



IOT: THE FOUNDATION FOR ADVANCED INDUSTRIAL SERVICES

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8 June 2016

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John Mertl
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John Mertl is a senior strategy and technology consultant who brings over 20 years of consulting and operating experience to his clients, guiding the leadership teams of Fortune 500 firms in the development and implementation of strategies that improve competitiveness, increase customer satisfaction and loyalty, grow revenues and optimize operations.

John specializes in customer-facing operations, value-streams, technologies and platforms. He has led large complex change programs for global manufacturers and service companies in North America and Europe.

Clients include: Pratt & Whitney Canada, Boeing, Lockheed Martin, AT&T, Verizon, General Dynamics, John Deere, Hitachi, and Texas Instruments.

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A recognized Servitization and Technology Strategist, influences the evolution of business transformations underway within leading manufacturers worldwide.

Working closely with industry leading analysts, academics, consultants and manufacturers, I have helped build a worldwide influencer community that strives to grow the awareness and adoption of Servitization.

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Cindy Elliott
Senior Industrial Fellow, Aston
Business School Centre for
Servitization Research and Practice



Noventum is a management consulting firm focused exclusively on guiding the management teams of global manufacturing and industrial service companies seeking to profitably grow, extend and improve the performance of their service operations.

Select Clients



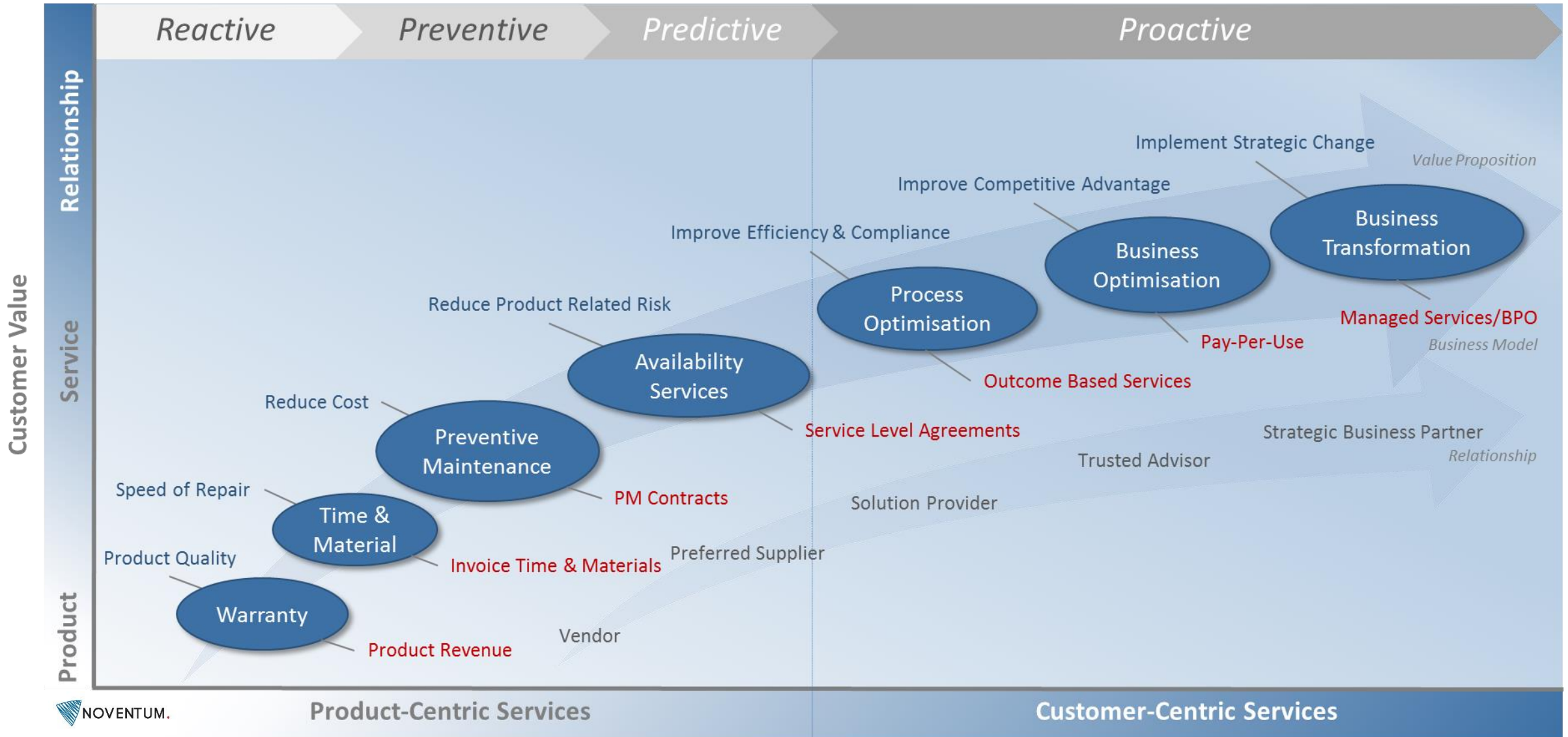
IOT & ADVANCED SERVICES

- ❑ The Industrial Services Maturity Model
- ❑ IoT as the a key enabler of advanced services
- ❑ Strategic advantage of IoT-enabled advanced services
- ❑ First steps in Designing & Deploying IoT-enabled services
- ❑ Wrap-up

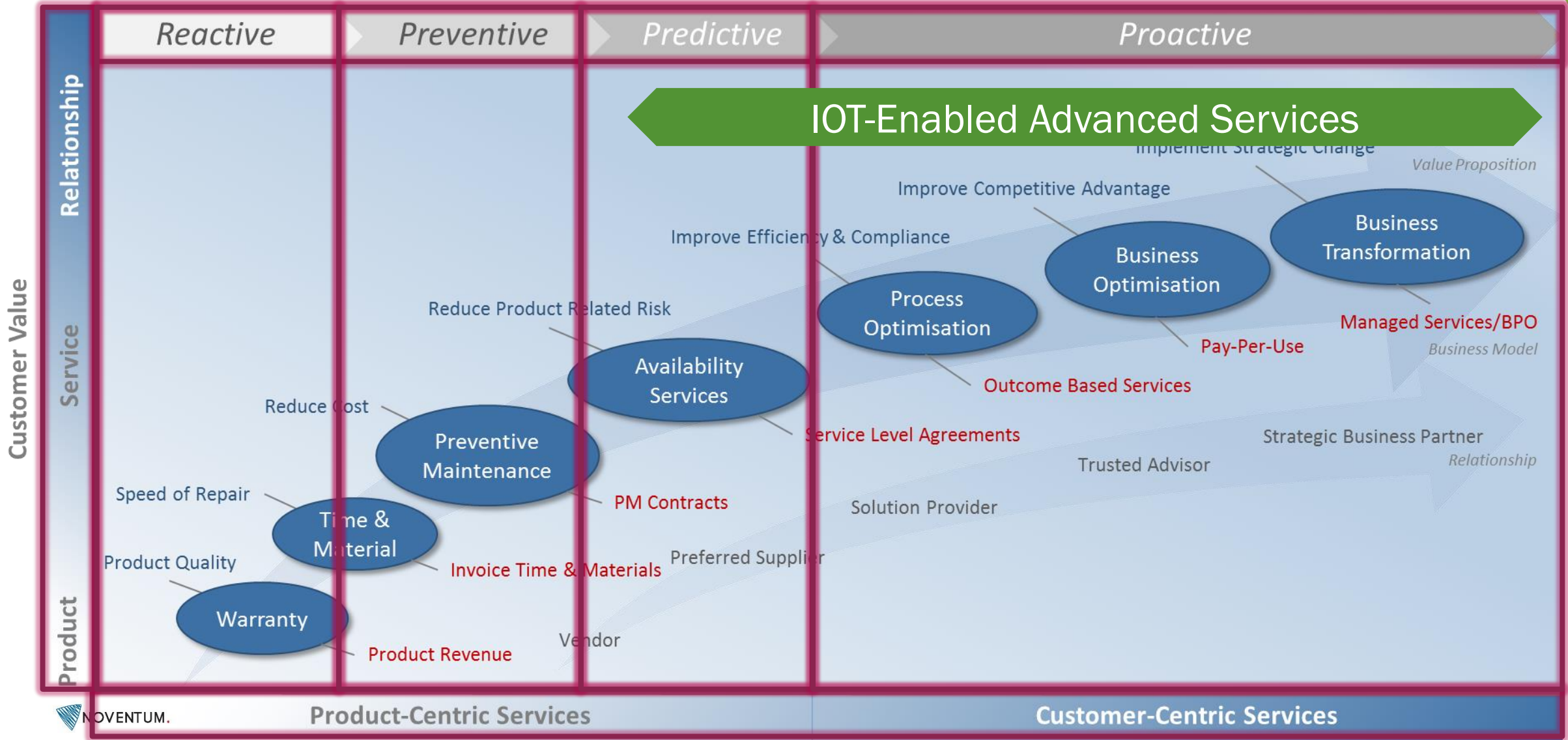
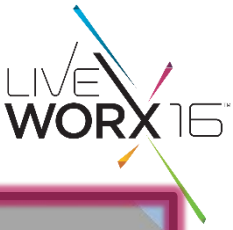
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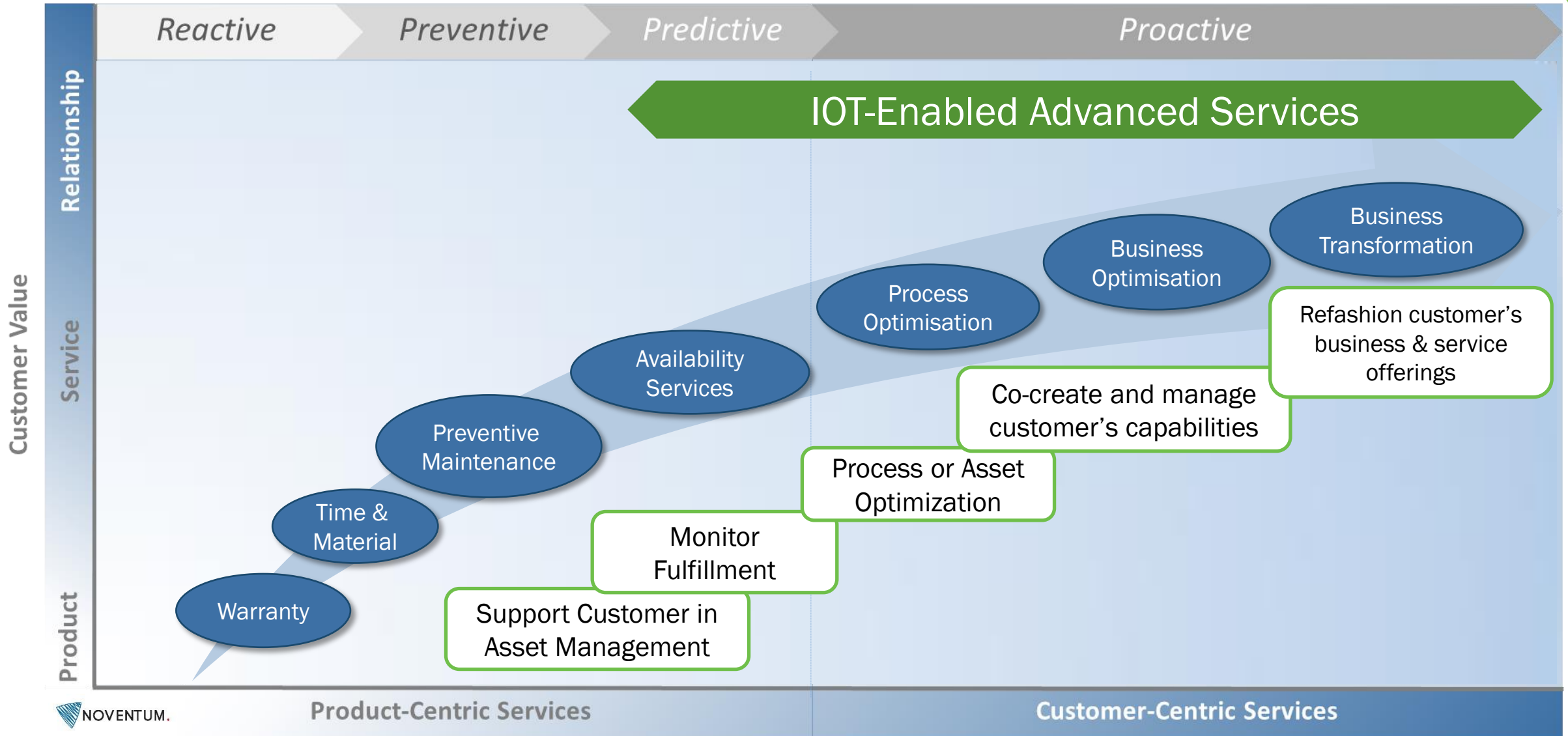
INDUSTRIAL SERVICES MATURITY MODEL



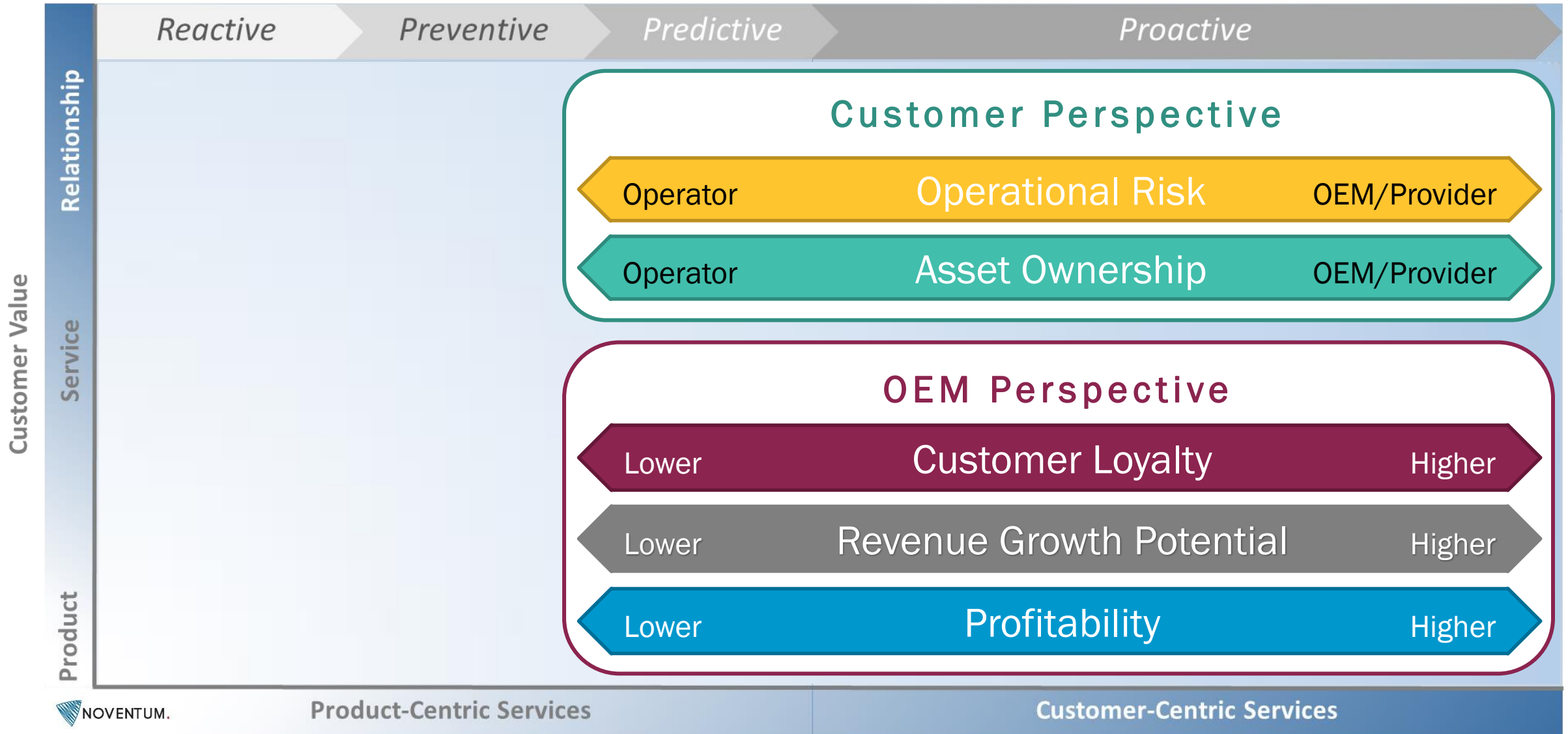
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IOT & ADVANCED SERVICES

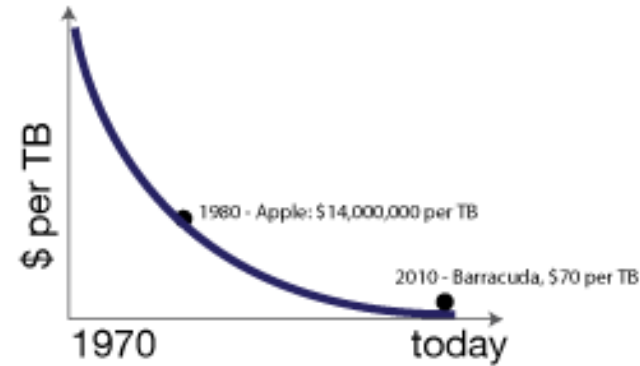
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IOT: BARRIERS FALLING

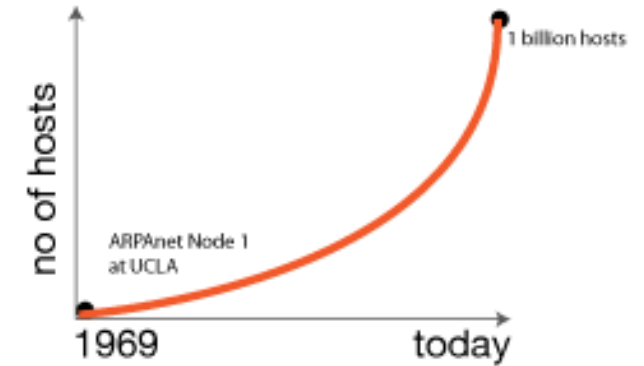
Barriers to broad-based IoT adoption continue to fall

- M2M connections will grow more than threefold, from 3.3 billion in 2014 to 10.5 billion by 2019
- Cost of data transport and bandwidth continues to fall
- Cost of data storage is approaching >\$10.00 per TB today, and declining

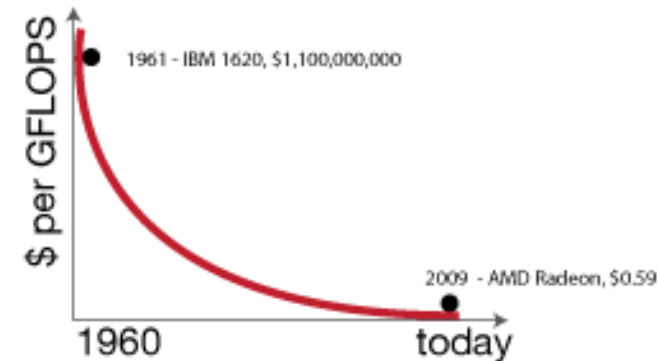
Storage



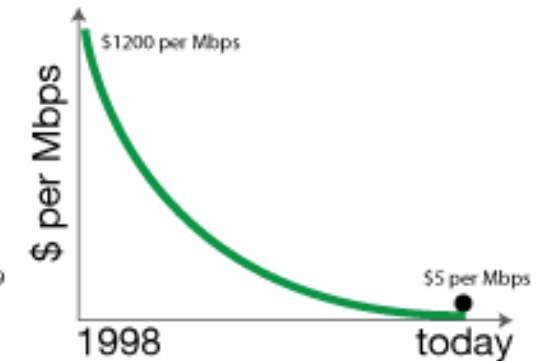
Network



CPU



Bandwidth



Source: O'Reilly Radar

IOT TODAY: USING DATA TO IMPROVE OPERATIONS



Yesterday

Data Profile

- Intermittent sampling
- Thin absent operational profile
- 10's of parameters (thin set)
- Low frequency time-series
- Limited fleet data: few connected devices

Data Use

- Reliability & design engineering
- Diagnostics
- Regulatory & event investigation



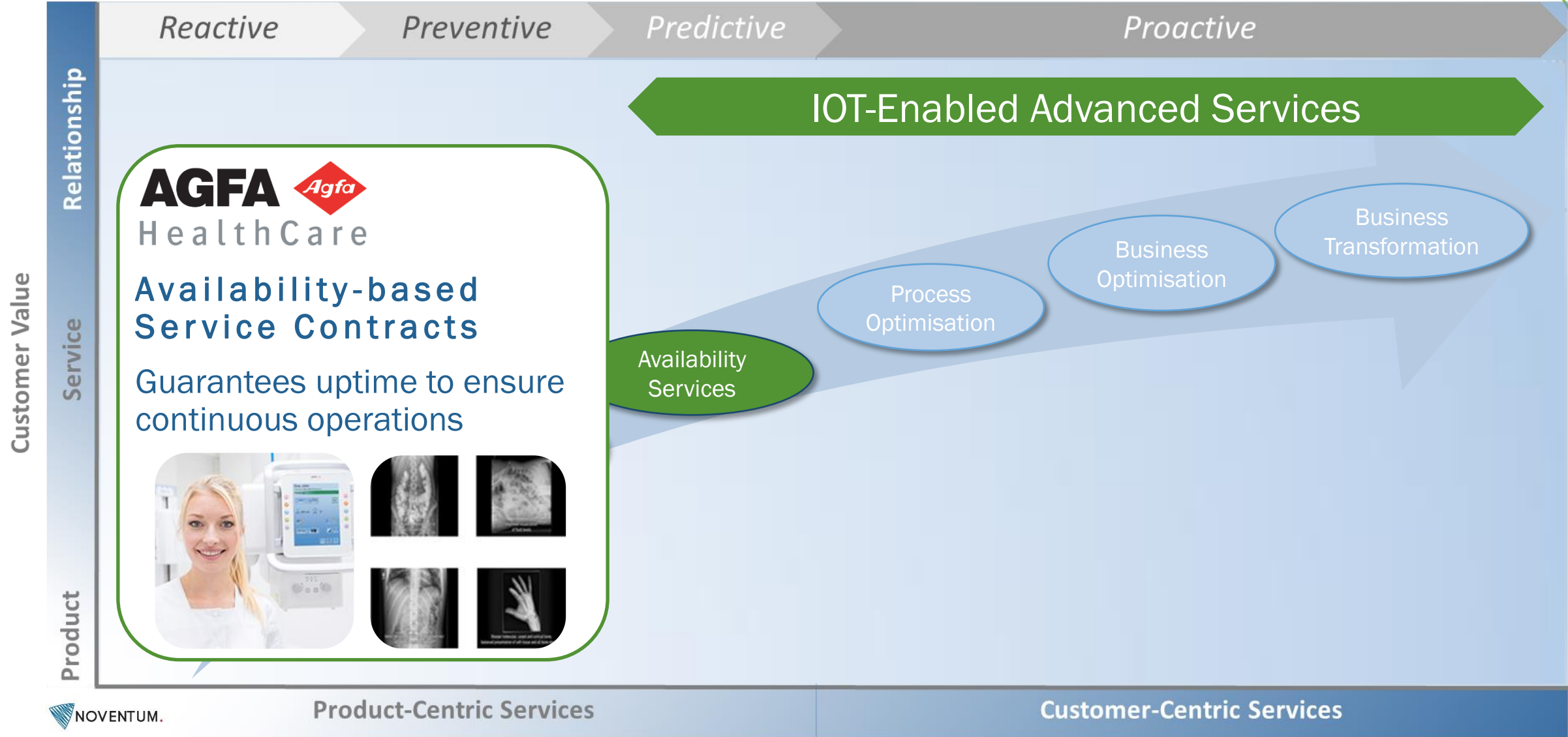
Today

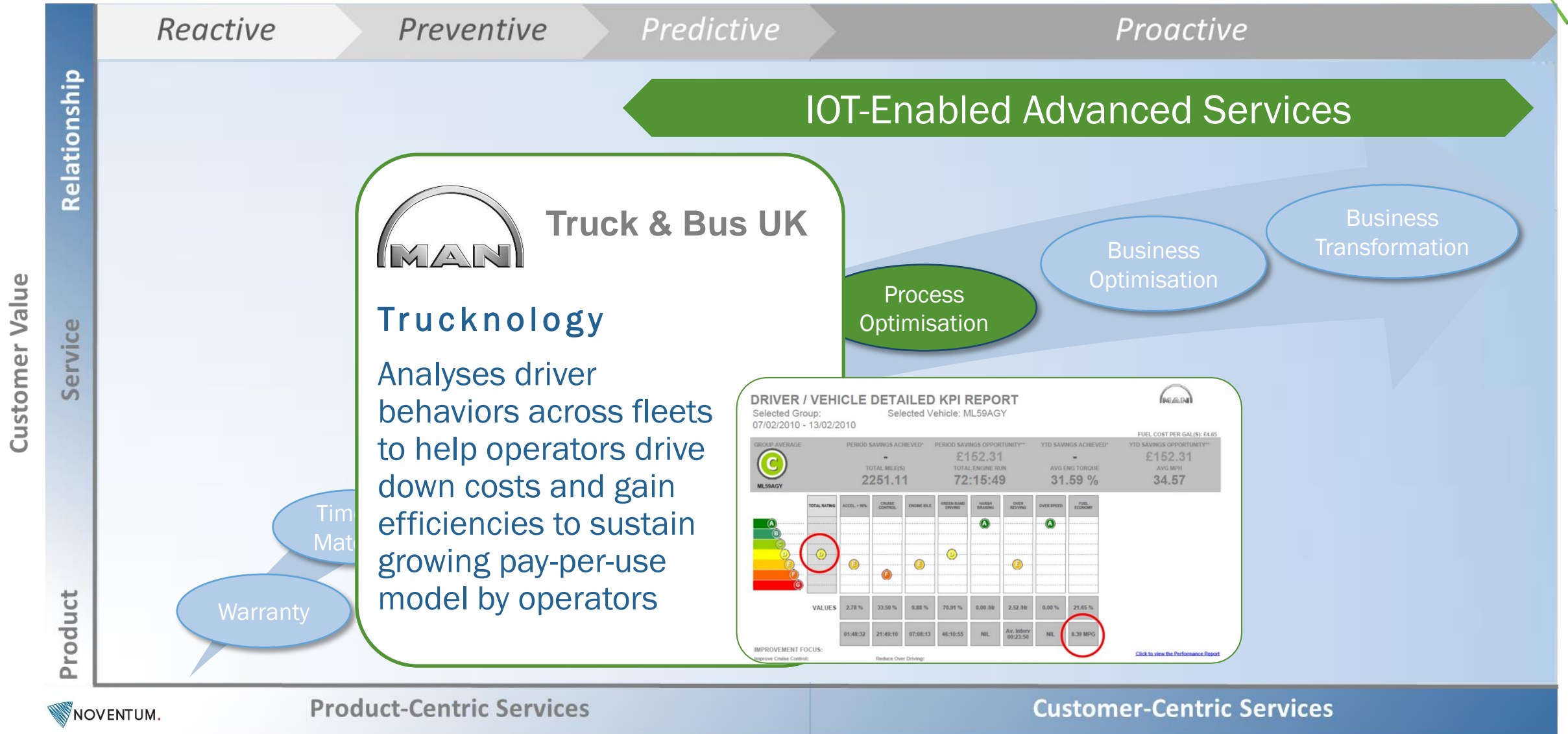
Data Profile

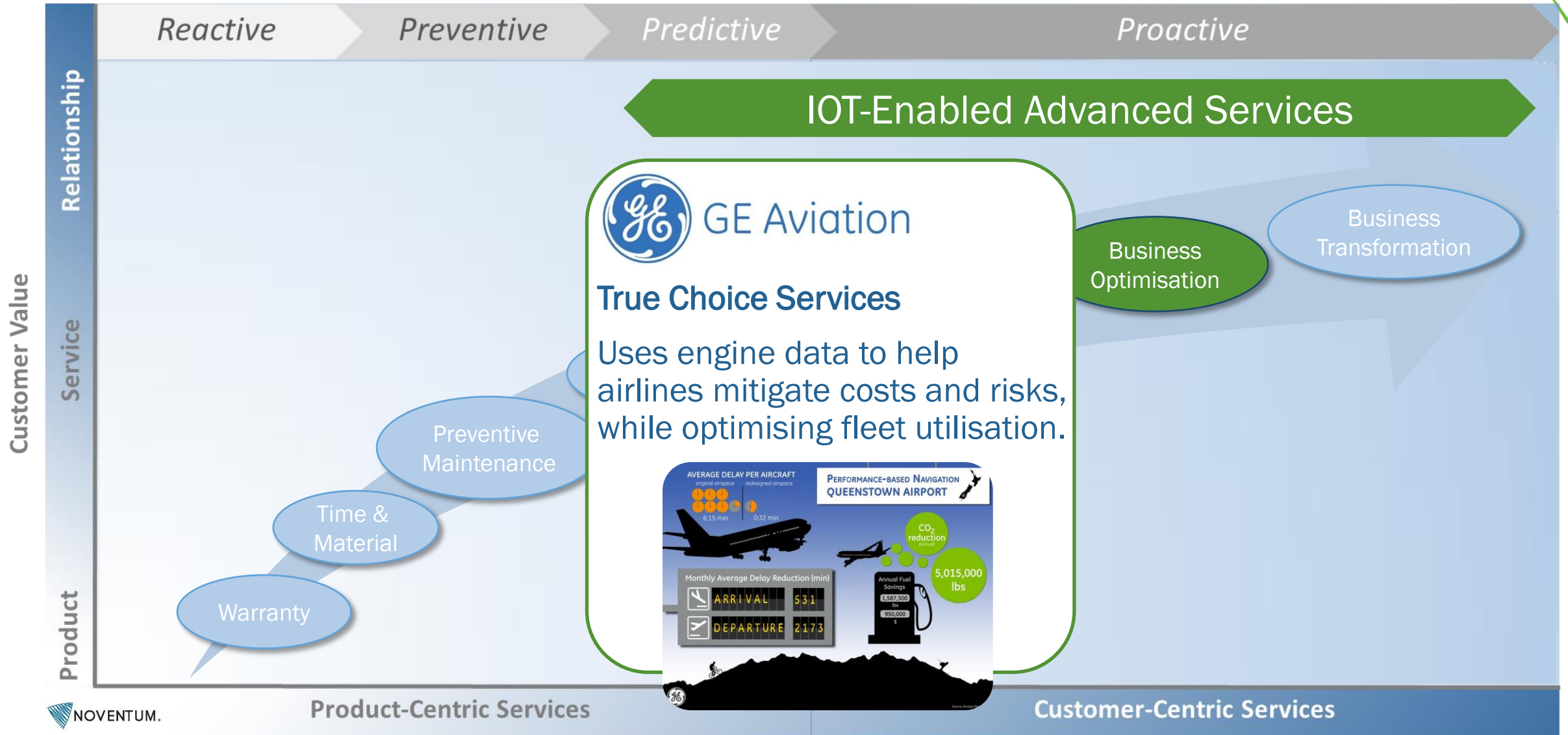
- Frequent or real-time sampling
- Embedded operational profile
- Large data set per equipment (100s of parameters)
- High-frequency time series (sub-second)
- Fleet-wide samples

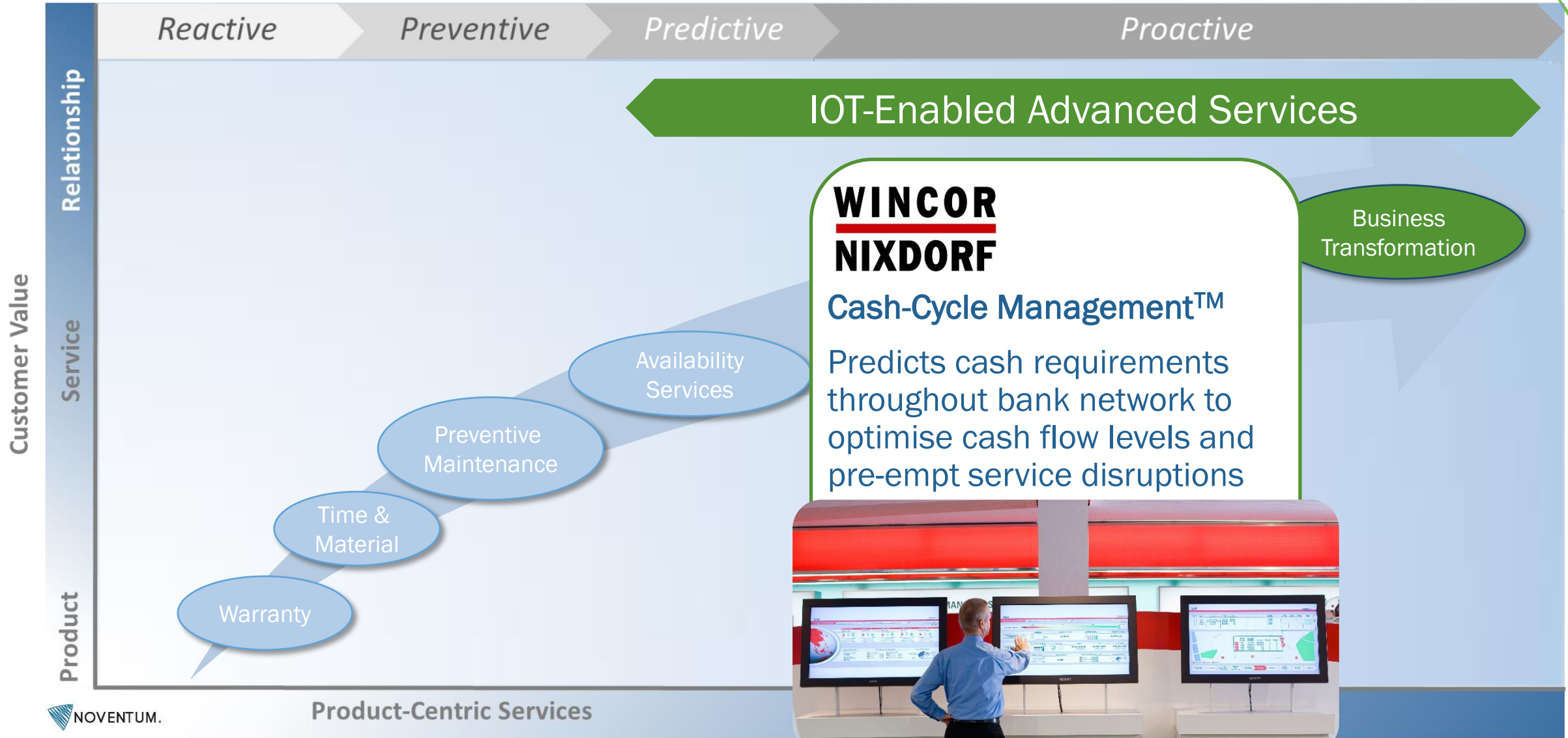
Data Use

- Reliability engineering; diagnostics, design engineering,
- Prognostics, health-monitoring, trending, operations performance, fleet-level performance and benchmarking









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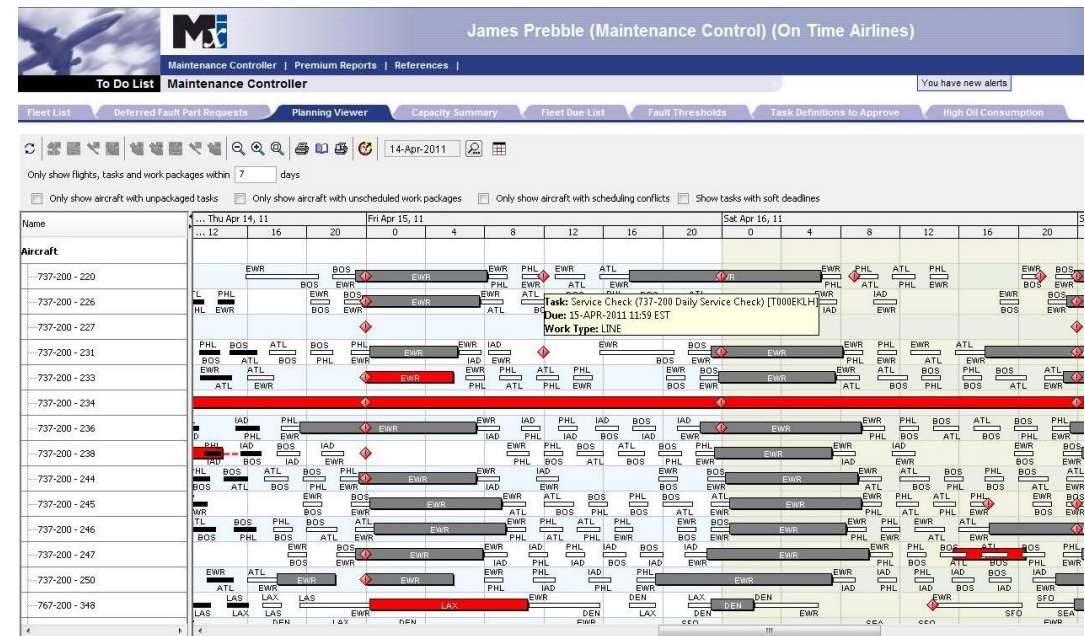
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ADVANTAGES OF IOT-ENABLED SERVICES



For OEMs, IoT is a foundational capability enabling advanced services

- Optimize maintenance planning by analyzing product usage data to improve preventive maintenance intervals



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- Reduce maintenance costs by delivering Just-in-Time preventive maintenance services, and manage the replenishment of consumables, as well as report on asset utilization and performance



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- Grow service revenues and profitability by offering **product performance guarantees**, reducing risks and improving compliance



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- Reduce maintenance costs by delivering Just-in-Time preventive maintenance services, and manage the replenishment of consumables, and as well as report on utilization and performance of products
- Grow service revenues and profitability by proving product performance guarantees, reducing risks and improving compliance
- Use **installed-base data** to optimize efficiency, competitiveness and implement strategic change by using data to **improve customer processes**



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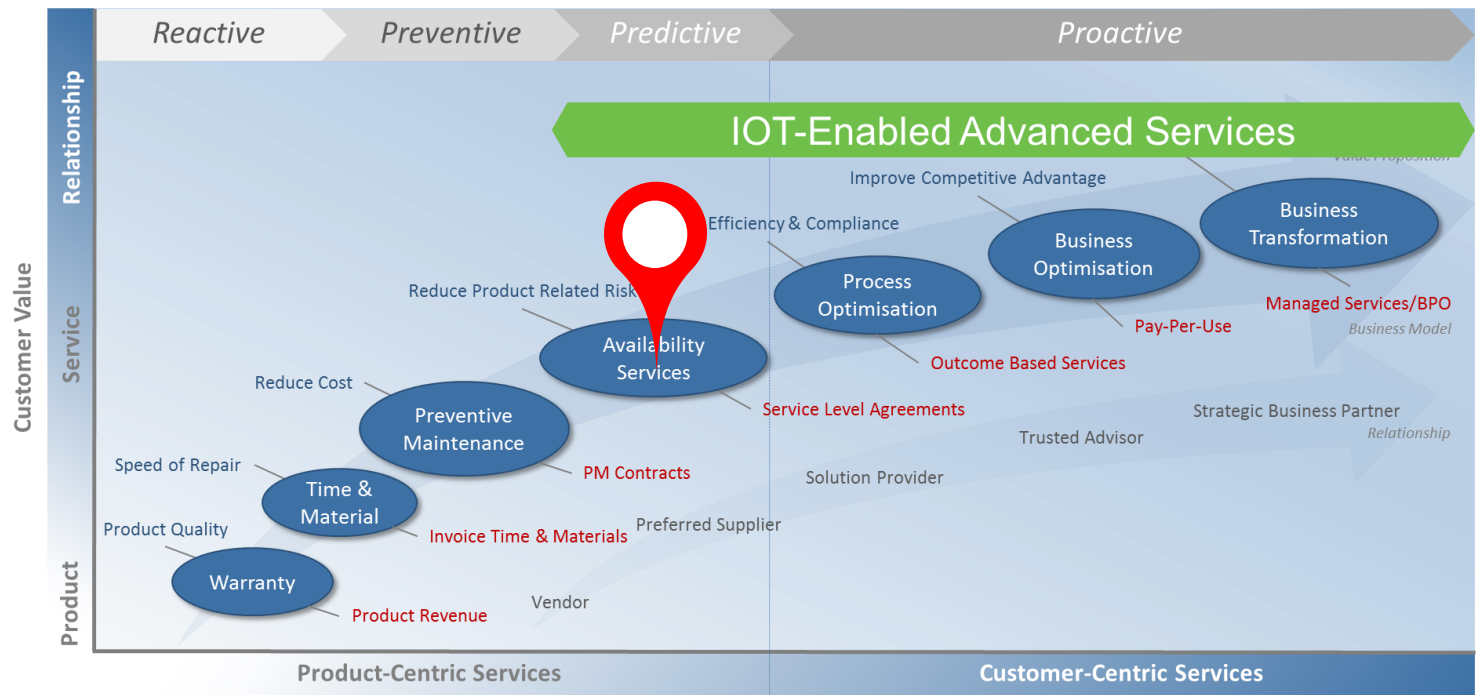
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FIRST STEPS



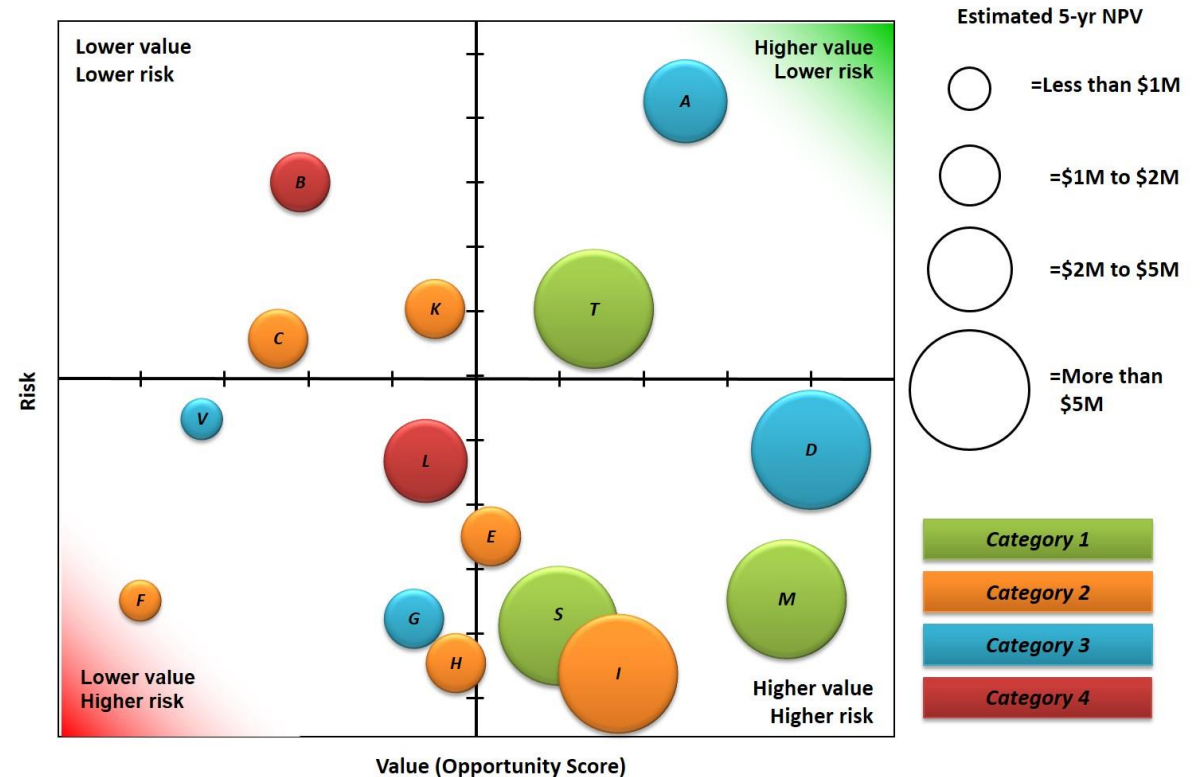
Understand your organization's current situation, and how your organization's service portfolio compares with peers and comparables.

Step 1
Understand where you are



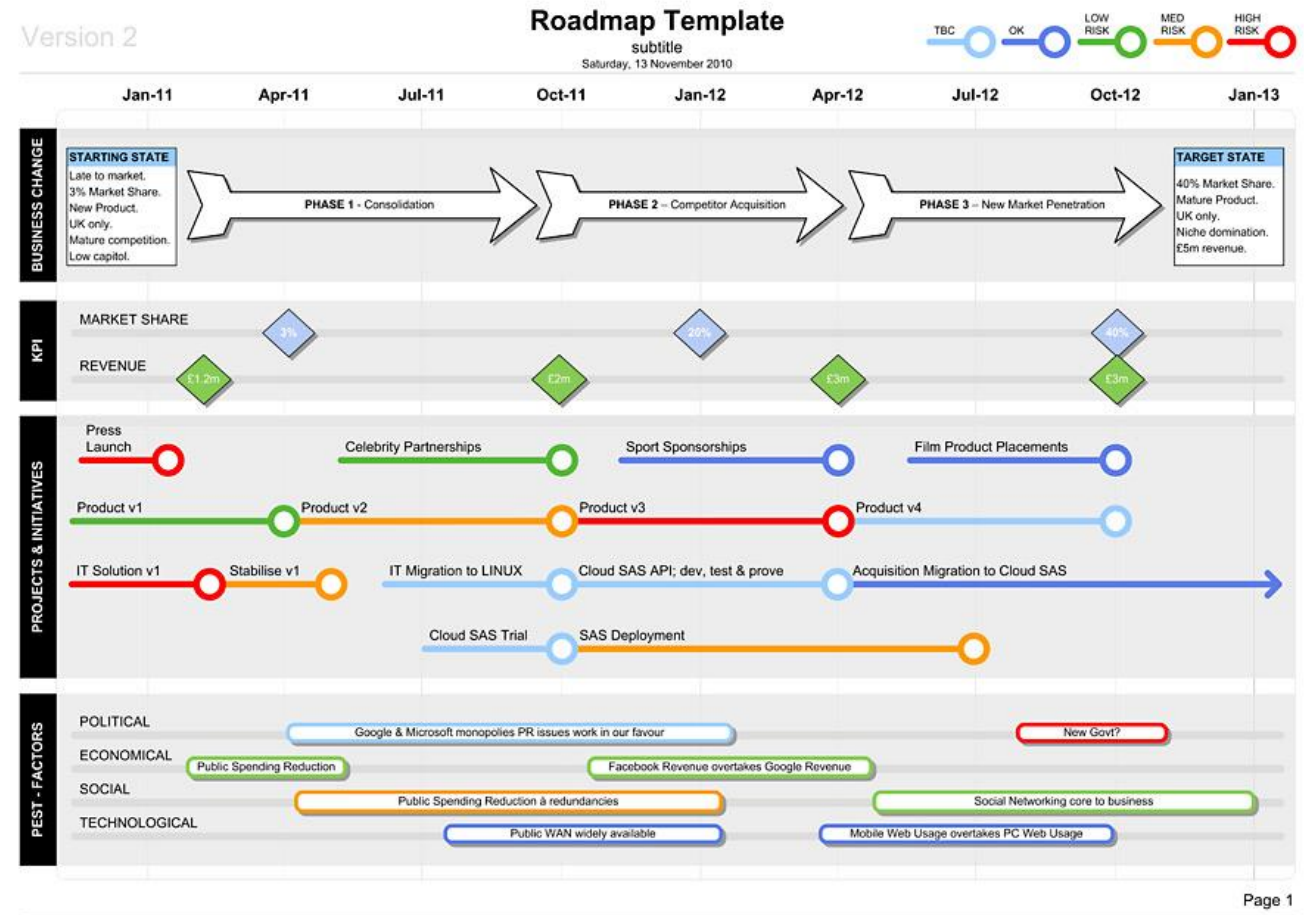
FIRST STEPS

Define, quantify, assess for risk, and prioritize opportunities. Build a phased portfolio.



FIRST STEPS

Build business transformation roadmap



FIRST STEPS

Secure resources and begin your business transformation program



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NOVENTUM & PTC'S IoT SERVICE INNOVATION WORKSHOP



For whom

For executives who want to quickly align their teams on IoT-enabled business opportunities and what to do about them

What

Half-day, facilitated workshop to guide service business executives to:

- Identify IoT-enabled growth opportunities
- Define high-level action plan to address them

Who should attend

Business-line executives across all functions:

- Service/Aftermarket Executive
- Field Service
- Warranty
- Customer Support/Call Centre
- Service Sales/Service Business Development
- IoT Platform Owners/Influencers

How

Participants will identify:

- Industry mega-trends
- IoT-enabled opportunities (rank, size, prioritize)
- Required capabilities and capability gaps (skills, management structure, technical)

PTC will demonstrate real-life IoT solutions to provide context and inspiration.

Outcomes

- Executive team aligned on portfolio of IoT-enabled business opportunities
- Clear action plan to further analyse or exploit opportunities

To register or find out more

Contact: john.mertl@noventum.eu
+1 416 550-9872

Thought Leadership

A White Paper by: NOVENTUM. Aston Business School

Manufacturers' Advanced Services: IoT as the key to profitability and growth

www.noventum.eu ADVANCED DRAFT

noventum.eu/whitepapers

Community

6 Must-know future trends of the Internet of Things

Jul 2015

The Internet of Things (IoT) is quickly becoming part of our everyday life. But first things first, what do we mean by IoT?

The term refers to the increasing number of smart, connected products (hardware, software, sensors, data storage and microprocessors), which improve reliability, increase capabilities and help us use products and knowledge much more effectively.

In a nutshell, the big deal about the IoT is the increased capabilities of smart, connected products and the data they generate that can help you establish a competitive advantage. The data is gathered, analysed and brought to you in a meaningful way that you can use to your company's advantage. For example MAN Truck &

noventum.eu/services

Learning Events

Developing smart services (enabled by Industry 4.0 & IoT)

Sign Up

Moving from reactive to proactive service business

Mega trends like Industry 4.0, Big Data and the IoT are transforming the nature of service in the manufacturing industry. Therefore, service innovation has become vital for safeguarding continuity. In addition, these trends offer a wealth of opportunities for high value low cost service business offerings. But how do you distinguish hype from solid business potential, how do you develop new services, and what do you need to do to evolve from being a reactive to a proactive service provider?

For more information about this Service Innovation Project **contact us** today (single project participation fee: 2250 euros).

To request the agenda **click here**.

noventum.eu/events

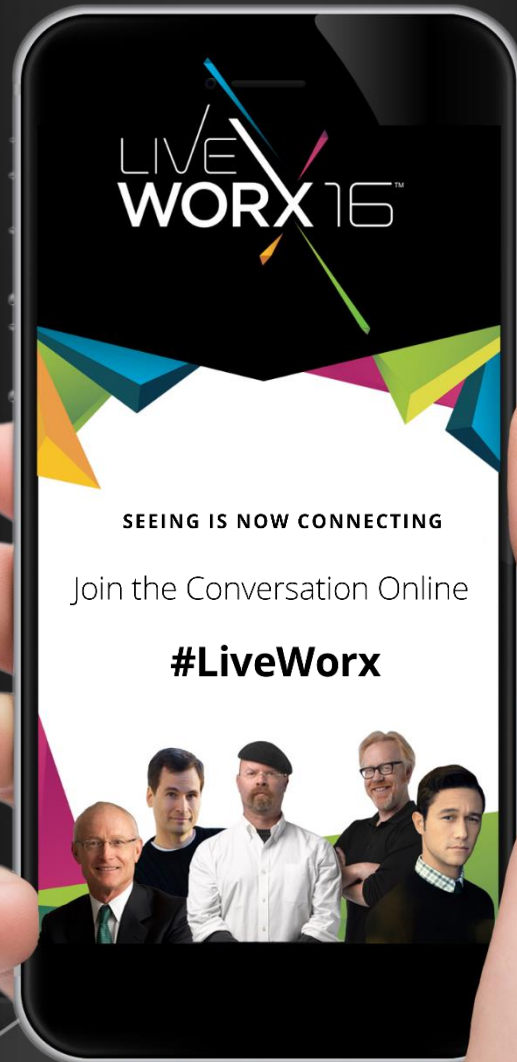
The image features several colorful geometric shapes, including triangles and lines in shades of blue, green, yellow, and purple, scattered across the background. A large, multi-colored triangular shape is prominent on the right side. The text 'LIVE WORX 16' is centered, with 'LIVE' in a thin, outlined font and 'WORX 16' in a bold, solid black font. A small 'TM' trademark symbol is positioned to the upper right of the '16'.

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TAKE A FRESH LOOK AT THINGS

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