GE Capital Webinar Insight Series

Intelligent Devices, Big Data, and the Rise of Analytics

Dial-In Info:
1-800-941-1366 (U.S.)
0018005148506 (Mexico)

Thanks for joining us!
The webinar will begin shortly....

September 18, 2012
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Intelligent Devices, Big Data, and the Rise of Analytics

Agenda:
1. What’s the Big Idea?
2. What will the impact be?
3. What is GE doing in this area?
What’s the Big Idea?

Digital Technology Will Drive Next Wave of Industrial Productivity

- Industrial sectors on the cusp of a major wave of innovation
- Internet still evolving: The next chapter will embrace the physical world
- As the “Internet of Things” meets “Big Data and Analytics” industrial sectors are being transformed
But This is Just the Beginning...

The Industrial Internet
## Broad Impact and Economic Value...

<table>
<thead>
<tr>
<th>Asset Utilization</th>
<th>RT Tethered Operation</th>
<th>RT M&amp;D and Analytics</th>
<th>RT Concierge</th>
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<td>ECO Efficiency</td>
<td>RT Grid Balancing</td>
<td>RT Conservation</td>
<td>RT Resource Planning</td>
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<td>Public Trust</td>
<td>RT Threat Eradication</td>
<td>RT Field Automation</td>
<td>RT Disaster Recovery</td>
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<td>Metro Services</td>
<td>RT Collaboration</td>
<td>RT Safety Watch</td>
<td>Dynamic Infrastructure</td>
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<td>Consumer Services</td>
<td>RT Walking Signage</td>
<td>RT Digital Social</td>
<td>RT Personal Medicine</td>
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*imagination at work*

Intelligent Devices, Big Data, and Analytics 9/18/2012
The Industrial Internet Creates New Sources of Value

**Efficiency & Cost Savings**
The ability to model and understand the physical world makes it easier to optimize assets and processes.

**New Customer Services**
Data and the insights it provides will enable new customer services and business models.

**Risk Avoidance**
Increased visibility and control help address environmental, health, and human safety issues.
What Changes Can we Expect?

To understand the impact of the Industrial Internet look to the impact of the Internet on consumer and business applications

- Transparency
- Self-service
- Disruptive new business models
- New value chains and eco-systems
- Changing user expectations
- Always-on availability
- Social
Why Now? Forces Shaping the Industrial Internet

A convergence of enabling technologies is setting the stage for transformation.

1. Internet of Things
   - Hyper-connectivity: a living network of machines, data, and people
   - More devices tap into the Internet than people on Earth to use them

2. Intelligent Machines
   - Increasing system intelligence through embedded software
   - Rise of machines: networked devices overtook the global population in 2011

3. Big Data
   - Democratization of data
   - Data overload: 2.5 quintillion bytes of data created every day

4. Analytics
   - Generating data-driven insights
   - Enhancing asset performance by detecting & predicting forecasts
   - Algorithms on installed base
Marc Andreessen on “Why software is eating the World”

“More and more major businesses and industries are being run on software... from movies to agriculture to national defense....

...Software is also eating much of the value chain of industries that are widely viewed as primarily existing in the physical world...

-WSJ Aug 2011
What is GE Doing?
GE's Huge Software Ambition: 3 Key Takeaways

GE picks Silicon Valley as the best place to innovate a new generation of software connecting industrial machines.

GE to launch new software hub, eyes 'industrial Internet'

G.E. Wants Software for the 'Industrial Internet'

GE Goes To California To Surf Industrial Internet

Late last year, General Electric established a new global software hub in North California to develop software for what it calls the 'Industrial Internet.'
Major Investment in Software & Analytics

Tapping the world’s most important information is the science of work

Building a Silicon Valley presence
Focused on software & analytics
Targeting 400+ staff

Architecture and design
Open architecture: consolidation opportunity

Shared services
GE digital architecture for industrial solutions
Expertise: user experience, cloud, analytics
# Software & Analytics Strategy

Core technologies to drive productivity...

<table>
<thead>
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<th></th>
<th>Real Time</th>
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<th>Historic al Data</th>
<th>Data Analytics</th>
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<tr>
<td>Remote monitoring &amp;</td>
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<td>diagnostics</td>
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<td>Usage based</td>
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Note: dots represent level of importance & difficulty

When to inspect, when to repair, how to operate.

Build solid foundations in every business
GE’s advantage...
Customer productivity & operational flexibility

GE expertise
Industrial Internet @ Work

Mount Sinai

Uncovering patterns across the 1,171 bed, 2.7 million square foot hospital

Hospital operations early warning system created using real-time data and clinical workflow patterns to:

- Predict capacity bottlenecks
- Improve patient flow
- Enable remote monitoring to reduce liability
Industrial Internet @ Work

K-Water

Redefining efficient operations in water management across 12 regions in South Korea

Cloud-based intelligent water system for monitoring, alarming & data collection. Proactive asset management to:

- Realize $58.5 Million in cost savings
- Save hundreds of trillions of gallons of water per year
- Decrease industry energy usage by 8%
Strategies for Success

Acquire and Own the Data
Evaluate and implement strategies for instrumenting your physical operations to collect data that will drive business value

Embrace Analytics
Invest in IT capabilities to support big data collection, integration, management, and analysis

Prioritize the User Experience
The next generation of customers and employees is bringing their expectations from the consumer world into the business world. You need to be ready.

Be Proactive on Security and Data Privacy
Sharing and mining data brings big opportunities but also creates new obligations to ensure security and respect customer privacy.

Build a data-driven Culture
Hire the right people and foster a data-driven mindset across the organization.