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Cyber Security and Safe Operations

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Structure of talk

Cyber Security and Cyber SAFETY
Vulnerabilities
Scenarios
Industry guidance



Cyber security incidents

Ballast on FPSO

Software shut down on another

Virus from tanker back to shore office

ALS tracking by pirates

Cyber safety – integrated systems

Concern- nav system shutdown in SOMS



Vulnerabilities

Broadband internet
Automatic transmissions
Software updates
Chart corrections
E-mail
The USB stick



Scenarios

Virtual hijack and ransomware

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Apple devices 'hijacked for ransom' in Australia

By Dave Lee
Technology reporter, BBC News



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Scenarios

Terrorism

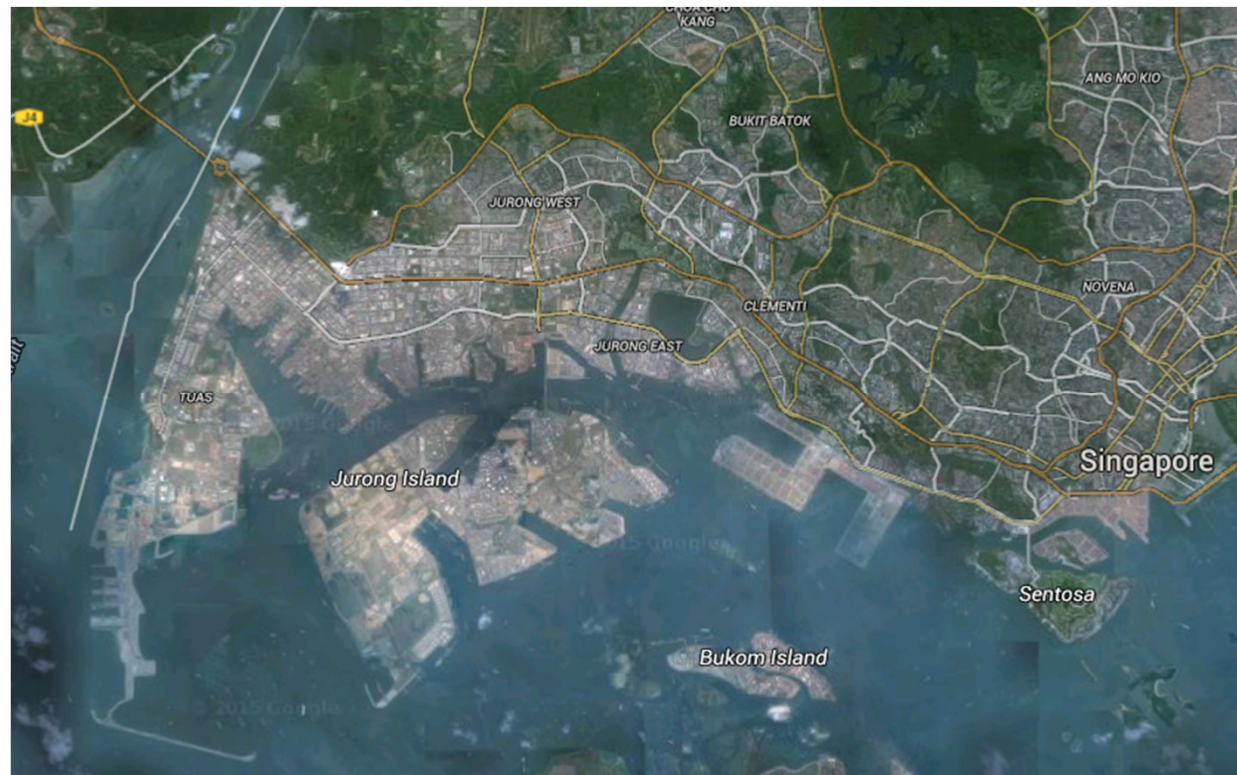




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Scenarios

Terrorism





Scenarios

Crime – inadvertent involvement

GPS tracker in car

Thief uses GPS blocker

Car stolen for export

Exported on a ferry

GPS signal to ship blocked



Scenarios

THE Teenager

Messing around

Hacking for fun

Sending virus

Results: shut down of systems



Industry guidelines

To be published 16 November

Feeds into IMO

Demonstrate that industry is taking action

BIMCO, ICS, INTERCARGO, CLIA



Risk based approach

- Identify
- Protect
- Detect
- Respond
- Recover



Physical barriers

Stop the virus/malware getting through

Disconnect the network

Stand alone non-networked computers

Close USB ports and CD Drives

Minimum connectivity between ship
systems and the World



Virtual barriers

Stop or contain the virus/malware

Anti virus software

USB and CD virus checkers



Human barriers

Educating the user

Training ship staff

Getting them to think before
opening/installing

Understand the vulnerabilities

Monitor



Cyber safety and security

Area of growing concern

A serious risk

Getting ahead of curve

Protect

Detect

Mitigate



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Thank you

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