4 MUST-HAVE IoT Capabilities for Manufacturers

You've connected your products to the Internet, but that's just the start. Manufacturers can boost their strategy around four critical capabilities, according to an IoT connected product maturity model

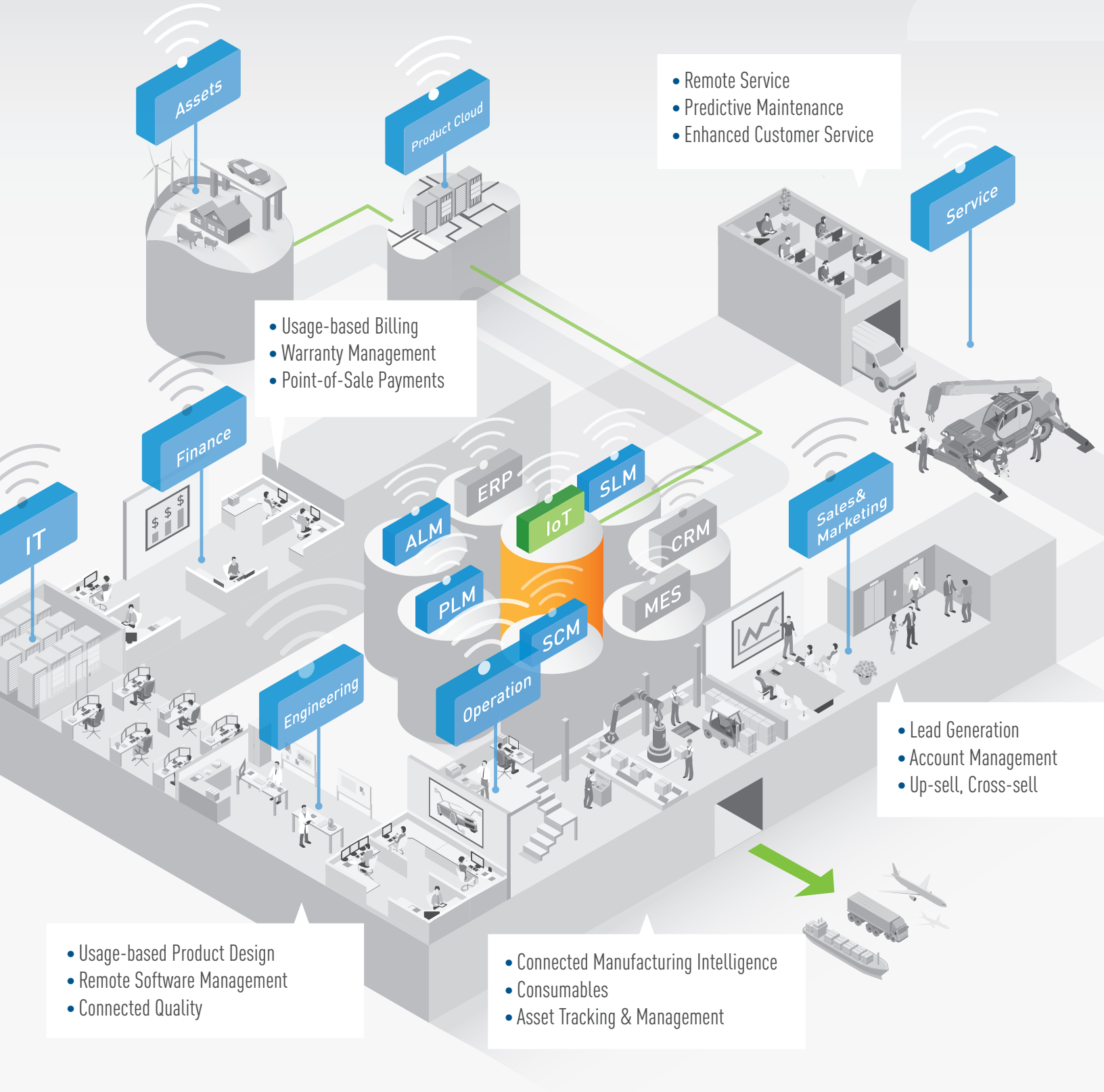
Executive Summary

Over the next five years, Gartner predicts **26 billion** connected products (not counting phones, tablets, and PCs) resulting in **$1.9 trillion in global economic value**.

With so much at stake, the IoT promises not only significant opportunity, but also instability and disruption. Winners and losers will be decided not by who can merely connect their products, but by who is using connectivity to differentiate and create new value.

PTC has worked with established IoT market winners, to build a framework for success – based on **four must-have IoT capabilities**. Read on to discover the benefits of our **IoT Maturity Model for Connected Products**.

The IoT will Power the Connected Enterprise



As smart, connected products are used in the real-world, they generate valuable data that can be used by their manufacturers. A connected enterprise will see IoT data enriching and transforming functional areas across the organization.

Four Must-Have IoT Capabilities:

Each maturity level creates new ways to compete and create revenue, and have their own technical and business requirements. Levels also build on previous stages. To offer integration capabilities, for example, a product must first possess service and analysis capabilities.

Charting Four Critical Capabilities along the IoT Maturity Model

Sensors, chipsets, connectivity and basic apps open the gateway to the IoT, but they don't add up to an **IoT strategy**. Manufacturers position themselves along a continuum of IoT maturity, and plan how to pursue capabilities that provide the most value.

Why the maturity model?

The maturity model is based on proven-success as a framework that incrementally expands the role that IoT plays across the value chain—maximizing value while minimizing disruption and risk. Early-level investments are designed to bring rapid ROI, ensuring a smart transition.

The maturity is a roadmap for successful IoT adoption.

IoT Maturity Model Capabilities - Level One: Transform Customer Success with Service

Connected, remote service provides a rapid ROI, without immediately changing the entire value chain. Products are enhanced with **sensors to monitor performance**, and **connectivity to provide service technicians with remote access**.

How IoT-enabled service transforms business

Service responsiveness is accelerated with remote monitoring, access, and management of assets. Service agents login, rapidly identify, and solve specific problems without dispatching resources on-site. When on-site service is required, remote service ensures technicians are fully prepared. Remote service enables superior customer service that improves loyalty *while* reducing costs.

IoT Service Success in Action:

By adding IoT remote service capabilities, Diebold immediately realized:

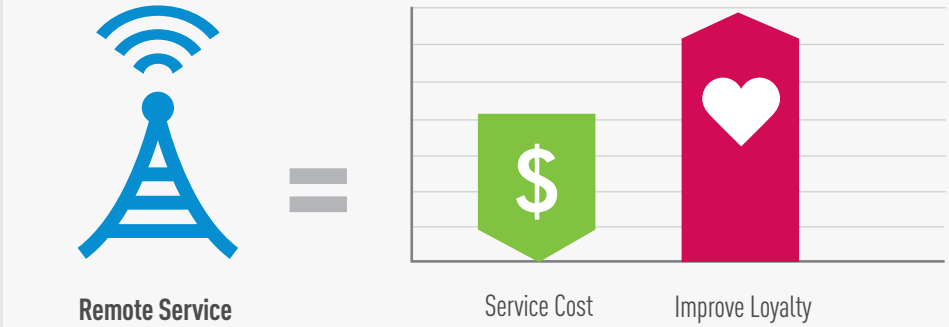
17% increase in remote service resolution

15% decrease in downtime

DIEBOLD®

STRATEGY: SERVICE
Self-service delivery of security systems

Average time to resolution shortened from 3 hours to under 30 minutes.



IoT Maturity Model Capabilities - Level Two: Gain Actionable Insight with Analysis

IoT Analytics apps take data from connected products, presenting actionable information through flexible, dashboards. It's the next natural set of capabilities after mastering IoT-enabled service.

How IoT-enabled analytics drives success

IoT-enabled analytics apps replace anecdotal or periodic reporting, providing ongoing, real-time analysis of product usage. IoT enabled product analysis apps can be used across the organization, by sales, accounting, support and product engineering.

Connected apps provide data-driven decisions and actions, including:

- Predictive maintenance
- Identifying supplier or manufacturing process issues
- Real-time reporting of product status and usage

IoT Maturity Model Capabilities - Level Three: "IoT-ize" your Business with Integration

IoT-enabled integration continues to expand on the previous capabilities, but connects usage data directly with other enterprise systems.

How IoT-enabled integration closes the loop on business optimization

Various line of business systems support organizations across the value chain, from sales and billing, to engineering, software and asset management. With IoT integration, real-word product usage data is folded into that rich flow of valuable data. Integrated data can automate parts ordering, determine warranty status, help manage fleet assets, and more.

Role-driven dashboards

Using an IoT app development platform, organizations can build role-based dashboards, so that users can be presented with actionable information that is relevant – based on their business area and scope of responsibility. Front-line technicians, supervisors, and line of business management all get their own optimized view into performance.

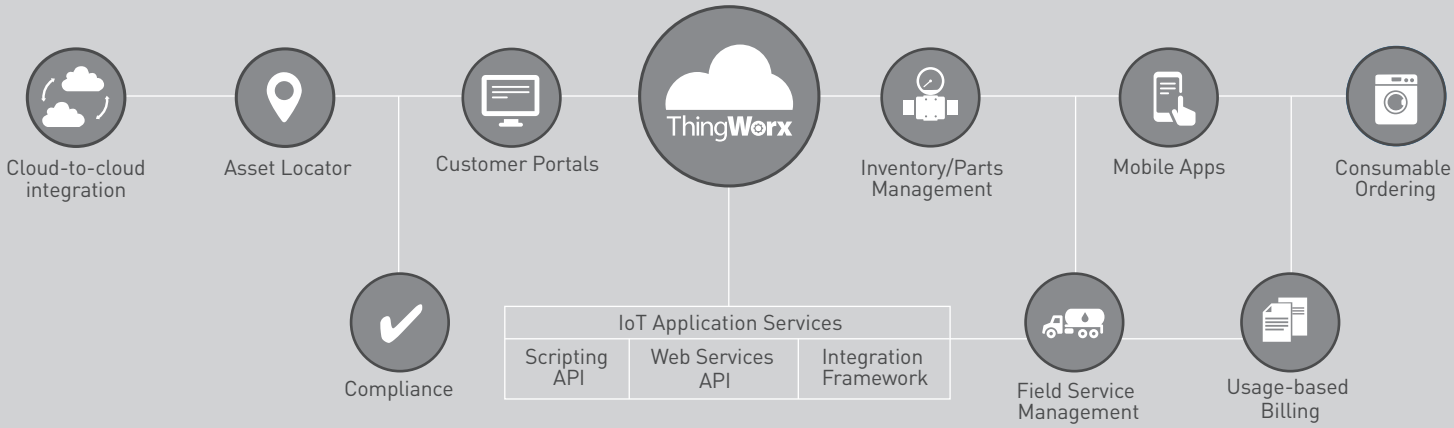
This is the stage at which organizations "IoT-ize" their business, and usage data starts participates systematic optimization of business activity.

SCM/CRM	ERP	Support	Usage History	Location Management
• Asset Management • Consumables Management • Parts Management	• Closed-Loop Product Lifecycle management • Recall Management • Software management	• Customer Support • Field Service	• Billing • Warranty management • Sales Force Automation	• Asset tracking • Fleet Management

IoT Maturity Model Capabilities – Level Four: Transform your Business with Innovation

Previous stages all offer incremental changes to your business. At the innovation level, change reaches critical velocity, and your relationship to your customer can be fundamentally transformed. Innovation occurs when products are enhanced with software that reinvents the customer experience.

RE-INVENT THE PRODUCT EXPERIENCE: NEW CAPABILITIES AND INTERFACES CREATE ENHANCED CUSTOMER VALUE



FLEXIBLE

Easily extend object models to create reusable application components

Create custom web services using patent-pending Scripto services

Open standards-based cloud-to-cloud interoperability

POWERFUL

Extensive IoT application services for rules, event processing, scripting, and integration

Engineered for IoT scalability and data intensive applications

75% less time to build custom applications

Take the next step towards the IoT and connected business

These are just the highlights of the maturity model framework. Learn more and gain access to valuable white papers, by visiting PTC.com/connected-business.

PRODUCT & SERVICE ADVANTAGE® PTC®