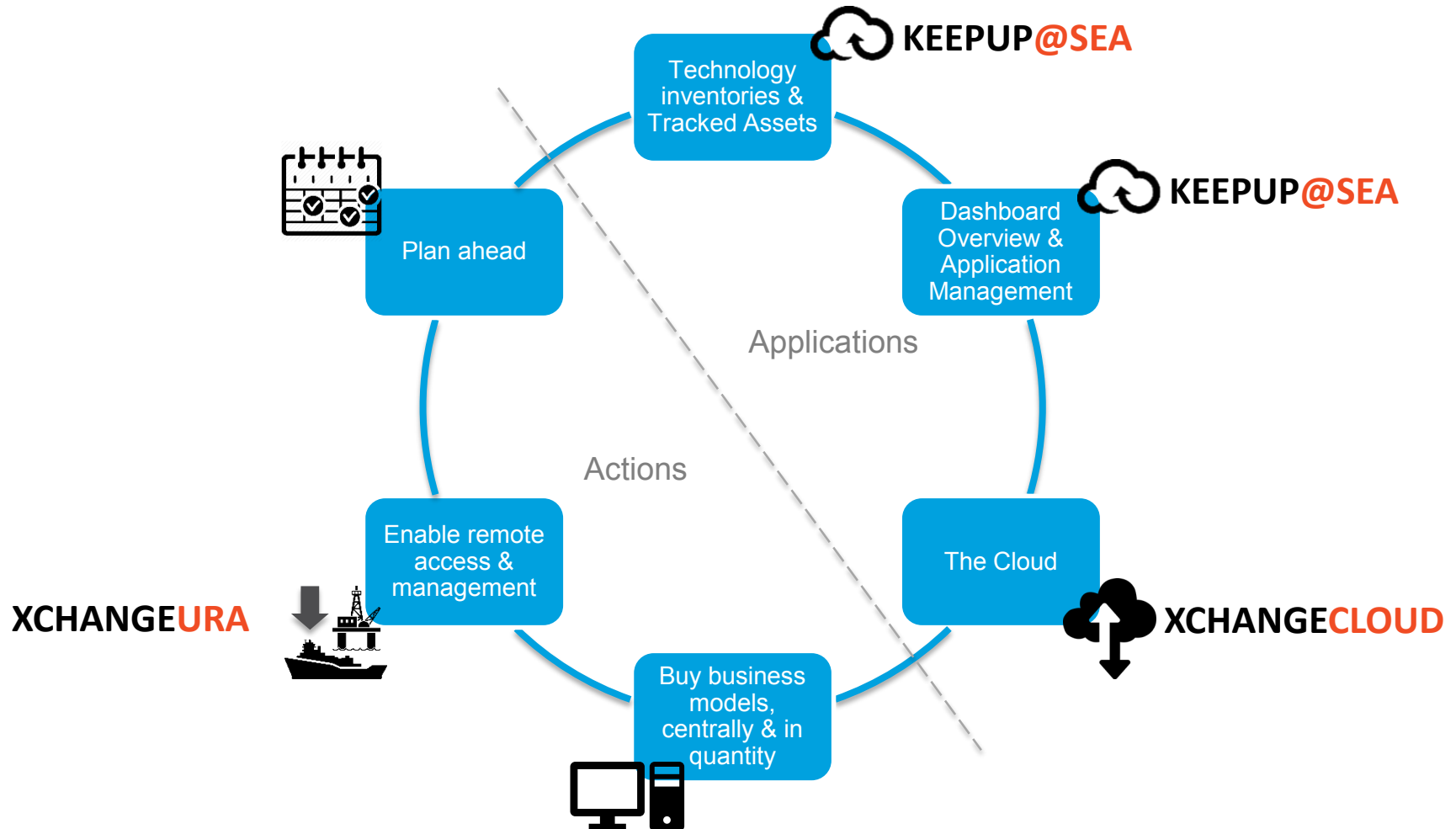
Uniformity in your infrastructure, equipment, and configurations enables you or your Service Provider to:

- Reduce the burden on IT staff
- Avoid compatibility problems
- Improve communication
- Quickly troubleshoot common problems
- Monitor for known issues
- Provide a shorter resolution time
- Trigger updates to operating systems and software on a specific schedule
- Provide rapid response
- Minimise costs
- Identify improvement and upgrades
- Create scope for digitisation

Step 2. Standardise & Control the IT Infrastructure



How can IT standardisation be achieved?





Step 2. Standardise & Control the IT Infrastructure



MARLINK CASE STUDY: Stolt-Nielsen Limited

- **The Challenge:**
 - 80-90 vessels (3-15 years old)
 - All serving different markets with different solutions
- **The Objective:**
 - Standardisation & better control
- **The Solution:**
 - Upgraded to deploy standardised Sealink VSAT across all vessels
 - XChange with Universal Remote Access (URA)
 - KeepUp@Sea comprehensive IT solution
- **The Benefits:**
 - Quicker to deploy connectivity & upgrades
 - Straightforward remote troubleshooting (one-time setup)
 - Remote access to any device on the network, for managing and updating applications
 - Stronger IT competence
 - Less IT training
 - Simpler management of maintenance, spares & repairs
 - Reduced cyber risk
 - 30% cost reduction in deploying IT updates and patches



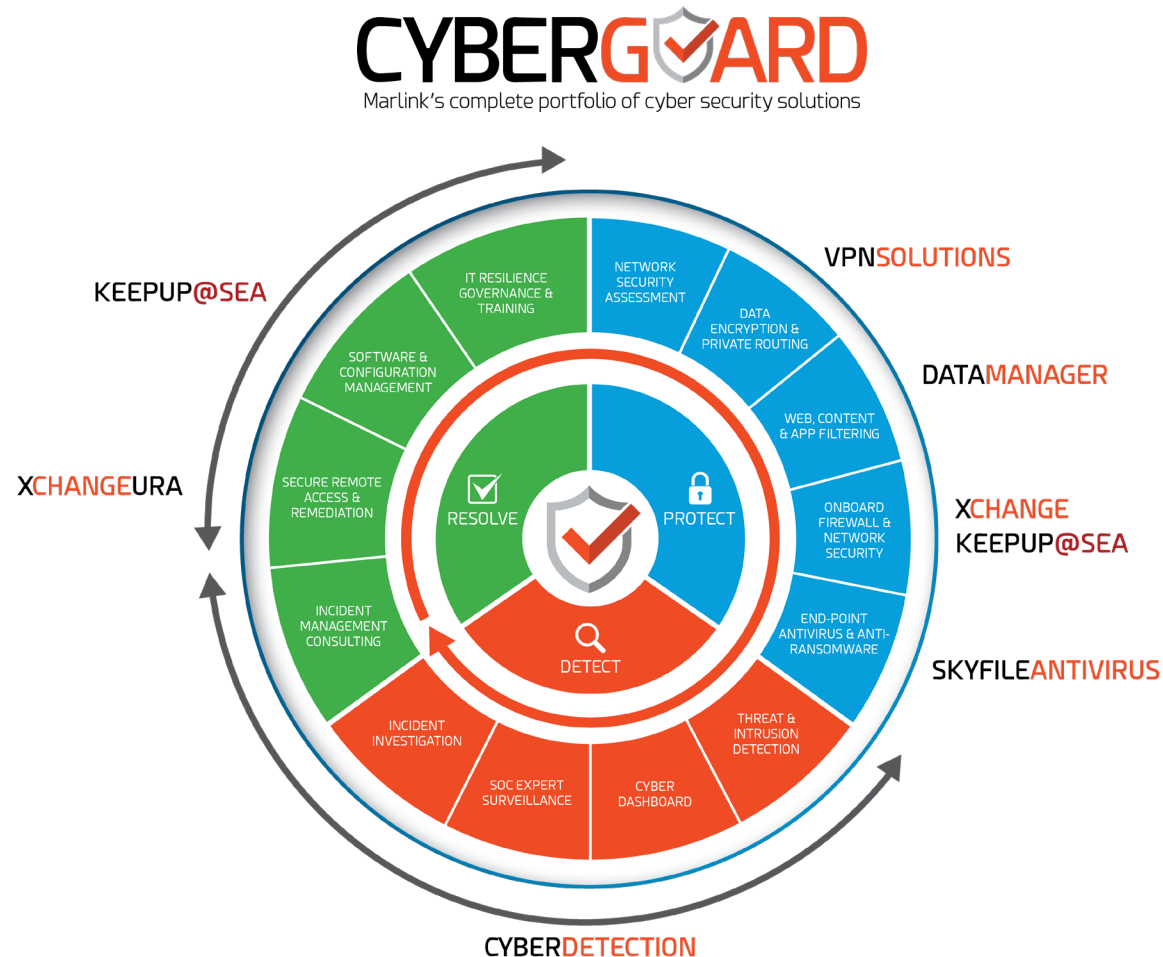
Step 3. Provide Protection & Reduce Cyber Risk





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In the rapidly developing maritime environment, an holistic approach to security is needed that enables response to new and ever-evolving risks.





Step 3. Provide Protection & Reduce Cyber Risk

The weakest link in your security chain puts your entire network at risk. With cyber threats increasing in sophistication, understand your satellite operator's security posture.

Questions You Should Ask Your Satellite Service Provider about Cyber Security



How are you securing your network (not just your satellites)?

What are the key elements of your Information Assurance plan?

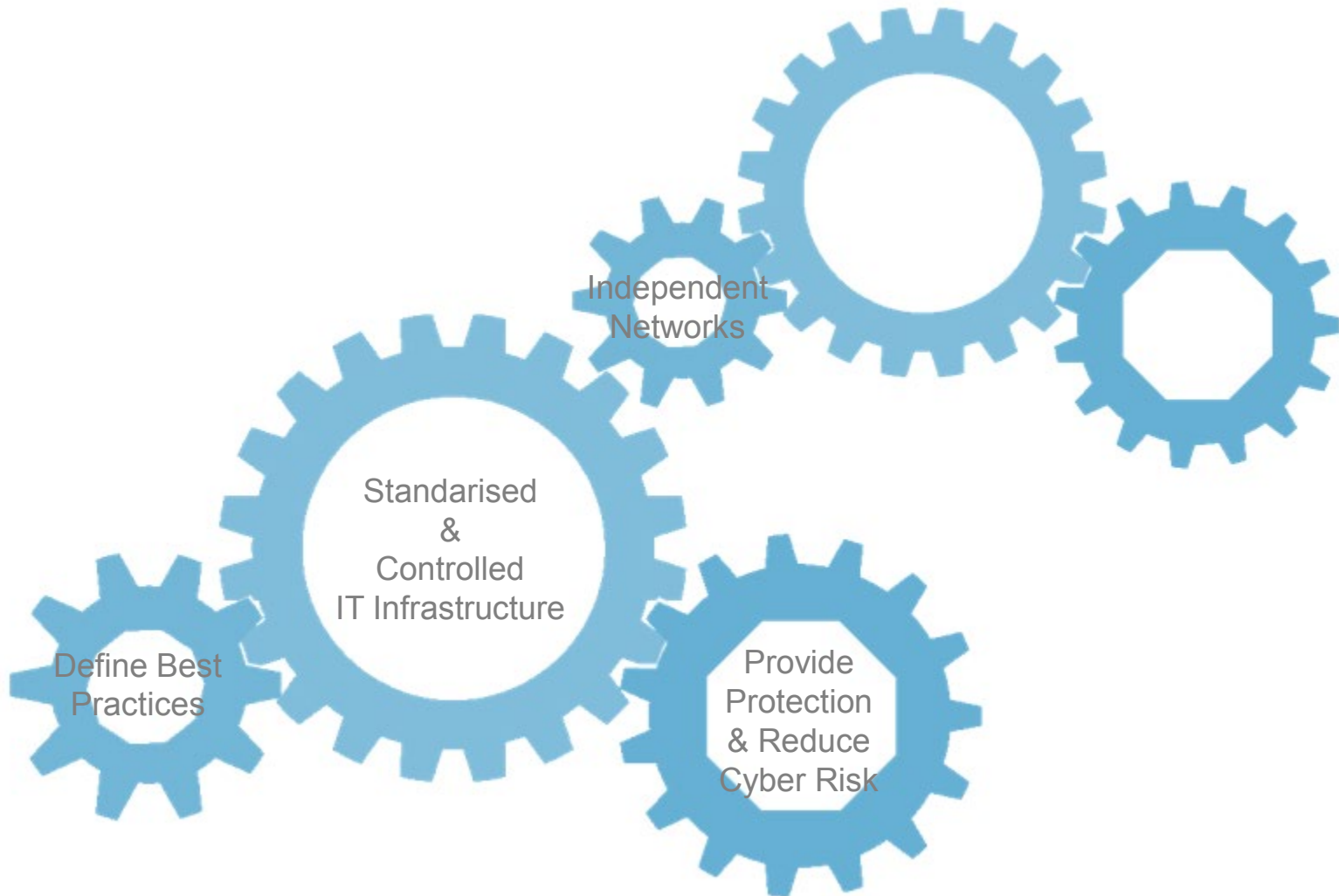


What measures do you incorporate to ensure that the satellite portion of your network will remain available?

What are you doing to keep ahead of the fast changing cyber threat environment?



Step 4. Separate Networks & Define Policies





Step 4. Separate Networks & Define Policies

How should your network be split and prioritised?

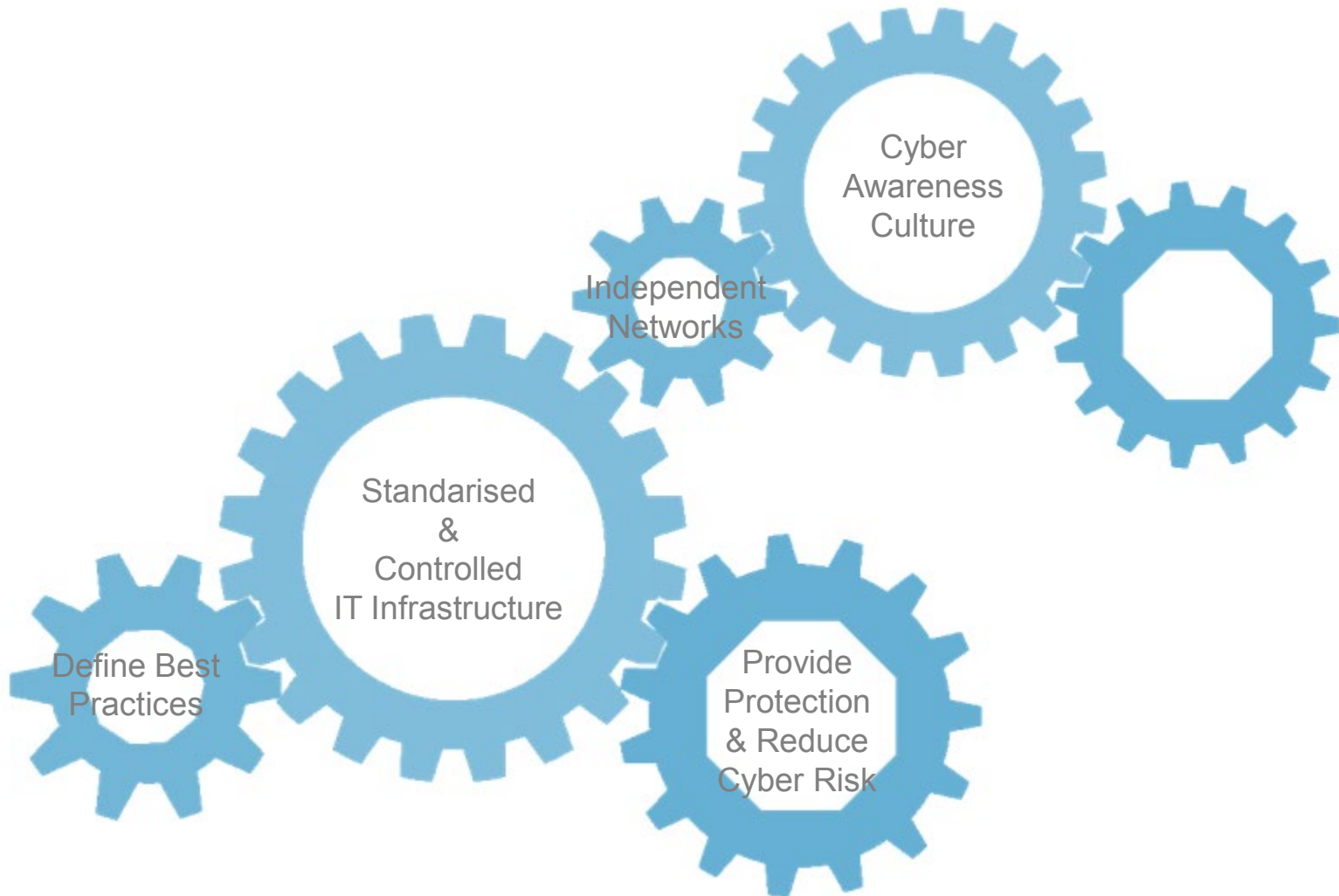
- The most basic configuration is to split the crew LAN from the corporate LAN
- Would you benefit from further divisions?
- What applications will you prioritise?
- What policies will you set for each network?
- Within the crew network, will all users have the same entitlements, or different?

MARLINK CASE STUDY: Grieg Star AS

- **The Challenge:**
 - 33 Vessels, approx. 700 crew members
- **The Objective:**
 - Enabling crew connectivity while maintaining control
- **The Solution:**
 - XChange
- **The Benefits:**
 - Crew and business networks are separated, with the business network always getting priority
 - An infected crew device will not affect the business network
 - XChange user management provides the means to control:
 - Appointed prepaid credits per user or user group
 - Which applications each user can access
 - Restrictions based on volume-based and/or working hours (time-based)
 - Black listing and application filtering



Step 5. Create a Culture of Cyber Awareness





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“A leading cause of security breaches is a **basic human vulnerability**: our susceptibility to deception. **Hackers exploit this vulnerability** by sending phishing emails that induce users to click on malicious links that then download malware or trick the victim into revealing personal confidential information.”

Journal of the Association for Information Systems

Make cyber security everyone's responsibility

Your cyber security strategy is only as strong as your weakest link.

In addition to technical cyber security solutions, creating awareness among staff through regular training and a clearly defined IT system usage policy is essential.

An holistic approach is needed towards:

- Technology & solutions
- IT usage policy ('IT Charter')
- Access management (user authentication)
- Training
- Business processes



Download our Free Whitepaper



CYBER SECURITY WHITEPAPER

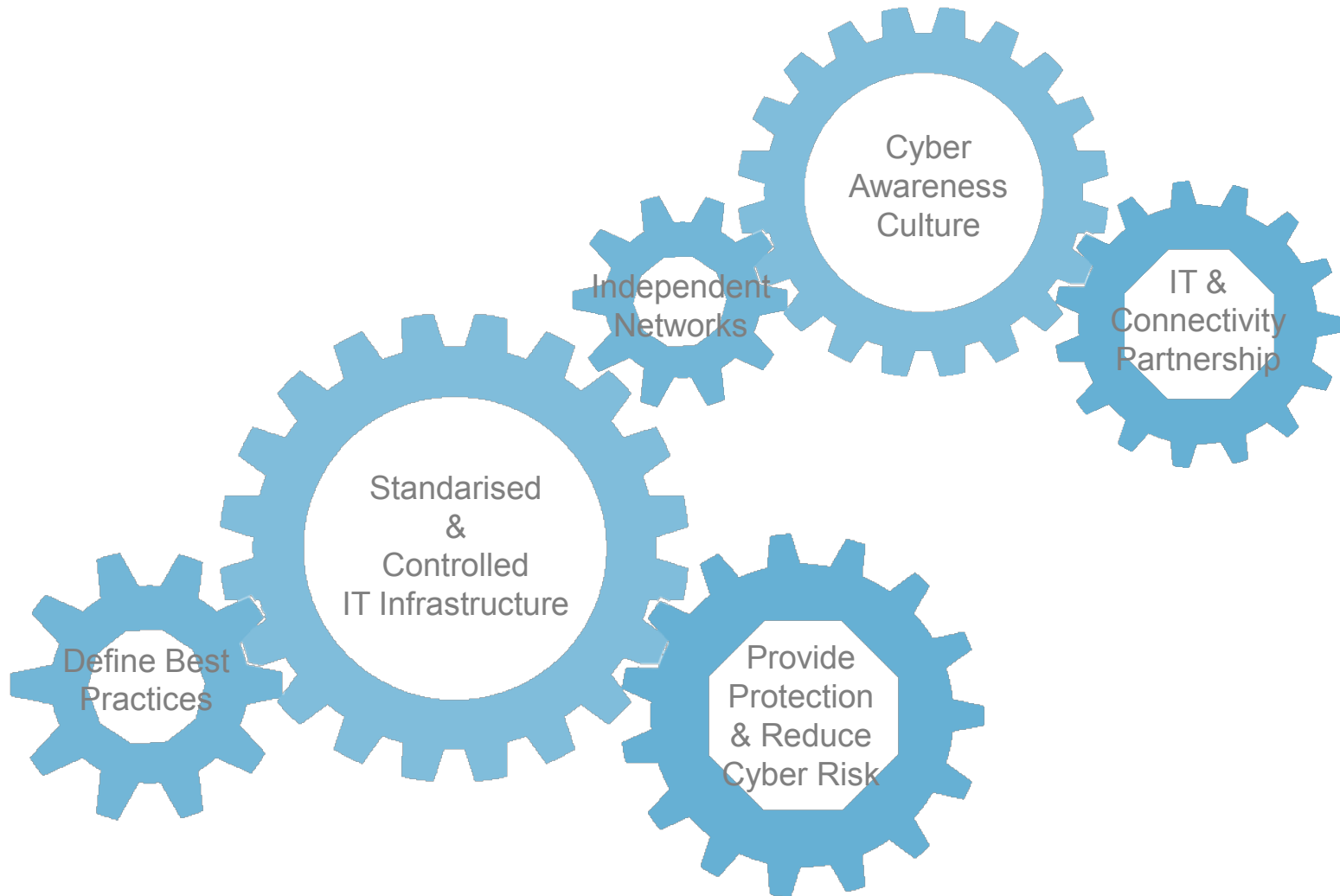
Next generation defences against the growing threat of cyber-attacks

In this whitepaper we address the challenges, motivations and methods that cyber criminals use and the processes and technology that can be applied to stop them.

Download it now: www.marlink.com



Step 6. Choose the Right IT & Connectivity Partner to enable your evolving needs





Step 6. Choose the Right Connectivity Partner to enable your evolving needs



Your communication and IT landscape is evolving rapidly – are you partnered with a future-proof connectivity provider that can demonstrate:

✓ Control	✓ Flexibility	✓ Support
<ul style="list-style-type: none">• Predictable, long-term partner (25+ years)• Independently run (not owned by an SNO)• Average link availability of 99.5%• Cyber resilient network solutions	<ul style="list-style-type: none">• Full spectrum of connectivity solutions across frequency bands• Multi-carrier capabilities• Constant innovation of connectivity solutions and applications (Telemedicine, VideoTalk, Media, URA, Cloud, etc.)	<ul style="list-style-type: none">• Quality, certified support (ISO, ITIL)• Global Service Network• Long term VSAT experience• Significant number of staff and service points• Global Logistics & warehouses



Step 6. Choose the Right IT & Connectivity Partner to enable your evolving needs



To meet the unprecedented demand for broadband connectivity, high-throughput satellites (HTS) are an important game changer in network expansion plans. But not all HTS are created equal. Choosing the right architecture defines the user experience.

Questions You Must Consider When Choosing a VSAT Service Provider



Can your service provider seamlessly accommodate expansion and growth?

Does your service provider use open architecture or closed architecture?









Can your service provider scale upward and future-proof your technology investments?

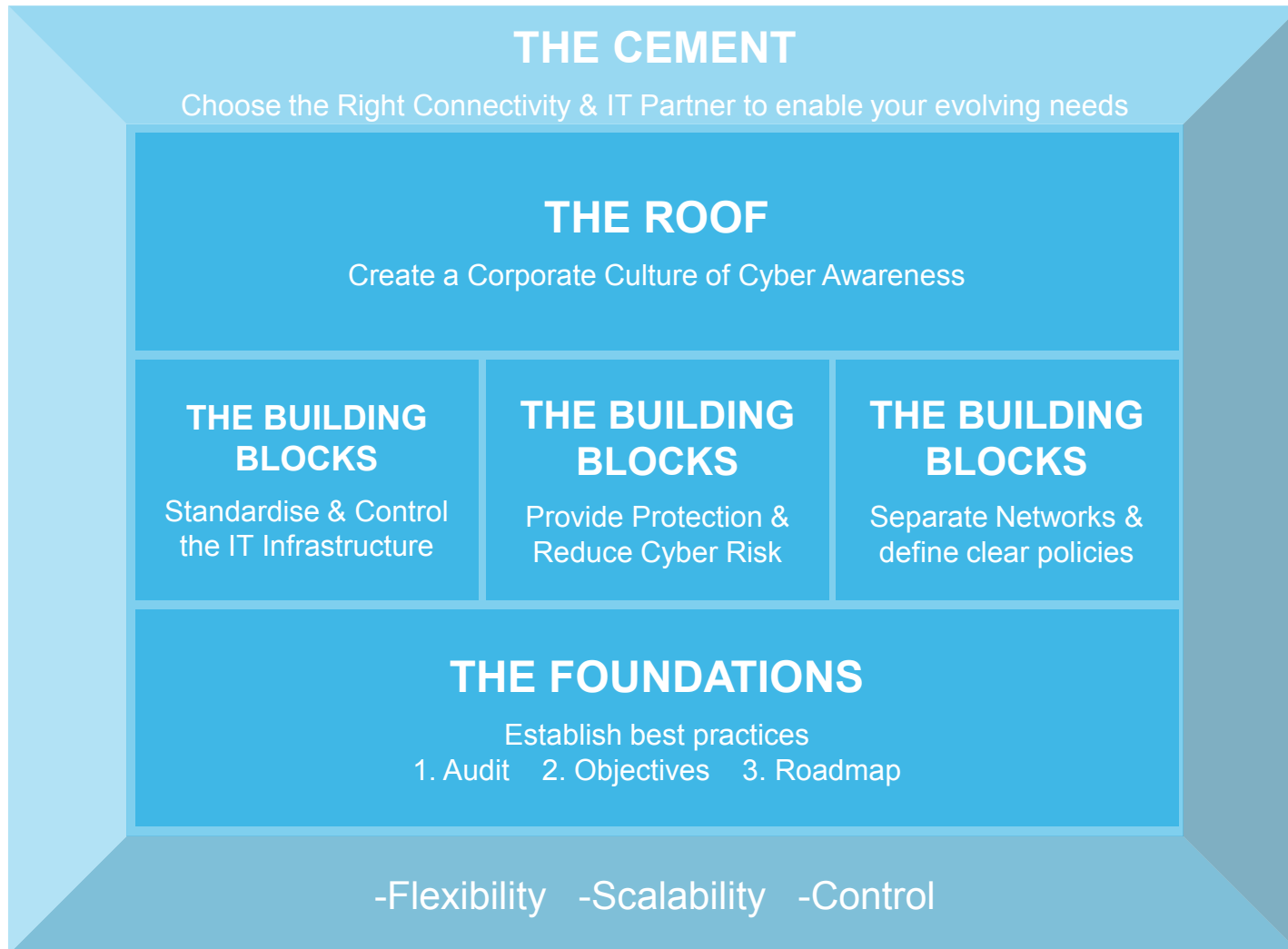
LEO initiatives



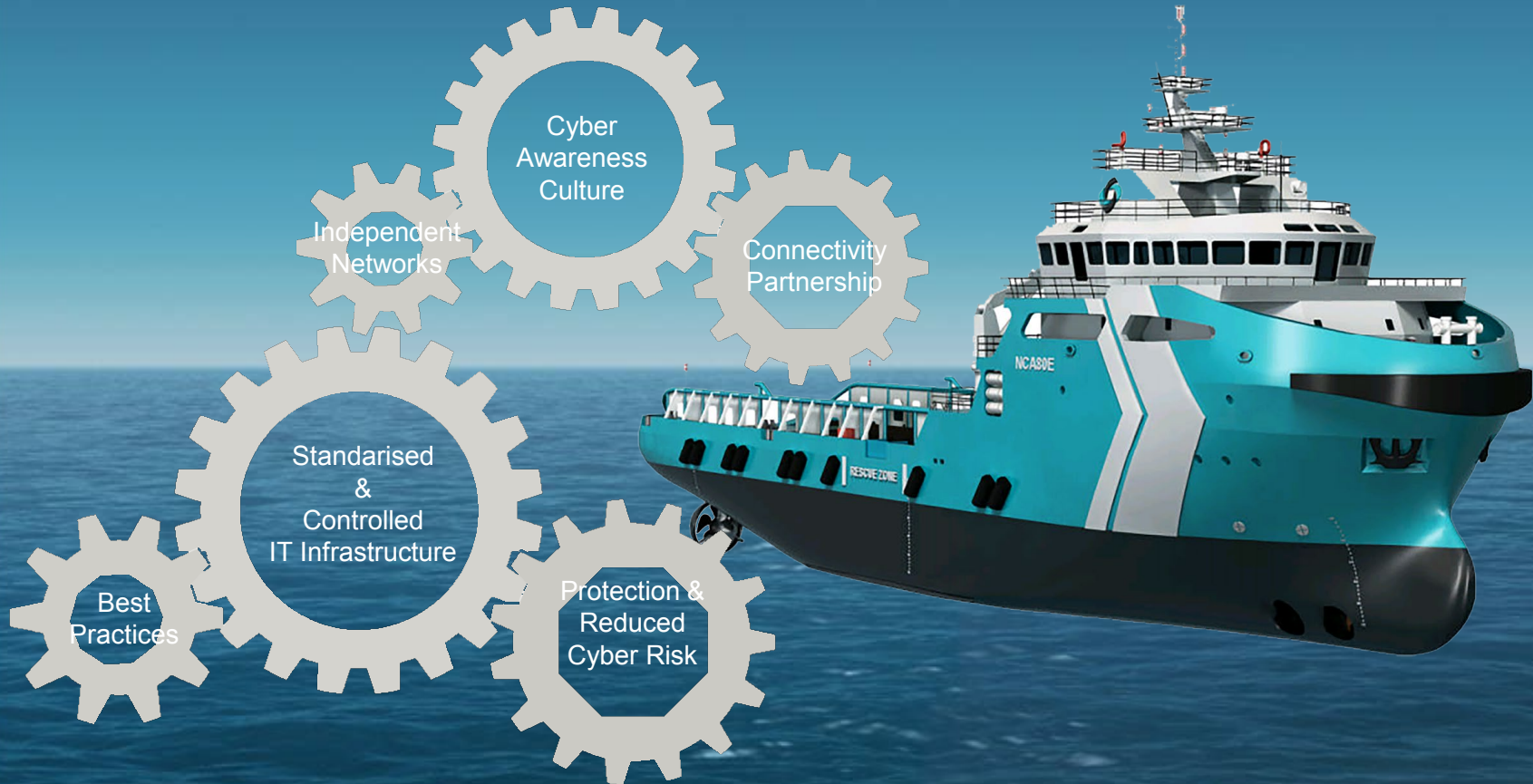
Several companies are taking on the development of LEO satellite constellations.

Operator						
Orbit Type & Path Altitude	MEO Circular 8,063 km	LEO 780 km	LEO 800 and 950 km	LEO 1400 km	LEO	LEO 1100 km
Frequency Bands	Ka	L- and Ka-band	Ku-band	Ka-band	Ka-band	?
Coverage Areas	Global Limited to between 45°N and 45°S latitudes	Global	Global	Global	Global	Global
Initial Number of Satellites	8	66	900	78	117	4800
Network Architecture	Proprietary network	Proprietary network	Proprietary satellite terminals, but end user equipment may be LTE, 3G, 2G or WiFi	Polar orbit, optical inter satellite communication. Network compliance with 4G/5G/LTE.		
Advantages	Lower latency than Geo-satellites, 1.6 Gbps in one transponder. Owned by SES	Very low latency, global coverage, inter satellite connections (4 per satellite)	Very low latency, global coverage, inter satellite connections, 6 Gbps throughput per satellite.	Very low latency, global coverage, up to 1.6 Gbps throughput per remote	Very low latency, global coverage,	
Trade-offs	Limited coverage	Low data rates at L-band (max. 512/1536 kbps)	Disposal of satellites?	Disposal of satellites?	Disposal of satellites?	Disposal of satellites?
Anticipated Availability	2014	2015-2017	2019-2020	2021	2021	Initial 2020

The Essential Layers



The Connected & Digital Ship





Connect smarter. Anywhere.