Enhanced Inspections Via Connected Devices

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Imagination at work.
The “Internet of Things” from GE’s point of view

“Industrial Internet” Connects…

1. Intelligent Machines
2. Big Data & Analytics
3. People at Work

Delivering new solutions and unlocking new potential and value for industry
So how does this apply to NDT & Visual Inspection?
A changing NDT inspection landscape

- Loss of industry experts
- Rigorous compliance requirements
- Intricate training procedures
- Demands for increased productivity
- Complex market of inspection products

Uptime and safety are increasingly critical across the industry.
Delivering Outcomes …

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<thead>
<tr>
<th>Asset Uptime</th>
<th>Efficiency &amp; Productivity</th>
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<tbody>
<tr>
<td>✓ Live collaboration</td>
<td>✓ Faster decisions, reports</td>
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<tr>
<td>✓ Improved data quality &amp; integration</td>
<td>✓ Automated reporting</td>
</tr>
<tr>
<td>• Historical … fleet … operational</td>
<td>✓ Decreased rework</td>
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<tr>
<td>✓ Prognostics platform … centralized &amp; normalized</td>
<td>• On-device apps guide inspections, drive adherence to process</td>
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<tr>
<td></td>
<td>• Live collaboration</td>
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<td></td>
<td>✓ Inspection consistency</td>
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<td>✓ Procedure version control</td>
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<td>✓ Planned inspections</td>
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<td>✓ Increased expert availability</td>
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Outcomes: Power Generation

Impact of Unplanned Downtime

Lost productivity

... asset idling / outage

Typical Power Gen cost / hour:
- Wind: $300 / tower
- Gas: $50 K
- Fossil fuel: $100 K
- Nuclear: $200 K

Avg. cost of downtime: $1 MM

Benefits of Remote Collaboration

- Increase detection
- Reduce false indications
- Decrease diagnostic time
- Decrease field experts

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How we deliver on these outcomes ...
A Foundation of Hardware & Software Platforms

InspectionWorks Solutions
Complete ecosystem of connected solutions tightly integrated with our hardware

InspectionWorks Platform
Common architecture for hardware, software, cloud and UX
Hardware … For the way you work

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<th>EASE OF USE</th>
<th>CONNECTIVITY</th>
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<td>Modern touchscreen interface for a better user experience</td>
<td>Bluetooth, Wi-Fi and GE Predictivity™ (Predix) platform enabled</td>
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<th>MOBILITY</th>
<th>INSPECTION PERFORMANCE</th>
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<tr>
<td>Portable, lightweight, and durable battery-operated device</td>
<td>Full suite of best-in-class inspection products delivering superior image quality, probability-of-detection, &amp; enhanced productivity</td>
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Providing increased inspection efficiency

- **REDUCES INSPECTION TIME**
- **IMPROVES PROBABILITY OF DETECTION**
- **ENHANCES DATA ANALYSIS**

**ADVANCED FEATURES**

- **EASE OF USE**
  - Modern touchscreen interface for a better user experience

- **MOBILITY**
  - Portable, lightweight, and durable battery-operated device

- **PRECISION**
  - Better image quality (HDR screen) for smaller defect recognition

- **CONNECTIVITY**
  - Bluetooth, Wi-Fi and GE Predictivity (Predix) platform enabled

- **ADVANCED DATA**
  - Improved assisted defect recognition with Menu Directed Inspection (MDI) and 3D measurement and scanning technology
With a limited number of experts available, having them on site isn’t always a possibility. Bring the inspection to the expert, expanding the number of inspections they’re able to participate in and reducing the number of personnel required on site.

Why wait to disposition an asset? Utilizing the real time connection from the NDT instrument, make decisions live, bring your asset back online quicker, reducing total inspection time by more than 10%.

Training and maintaining an experienced inspection team can be costly. Real time collaboration on the job site allows many participants in an inspection, providing a platform for training a global team.
Remote Collaboration via InspectionWorks Connect
InspectionWorks Connect

Intelligent, connected devices providing real-time video collaboration in a scalable, secure environment.

3rd party hosted, scalable collaboration infrastructure

Web based application (no software to install)

Fully encrypted and secure session
What if you could participate in live NDT and visual inspections anywhere in the world?
Or communicate with your inspectors during an asset inspection to help guide them?
Cost reduction and greater productivity

- Reduce travel costs for inspectors and experts,
- Put eyes on inspections immediately when the clock is ticking
- Shorten planned maintenance downtime
- Faster inspections and fewer delays in large, complex inspection jobs
What your peers are saying

“Our aerospace engineering team was truly impressed and we are all looking forward to using this capability on critical investigation engines”

“The video quality is amazing. Having service engineers available real-time is critical for us”

“Live collaboration is a must for us. It’s no longer a question of if, but when we can deploy”

“Mentor is one impressive bit of equipment…the inspection was in front of NTSB, FAA, Boeing and GE Flight safety…All very impressed by the internet capability”

“As a training tool, this will be invaluable”

“This can change everything for our NDE teams”
Join us at the GE booth (B05-08) and participate in a live inspection tomorrow Tuesday, September 15th …

First Session: 10:15 am
Second Session: 14:45 pm

- Greater Expertise
- Improved Probability of Detection (PoD)
- Reduced Cost
- Productivity and Efficiency
- Safety Benefits and Risk Reduction
Introducing the Industrial Internet

Please take a minute to view this quick video (1:19) to help provide a high-level overview about the Industrial Internet.

https://www.youtube.com/watch?v=pQoFmmuSO40