Predix

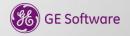
The software platform for the Industrial Internet





I always think about what's next. The ability in our world to go man-to-machine, to marry real-time customer data with real-time performance data of our products... that is the holy grail.

Jeffrey Immelt, GE



Forces shaping the Industrial Internet



Internet of things

A living network of machines, data, and people

2 Intelligent machines

Increasing system intelligence through embedded software

Big Data

Transforming massive volumes of information intelligence

Analytics

Generating data-driven insights and enhancing asset performance



Challenges from fragmented development



- Multiplier effect: 30-50% of time spent on repetitive tasks
- Difficult to add new features, upgrades
- Slow time to market = missed opportunity

- Wasted resources
- No cross-pollination among developers and SMEs
- Varying look and feel
- Solution overlap

- Repetitive tasks and lack of reuse increases CAPEX and OPEX
- No economies of scale
- Opportunity cost

- Many additional
- sources of error Higher security risk
- Greater risk of cost and time overruns
- Poor decision support



Industrial Internet: business value



The ability to model and understand the physical world makes it easier to optimize assets and processes Data and the insights it provides will enable new customer services and business models

Increased visibility and control help address environmental, health, and human safety issues



Shared capabilities portfolio

Commercial strategy



Optimizing the software portfolio to maximize market success



Focusing on security management strategies to prevent, detect, and fix risks to data, assets, and intellectual property Architecture



Defining new business and delivery models for software and services



Driving revenue and growth by increasing adoption and demand

Advanced Research

Developing and deploying scalable predictive solutions to enable Industrial Internet programs





Transforming raw data into insights and opportunities, through descriptive, predictive, and prescriptive analytics

Cloud Services



Providing a unified, service-based solution on a protected, fullyautomated network

Development



Developing applications and solutions around asset optimization and operations optimization



Cloud

for efficiency and agility





Security

End-to-end

Security



Predictive insights from

Big Data

021010308 013161090 040109010 104078050

Management

Industrial Internet platform requirements



Consistent and meaningful

User experience



Transition to "Brilliant machines"



Architecture Technology Stack

Services **Cloud Service Delivery** Actions **User Experience** Decision **Analytics & Collaboration Apps Framework** Text Transport, processing & Integration **Interoperability Framework** Operation Platform / Federated Data Fabric Data Distributed Intelligence /Comms backbone **Security Net**





Customer Provisioning



- Common framework for consistent UX across business Solution
- Real Time UX Provisioning



- Analytic
- Prognostics
- Built in collaboration to end users



- Operations centric and secure SW Service Infrastructure (SSI)
- Run time integration, configuration, and work flow



- Mission Critical situational Awareness
- Data Federation



- Multi-purpose Comms infrastructure from edge device to cloud
- Built in security in the Box aligned with standard and customers' needs
- E2E integrated Security Framework



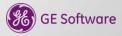
Predix capabilities

Wide-area M2M fabric

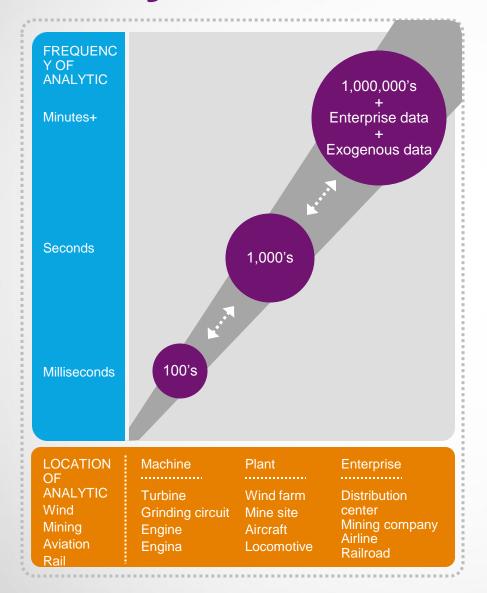


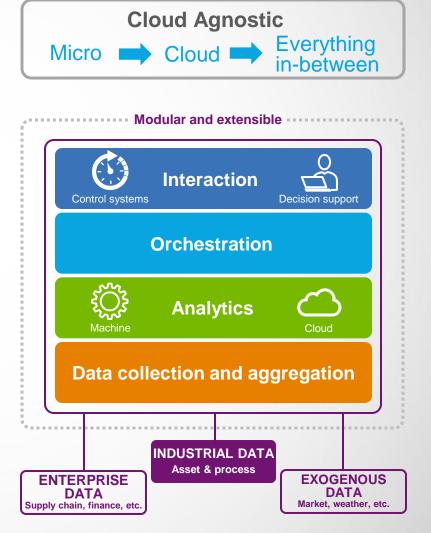
Converges Big Data and Big Control into industrial sector's new digital content Safe, secure way to connect machines, plants, and metros

Real-time delivery networks, real-time information exchange Time-sensitive networking: precise synchronization and traffic shaping



Analytic requirements of industrial companies







Predix capabilities

Industrial big data analytics

Delivering sharper insights to "big model" projects



Ingest massive volumes of data – with parallelization



Bring analytics to data – and vice versa



Elastically execute on large-scale requirements



Innovative analytics models



Various data sources

Enterprise (operational and business) Data, Industrial Data & External Data

Gain actionable insights

Manage all your

Orchestrate analytics processing

GE Software

GE Predix Application Examples



- Subsea Integrity Management
- Field360
- ReliabilityMax
- Non-destructive Testing (NDT) Remote Collaboration



Aviation

- Flight Efficiency Services
- Fuel Management
- Intelligent Operations Services



Transportation

- RailConnect 360 Monitoring and Diagnostics
- ShipperConnect
- Movement Planner System



Power and Water

- PowerUp
- Flex Efficiency Advantage
- LifeMax* Advantage



Energy Management

- Grid IQ Insight
- Proficy MaxxMine



Healthcare

- HoF SimSuite
- GE's Cloud Imaging*
- Hospital Operations Management (HOM)
- DoseWatch



Predix capabilities

Extensible and customizable



Safety



Security
Threat Assessment



Maritime Awareness



Economic Optimization



Environmental Analysis



Transportation Optimization

Predictivity Solutions

Solutions for industrial asset and operation optimization

Aviation specific

Energy specific

Sonar

O&G specific

Public Safety

Transportation specific

Waterways Platform



Co-Innovating with Proven Players Leveraging proven know-how and technologies













- Work with the best
- Share risk and reward

Guiding Principles

- Develop distinctive technologies
- Pursue new markets



Thank you

