OTE SAT_MARITEL

Novel Cyber Security Approaches & Solutions
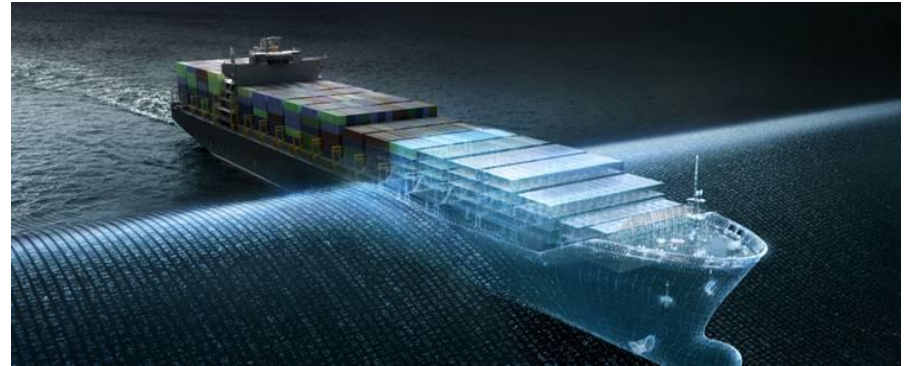
Thrasyvoulos Tampakakis
Technical Solutions Engineer | OTESAT-Maritel

Dr. Konstantinos Papapanagiotou
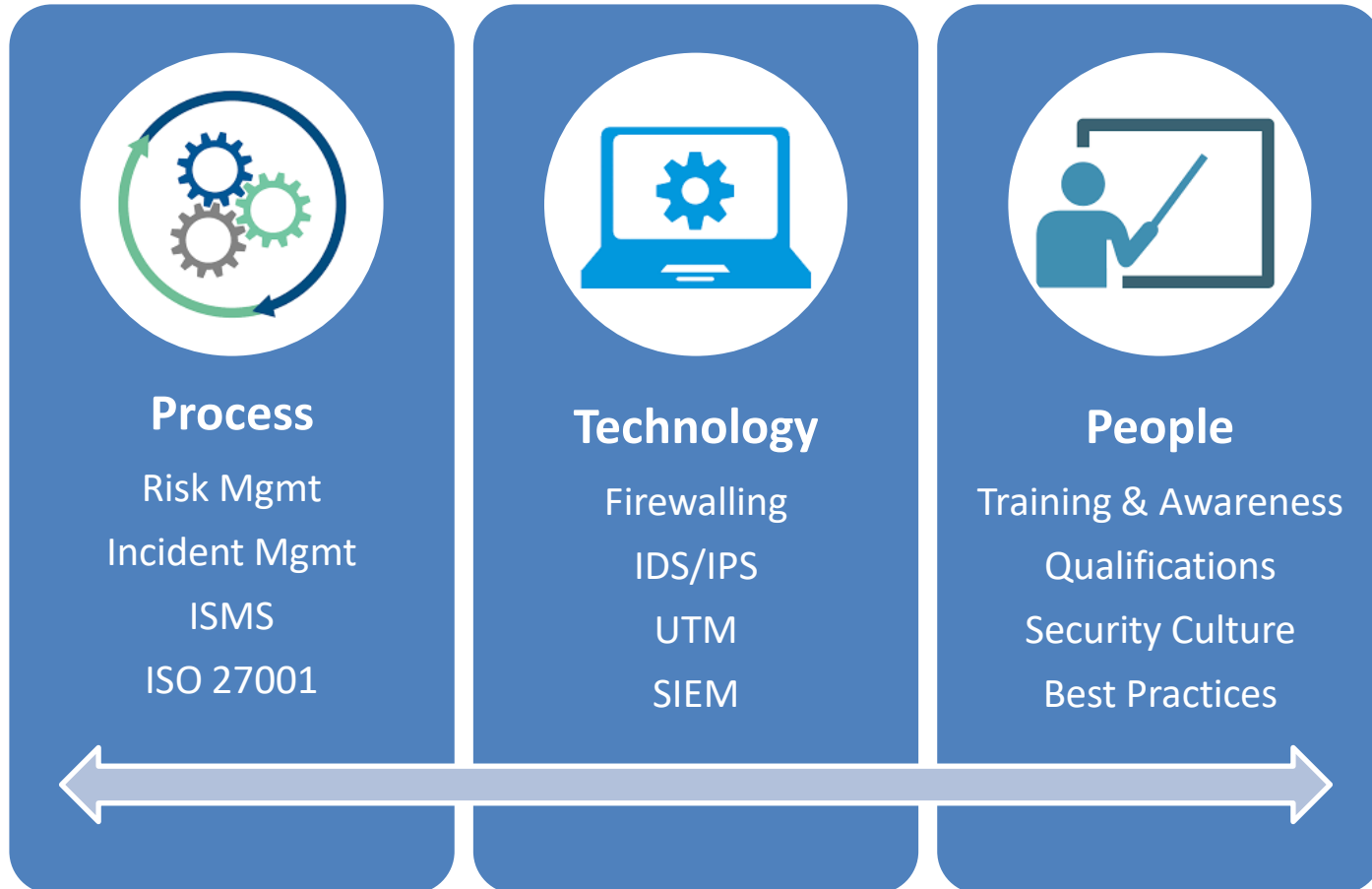**Senior Manager, Cyber Security Solutions | OTE**

Digital Ship | Athens
8 November 2018

Maritime Digital Transformation

o Ongoing maritime **Digital Transformation** is essentially transforming vessels into managed remote branches.

o However, in order to ensure business continuity and operations agility, **Cyber Security** is a must-have service.

The Security Pillars

Process

Risk Mgmt

Incident Mgmt

ISMS

ISO 27001

Technology

Firewalling

IDS/IPS

UTM

SIEM

People

Training & Awareness

Qualifications

Security Culture

Best Practices

Maritime Cyber Security
(Where we Stand)

o The **need to have qualified personnel onboard** is turning from a recommendation into a must.

o Globally, ports, vessels and facilities are increasingly connected to and **depended on cyber systems.**

o Commercial vessels, both at sea and while in port, may become **object to security threats, piracy, smuggling or stowaways.**
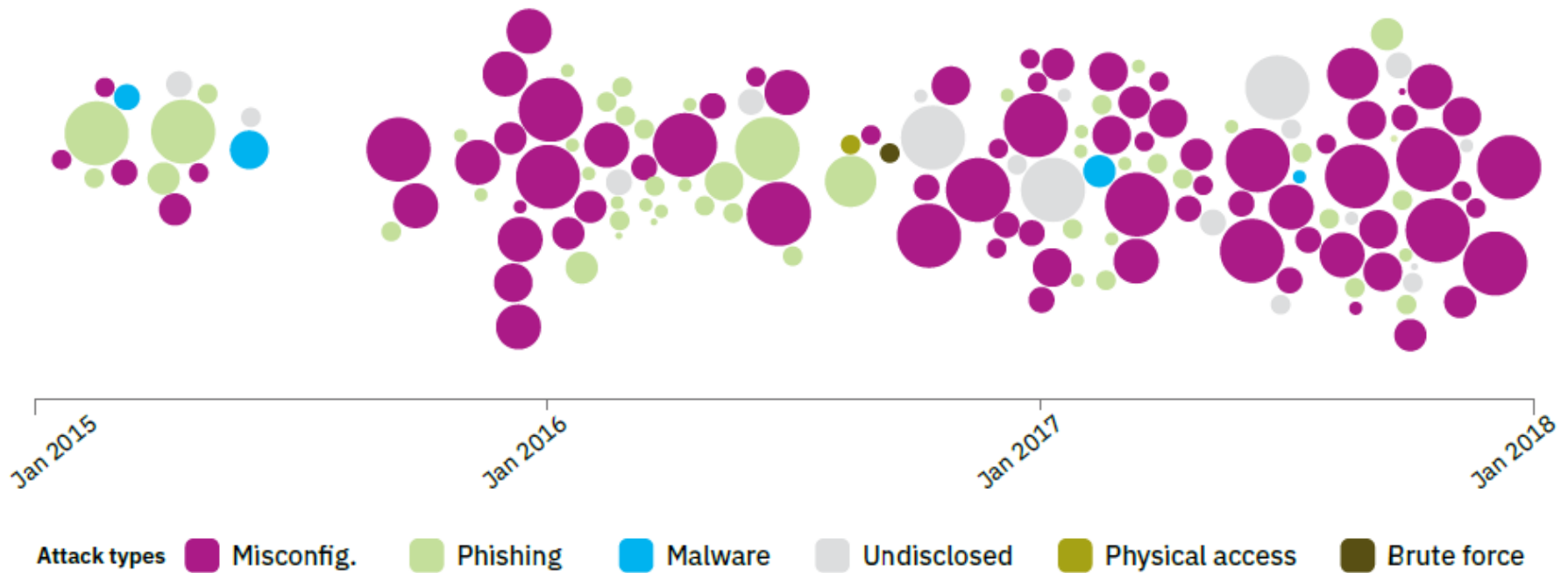

Image: European CEO

Maritime Cyber Security
(Potential Vulnerabilities)

o **Information & Communication Services** (e.g. Vessel-HQ Connectivity).

o **Navigation Systems** (e.g. ECDIS).

o **Industrial Ship Control Systems** (e.g. Main ship propulsion engines).

o Lack of **cyber security awareness.**

Image: European CEO

The Inadvertent Insider

The size of each circle estimates relative impact of incident in terms of cost to business, based on publicly disclosed information.

Recommendations on Cyber Safety

IACS has recently published 9 of its 12 recommendations on cyber safety.

Rec No	Title	Status
Rec 153	Recommended procedures for software maintenance of shipboard equipment and systems	Published
Rec 154	Recommendation concerning manual / local control capabilities for software dependent machinery systems	Published
Rec 155	Contingency plan for onboard computer based systems	Published
Rec 156	Network Architecture	Published

Source: http://www.iacs.org.uk/news/12-iacs-recommendations-on-cyber-safety-mark-step-change-in-delivery-of-cyber-resilient-ships/#_edn1

Cyber Security Survey

Launched by BIMCO, Fairplay and ABS Advanced Solutions, with more than 350 participants.
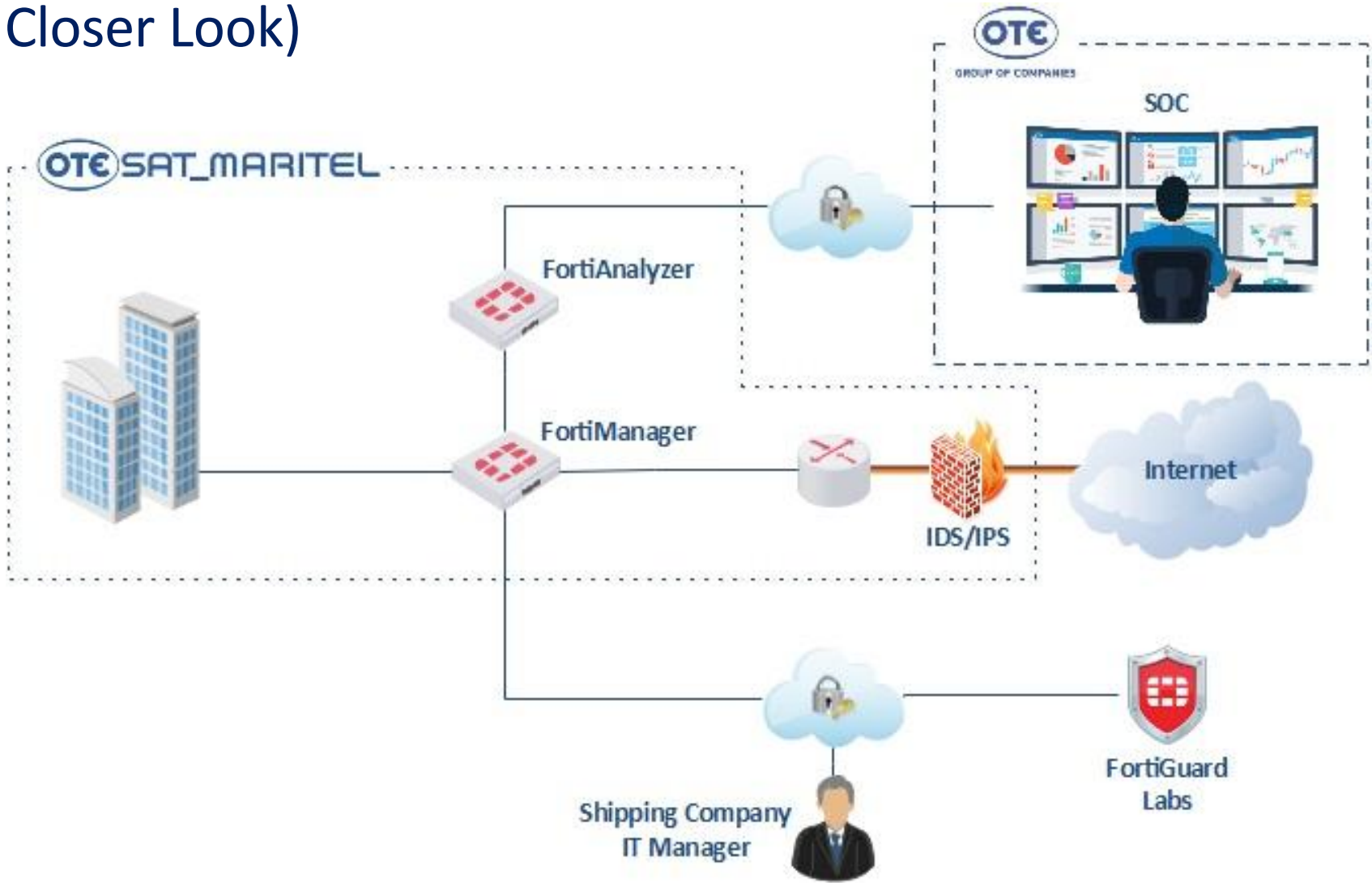
Onshore Protection
(General Overview)

By utilizing OTESAT-Maritel's **proprietary** POP infrastructure, **all** existing customers are **already** provided with:

- ✓ Centralized Intrusion Detection & Prevention Systems.
- ✓ Anti-Spam & Anti-Malware Protection.
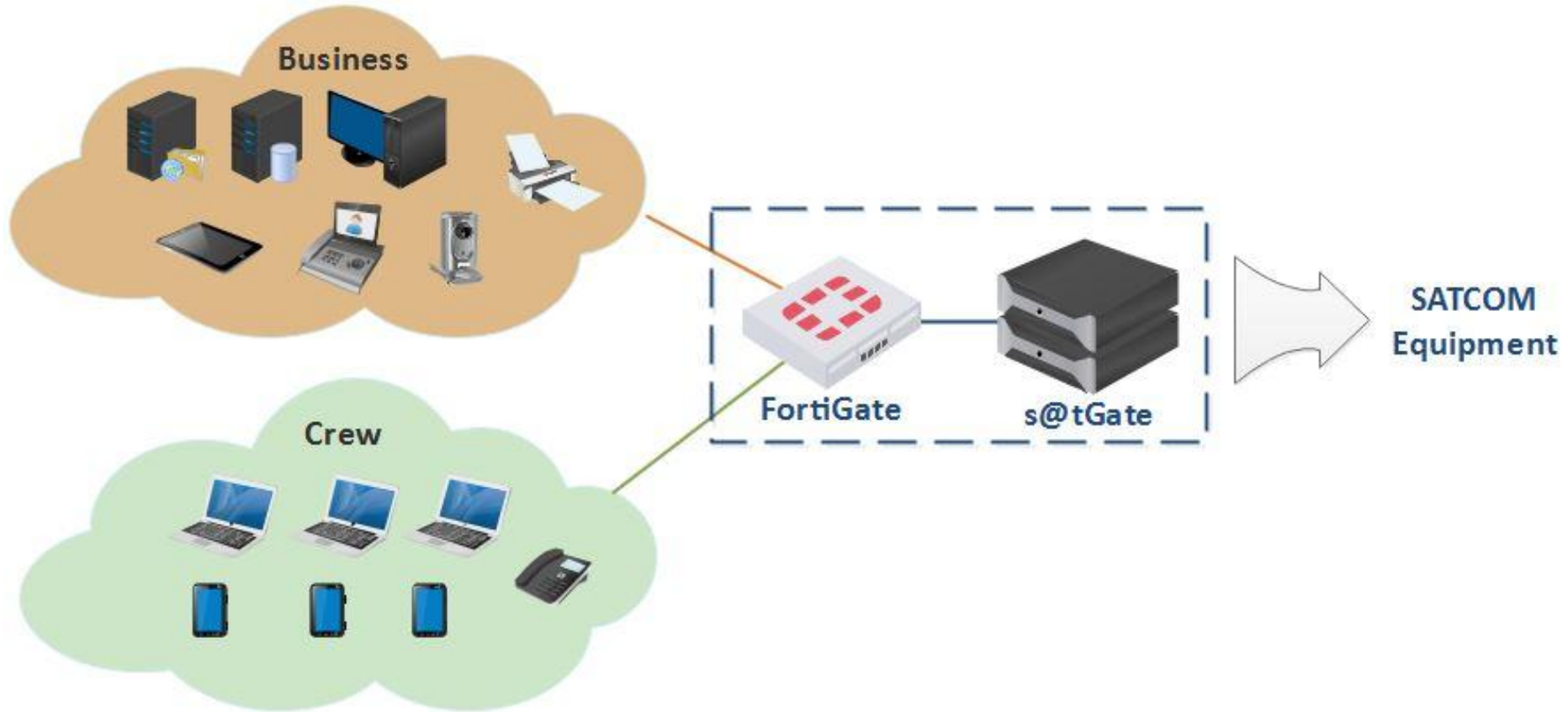- ✓ Automated Systems Backup & Recovering Capabilities.

Onshore Protection
(A Closer Look)

Onboard Protection

- ✅ NGFW App Control
- ✅ Antivirus

- ✅ Antispam
- ✅ Botnet

- ✅ Web Filtering
- ✅ IPS

Best-of-Breed Technology

Fortinet Recognized as a **Leader** for **Ninth Time** in Gartner's Magic Quadrant for Unified Threat Management.

(Positioned Highest Overall in Magic Quadrant for its Ability to Execute in the UTM Market).

Source: Gartner (September 2018)

E-Learning Courses

- Cyber Awareness e-Learning sessions for IT Managers and Crew members.

- Cyber Threat Basics.

- Security Mechanisms & Best Practices.

- Information Security Tips & Guidelines.

- GDPR – Basic Principles.

- Audiovisual Content.

- Assessment Tests.

OTE Managed Security Services

- ✓ Part of a network of Deutsche Telekom Group Security Operation Centers in Europe.

- ✓ Deutsche Telekom's Honeypot Project.

- ✓ National Critical Infrastructure.

OTE Group SOC

OTE SAT_MARITEL
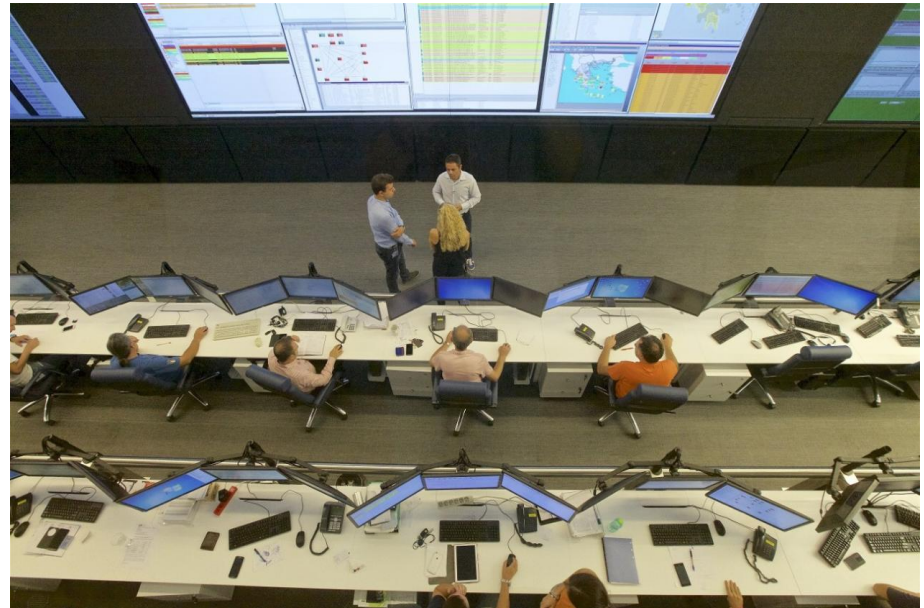
We monitor

more than
10.000
devices

Producing

60.000
EPS
Any given
time

We inspect

400 Gbps
of traffic

Peaks
exceed
700 Gbps

Handling

37
Incidents
On a daily
basis

OTE
GROUP OF COMPANIES

OTE SOC Key Advantages

Infrastructure
- SOC based in Greece
- State of the art technology

People
- International-speaking team of certified Security Analysts
- Unparalleled expertise

Processes
- All services are governed by strict SLAs
- ISO 27001 certified SOC

Intelligence
- Focused insight on attacks
- Part of global DT SOC network
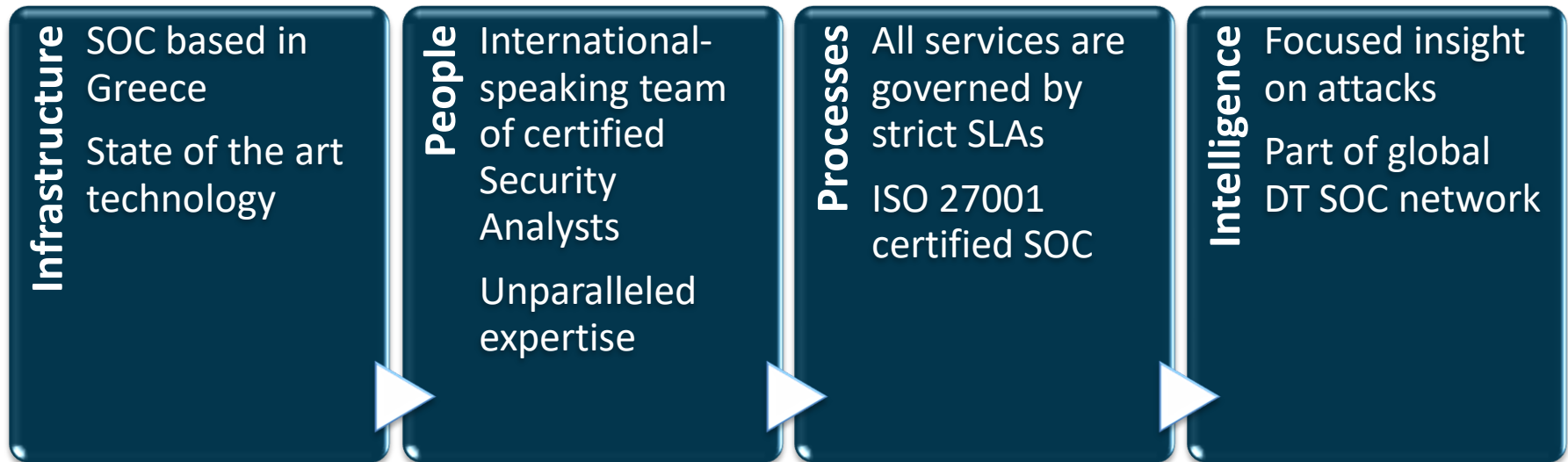
Detect / Neutralize / Protect

IRIS Cyber Security Solution by OTESAT-Maritel features:

- ✓ Onshore Protection

- ✓ Onboard Protection

- ✓ E-Learning Module

- ✓ OTE Managed Security Services

- ✓ Competitive Commercial Offering

Holistic Approach on Maritime ICTs

OTE SAT_MARITEL

Internet browsing services

e-mail services

Crew Communications

VAS

Consulting

PSA

Network Security

Equipment

Accounting authorities

Radio Survey Services

Anti-Piracy solutions

ECDIS

e-Vessel

e-Learning

Thank You