SAP Leonardo IoT Accelerators for Use in LoBs
A Deeper Look

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Agenda

SAP Leonardo Accelerator Packages – Overview

SAP Leonardo IoT Accelerator Packages

- Packages Deep Dive
- Express Service
- Value Assessment

Customer Examples

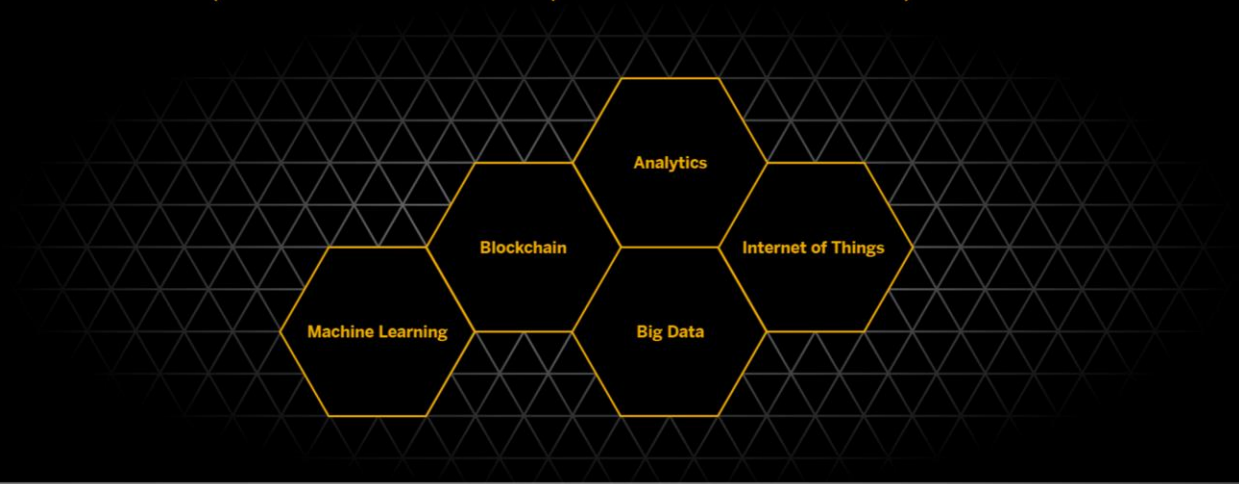
Key Takeaways

SAP Leonardo digital innovation system

Design Thinking Services

Solution Ideation & Vision → Rapid Prototyping → Business Case Development → Technology Blueprint

SAP Leonardo Capabilities



SAP Cloud Platform — Microservices | Open APIs | Flexible Runtimes | Integration

Multi-Cloud Infrastructure — SAP Data Center · Google Cloud Platform · Microsoft Azure · amazon web services

Open

hadoop · Spark · kafka · SAP HANA · SAP Vora · amazon web services · Google Cloud Platform · Microsoft Azure · amazon web services S3 · PostgreSQL · python · redis · mongoDB · Java · CLOUD FOUNDRY · JS

Rich

- Security
- Mobile
- Integration
- Analytics
- Business services
- UX and collaboration

Ecosystem

Java · HTML · node.js · python · Ruby

Why IoT is important:

- Enabling a step change in productivity
- Reimagining new business models and processes
- Changing how people will work
- Managing and mitigating risk

Business value benchmarks

Source: IDC White Paper, sponsored by SAP, The Future Services Sector: Continuous Delivery for Competitive Advantage, 2017.

Productivity improvements such as lower maintenance costs (up to 60%) or lower capital appropriations (25%)

New business models resulting in higher net promoter scores that deliver 15%–25% faster revenue growth than the industry average

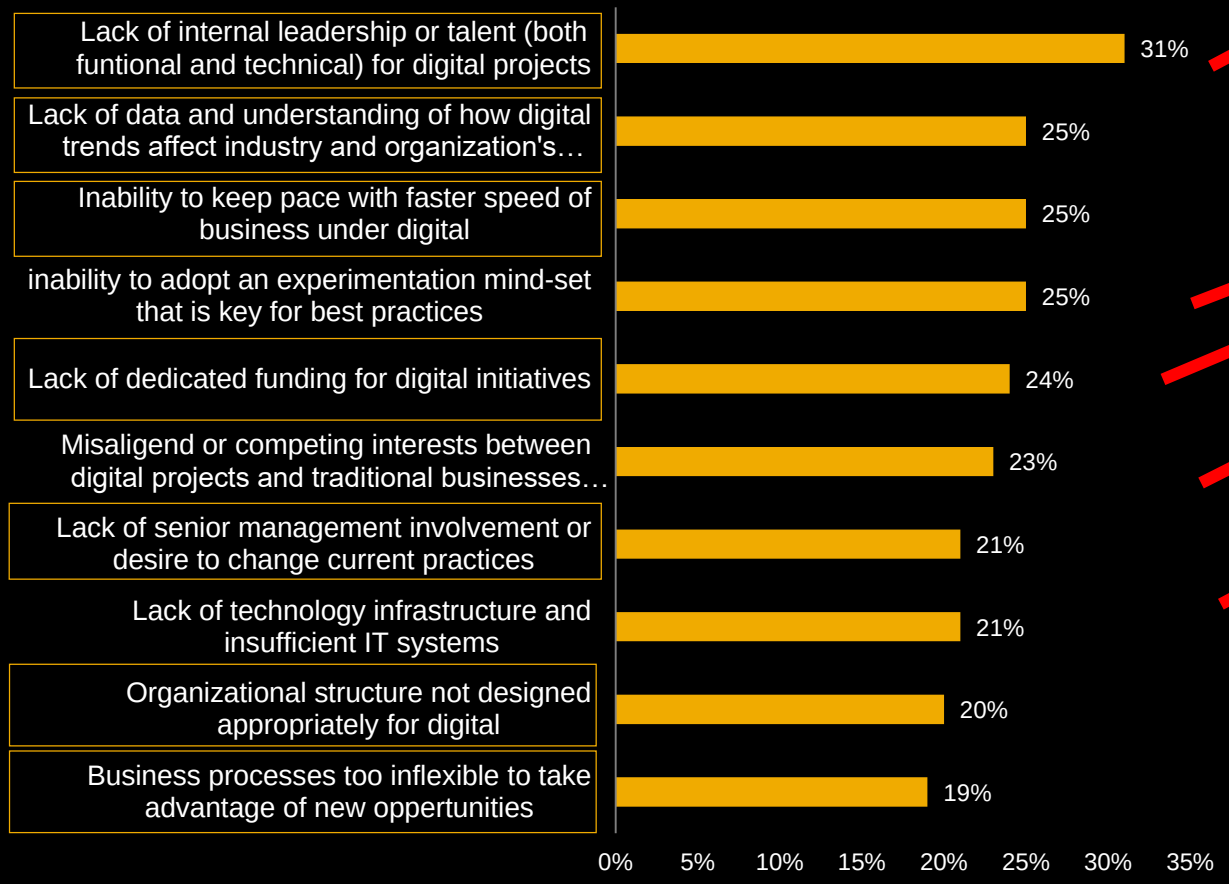
People-process optimization leading to 10%–30% higher productivity in the form of higher outputs and lower costs

Lower risks such as better worker safety or lower claims payouts (5%–10%) in the insurance industry

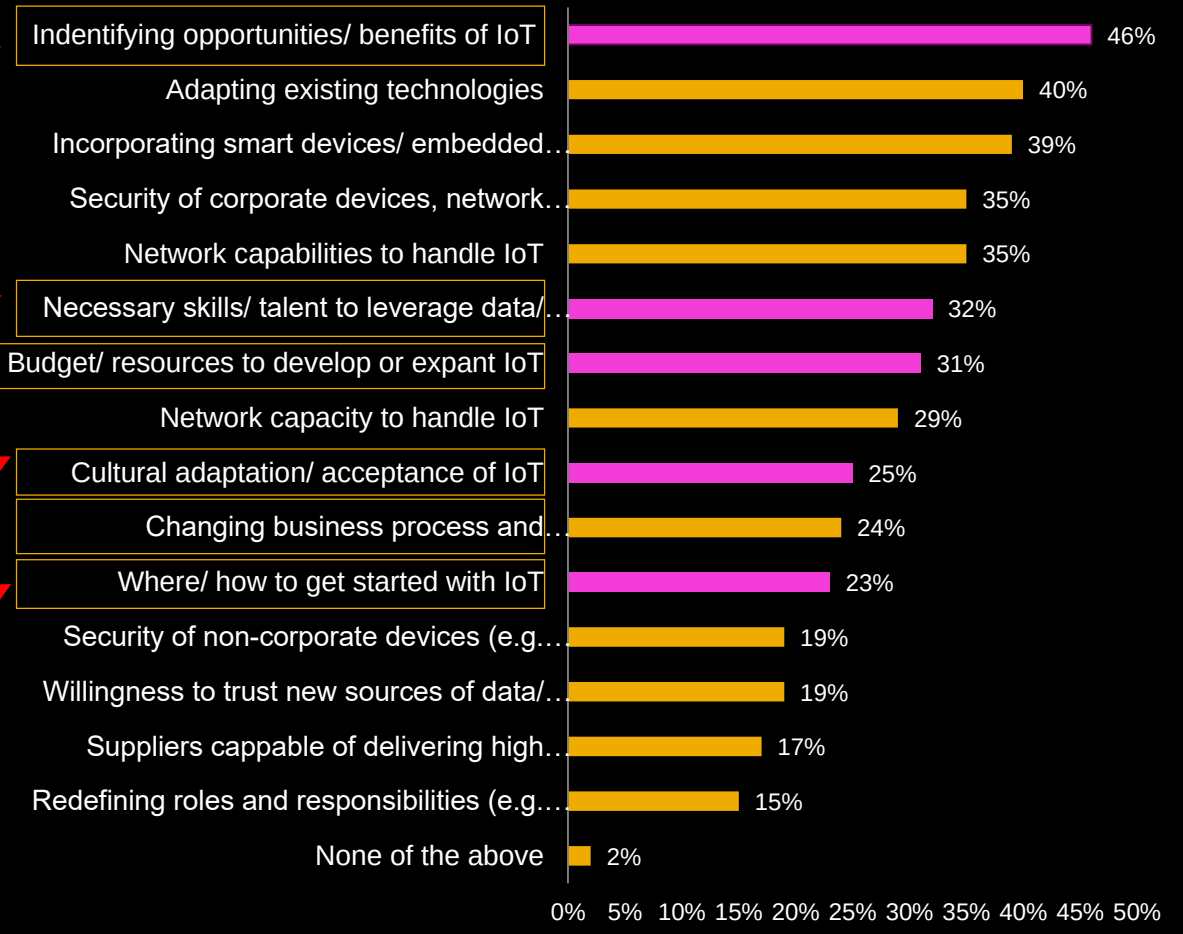



Key Common Impediments to Digital Transformation Across Studies Top 5

Most significant challenges to meeting priorities for digital programs



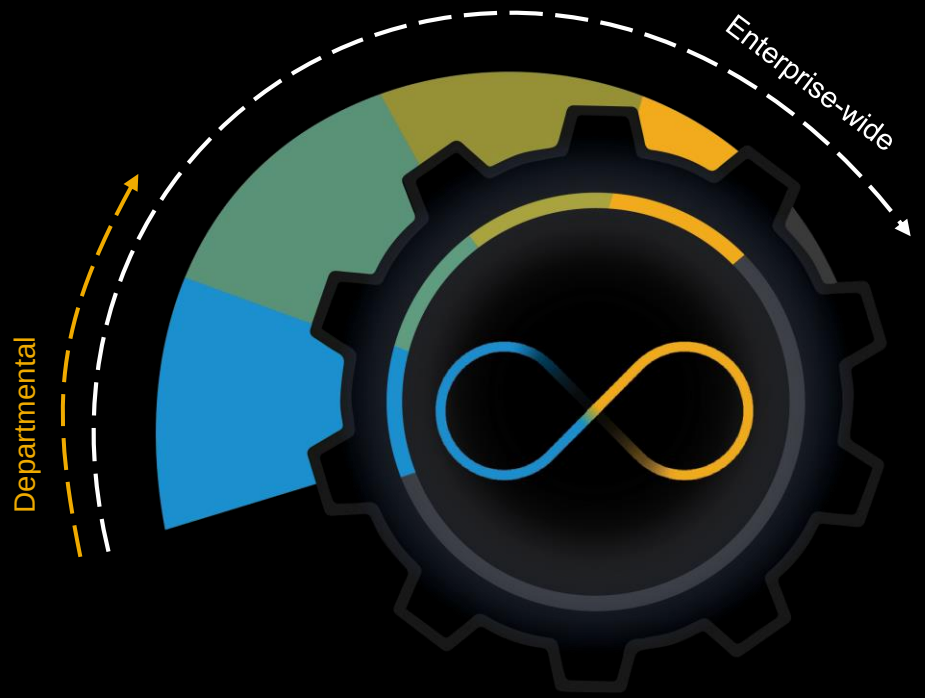
IoT Capabilities that present the biggest Challenges



SAP Leonardo – scale

From small departmental projects to enterprise-wide digital transformation

Scale to your project



Scale at your pace

Applications optimized for SAP Leonardo
integrating next-gen capabilities directly into existing systems and processes

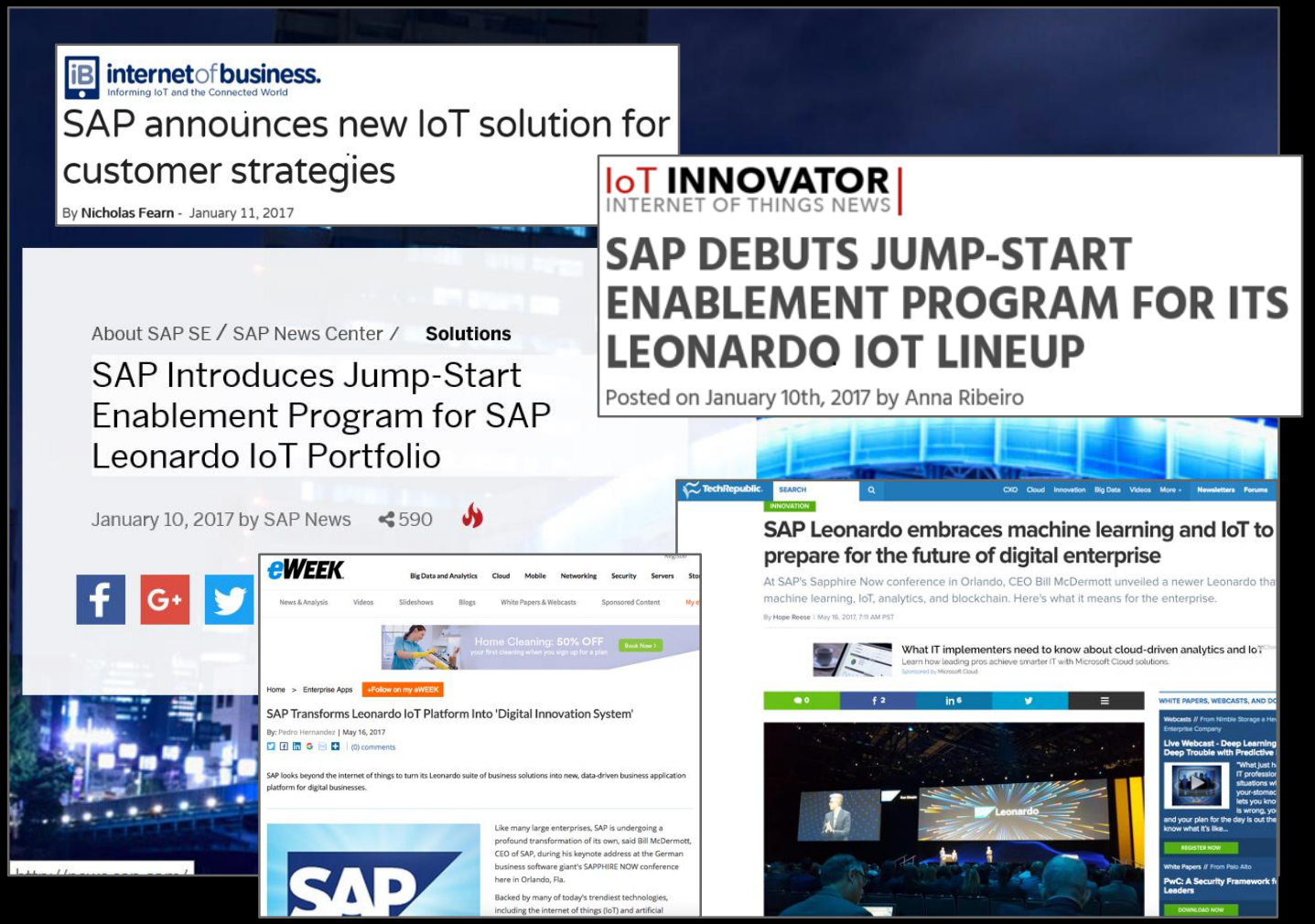
Industry innovation accelerators
delivering fixed-price software and services bundles addressing specific-use cases

Open innovation services
providing customized solutions to your specific business needs

SAP Leonardo IoT accelerators

Value proposition

- Jump-start the customer IoT journey and drive adoption
- Reduce risk for customers with fixed prices and fast deployment in ~3 months
- Deliver a functional pilot to accelerate your digital journey
- Take our commitment to customer success beyond pilot – deliver business case and deployment road map



SAP Leonardo industry accelerator packages

Design thinking

Industry **knowledge** | Software | Services

- Fixed-price bundles
- Targeting common use cases for a 70%–80% fit
- Timeline to value in weeks not years

Retail	Consumer products	Discrete manufacturing	Chemicals	Travel and transportation	Utilities	Sports and entertainment
▪ Assets ▪ Logistics ▪ Store* ▪ Inventory* ▪ Shelf* ▪ Cold chain*	▪ Assets ▪ Logistics ▪ Manufacturing* ▪ Cold chain* ▪ Consumer*	▪ Logistics ▪ Service and assets ▪ Spare parts	▪ Spare parts ▪ Service and assets	▪ Logistics	▪ Service and assets	▪ Venue ▪ Team ▪ Fans*

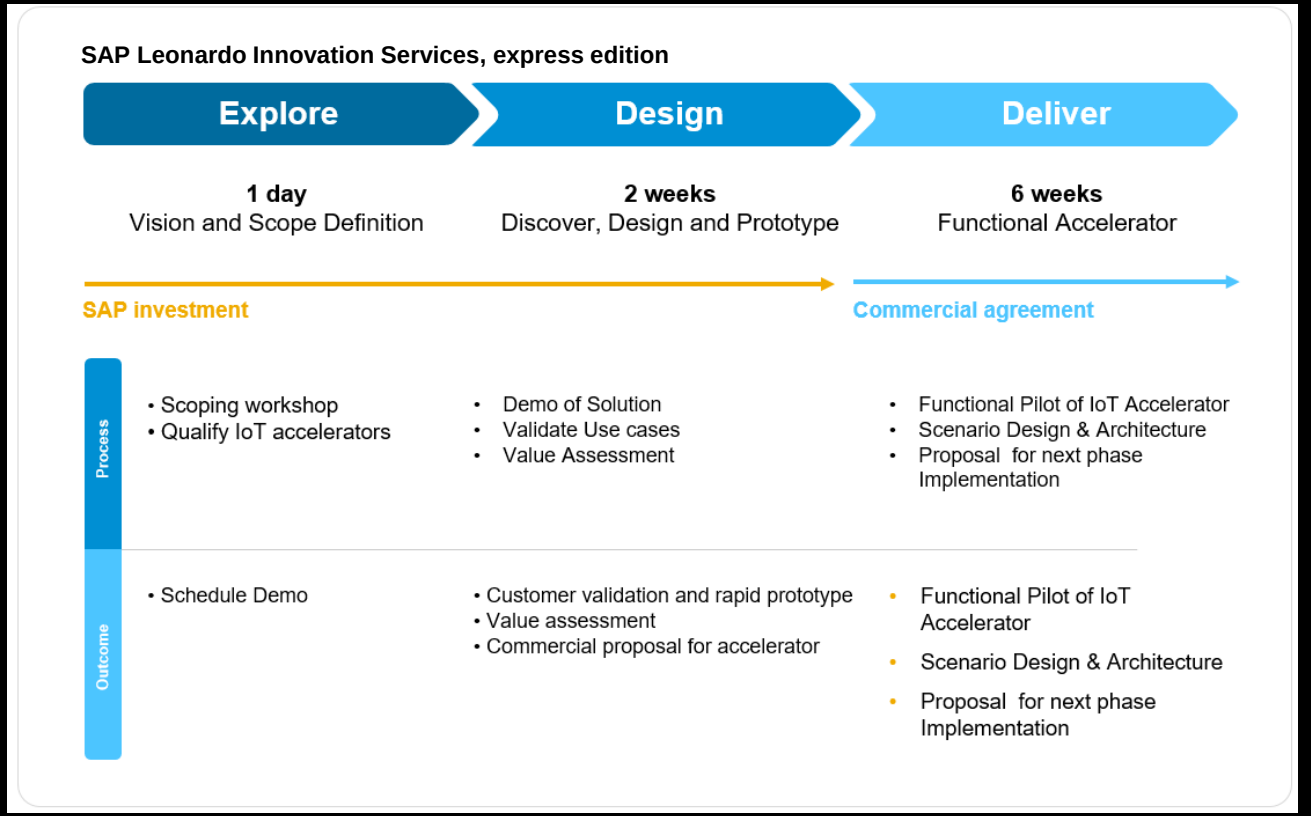
SAP Predictive Maintenance and Service | **SAP Asset Intelligence Network** | **SAP Connected Goods** | **SAP Global Track and Trace** | **SAP Distributed Manufacturing** | **SAP Vehicle Insights** | **SAP Digital Manufacturing Insights**

IoT Foundation and Edge

SAP Leonardo IoT accelerator packages

SAP Leonardo IoT for

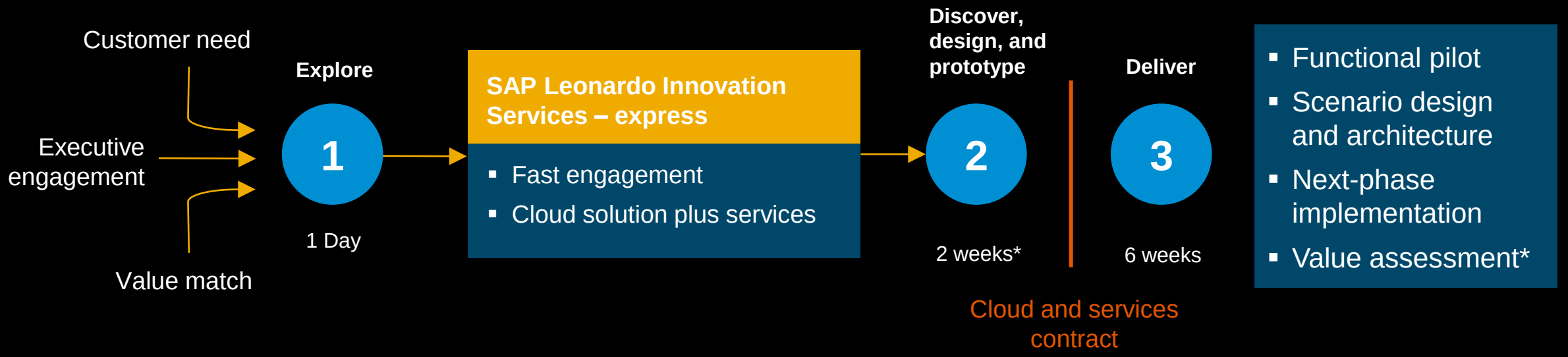
1. SAP Predictive Maintenance and Service
2. SAP Asset Intelligence Network
3. SAP Connected Goods
4. SAP Global Track and Trace
5. SAP Distributed Manufacturing
6. SAP Vehicle Insights
7. SAP Digital Manufacturing Insights
8. Line of business asset management
9. SAP Leonardo IoT Foundation accelerator
10. SAP Leonardo IoT Foundation and SAP Edge Services accelerator



SAP Leonardo accelerator packages provide

- Scope of promotion
- Innovation services

SAP Leonardo IoT accelerators – engagement process



*Optional – assessed based on outcome of step 1

SAP Leonardo IoT accelerator packages

SAP Leonardo IoT accelerators

Offering name	Solution description	Target customer profile
SAP Leonardo IoT for SAP Predictive Maintenance and Service	Asset performance management: leverage insights from OT/IT data fusion and advanced analytics to enable dynamic maintenance decisions and optimal execution of maintenance strategies. Enable asset to achieve the highest level of availability to support operations at the lowest possible cost. Manage asset-related information on a central platform and share this information with stakeholders that manage these assets.	All asset-intensive industries with plant maintenance or customer service–like scenarios Examples: IMC, consumer, transportation, and ENR
SAP Leonardo IoT for SAP Asset Intelligence Network	SAP Asset Intelligence Network provides a global registry of industrial equipment; is built and shared between multiple business partners and used across the industry by all stakeholders; enables new collaborative business models resulting in true operational excellence.	All SAP Enterprise Asset Management customers in plant maintenance, particularly in asset-intensive industries such as oil and gas, mill and mining, utilities, chemicals, and transportation
SAP Leonardo IoT for SAP Connected Goods	Maximize the total value of mass market devices (such as beverage coolers, storage containers, silos, coffee machines, medical equipment, construction tools, and more) through central monitoring and control. Contextualize real-time sensor information by combining it with master data and operating parameters to identify usage patterns (such as conditions, inventory, consumption, utilization) and trigger actionable alerts for device or container optimization.	Retail companies selling refrigerated and frozen products in their retail environments Consumer packaged goods (CPG) companies (beverages, frozen food, and such) Ingredient and chemical manufacturers for food and beverage who manage silo inventories of liquefied products Manufacturers of power tools, medical devices, concrete products, chemicals, tobacco products, etc.
SAP Leonardo IoT for SAP Vehicle Insights	Integrate vehicle telematics data and analytic insights. Solution to collect maps, store and analyze real-time data from vehicle and equipment sensors that can be integrated with business and customer data to offer new business opportunities such as fleet management, driver behavior analysis, usage-based inventory, and much more.	Automotive, fleet owners, transportation, insurance, and the like.

SAP Leonardo IoT accelerator packages

SAP Leonardo IoT accelerators

Offering name	Solution description	Target customer profile
SAP Leonardo IoT for SAP Distributed Manufacturing	Cloud-based collaborative network for on-demand 3D printing of prototype, spare parts, and production parts. Efficient integration of additive manufacturing processes into the supply and delivery chain of spare parts and production parts. Sending orders for additive manufacturing to internal and external 3D-print shops and sharing the required construction drawings with these shops, smoothly integrated in spare parts management processes.	All discrete manufacturing companies
SAP Leonardo IoT for SAP Global Track and Trace	Optimized logistics by providing real-time insights into your extended supply chain. Tracking of goods in transit and improving customer service levels with cloud-based, multitier track and trace capabilities.	Manufacturing and distribution-focused industries
SAP Leonardo IoT for SAP Digital Manufacturing Insights	SAP Digital Manufacturing Insights – designed for a manufacturing or industrial customer to provide enterprise-level analytics about its operations across large timeframes for senior leadership and executives to make decisions based on data rather than on instinct and emotion. The only efficient way to get industrial operations data into this environment that also ties back into SAP ERP and SAP S/4HANA software systems – which is through the use of SAP Digital Manufacturing Insights, although there are many ways to populate data in cloud-based applications. Enabling a footprint for the local operations workforce to interface to and providing live real-time views of the current state of their operations.	All industrial and manufacturing companies

SAP Leonardo IoT accelerator packages

SAP Leonardo IoT accelerators

Offering name	Solution description	Target customer profile
SAP Leonardo IoT Foundation accelerator	SAP Leonardo IoT Foundation accelerator enables you to start your IoT project and to quickly build your own IoT application: smoothly connect devices to SAP Cloud Platform using different protocols, model the physical world through our extensible “thing” model and lay the foundation for your “digital twin“, control access rights, manage huge amounts of time-series data including automatic data aging, intuitively create your own IoT solution through application templates and predefined UI controls. Integrate IoT to your business processes to establish new business models, such as pay for asset use.	Cross-industry package – examples: ▪ Industrial companies that want to start with condition monitoring ▪ IMCs that would like to attach digital services to their physical products ▪ IMCs that would like to become OEM partners and embed the SAP Leonardo IoT Foundation into their own offerings
SAP Leonardo IoT Foundation and SAP Edge Services accelerator	SAP Leonardo IoT capabilities enable you to start your IoT project and to quickly build your own IoT application: enrich data with business context at the edge, create meaningful insight for decision-making, trigger immediate business action for urgent conditions at the edge. Smoothly connect devices to SAP Cloud Platform using different protocols, model the physical world through our extensible “thing” model and lay the foundation for your “digital twin,“ control access rights, manage huge amounts of time-series data including automatic data aging, easily create your own IoT solution through application templates and predefined UI controls. Integrate IoT to your business processes to establish new business models, such as pay-for-asset use.	Cross-industry package – examples: ▪ Any enterprise companies that want to start with easy condition monitoring, ingest IoT data, and build customer IoT applications for their unique use cases ▪ IMCs that would like to attach digital services to their physical products ▪ IMCs that would like to become OEM partners and embed SAP Edge Services and SAP Leonardo IoT Foundation into their own offerings

SAP Leonardo Innovation Services, express edition for SAP Connected Goods

Tasks and deliverables

Example* for SAP Connected Goods

Kick off

1 Day

Services tasks

1-day customer workshop as kick-off meeting with the purpose of verifying and documenting vision and scope.

Contractual deliverables

- 1-day kick-off workshop performed
- Initial product backlog and “vision and scope” document filled

Delivery efforts

3 person days (PDs), thereof 1 remote:

- 2 persons on site at the 1-day kick-off workshop
- 1 person preparing (2 hours) and summarizing the workshop (6 hours)

Implement

5 Weeks

Concrete services tasks

Create “thing” model with up to 2 different “thing” types, 10 measurements, and 10 attributes each

Create up to 2 master data tables and upload provided data*

Support onboarding of up to 5 devices

Create a semantic model with up to 2 master data and device-type mappings and 2 specific calculations

Customize UI; overview and detail page for 2 thing types

Configure up to 5 events, 5 simple rules, and 2 notification templates

Contractual deliverables

Workshop for CnG configuration and sensor data ingestion

Perform CnG configuration and sensor data ingestion

Workshop: demonstrate and hand over configured CnG instance

Delivery efforts

24 person days, thereof 12 remote

Close

1 Day

Concrete services tasks

1-day customer workshop to wrap up the engagement

Contractual deliverables

1-day closing workshop performed

Delivery efforts

3 PDs, thereof 1 remote

- 2 PDs on site for the closing workshop
- 1 PD remote for final documentation

SAP applications

- SAP Connected Goods
- SAP Cloud Platform IoT Service

Organization, contacts, and material number

- Delivery organization: SAP Digital Business Services (SAP Leonardo Services)
- Service owner: Florian Strauf
- Service delivery owner: Axel Kuhle
- PAM/SOM: Axel Kuhle, Jörg Lange
- Service material number: 50139426

Additional remarks and constraints

- Connectivity prerequisites of SAP Cloud Platform IoT have to be met.
- Mobility restrictions (visa and such) and additional issues (such as time-zone related issues) have to be taken into account.

Total delivery efforts and pricing

- 30 person days in total, thereof 14 remotes
- Service costs to be calculated by MU based on efforts, MU margins, MU contingency, and such

*This is an example and not a guarantee of future results.

Fixed scope, fixed effort, and fixed price service offering drive G2M

But still with full flexibility to respond to customer requirements

Standard offering

Fixed scope, effort, and price

- ✓ Drives and simplifies G2M.
- ✓ Inspires confidence.
- ✓ Shows expertise.
- ✓ Provides a strong basis for fine tuning.

Adjustments based on customer-specific requirements

Customer-specific offering

Customer-specific scope, effort, and price

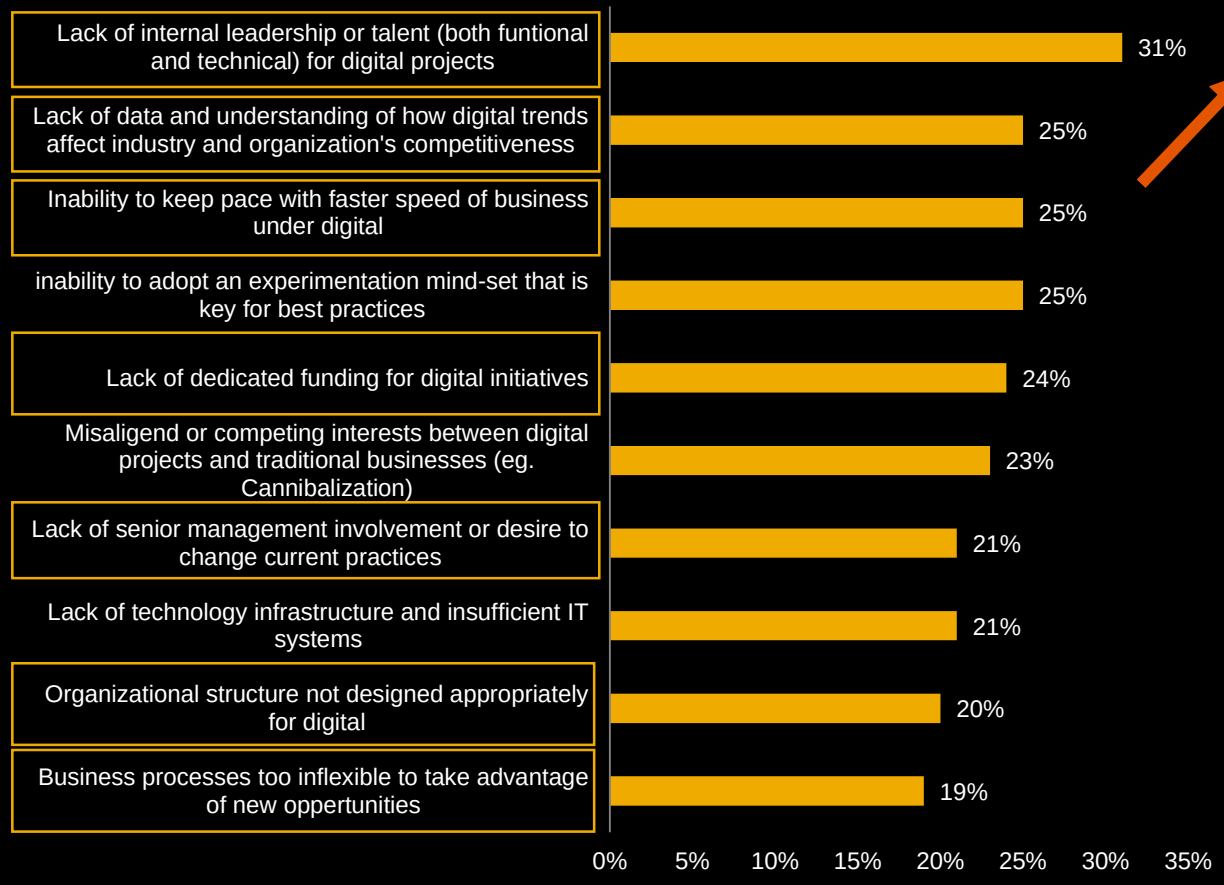
- ✓ The service offering “fits perfectly.”
- ✓ It supports customer requirements.
- ✓ Minor changes require low effort.

Feedback from actual customers

- ✓ Many customers heard, for instance, about SAP Asset Intelligence Network and like it but are worried about the implementation cost.
- ✓ The accelerator provides low risk approach with fixed cost and timeline pilot deployment.
- ✓ When customers buy, it is mostly because it is a compact service where they know exactly what they get. The cost and timelines are low.
- ✓ It makes our overall offering to the customer much stronger.
- ✓ In most cases, we do make some modifications, but most elements stay the same.

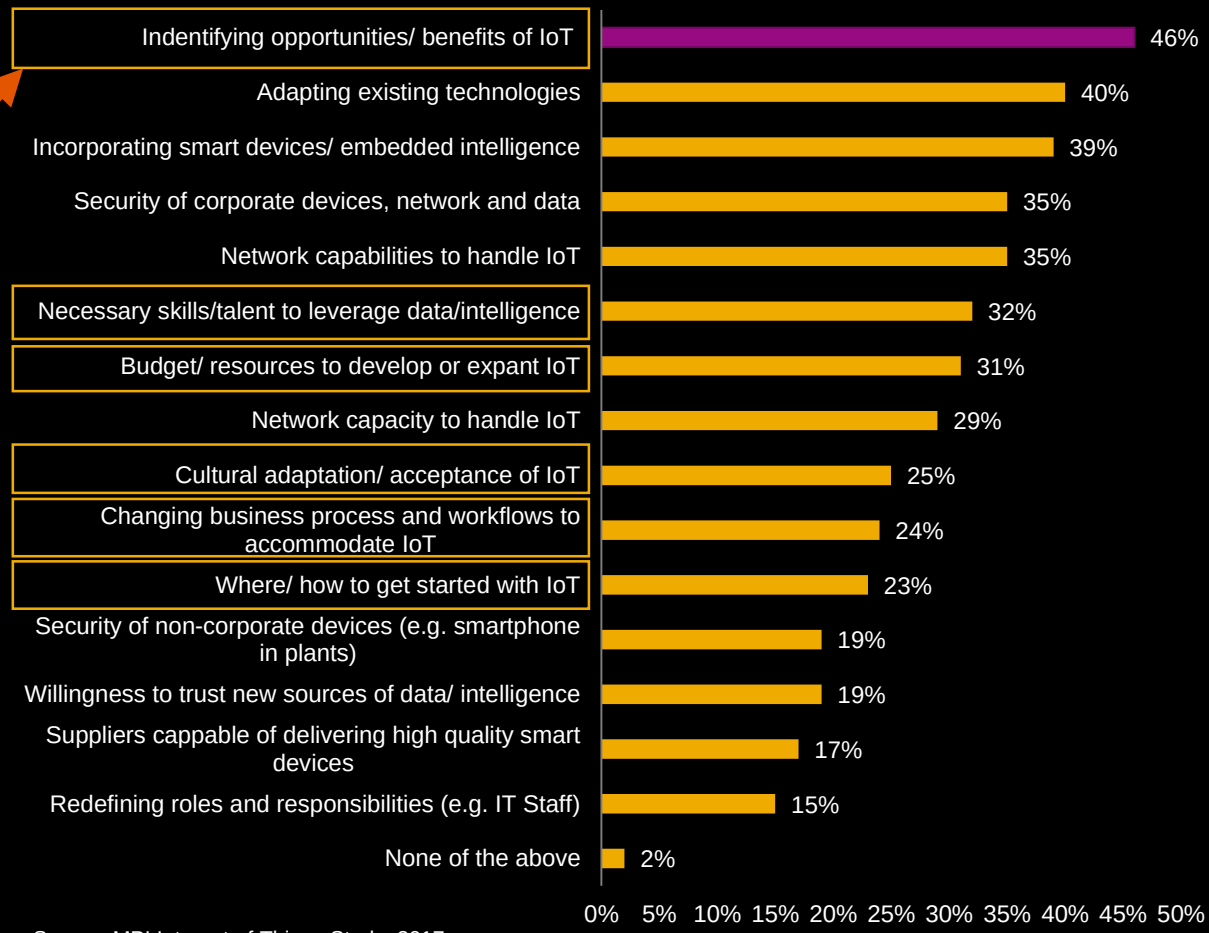
Key common impediments to digital transformation across studies

Most significant challenges to meeting priorities for digital programs



Source: McKinsey & Company, Cracking the Digital Code, 2015

IoT capabilities that present the biggest challenges

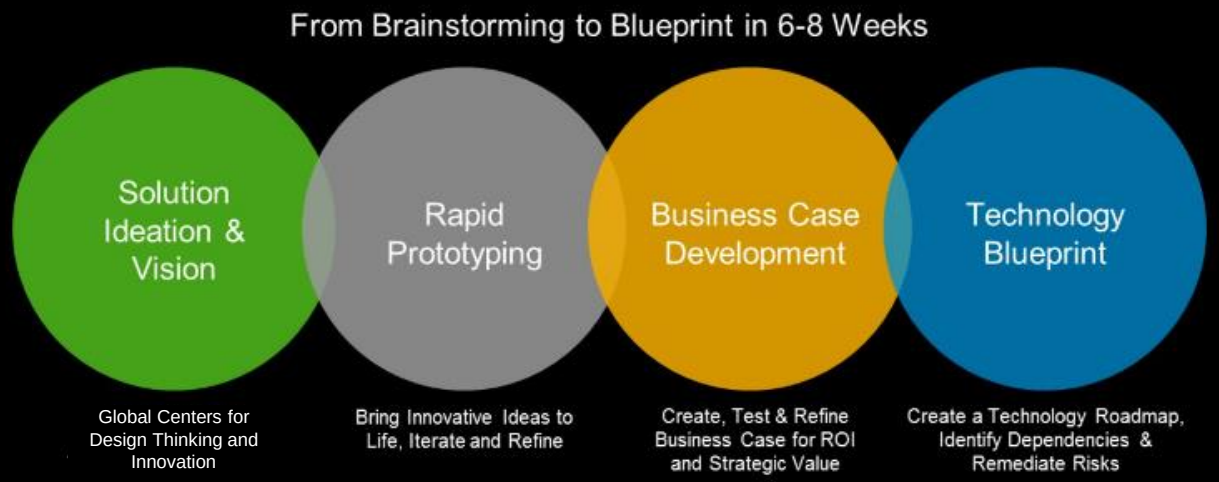


Source: MPI Internet of Things Study, 2017

Accelerated value assessment

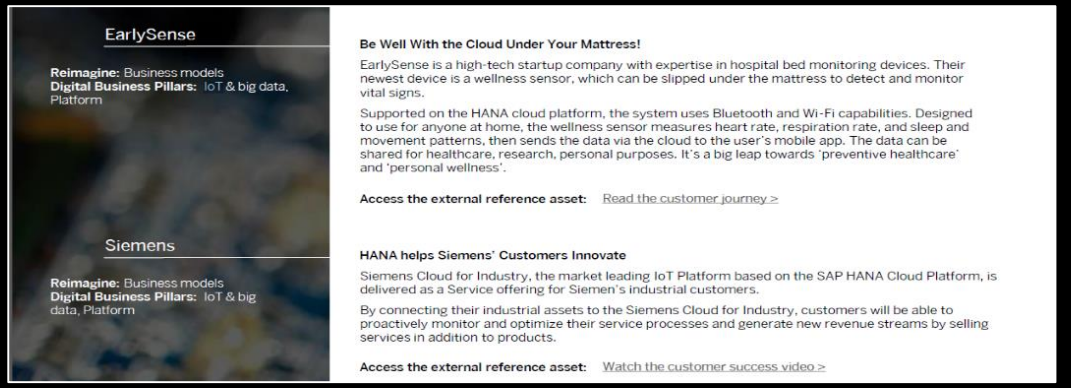
IoT preconfigured business case

SAP Leonardo Innovation Services



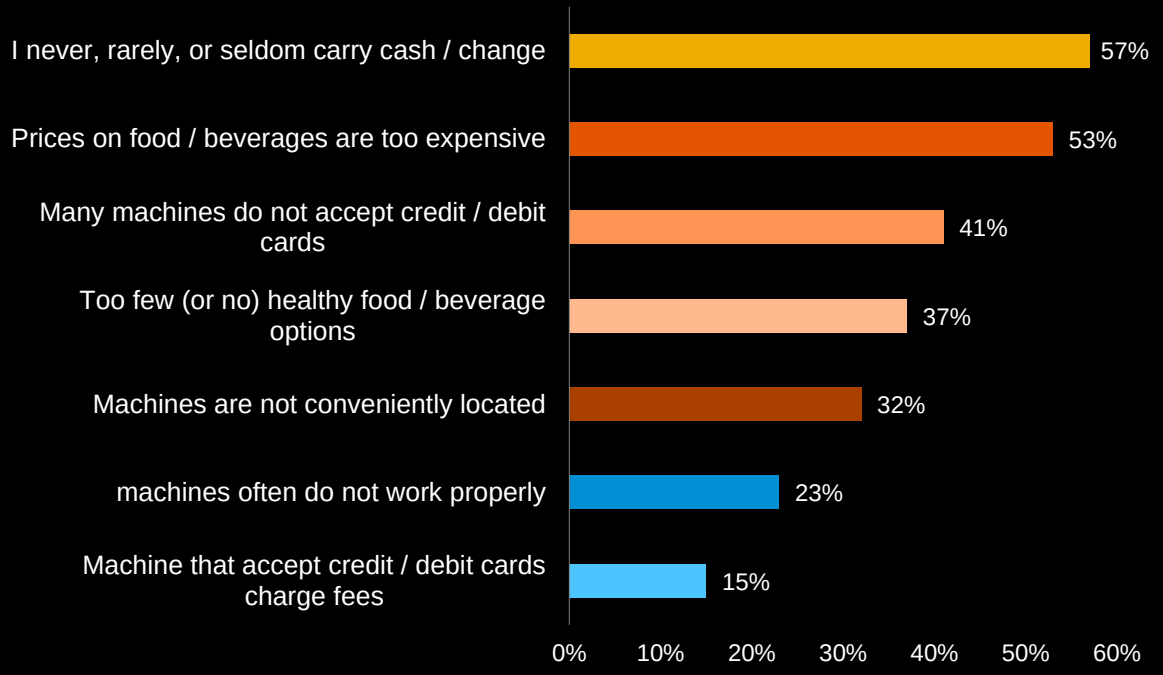
Digital transformation via IoT

#	List of Cross Industry IoT Business Cases	Associated Leonardo Category (Connected Apps.)
1	*Connected Goods*	Connected Products
2/3	*Fixed Assets Insights for Asset Owners/ Service Providers* *Fixed Assets Insights for OEM*	Connected Assets / Connected Fleet
4	*Digital Manufacturing* (Manufacturing Execution + Manufacturing Networks)	Connected Assets
5	*Mobile Asset/Vehicle Insights*	Connected Fleet
6	*Logistics Network*	Connected Fleet



Connected vending machine business case

Which of the following do you consider barriers to using vending machines to purchase foods, snacks, or beverages?



Benefits

Connected vending machine business case

- **Benefit category 1:** Enable omnichannel commerce, personalized experience
  - Pain points, value drivers, solution enablers
- **Benefit category 2:** Demand signal–driven replenishment
  - Pain points, value drivers, solution enablers
- **Benefit category 3:** Equipment monitoring and service
  - Pain points, value drivers, solution enablers
- **Benefit category 4:** Temperature-controlled supply chain
  - Pain points, value drivers, solution enablers

SAP Leonardo IoT accelerators – jump-start your journey

Think big, start small

Advantages:

1. Mitigates start-up risk and delivers faster ROI
2. Provides an agile and standard-yet-flexible approach. The scope is, however, adjustable to customer requirements to enable a fit in all customer-use cases. Empowers service owners to help out with scope refinement.
   - Deliver pilot based on known use case with an IoT standard solution
   - We are integrating to real customer data and not just PoC
   - We have a predefined fixed scope, fixed efforts, and fixed price offering to drive G2M efficiently and to raise trust and confidence at the customer site
3. Design thinking or design doing is not included in the standard package. However, both can be added if applicable.

Thank you.

Contact information:

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SAP Leonardo IoT accelerators brochure