IoT: Smart Appliances in the Era of Experiences

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IoT: Smart Appliances in the Era of Experiences

Olivier Ribet

Vice President,

High Tech Industry

Dassault Systèmes

David Bingham

Design System

Curator

General Electric

Todd Rytting

Chief Technology Officer

Panasonic

North America

IoT: Smart Appliances in the Era of Experiences

Agenda

- Introductions
- Product Management and the Speed of Innovation
- Information Flow as a Competitive Advantage
- Managing Complexity in the Era of IoT
- Importance of Data for Business Process Improvement
- Value Added Services Enabled by Data
- Q&A

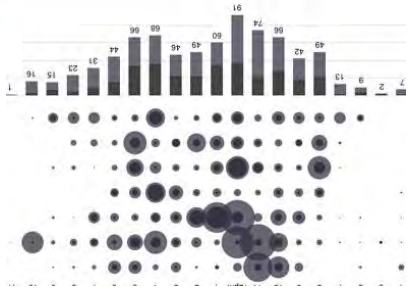
Architecture for Smart Products

Connected Product

Gateway

Virtual Device

Device Monitoring and Control



Device Analytics, Value Added Services

API

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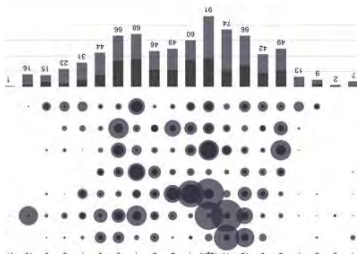

	Connected Product	Value-Added Services	Business Models	API Integration	Mobile Application
Product Lifecycle	10 years	1-2 years	1 year	6 months	3 months

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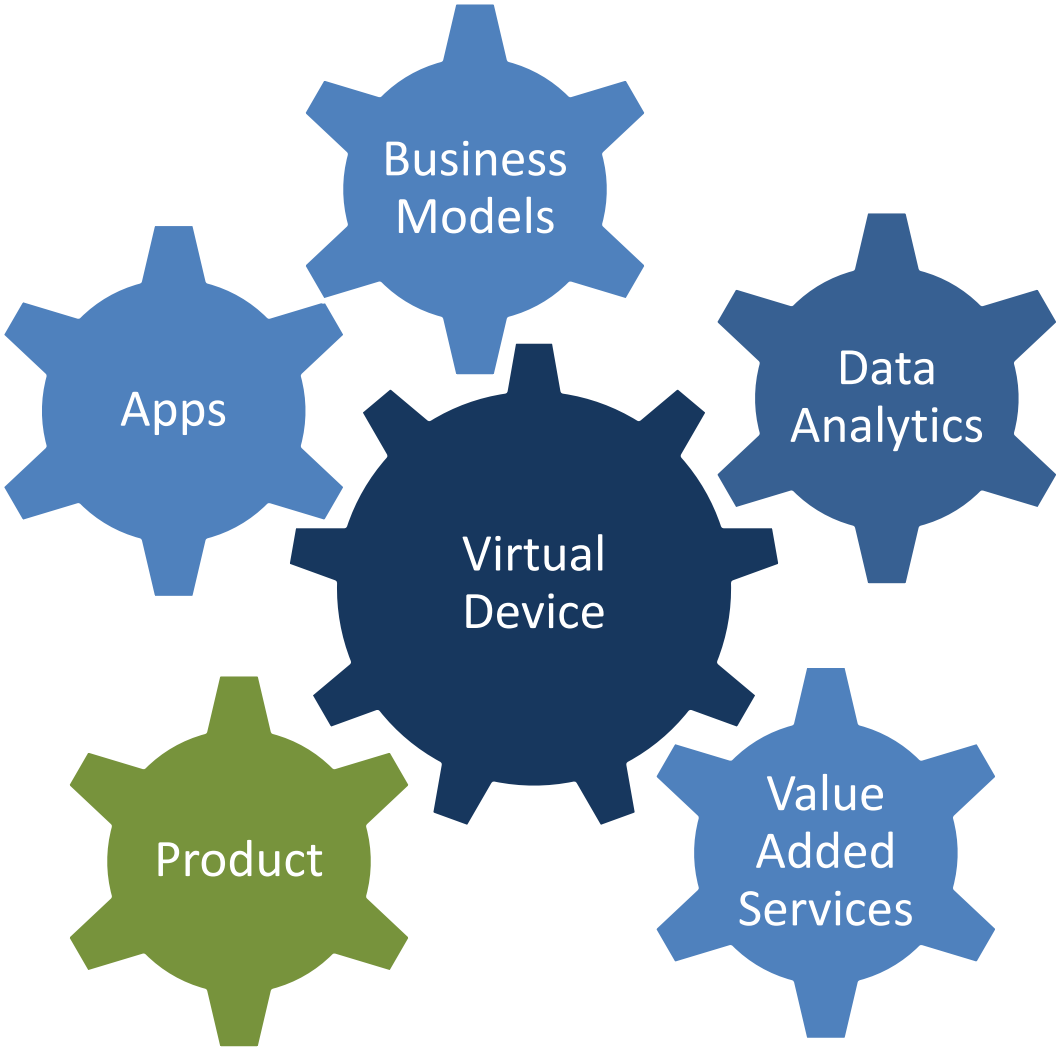

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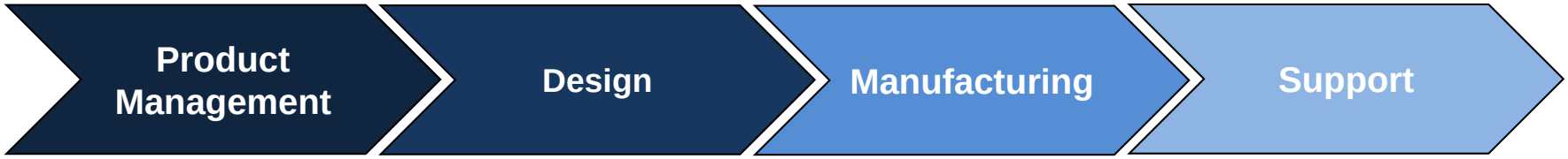

- Feedback
  - Use Case
  - Features
  - Crowd Sourcing
- Business Models
  - Partnerships
  - Bundling

- Cloud Services
- Apps
- Data Analytics
- Firmware
- Communication HW
- Industrial Design

- Supply Chain Management
- Quality Management

- Remote Diagnostics
- Warranty Support
- Product Upgrades

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Panasonic

North America

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Vice President,

High Tech Industry

Dassault Systèmes

Panasonic

A Better Life, A Better World

Panasonic — What Comes to Mind?

Panasonic Avionics — A 747 is a ‘Thing’ in IOT

Panasonic

A Better Life, A Better World

Panasonic – Outdoor Sports Displays are “Things” in IOT

Panasonic

Panasonic Automotive – A Car is a “Thing” in IOT

Leading Global Provider of Infotainment Systems

Panasonic

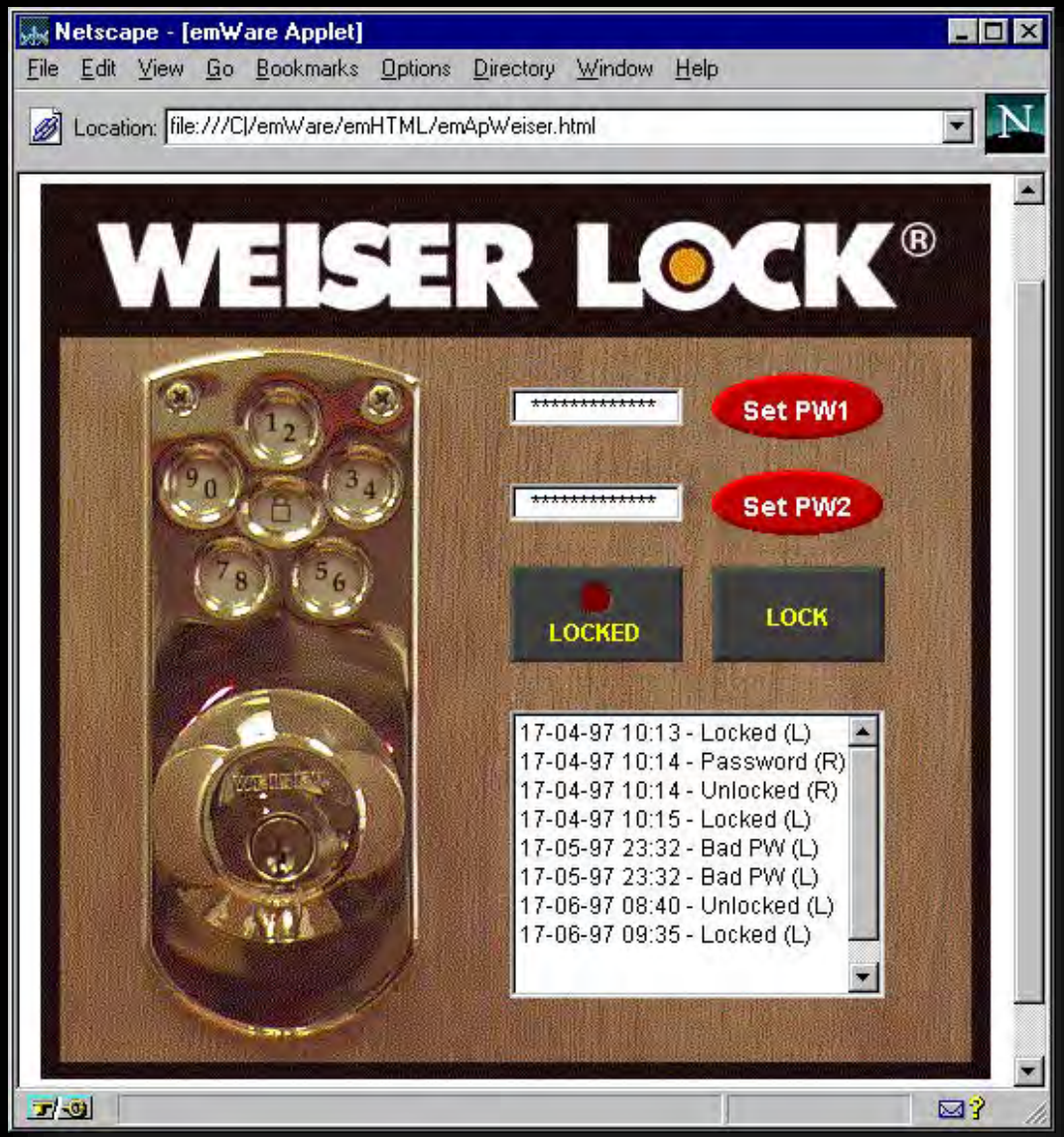
Panasonic Home Monitoring – The Home is a “Thing” in IOT

Panasonic

Panasonic – Appliances are “Things” in IOT

Panasonic

Panasonic – IOT 18 Years Ago



Panasonic

Panasonic – IOT 15 Years Ago

Networked Microwave with Bar Code Scanning

Networked Fridge with Touch Panel

Panasonic

Panasonic

Global Supplier of Technology Solutions to Businesses and Consumers

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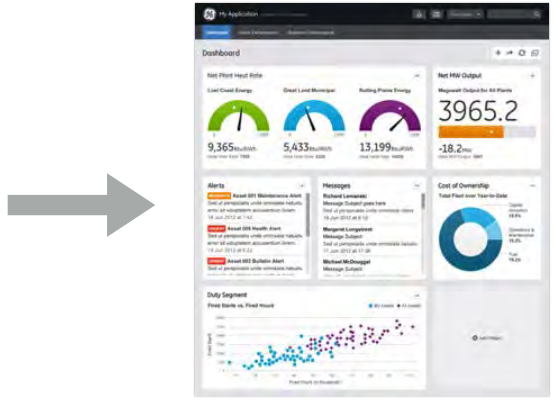

Appliances

Industrial Internet

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DOMESTIC APPLIANCES
AERONAUTICS
ENERGY
GE CUSTOM FABRICATION
GECI
AIRCRAFT ENGINES
TRANSPORTATION
OIL & GAS
ASSET MANAGEMENT
BUSINESS SERVICES
CONSTRUCTION & FINANCING
MAINTENANCE
WATER
KitchenAll
JMI
Skrinkard Wig Company
NBC

nest
IN 20 MIN
72

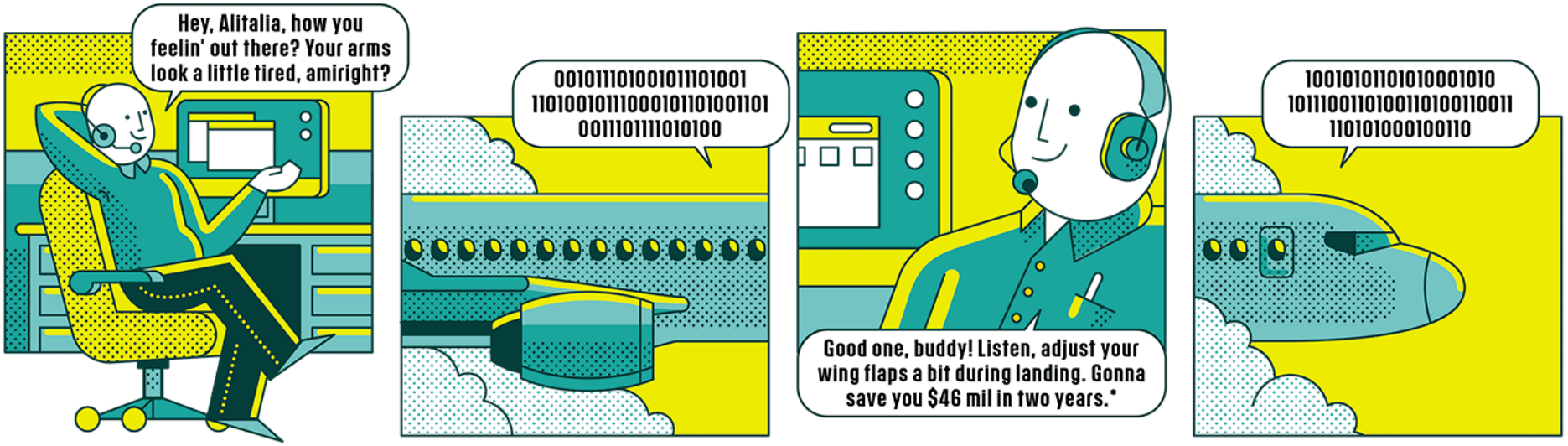
4,718

Big Size

Big Quantity

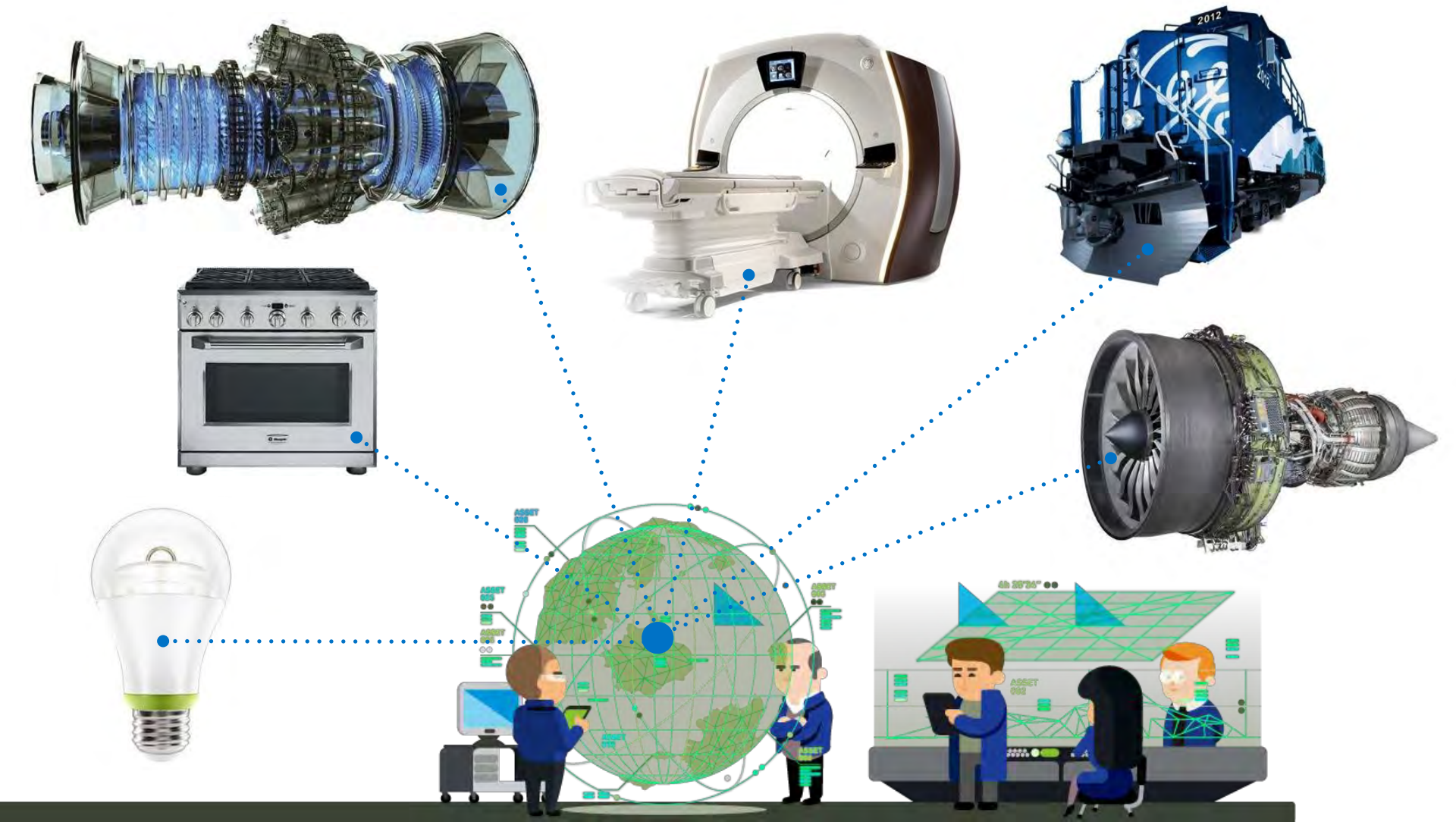
Big Money

1% reduction in fuel = $30 billion over 15 years



Big Connections

Big Data
22,500 GE Wind Turbines
1,000 Sensors per Turbine
=
22,500,000 sensors


2012

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Chief Technology Officer

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Olivier Ribet

Vice President,

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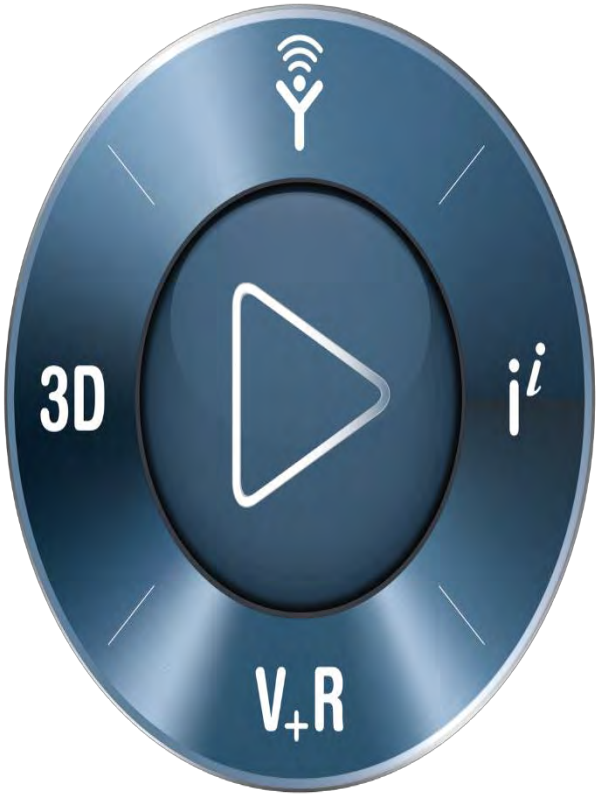

3DEXPERIENCE®

IOT : Smart Home Appliance in the Era of Experience

Our Company

a **Scientific** company

Combining **Science, Technology** and **Art** for a sustainable society

13,300 passionate people

- 117 nationalities
- One global R&D / 56 labs
- Game changing **3D**EXPERIENCE solutions

190,000 enterprise customers

- 12 industries in 140 countries
- >10 million on premise users
- >100 million online users

3,500 partners

- Software, Technology & Architecture
- Content & Online Services
- Sales
- Consulting & System Integrators
- Education
- Research

Long-term driven

- Majority shareholder control
- **Revenue**: **$ 2.8 Bn***
- Operating margin: 31.5%*

** Figures as of FY 2013 / Non-IFRS*

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Olivier Ribet – Vice President, High Tech Industry For Dassault Systemes

- Helping **high-tech companies worldwide** adapt to fast-paced market trends and deliver **innovative electronic experiences** for their end-customers by using **Dassault Systèmes' 3DEXPERIENCE platform.**
- Fastest growing industry market at Dassault Systèmes.
- **Serving** the needs of **6 customer segments** and support the transformation of their **business processes**.
- Delivering value to the High-Tech Industry on **sustainable innovation** through **smart products and systems**, **embedded electronics and software**, **IT and communications infrastructures**.

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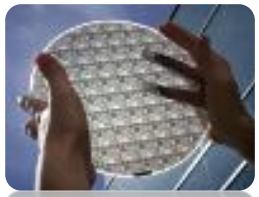

Semiconductor Manufacturers

Technology Suppliers

Contract Manufacturing Services

SUPPLIERS

Competition ⟷ Collaboration

Standardization ⟷ Customization

High Tech

How to Change the Game in the High-Tech Industry?

1. Enable the creation of a new class of **Smart Connected Objects**
2. Foster **continuous, rapid, profitable and sustainable innovation**
3. Build **ecosystems**: hardware, software, cloud, services and content

Consumer Electronics

Security Control & Instrumentation

Computing, Communication

OEMs

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Product Management and the Speed of Innovation

Todd Rytting

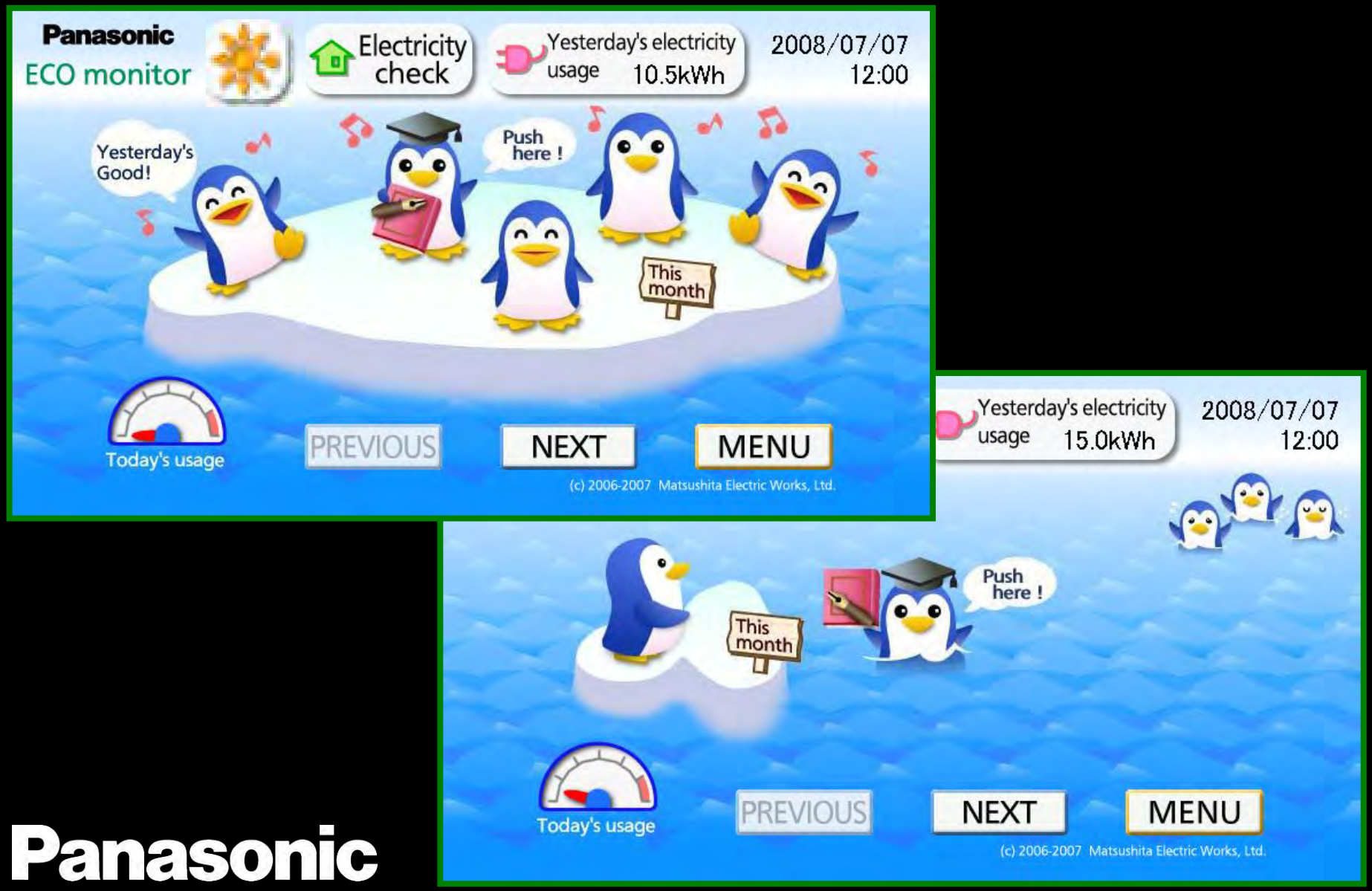
Chief Technology Officer

Panasonic

North America

Panasonic is global company. What are some of the challenges associated with managing the diversity of global product requirements?

Culture-Specific User Interface



Panasonic

U.S. Home Energy Management Displays ~2011

Panasonic

Product Management and the Speed of Innovation

David Bingham

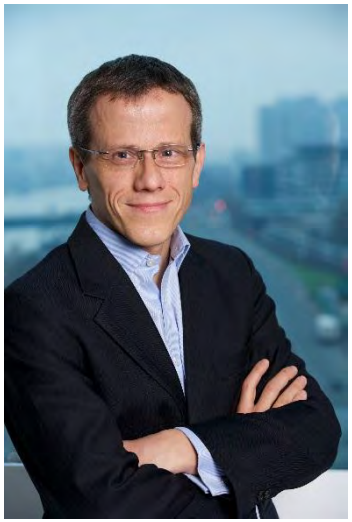
Design System

Curator

General Electric

Open innovation and crowd sourcing are disruptive forces for product management. How is GE taking advantage of these opportunities?

Product Management and the Speed of Innovation



Olivier Ribet

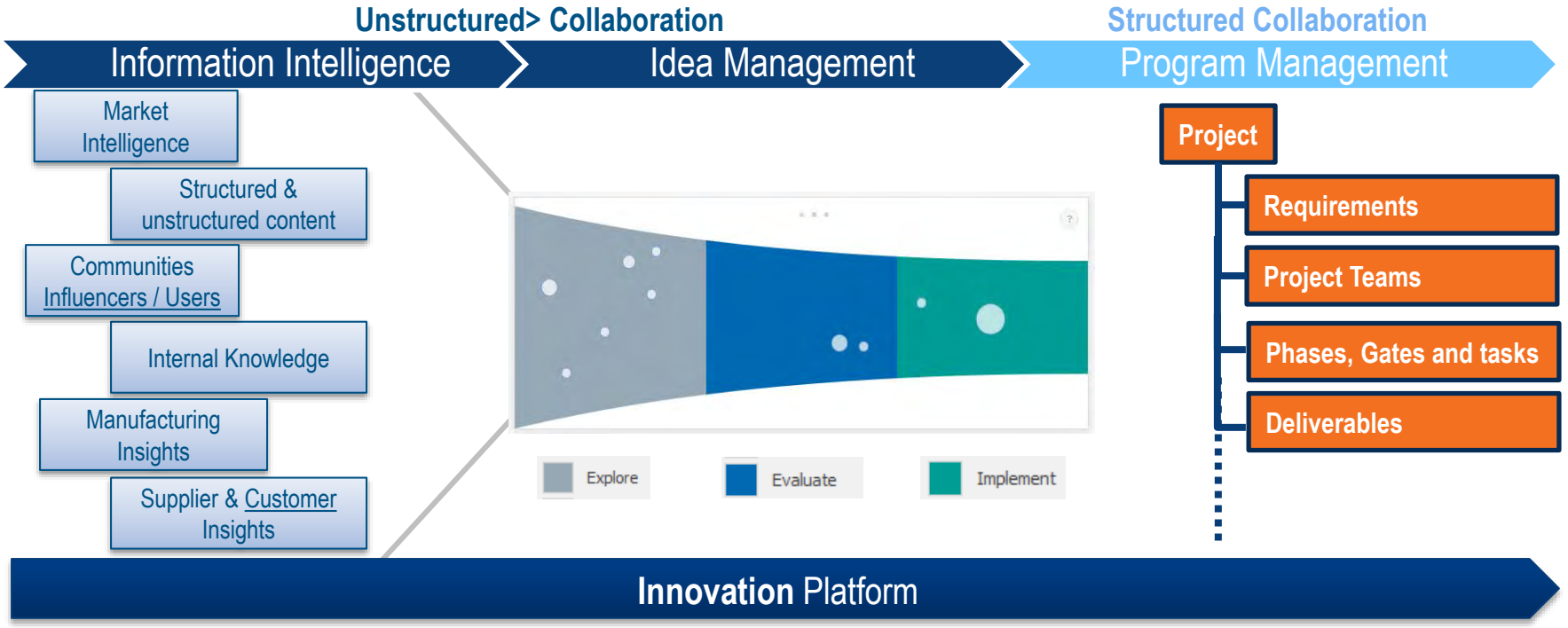
Vice President,

High Tech Industry

Dassault Systèmes

How will the product management function change to accelerate innovation?

From Insights to Execution



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Information Flow as a Competitive Advantage

David Bingham

Design System

Curator

General Electric

What are some of the problems that have to be addressed to share data and information more rapidly?

Information Flow as a Competitive Advantage

Todd Rytting

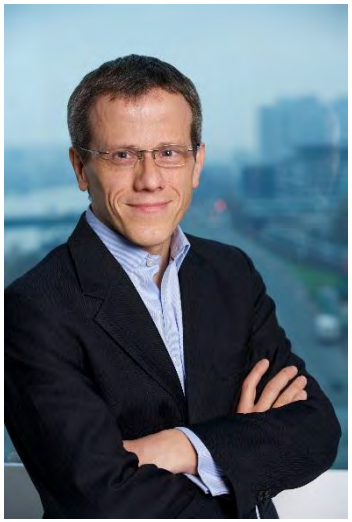
Chief Technology Officer

Panasonic

North America

What do you think are some of the keys to accelerating the flow of information?

Information Flow as a Competitive Advantage



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Vice President,

High Tech Industry

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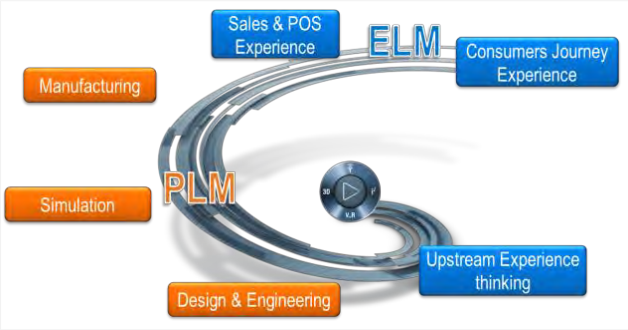
What systems can help organizations break down silos and share information?

High-Tech Industry Solution Experiences



Social

-Ease of use
-Mobile Apps

Industry

"Business Solutions"

Experiences

Software + Services + Content

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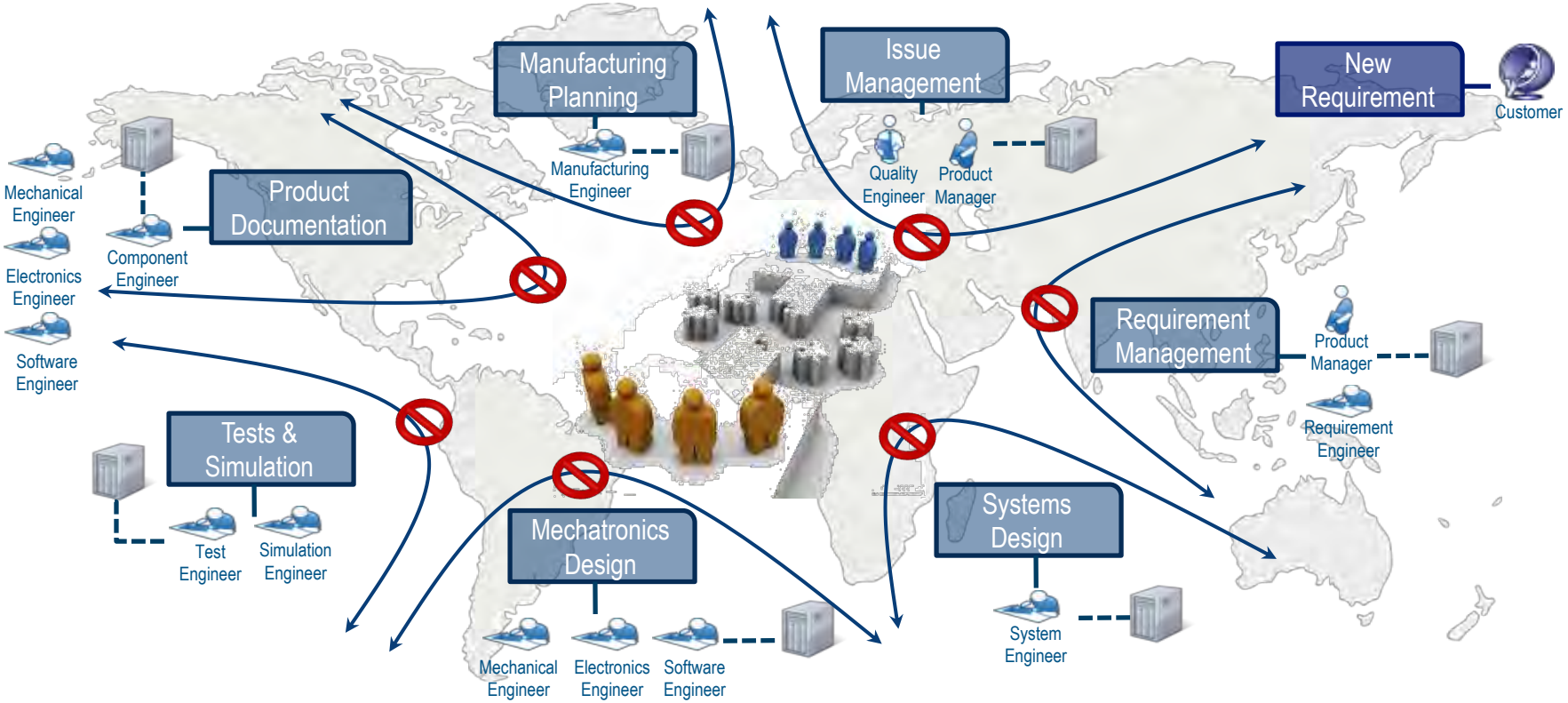
From Mono-discipline Excellence…



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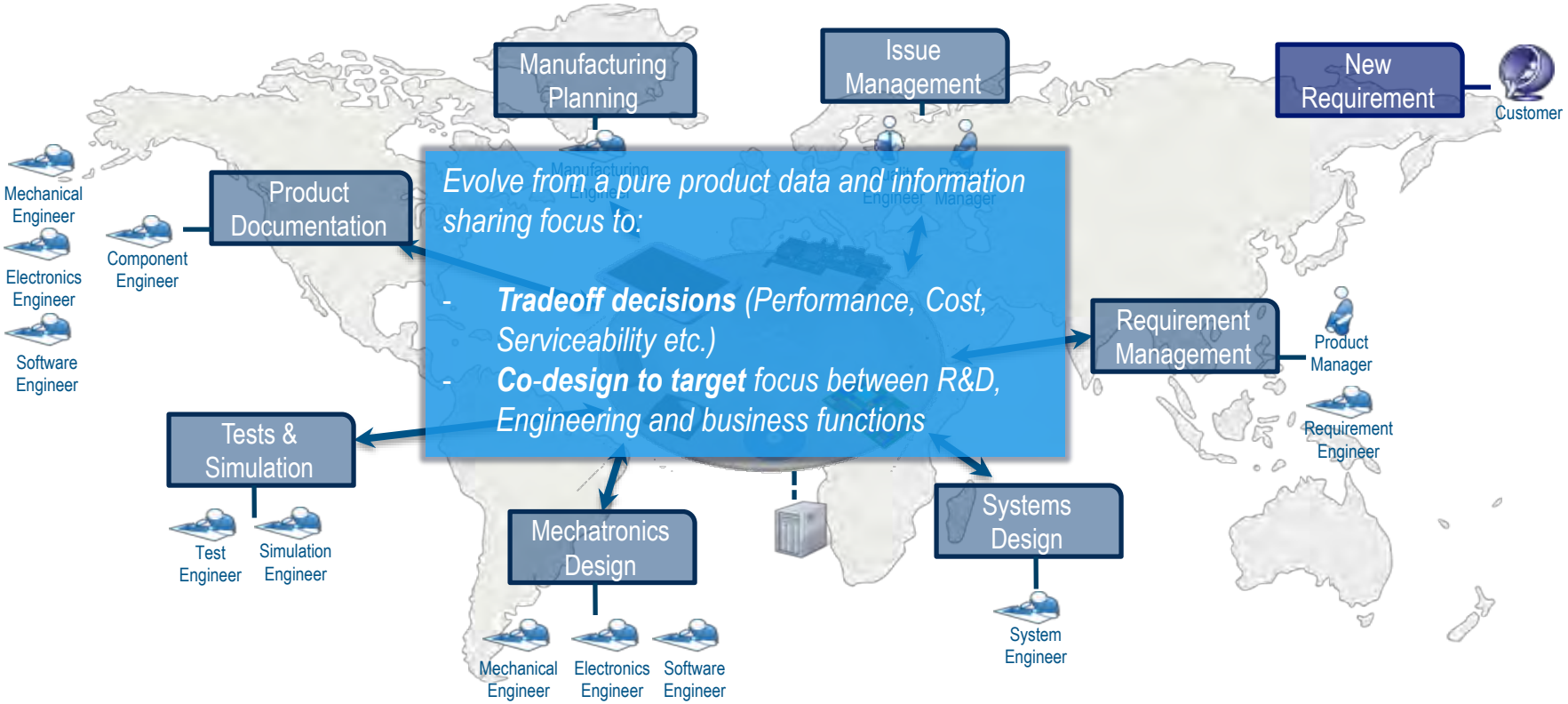
…To Multi-Discipline Excellence



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Managing Complexity in the Era of IoT

Todd Rytting

Chief Technology Officer

Panasonic

North America

How frequently do you think that leading companies will upgrade apps, cloud services, or firmware for products in the field? How will companies manage that change?

Managing Complexity in the Era of IoT

David Bingham

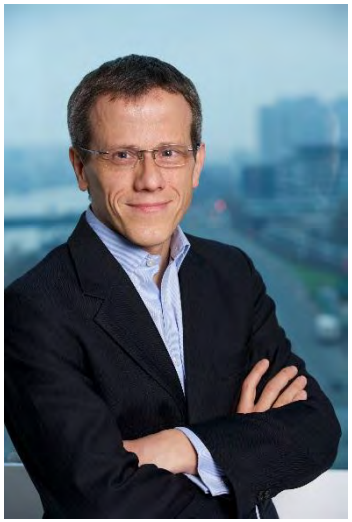
Design System

Curator

General Electric

What issues have to be addressed to add fast paced software product management processes to existing, slower moving product development process?

Managing Complexity in the Era of IoT



Olivier Ribet

Vice President,

High Tech Industry

Dassault Systèmes

What are some of the key processes that must be developed to manage complexity?

Integrated Design Experience for Smart Products

Issue & Defect Management

Design for Quality

Design For Assembly

Final Product Assembly

Product Testing & Simulation Management

Verification & Validation

Modularity & Variability

Product Variant & HW-SW Asset Management

Collaborative Mechanical, HW & SW Design

Functionality & Integration

Reliability & Performance

Systems Architecture Design & Simulation

Cost, Lead time, Obsolescence

Component Supplier Management

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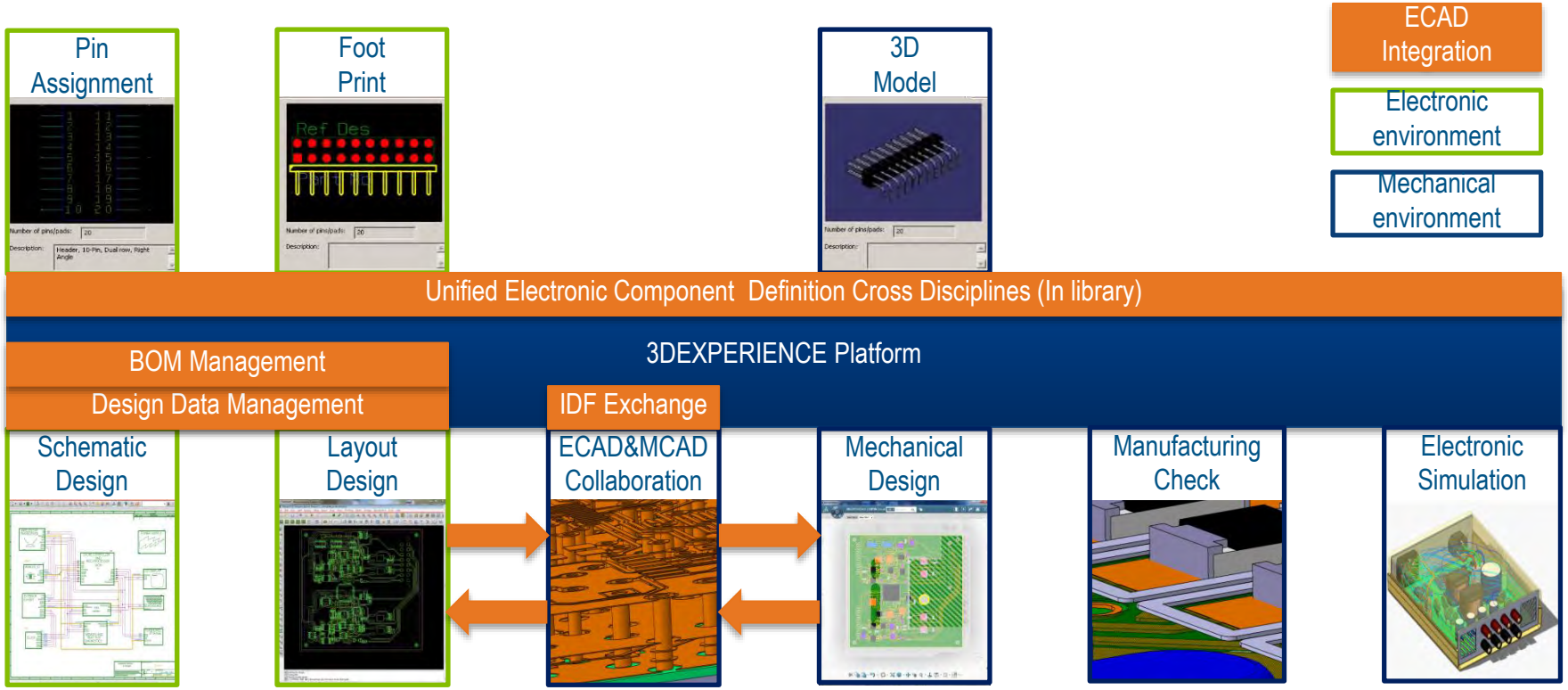
The example of Collaborative Hardware Design

Integration of Electronic and Electro-mechanical design processes (note similar process exists for Software)



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Importance of Data for Business Process Improvement

Todd Rytting

Chief Technology Officer

Panasonic

North America

What are some of the different ways that data from smart products can be used by different parts of the organization?

Importance of Data for Business Process Improvement

David Bingham

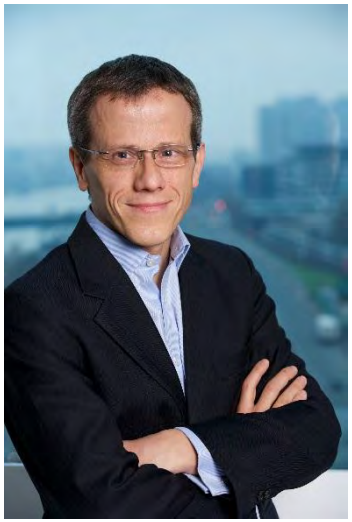
Design System

Curator

General Electric

Describe the characteristics of the ideal data interface tool for your organization.

Importance of Data for Business Process Improvement



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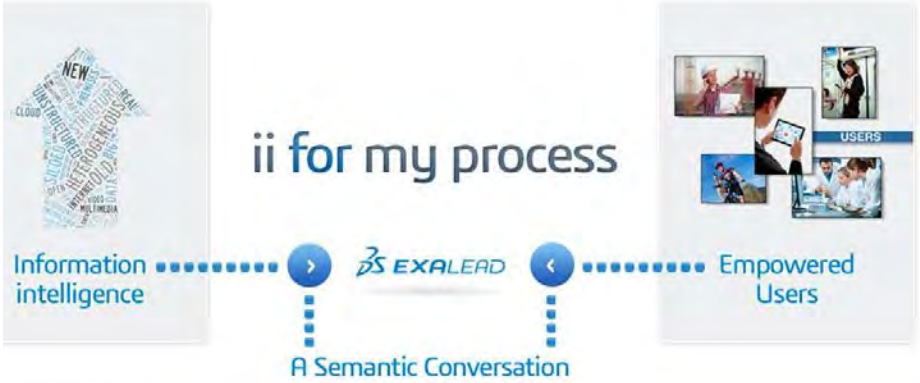
Companies that can mine product data to gain insights will lead the market. How can companies make data accessible?

Search & Reveal from Information Intelligence



Customer Interaction
Collect & Engage

Digital Assets
Reveal, Capitalize & Reuse

Machine data
Product usage & trace

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Value Added Services Enabled by Data

Todd Rytting

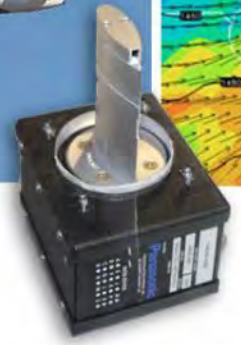
Chief Technology Officer

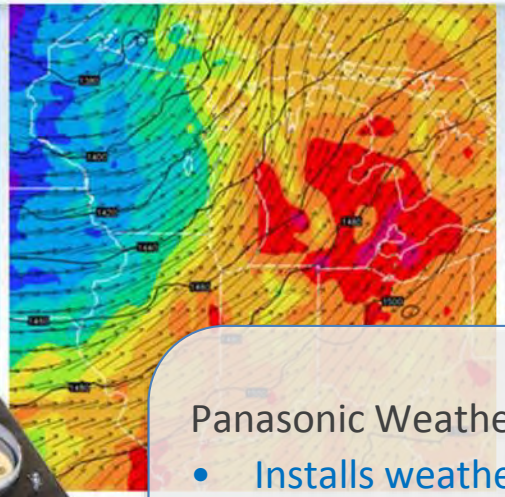
Panasonic

North America

Different value added service may be bundled together to drive mix, share, or price. How will value added services evolve?

Panasonic Avionics— High Accuracy Weather Forecasting





Panasonic Weather Services:

- Installs weather sensors in planes
- Collects and analyzes weather 20x more data than conventional methods

Result:

- More accurate worldwide forecasting

Panasonic

A Better Life, A Better World

Value Added Services Enabled by Data

David Bingham

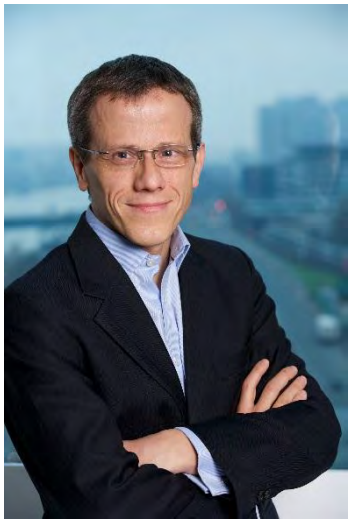
Design System

Curator

General Electric

Many value added services will open up opportunities for partnerships and new business models. What challenges are involved with executing new business models and partnerships?

Value Added Services Enabled by Data



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High Tech Industry

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What capabilities must be acquired in order to succeed in the smart home market?

Adaptive Experience: Software management in the age of IoT

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eService Experience

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Questions from the Audience

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Vice President,

High Tech Industry

Dassault Systèmes

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Curator

General Electric

Todd Rytting

Chief Technology Officer

Panasonic

North America

Thank You.

Thank You.

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