

**GE Predix Software Platform Offers 20% Potential Increase in Performance Across Customer Base; New GE Offerings Accelerate Transformation into a Digital Industrial Company**  
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*Tapping a \$225B market opportunity, GE Digital drives more than 25 percent year-over-year revenue growth with Predix-based operations and asset performance management (APM) capabilities*

- Launch of [Predix.io](http://Predix.io) – a dedicated cloud environment for app developers – will grow GE's Industrial Internet platform and create the world's largest app marketplace for industry
- Launch of Brilliant Factory offers GE's proven digital manufacturing capabilities to other companies; P&G among customers that could see the same 10-20% reduction in unplanned downtime that GE has experienced internally
- Launch of the Digital Power Plant to deliver ~\$230M of net present value per combined cycle gas turbine plant savings throughout the 20-year life
- Predix adoption on track for 20,000 developers in the next year; Predix Accelerator program expands ecosystem; new or expanded partnerships with Accenture, Boeing, BP, Cisco, Columbia Pipeline Group, Genpact, Infosys, Intel and PTC continue to grow Industrial Internet
- GE delivers security innovation for customers across the product lifecycle; will embed Wurdtech's cyber security firewall into 4,000 gas, steam, wind and aero derivative turbines for protecting critical infrastructure
- Creation of energy services company opens up new pathways of growth and innovation for GE

With its total portfolio of software and solutions set to deliver more than \$5 billion in revenue this year with \$6 billion in orders, GE (NYSE:GE) today announced new products and partnerships. By 2020, it expects more than \$15 billion in software and solutions revenue driven by Predix scale and internal productivity. By pairing digital technology with its domain expertise across industries like aviation, energy, healthcare and transportation, GE is transforming itself into the world's leading digital industrial company, and [new data](#) has revealed a potential 20 percent increase in performance for its customers. With the release of new software and products powered by Predix, GE is transferring its industrial domain and technology leadership to customers and paving the way for an industrial app economy worth more than \$225 billion.

"Industrial companies need to become digital to survive," said Jeff Immelt, Chairman and CEO of GE. "While the Internet has transformed consumer worth, industry has not yet seen its fair share. Industrial productivity, which averaged four percent per year from 1990-2010, has slowed to one percent in the last five years. We must turn information into insights and insights into outcomes.

GE is leading the transformation as it merges the physical and digital worlds of machines and software. We built the world's first industrial-strength platform to enable developers to create apps that will deliver more value and superior outcomes for GE and our customers," Immelt continued. "By sharing core technologies among our businesses through the GE Store, we're able to spread our science and software capabilities widely and lead the development of the entire industry ecosystem."

"Digital technologies and open source software have transformed the consumer space in radical ways, but industry has been slow to adopt these new innovations," said Bill Ruh, Chief Digital Officer of GE. "Now is the time to capitalize on the extraordinary opportunity to transform the industrial landscape by leveraging Predix to collectively build apps, which will reveal exponentially greater value than what we have seen in the consumer space."

Industrial company CIOs will be executing this transformation. The role is quickly becoming the lynchpin for company speed and productivity. After decades of outsourcing and purchasing, GE envisions a future in which industrial IT professionals can chart their own future as app developers not software purchasers.

## **PREDIX DRIVING BETTER BUSINESS RESULTS**

Among the new innovations announced today: GE unveiled its dedicated environment for industrial

developers, Predix.io, which will lay the foundation for the world's first and largest marketplace for industrial applications. GE Predix, its developer portal and a select number of apps will be available in late 2015, increasing speed to market and enabling local development, global delivery and time-to-value for GE and its customers.

GE is converging all software offerings on Predix and commercializing Predix-based operations to drive enterprise optimization and asset performance management (APM), helping customers maximize productivity while ensuring product quality and sustainability. Announced today are a number of solutions and offerings powered by Predix that are enabling better business results:

- **APM Powered by Predix** – GE is expanding its APM suite of solutions powered by Predix, which uses data and analytics to improve the reliability and availability of GE and non-GE assets, minimize total cost of ownership, and reduce operational risks.
- **SmartSignal Powered by Predix** – GE's breakthrough solution is the first of GE's predictive analytics software solutions to be powered by Predix; SmartSignal identifies impending equipment problems so companies across multiple industries can avoid unexpected shutdowns and improve reliability, availability and productivity.
- **Launching Digital Power Plant** - Digital Power Plant is a suite of highly secure hardware and software solutions to digitize the physical electricity system, leading to unprecedented changes in the way electricity is generated, distributed and consumed. Exelon and PSEG are among the first to digitize their power plants to deploy apps and to continuously improve assets and operations.
- **Commercializing Brilliant Factory** – By commercializing Brilliant Factory, GE's proven digital manufacturing capabilities are now available to companies looking to optimize manufacturing operations and reduce unplanned downtime; P&G will be among the first to benefit from the solution and improve productivity.
- **Unveiling DenialsIQ™** - DenialsIQ is a predictive analytics solution created by GE Healthcare to help administrators identify and act on trends that lead to medical claim denials, before those denials negatively impact financial performance. Leveraging patent-pending statistical algorithms developed by the GE Global Research Center, DenialsIQ includes tools that help identify hidden trends in denied claims, uncover root-cause factors and show the dollar value of the potential impact. GE Healthcare developed the software with input from healthcare providers, including WestMed Practice Partners, Orlando Health, and UC-Irvine, with the goal of reducing denials so health systems could receive payments more efficiently.

GE is announcing new deals with customers who will be using Predix solutions to transform their businesses. BNSF Railway will be implementing GE's Movement Planner, an advanced software solution that provides real-time traffic planning and management. Southwest Airlines will transform data and analytics into actionable insights with Flight Efficiency Services, which will improve efficiency of how Southwest flies its airplanes.

## **INDUSTRIAL INTERNET GROWS AS PREDIX OPENS**

GE's Predix platform is now available externally, and customers such as Boeing, Columbia Pipeline Group and BP are already realizing benefits from this software. Now, any developer can experience Predix through the Predix.io developer portal. GE expects 20,000 developers will be on Predix in the next year. Ruh said: "There's an unprecedented market opportunity for developers to build services and apps that will transform industries. An industrial app economy is emerging and the opportunity to create world-changing innovations is endless."

As the Industrial Internet continues to expand, GE is building an ecosystem of implementers, innovators and go-to-market channels through its Early Adopter Partner Program. The program is open to Independent Software Vendors looking to make software and apps powered by Predix, technology partners creating Predix-ready solutions, and integrators developing Predix-certified services.

PTC and GE will bring to market a GE-branded manufacturing offering that leverages PTC's ThingWorx® Industrial Internet of Things application enablement environment with GE's manufacturing software portfolio.

## **PREDIX EARLY ADOPTERS DRIVE INNOVATION**

Predix customers can take advantage of applications and services delivered by both GE and by a growing number of third parties. Through the Predix Early Adopter Partner Program, GE provides training and co-development support for businesses getting started with Predix. The program is open to Independent Software Vendors creating apps and services powered by Predix, technology partners creating Predix-ready devices and solutions, and systems integrators and consultants developing Predix-certified services. Early adopters include the following:

- **ANSYS** has leveraged its physics-based platform to develop a new simulation-as-a-service application on Predix for a wide range of industries, including a pipeline and offshore solution.
- **Azuqua** is providing its advanced cloud-based workflow and data integration services within the Predix services catalog. Predix developers can leverage Azuqua services to link data and applications from external sources, raise alarms, and process workflows.
- **Bsquare** extends the power of Predix to resource-constrained devices with its software and systems integration capabilities used to monitor, automate and optimize devices. These capabilities can be applied to a broad variety of industries including transportation, heavy construction, oil & gas, manufacturing and power & water.
- **Foghorn** is integrating its advanced analytics-in-motion capabilities with Predix to provide sophisticated intelligence in devices and gateways at the edge of the network.
- **FPT Software** has developed a connected vehicle industrial solution based on Predix that helps to improve transportation safety and efficiency.
- **Genpact** is an early adopter and the architect of the Lean DigitalSM enterprise and will jointly develop Predix applications and provide engineering, analytics, and systems integration services to help organizations optimize their asset operations.
- **IGATE** is an early adopter of Predix and has collaborated with **Woodward** to develop Predix-based real-time data and analytics solutions called "Digital Power Plant Ecosystem" for Woodward valves and actuators to support GE Power & Water asset performance management solutions.
- **Infosys** is leading an Industrial Internet Consortium (IIC) Asset Efficiency test bed to create a new predictive maintenance solution and reference architecture based on its Information Platform and GE Predix. The new solution will improve asset efficiency based on sensory data and machine-to-machine systems. Infosys and GE are also collaborating on a newly approved IIC testbed called "Industrial Digital Thread," which will leverage the Digital Twin concept, Predix and Infosys Information Platform to deliver a new technology solution for the Brilliant Factory.
- **Nurego** is publishing its cloud business operations solutions as-a-service within the Predix catalog. Developers can use the capabilities to monetize their own services through Predix, leveraging extensive metrics and provisioning, usage, and entitlement services.
- **Plataine** is providing its intelligent automation capabilities through Predix to support context-aware actions and real-time recommendations for optimizing industrial operations.
- **SparkBeyond** is introducing its next-generation predictive analytics offering as a Predix micro-service. SparkBeyond is also developing Predix apps for on-going asset performance optimization and early detection of equipment failure, leveraging its deep feature discovery engine and knowledge relevant to the problem.
- **Tata Consultancy Services (TCS)** is leveraging its business and digital expertise to provide development and implementation support for Predix-based solutions. TCS has developed innovative new solutions for satellite image analytics for pipeline inspection, as well as cargo monitoring and control solutions that track temperature, humidity and other factors inside refrigerated cargo containers for trucking and shipping to ensure quality control and regulatory compliance.
- **ThetaRay**, a data analytics solution provider, is publishing its anomaly detection capabilities as a Predix microservice that will be offered as part of the Predix services catalog.

## ACCELERATING STARTUP INNOVATION

To help startup companies develop solutions on Predix and tap into the broader ecosystem, GE has launched the Predix Startup Accelerator program. Leveraging resources within GE and external experts across industrial domains, the program aims to build an ecosystem of software companies and provide them with the tools and guidance needed to innovate for the Industrial Internet. The first accelerator launched in Herzilya, Israel, and includes an inaugural class of four software startup companies.

GE also announced that it will co-chair an Industrial IoT Special Interest Group as part of its participation in the Cloud Foundry Foundation, building on its investments in the Cloud Foundry open source community, which include the Industrial Cloud Foundry Dojo.

## **CYBER SECURITY INNOVATION EXPANDED ACROSS PRODUCT LIFECYCLE**

GE is expanding its cyber security footprint by announcing plans to embed Wurdtech's cyber security solution into 4,000 gas, steam, wind and aero derivative turbines.

"We understand the security needs of industry. We are leveraging decades of operational experience to protect critical infrastructure and deliver customized, adaptive security solutions for industrial operators and developers," said Paul Rogers, President & CEO of Wurdtech and General Manager of GE Industrial Cyber Security.

## **NEW ENERGY COMPANY TO MERGE PHYSICAL, DIGITAL + FINANCIAL**

GE also unveiled plans to create an entirely new type of energy company that combines financing with GE's physical and digital capabilities across energy efficiency, generation and storage. The new organization will meet the unique needs of a wide range of Commercial & Industrial, utility, and municipal customers – hospitals, universities, retail stores, cities – and provide them with the hardware and software they need to be more reliable, more efficient and more profitable. Additional details will follow in the coming weeks.

This business will begin with more than \$1 billion of revenue and will leverage GE financing, putting it on track to quickly establish a leadership position in the fast-growth energy efficiency market.

"GE is committed to lead as the industrial and digital worlds collide. We plan to generate outcomes alongside our customers," Immelt said. "A new day is upon us. Now is the time for industry."

For more news and announcements from Minds + Machines 2015, visit <http://www.gereports.com>.

## **About GE**

GE (NYSE: GE) is the world's Digital Industrial Company, transforming industry with software-defined machines and solutions that are connected, responsive and predictive. GE is organized around a global exchange of knowledge, the "GE Store," through which each business shares and accesses the same technology, markets, structure and intellect. Each invention further fuels innovation and application across our industrial sectors. With people, services, technology and scale, GE delivers better outcomes for customers by speaking the language of industry. [www.ge.com](http://www.ge.com)

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