



# Product Innovation in the Age of Digital Transformation

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# Agenda

- Digital Transformation and the Impact on Innovation
- What is Innovation Digital Transformation?
- TOVC Technology Priorities
- Essential Guidance

# DX and the Impact on Innovation

# Organizations are Facing Several Challenges



# Transformation on Multiple Fronts

 <p>Sustainability &amp; Compliance</p>	 <p>Emerging Markets</p>	 <p>IT/OT</p>	 <p>Connected Products &amp; Processes</p>
 <p>Meeting Demand Flexibly</p>	 <p>Complex Value Chains</p>	 <p>Enterprise Quality</p>	 <p>AI &amp; Machine Learning</p>
 <p>Battle for Talent</p>	 <p>Customer Centricity &amp; Experience</p>	 <p>Security</p>	

# CXO Quotes



**“The lines between hardware, software, and services are blurring. The only way you can pull this off is when everyone is working together well . . . so focused on a great experience that they are not taking functional views of things.”**

- Tim Cook, CEO of Apple



**“ Everyone has to collaborate a lot more – OEM/Tier 1/Tier 2 – up front and through the lifecycle of the car.”**

- Jensen Huang, CEO, NVIDIA



**“Customers are choosing experience over products.”**

- Brian Krzanich, CEO of Intel

# What is Innovation Digital Transformation?

- Product innovation Platforms to the Evolution of NPDI
- Innovation Management & Commercialization
- Leveraging Digital Twins & Digital Thread for better experiences
- Product Lifecycle Analytics



# Harmonize the Organization on a Product Innovation Platform













Source: IDC 2016









# IDC PeerScape: Practices for Innovation Management

## Innovation Management

Practices for Successful Innovation Management

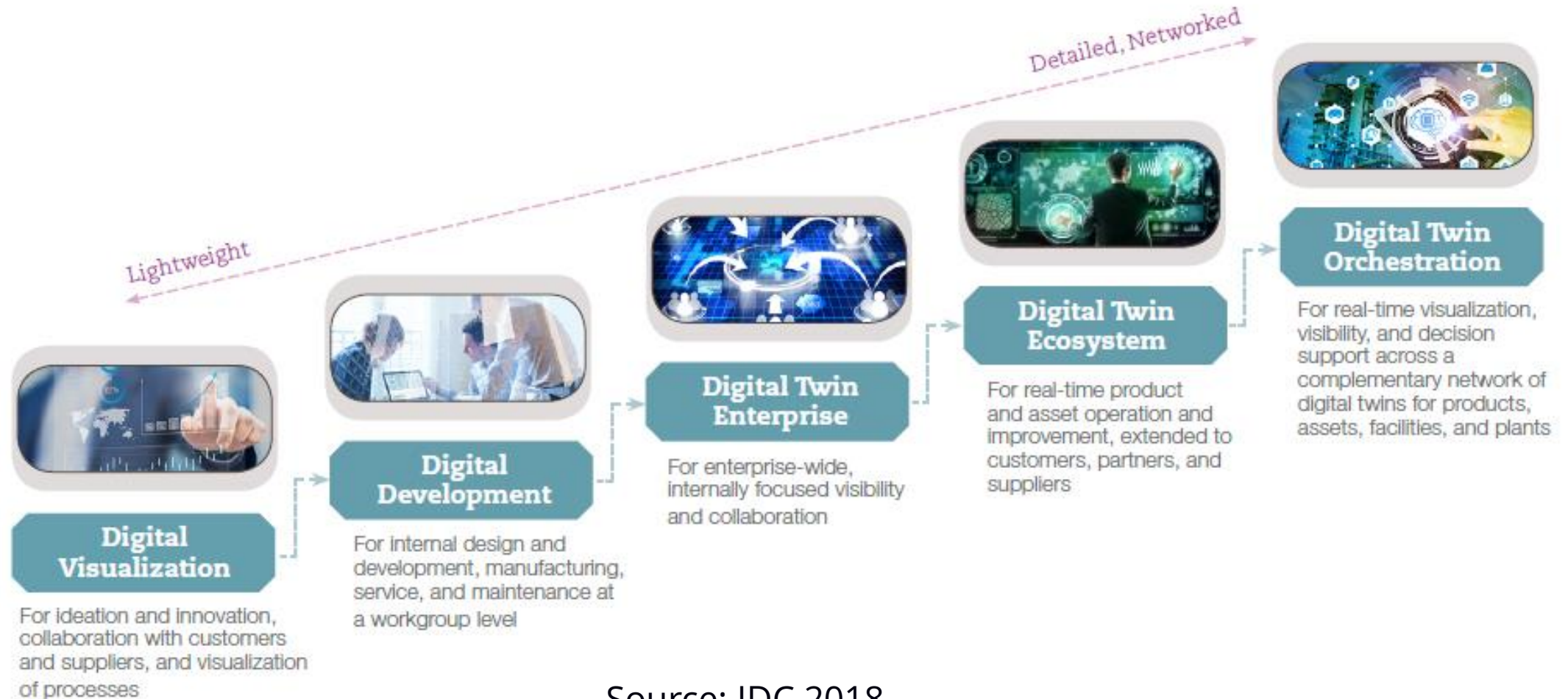
PRACTICE	PRIMARY BUSINESS BENEFIT	COMPLEXITY
Build a Team of Innovation Managers		
Incorporate Manufacturing Early for Innovation		
Achieve Innovation Balance w/ a Cross Functional Team		
Make Costing a Core Part of Innovation Management		
Establish a Foundation for Innovation		

### LEGEND

PRIMARY BUSINESS BENEFIT	COMPLEXITY
Technology performs as anticipated 	 Simple to implement
Appropriate talent available 	 Medium complexity to implement
Creates business value 	 High complexity to implement

Source: IDC 2017

# Leverage Digital Twins Across your Value Chain



Source: IDC 2018

# Product Lifecycle Analytics

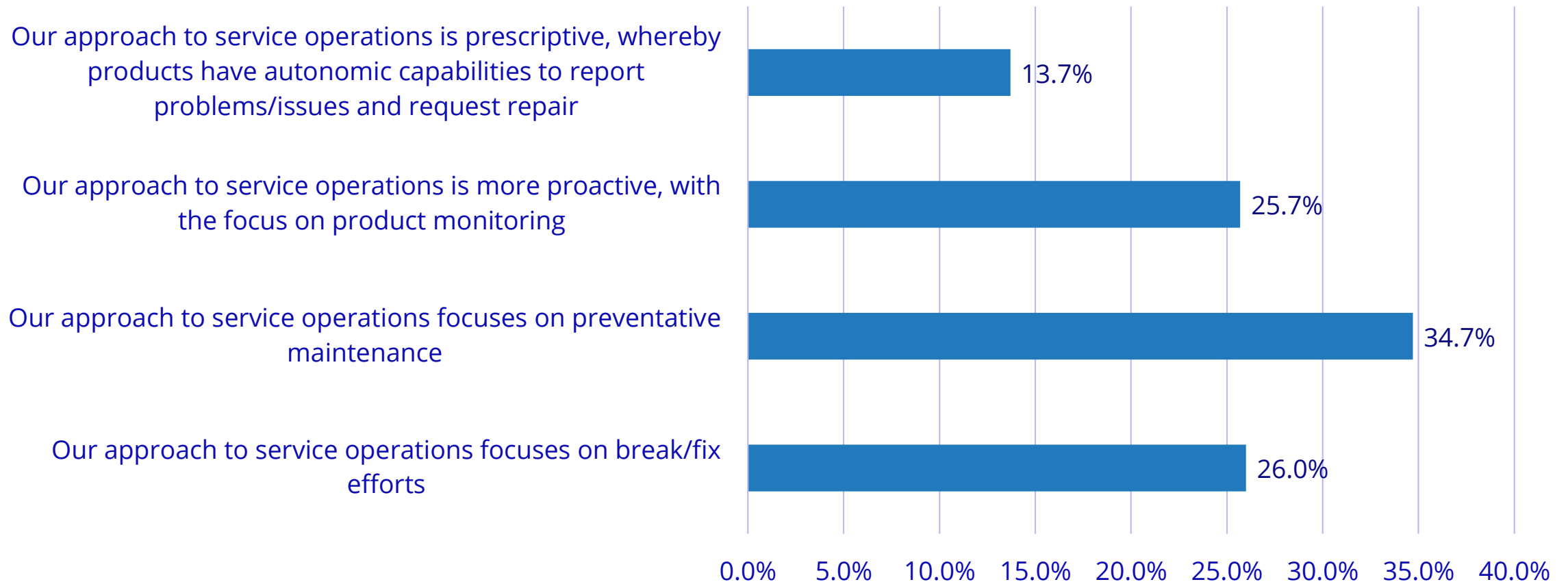


Source: IDC 2018

# Proactive and Preventative Support

*Break/fix model is falling behind, but still a ways to go for prescriptive service*

Q: Which of the following best characterizes your service operational approach with customers?

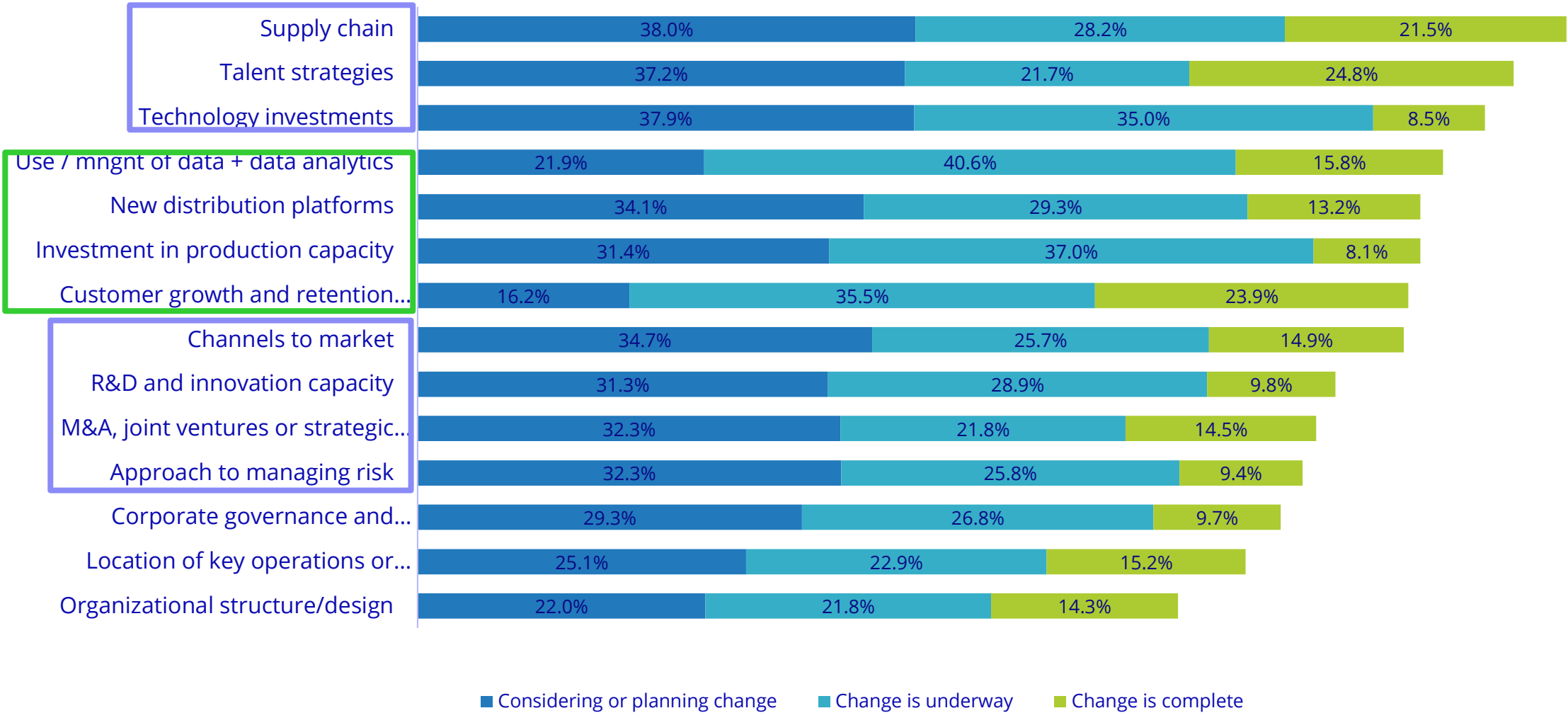


N = 300

Source: IDC Manufacturing Insights, 2017 PLM/SLM Survey

# TOVC Technology Priorities

QB48R. In order to capitalize on digital transformation, to what extent are you currently making changes, if any, in each of the following areas?





QB2R. Thinking about your organization's top priorities in the coming year, please rank the following initiatives in order of importance (1 = most important)

## Overall Survey

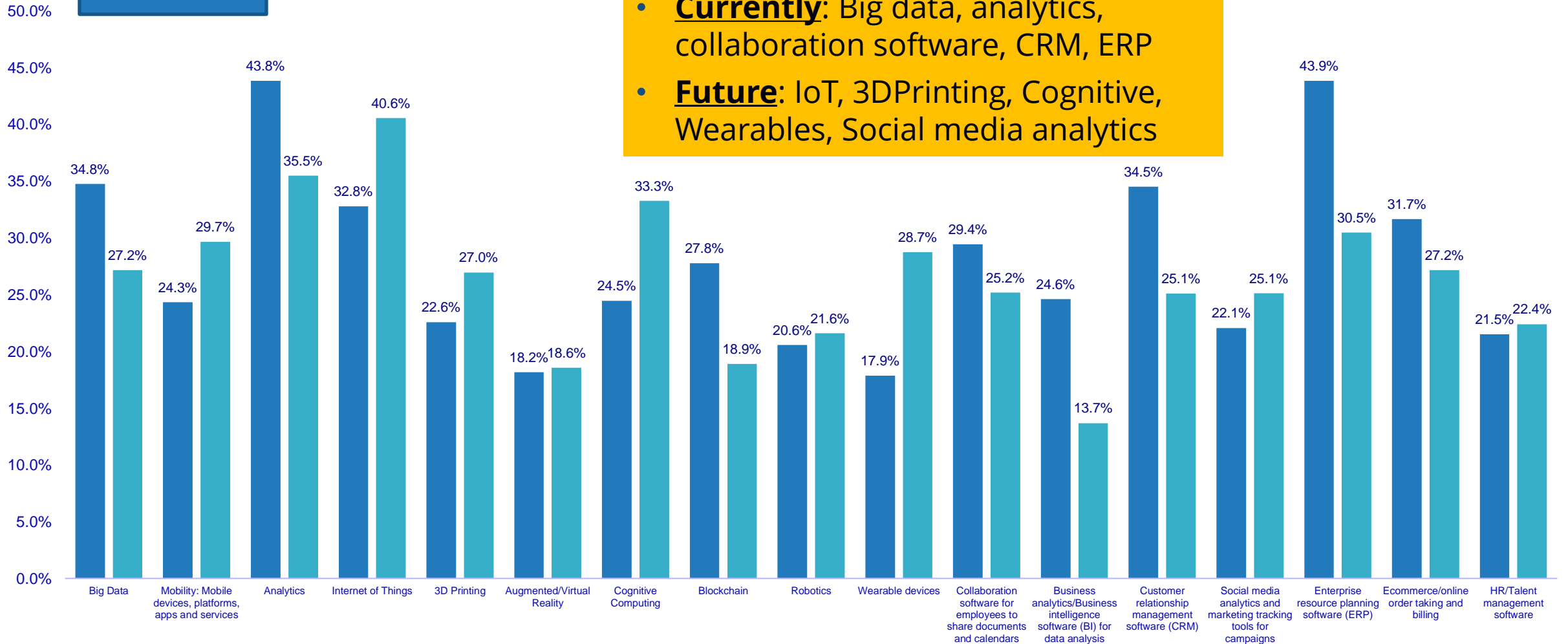
1. Traditional IT
2. Mobility (devices, platforms, apps, services)
3. Analytics
4. Cloud computing
5. Big data
6. Internet of things

## TOVC

1. Cloud computing
2. Analytics
3. Traditional IT
4. Mobility (devices, platforms, apps, services)
5. Big data
6. Internet of things

n=708, AOVC=263, BOVC=237, EOVC=93, TOVC=115

## TOVC

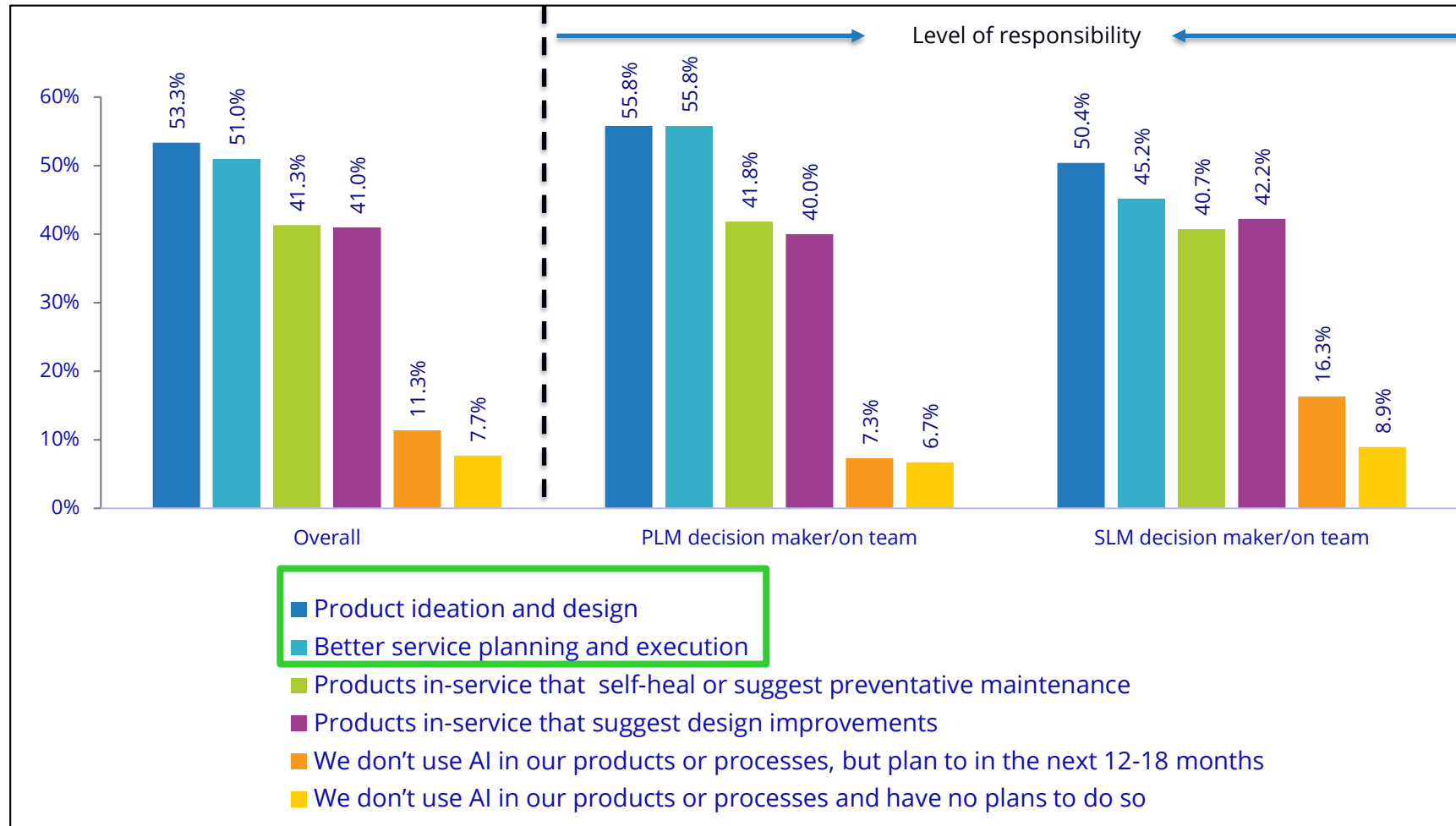


- **Currently:** Big data, analytics, collaboration software, CRM, ERP
- **Future:** IoT, 3D Printing, Cognitive, Wearables, Social media analytics

# Top Priorities for IT/OT Investment

Attribute	MFG
Networking and connectivity	39.0%
Cloud-based application software (for operational processes, such as DMS, MES and SCM)	38.7%
Analytics – advanced analytics (simulation, optimization, artificial intelligence, machine learning etc.)	36.8%
Cloud-based operational data management and analytics	35.0%
Integration of OT systems with other OT or IT systems or sensors	31.0%
Mobile applications and devices	18.7%
Analytics – business intelligence (KPI dashboards, graphic display)	18.1%
Internet of Things – deploying sensors that can wirelessly connect to a network	18.1%
Refresh/upgrade of OT systems	16.9%
Security	15.3%

# Q18. Does your organization plan to apply Artificial Intelligence (AI) and machine learning for the following?



Overall n=300, PLM decision maker/on team n= 165, SLM decision maker/on team n= 135

# Essential Guidance

# Five Takeaways

**1** Connect open platforms across innovation, operations, & revenue for ecosystem collaboration

**2** Simulation, visualization, & digital twins are the drivers of information on a product innovation platform across ideation, development, operations

**3** Cloud PLM adoption is advancing rapidly, for key innovation processes now, full implementations in the near future – key for data sharing & collaboration

**4** Quality is still king, and is the top reason why manufacturers buy PLM software and increasingly invest in 3<sup>rd</sup> platform technology

**5** Data & knowledge decision support are paramount with connected products, quality, ongoing service: invest in analytics



# Thank You

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