Industrial Internet @ GE

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GE Software
Forces shaping the Industrial Internet

1. Internet of things
   A living network of machines, data, and people

2. Intelligent machines
   Increasing system intelligence through embedded software

3. Big Data
   Transforming massive volumes of information into intelligence

4. Analytics
   Generating data-driven insights and enhancing asset performance
Industrial Big Data: Big Opportunities

The power of 1%

Driving outcomes that matter

- Increasing freight utilization rail: $27B
  Industry value by reducing system inefficiency

- Predictive maintenance healthcare: $63B
  Industry value by reducing process inefficiency

- Predictive diagnostics power: $66B
  Industry value with efficiency improvements in gas-fired power plant fleets

Note: Illustrative examples based on potential one percent savings applied across specific global industry sectors over 15 years. Source: GE estimates
Industrial Internet: business value

**Efficiency and 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.
Industrial Big Data: Fast & Vast

50B
Machines will be connected on the internet by 2020

2X
Industrial data growth within next 10 years

Sensor data
Content (images, videos, manuals, etc.)
Historian data
Machine data
CRM, ERP, etc.
Logs
Geo-location data
Social network data

1TB
Data per flight

35GB
Data per day from each Smart Meter

9MM
Data points per hour for each locomotive

50X
Data growth in healthcare (2012 – 2020)

500GB
Data per blade by gas turbines

In practice only 3% of potentially useful data is tagged and even less is analyzed*

*Source: IDC
One platform – across industries & solutions

GE Aviation
GE Healthcare
GE Rail
GE Oil & Gas
GE Power Generation
GE Power Distribution
GE Manufacturing
GE Water
GE Mining
GE Wind

GE Predictivity™ solutions
Solutions for industrial asset and operation optimization

Predix™ platform
Common architecture for machine, network, server and UX
GE Predictivity™ Solution Examples

**GE Aviation**
Fuel performance, risk insight, navigation insight and fight synchronization

**GE Healthcare**
Asset management, patient safety, patient flow, collaboration across networks

**GE Manufacturing**
Manufacturing process, food safety assurance

**GE Mining**
Concentrator insights and efficiency – maximum mine production

**GE Oil & Gas**
Total equipment reliability, sub-sea inspection system optimization, field production and pipeline insights

**GE Power Distribution**
Grid delivery optimization – advanced meter insights

**GE Power Generation**
Turbine power flexibility and performance, maximizing asset lifetime

**GE Wind**
Wind turbine performance, total wind farm output maximized

**GE Water**
Connected controls for plant operations to increase efficiencies and reliability

**GE Rail**
Locomotive Uptime, trip insights, maintenance and parts management