Connected Products

Start your Digital Transformation Today by Getting Connected

To survive and thrive in the IIoT-transformed business environment, manufacturing sector decision-makers in operations and IT are joining forces to optimize operations, re-imagine productivity tools, and develop innovative new business models.

Sensor capabilities, ubiquitous network connectivity, affordable cloud computing and data storage, along with advanced analytics are creating compelling opportunities for digital transformation. Industries are using these advances in technology to become digitally connected with their products and obtain previously unobtainable insights.

And yet, many organizations that want to innovate are constrained by limited in-house application development capabilities, proprietary software systems, and inability to leverage existing IT resources and third party apps.

With most crucial business asset data sequestered in siloed datasets that cannot be leveraged elsewhere, it is a challenge to envision the opportunities.

Predix addresses these challenges with a suite of tools, APIs and services created to support IIOT connected product solutions and reduce barriers to IIoT application development.
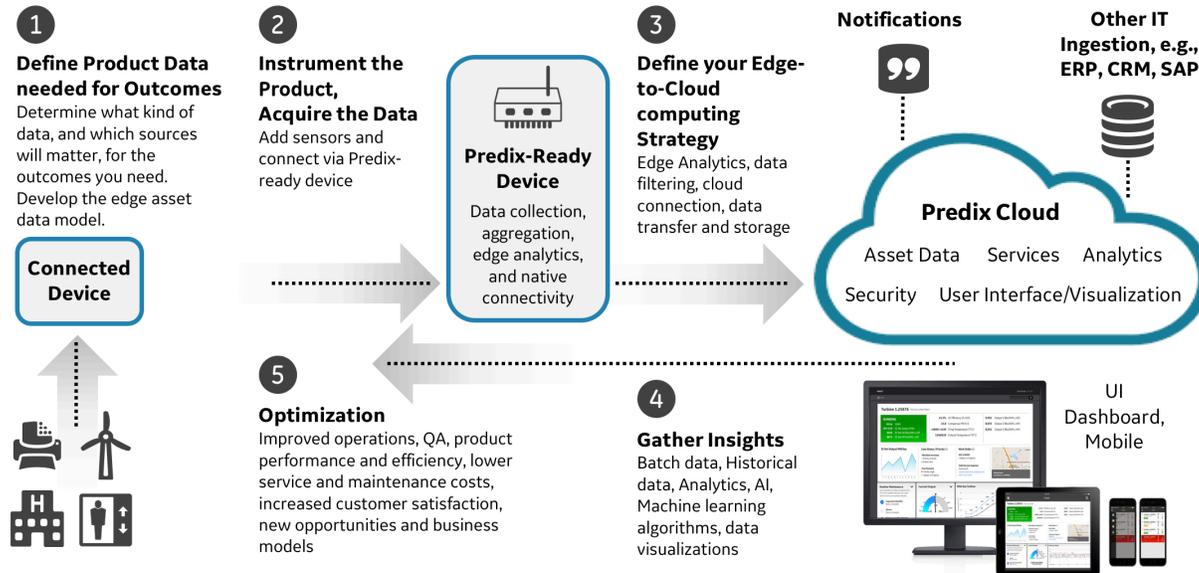
Connecting to the future

Can you imagine?

- An industrial printer manufacturer whose machines pre-empt the causes of downtime, and identify the components and consumables that need attention.
- A hospital bed that tells its manufacturer how it supports patients, and creates a history of usage that improves care and reduces insurance costs and liability.
- An elevator that tells its manufacturer when it needs maintenance or service, and shows engineers where to make design improvements.

In years past, these connected product capabilities could have existed only in a fantasy.

A Connected Product communicates information about itself and its environment to its manufacturer and related IIoT ecosystems.

Industry Challenges

- Inability to remotely connect, update and upgrade products
- Lack of common framework, technology to capture and exchange asset data
- Lack of interfaces, networking , and advanced analytic capabilities prevent optimization of operations
- Reduced visibility into industrial assets limits ability to make informed deployment and purchasing decisions
- Inability to support customers with real-time intelligence and automatic response

Predix Solutions

- Make products intelligent with embedded software, local analytics, and local applications
- Connect securely and reliably over wired, wireless, and satellite networks through Predix Connectivity
- Create data-driven dashboards to monitor and analyze on-site asset utilization and performance
- Gain insights, improve efficiency of customer assets, reveal potential for new business models and processes
- Create continuous open-ended relationships with customers and partners

Key Steps in Solution Process

1 **Define Product Data needed for Outcomes**
Determine what kind of data, and which sources will matter, for the outcomes you need. Develop the edge asset data model.

Connected Device

2 **Instrument the Product, Acquire the Data**
Add sensors and connect via Predix-ready device

Predix-Ready Device
Data collection, aggregation, edge analytics, and native connectivity

3 **Define your Edge-to-Cloud computing Strategy**
Edge Analytics, data filtering, cloud connection, data transfer and storage

Notifications

Other IT Ingestion, e.g., ERP, CRM, SAP

Predix Cloud
Asset Data   Services   Analytics
Security   User Interface/Visualization

5 **Optimization**
Improved operations, QA, product performance and efficiency, lower service and maintenance costs, increased customer satisfaction, new opportunities and business models

4 **Gather Insights**
Batch data, Historical data, Analytics, AI, Machine learning algorithms, data visualizations

UI Dashboard, Mobile

It's Happening Today

GE's Predix puts imagination to work in connected product solutions

A large reprographics **printer** manufacturer uses Predix to improve its connected printing products. Visibility into the products enables the company and its customers to identify causes of downtime and prevents many stoppages. Predix helps initiate just-in-time re-supply and maintenance, and reduces downtime that impacts not only printing jobs, but also printer sales, contracts, brand reputation, and service level agreements (SLAs).

Predix supports quality assurance, increases printer life and productivity, and consequently minimizes costs of the printed products, increasing value to the customer. In addition to real-time reporting, Predix maintains records of printer diagnostics that help determine where engineering and design improvements can enhance operational efficiency and market value.

Historically, **hospital beds** were just simple platforms for patients to lie on. Today, some of these beds are critical-care platforms that support trauma victims and ICU patients. They enable hospital staff to move a patient without disrupting traction, or turn over a patient to take pressure off a damaged organ. Precise adjustments to a bed's configuration and its many components are digitally recorded by onboard monitors, and the data conveyed to a Predix Machine running on local gateway servers.

The data captured by Predix enables product designers to make informed product engineering decisions. In addition to serving the patient, the records also serve to avert medical liability and lawsuits.

Predix also supports secure connections from each bed to local networks and systems, including medical records systems. Certain deviations in bed configuration are time-critical events, and the local Predix solution can instantly alert medical staff if these occur.

A leading **elevator** manufacturer designed a Predix solution to maintain optimal performance of its connected elevators. They wanted to monitor connected elevator components to help identify, analyze, and resolve possible service issues before they happen. This predictive analysis helps reduce downtime and improve product design - and lowers the chance you have to walk up a flight of stairs because an elevator is out of service.

Start the Journey

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