A View From the Top

Deneen DeFiore
Chief Technology & Risk Officer
GE Aviation
Digital transformation is here...
GE Aviation Cyber Security & Tech Risk

1. Leverage defense & sector intelligence to understand threats
2. Build custom tools to find threats that are undetectable with commercial tools
3. Extend solutions and capabilities to strategic partners, suppliers, and JVs
Key Digital Risk Trends

- Pace of new technology
- "Perfection" will kill speed & progress

- Data & flow beyond boundaries
- 3rd party risk

- Ever-evolving & increasingly disruptive cyber threats
- Stay a few steps ahead

- More & more regulations
- Reactive at best

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- There is no blueprint for a Digital Industry
- We are writing it
Data Flow.. Wing to Wing, Simple, Secure

Pace of new technology

“Perfection” will kill speed & progress

Rapid Data Forensics

HTTPS

Wasabi
secure data load & transfer

EMS

Decode

Analyze

Data scientists / engineers

Aviation Data Lake

Flight analytic apps

Customer / fleet support

Aircraft data

Environmental

MRO data

Test

Engine data

Aviation Data Lake

Rapid Data Forensics

ICDL

Wing to Wing, Simple, Secure
Managing 3rd Party Risk

1. Supplier’s network attacked & compromised
2. Moves laterally within to create inroads
3. Gains access to a factory systems
4. Prod. process manipulated via IT system exploit
5. End product quality/manufacturing impact

Data & flow beyond boundaries
<table>
<thead>
<tr>
<th>Attack type</th>
<th>Methods</th>
<th>Trend(^{a)})</th>
<th>Examples</th>
</tr>
</thead>
</table>
| Social engineering | • Watering hole  
                   | • Spear phishing | 2012: 45%  
                   |                     | 2013: 61%  
                   |                     | 2014: 60%  
                   | 1%                 |
| Direct           | • Web based attacks  
                   | • Infrastructure| 2012: 32%  
                   |                     | 2013: 18%  
                   |                     | 2014: 23%  
                   | 2%                 |
| Third party      | • Attack on 3\(^{rd}\) party  
                   | • Joint ventures | 2012: 17%  
                   |                     | 2013: 17%  
                   |                     | 2014: 11%  
                   | 1%                 |
| Physical         | • USBs, Drives  
                   | • Stolen laptops/storage | 2012: 5%  
                   |                     | 2013: 2%  
                   |                     | 2014: 4%  
                   | 2%                 |
| Misuse           | • Exploiting high privileges  
                   | • Insider threat | 2012: 1%  
                   |                     | 2013: 2%  
                   |                     | 2014: 2%  
                   | 2%                 |

\(^{a)}\) Verizon data breach report
More & more regulations

Reactive at best

Regulatory IT Compliance Landscape

- ITC/ITAR
- SOX
- FISMA
- Corp Critical Systems
- UCTI
- CUI
- UK Cyber Essentials

2010: ITC/ITAR, SOX
2011: FISMA, ITC/ITAR, SOX
2013: FISMA, ITC/ITAR, SOX
2016: FISMA, ITC/ITAR, SOX, Corp Critical Systems, UCTI, CUI, UK Cyber Essentials

More regulations, more reactive at best.
There is no blueprint for a Digital Industry. We are writing it.

- Automated development security
- Isolation of rogue actors & actions
- Individual App/User visibility
- Integrated identity vetting & proofing
- Universal governance & compliance
There is no blueprint for a Digital Industry

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  - Reactive at best

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Are YOU ready?