



Reducing Offshore Wind Cyber Security Vulnerabilities a Secure by Design approach

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Trusted advisor to
**UK Defence
Cyber
Programme**



1,300+ people

Independent:
an Employee
Benefit Trust



4
continents



Security Challenges

- **Prime Targets:**

- Modern offshore wind farms are high-value cybersecurity targets in critical infrastructure due to their increased size, interconnection, and vulnerability to sophisticated cyber threats.

- **Digital Vulnerability:**

- Digital transformation and new technologies create exploitable attack vectors for malicious actors.

- **Edge Danger:**

- Remote offshore systems present unique security risks due to limited on-site response capabilities.

- **Proven Threat:**

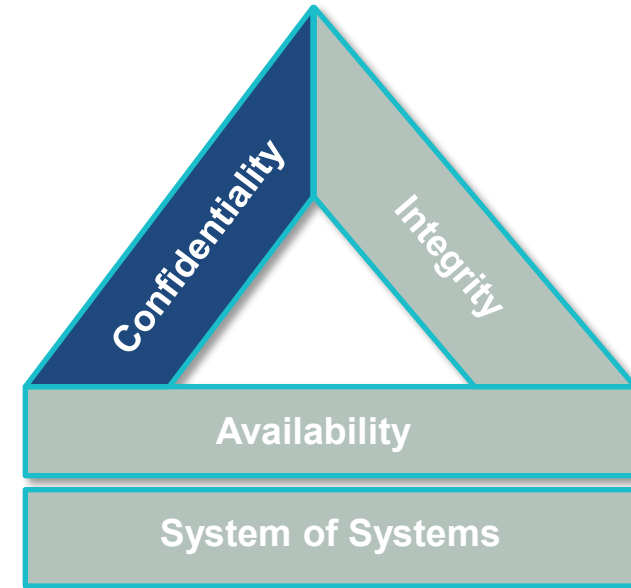
- Successful attacks on Critical National Infrastructure include the 2022 Deutsche Windtechnik ransomware that paralysed operations.



Confidentiality



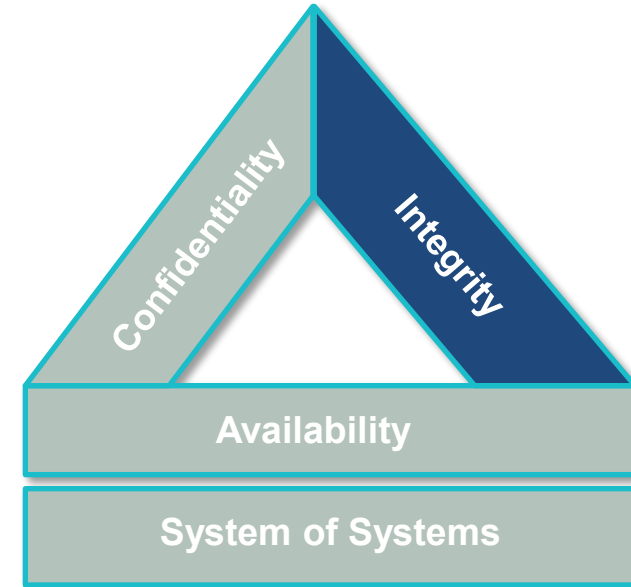
- Unauthorised access to control systems
- Weak remote access exposes operational and performance data
- Inadequate encryption of communication channels



Integrity



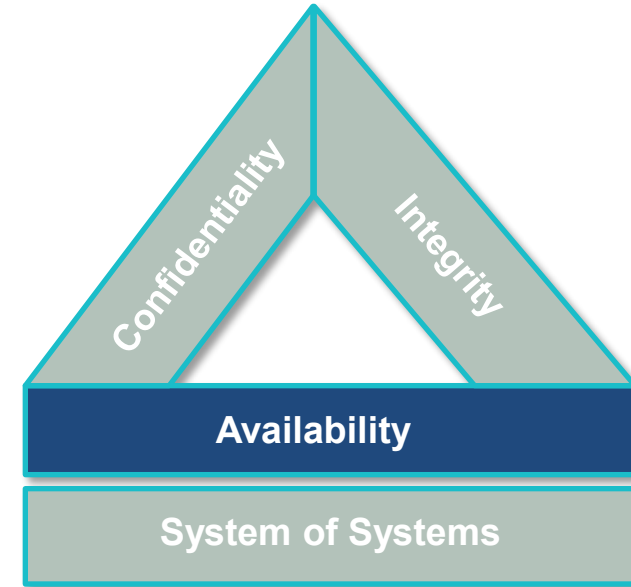
- Spoofed sensor readings
- Storm safety features do not work properly
- Increased maintenance costs



Availability



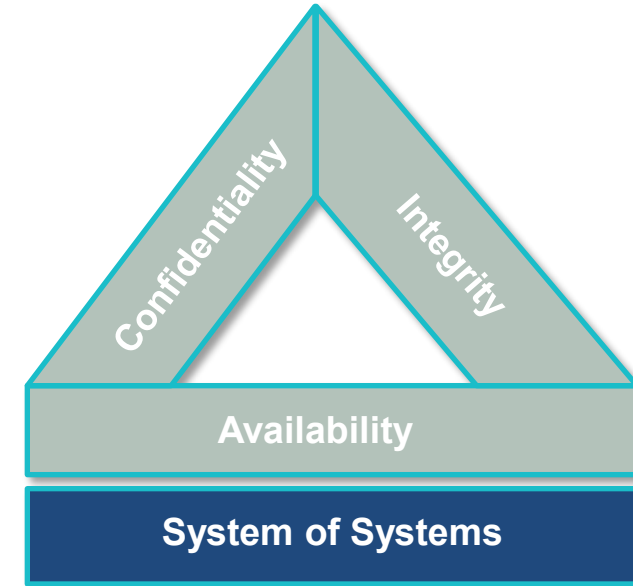
- Ransomware locks you out of your systems
- Pay a ransom or face costly recovery
- Shuts down all control and monitoring simultaneously



System of Systems



- Infected updates spread to multiple wind farms
- Single breached system cascades through interconnected networks
- Attack uses trusted connections to bypass security



Applying cyber security lessons from Defence



Data
resilience

Access control
and Zero Trust

Proactive risk
monitoring

IT/OT
integration

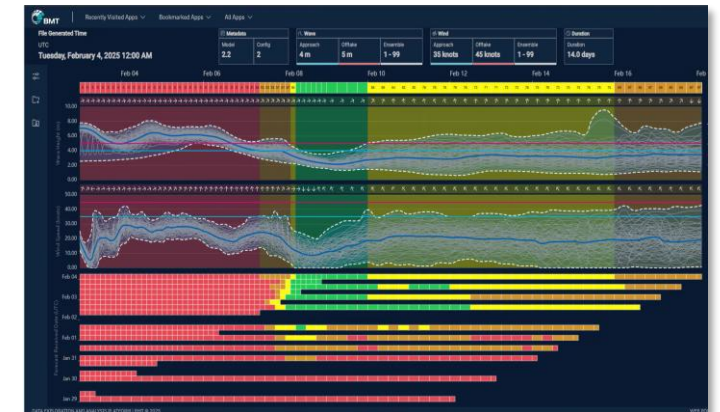
Secure
by Design

Cyber
awareness

Proactive cyber security tactics for increased resilience, focused on optimising outcomes

Why BMT?

- We deliver enhanced resilience, optimised outcomes, and the confidence that your offshore wind infrastructure has the capability to withstand cyber threats – whilst maintaining operations.
- Decades of experience of solving challenges in harsh waters like the North Sea, the Gulf of Mexico and the South China Sea.
- Trusted worldwide by defence departments, and leading energy operators like bp and Ørsted.





Thank you

Find out more about our offshore wind services online:

www.bmt.org/offshorewind