

From Smart Items to successful business models – value adding solutions with the Internet of Things (IoT)

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Warsaw – October 2015

Disruptive technologies offer significant potential to drive business innovation



Cloud

> 80% of all future software solutions will be deployed in the cloud



Mobile

The new de facto standard in business interaction



Social

Connected business and social networks



Big Data

Real-time analytic for behavioral and predictive insights



More than 60% of CEOs expect **15-50% of their earnings growth** in the next **5 years** to come from technology-enabled business innovations.



– McKinsey study, 2013

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Cloud

Abundance of cost-effective computational power and storage



Mobile

The new *de facto* standard in business interaction



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Connected business and social networks



Big Data

Real-time analytic for behavioral and predictive insights

'real-time'!



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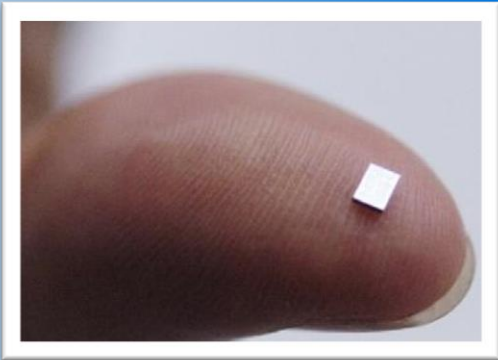


– McKinsey study, 2013

Internet of Things

Smart Items and beyond!

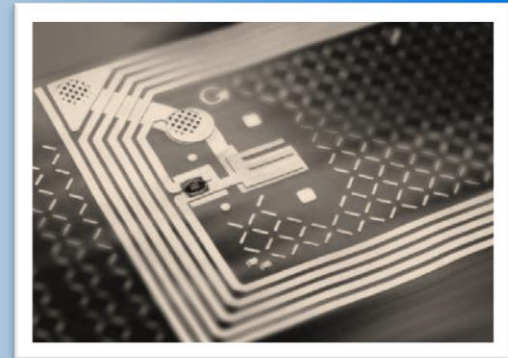
■ Increasing Sensing, Actuating, and Computing Capabilities



- Real world awareness: identity, location and sensory information
- Enhanced business logic on the item



■ Increasing Connectivity Capabilities



- Increasing connectivity with environment
- Increasing connectivity to information systems

Discrete everyday objects in the real world become smart items!

Fundamental Building Blocks of the Internet of Things (IoT)

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Fundamental Building Blocks: Service Transformation Internet of Things (IoT) plus Internet of Services (IoS)

Products

- >

Services

Software licence
airplane (engine)

(Adobe, Microsoft, SAP,)

(GE, Pratt&Whitney, ...)

Drilling machine

(Hilti)

Food

(Nestlé)

Footwear

(selve AG, Nike)

Drugs,
Med. Therapy

(health insurances)

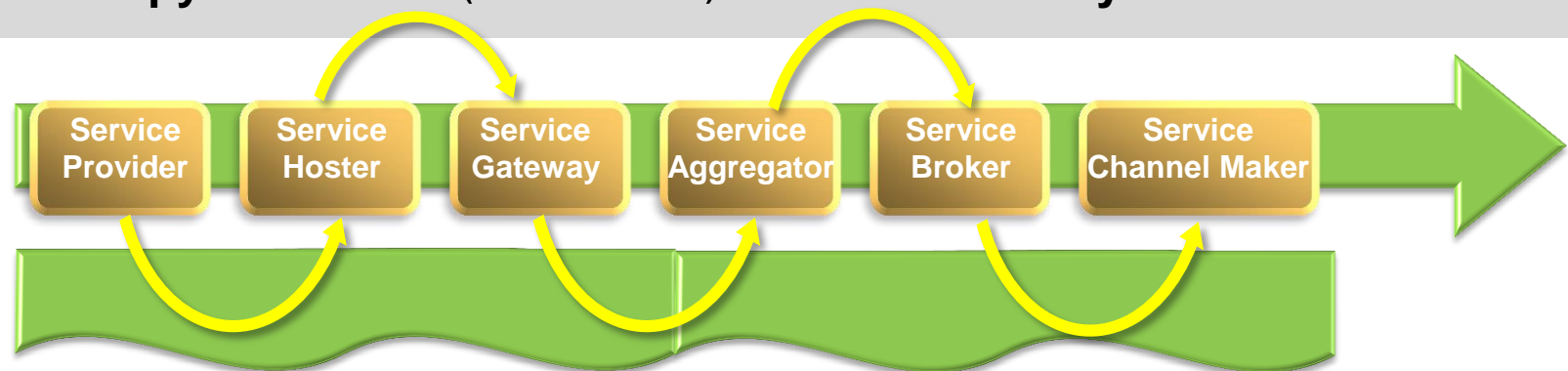
Software as a Service
'Power by the hour'

Drill hole

Health, Wellness

Personalized shoes

'Pay for Performance'



Service Delivery Supply Chain

Fundamental Building Blocks: Service Transformation Internet of Things (IoT) plus Internet of Services (IoS)

Products

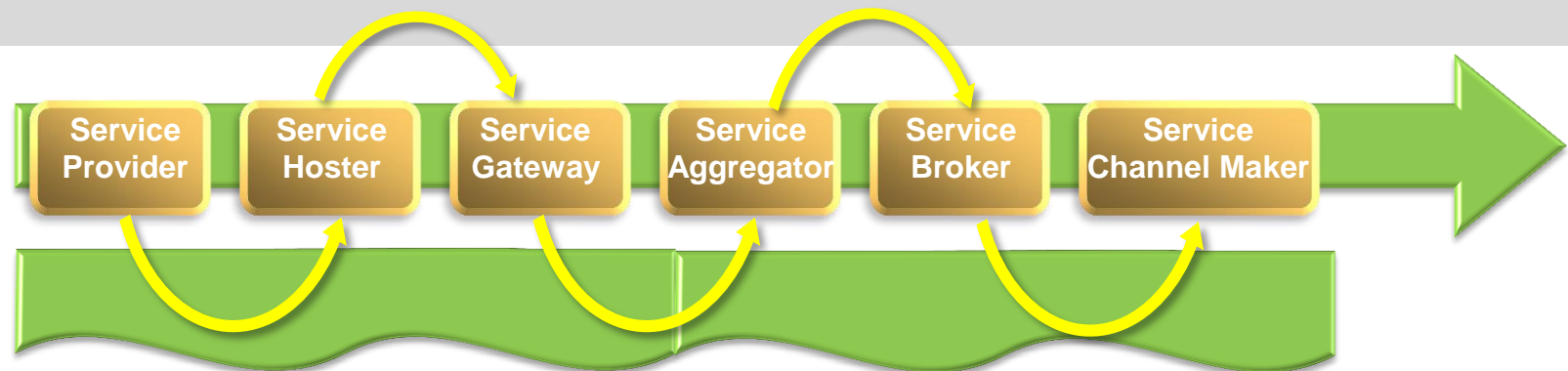
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Services

*from 'we bring good things to life' to
'industrial machines in the cloud'*



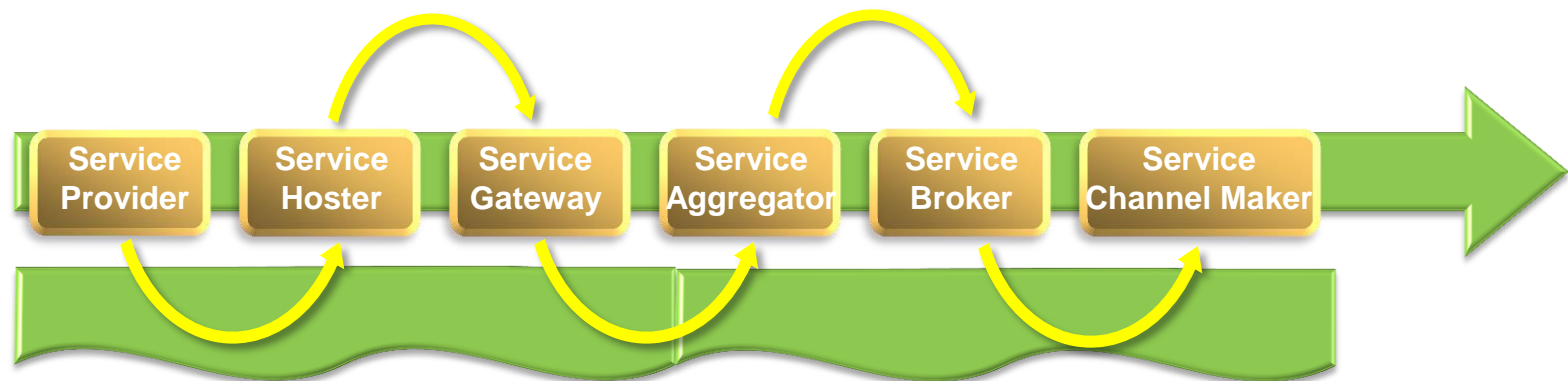
compressed air mobility indoor climate
safety light wellness
arts lifestyle furnishings
entertainment etc.



Service Delivery Supply Chain

Key element: Services => Service Transformation

- **Complementing products by services - turning products into services**
- **Service Transformation requires:**
 - Services can be described (technical, operational, business)
 - Services can be easily developed, maintained and deployed
 - Services can be found, exchanged, combined, traded,



Service Delivery Supply Chain

Fundamental Building Blocks: Data (Big Data)

Primary Data Sources

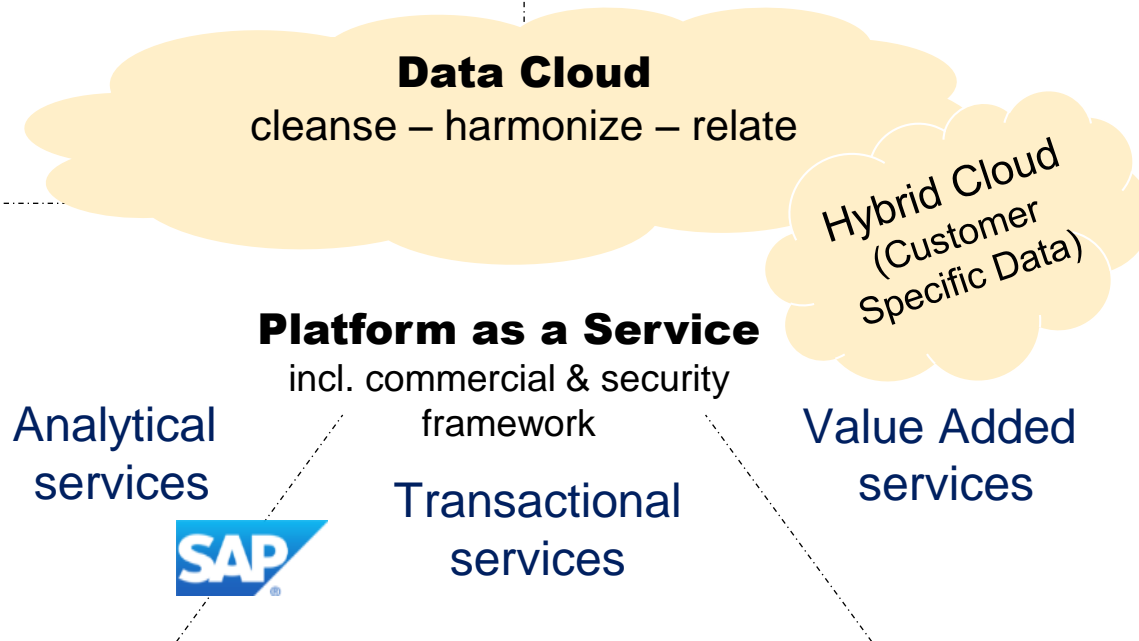
- Structured (business) data
- 'Beyond own reach'
- New business models for data owners
- Examples: manufacturing, medicine, retail, financial services

Secondary Data Sources

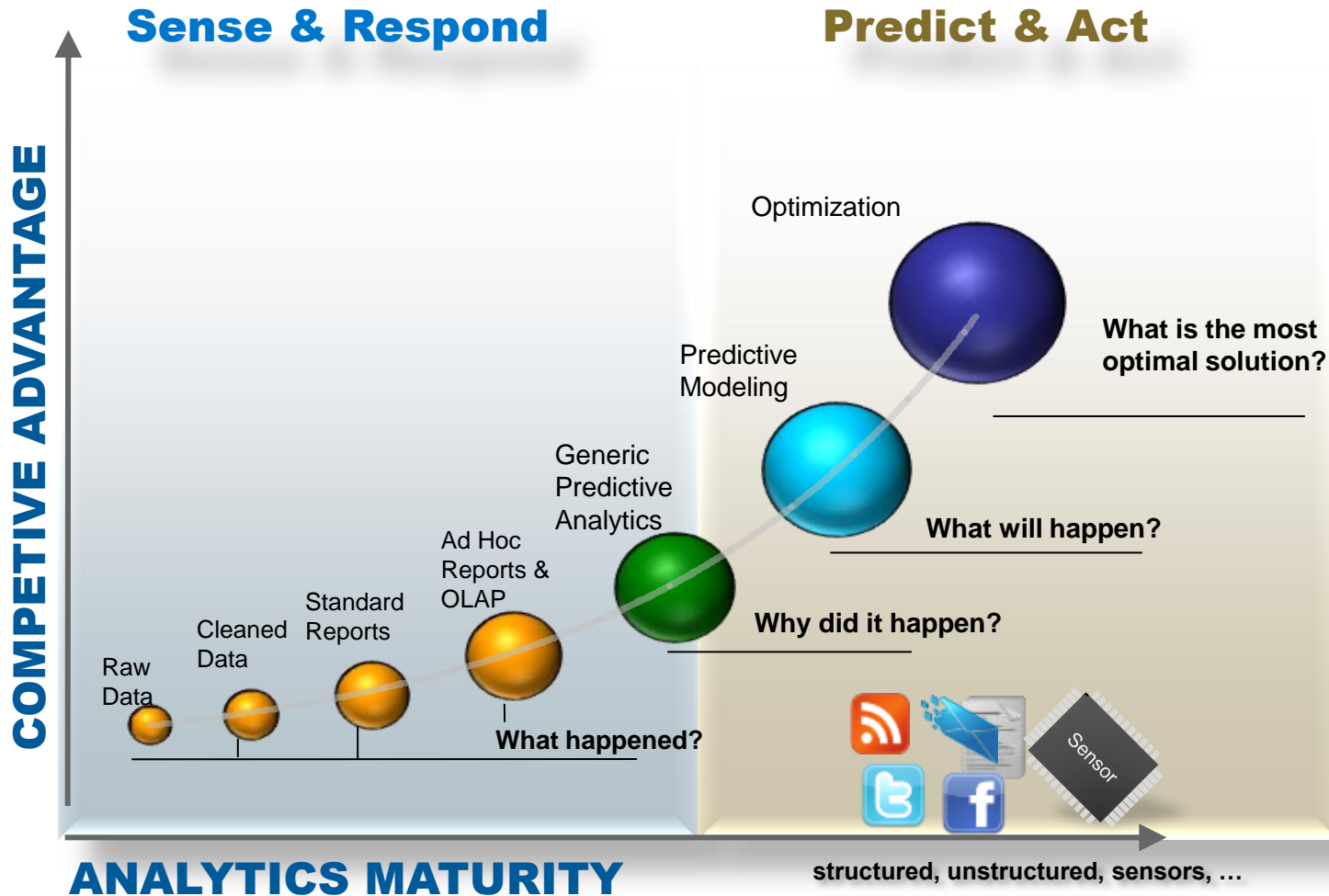
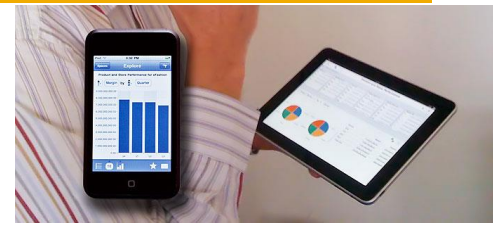
- Usually unstructured
- Publicly available
- Examples: bulletin-boards, search logs, meta data

Generation

Consumption

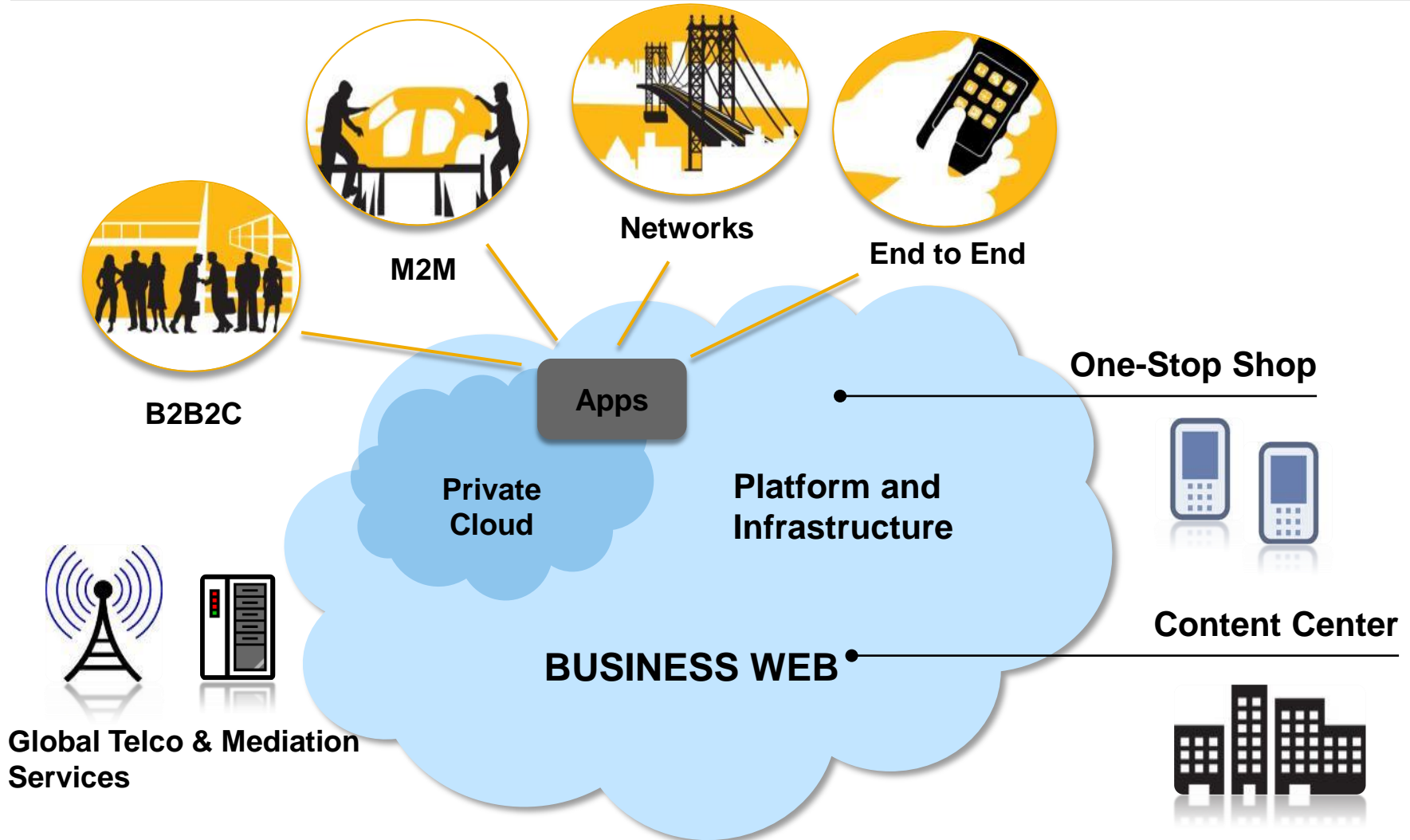


Fundamental Building Blocks: Analytics



Key: all data are processed in real-time!

Fundamental Building Blocks: Infrastructure (Cloud)



Example: SAP HANA Cloud Platform (HCP)

Internet of Things (IoT) Services

SAP HANA Cloud Platform Internet-of-Things (IoT) Services enable customers and partners to develop, customize and operate **IoT business** applications in the cloud.

Use cases

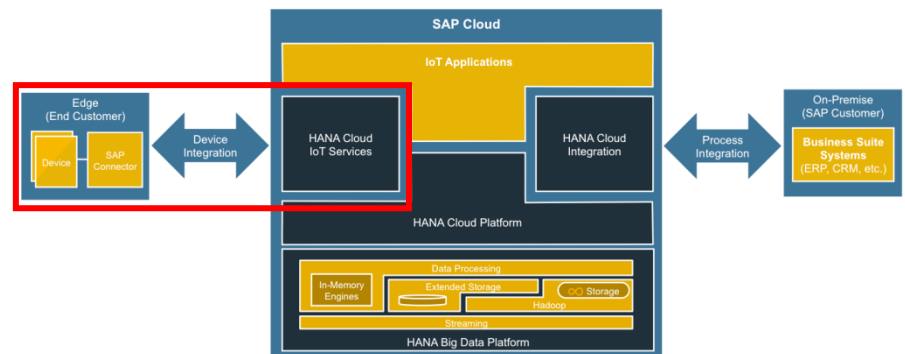
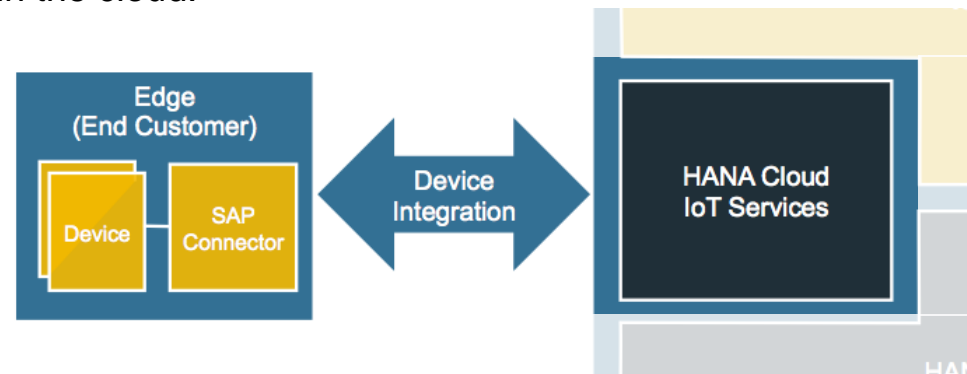
- Remote Device Management
- Message Management
- IoT Application Enablement

Key differentiators

- The end-to-end IoT platform enabling thing-driven business processes
- Leverages SAP HANA Big Data Platform – scaling with your needs from small to large
- Offers strong edge platform

Target groups

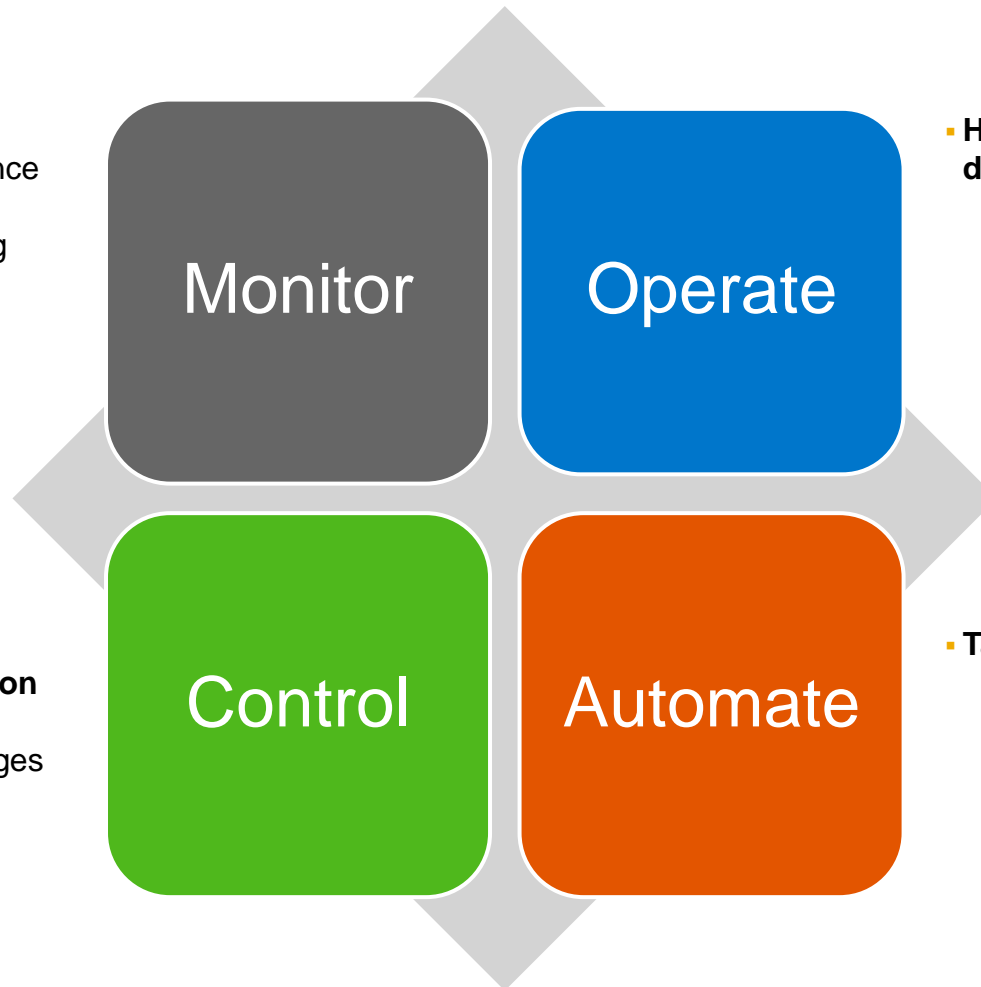
- Customers
- Partners



Fundamental Building Blocks: Business Process Automization

- **What did happen?**
 - Usage & Performance
 - Wo ist was?
 - Event-Registrierung

- **Status change/
Condition modification**
 - Active/inactive
 - Configuration changes



- **How to operate 1000+ devices/components?**
 - Configuration mg
 - Current status of device (e.g. M2M module)
 - Logistics
 - Which components are active/inactive?

- **Take action**
 - Integration with backend processes (e.g. order management)
 - Optimization (algorithms)
 - Automat. Triggering of follow ups

The way to new Business Models: Examples





Connected Health – Patient Engagement

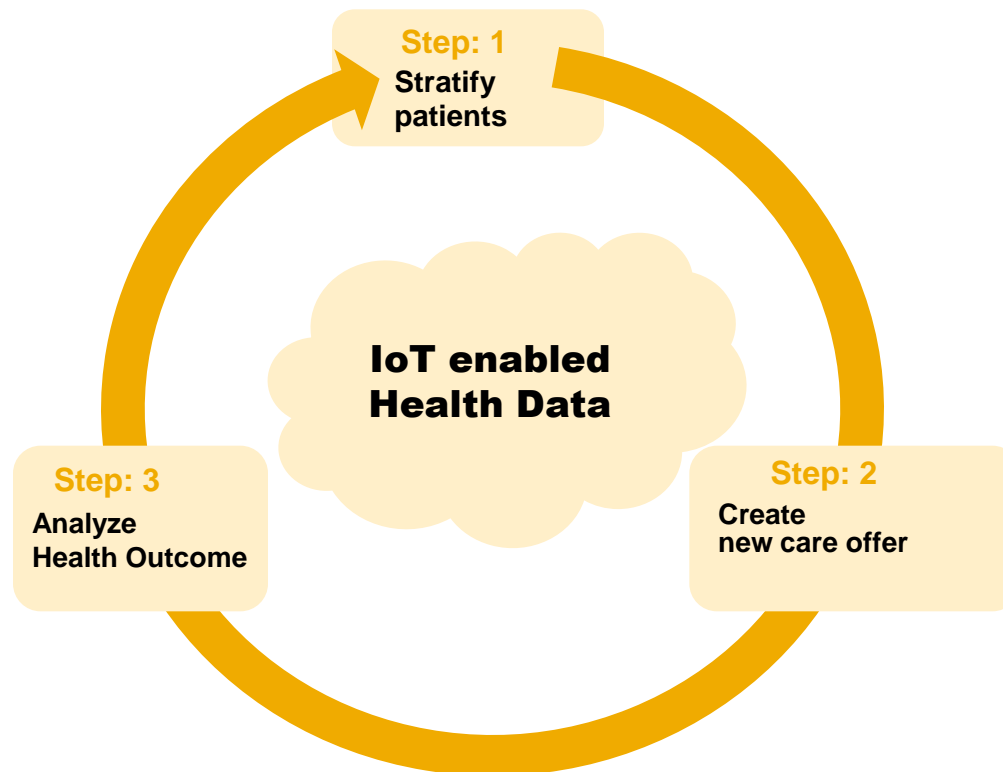
More than treatment¹

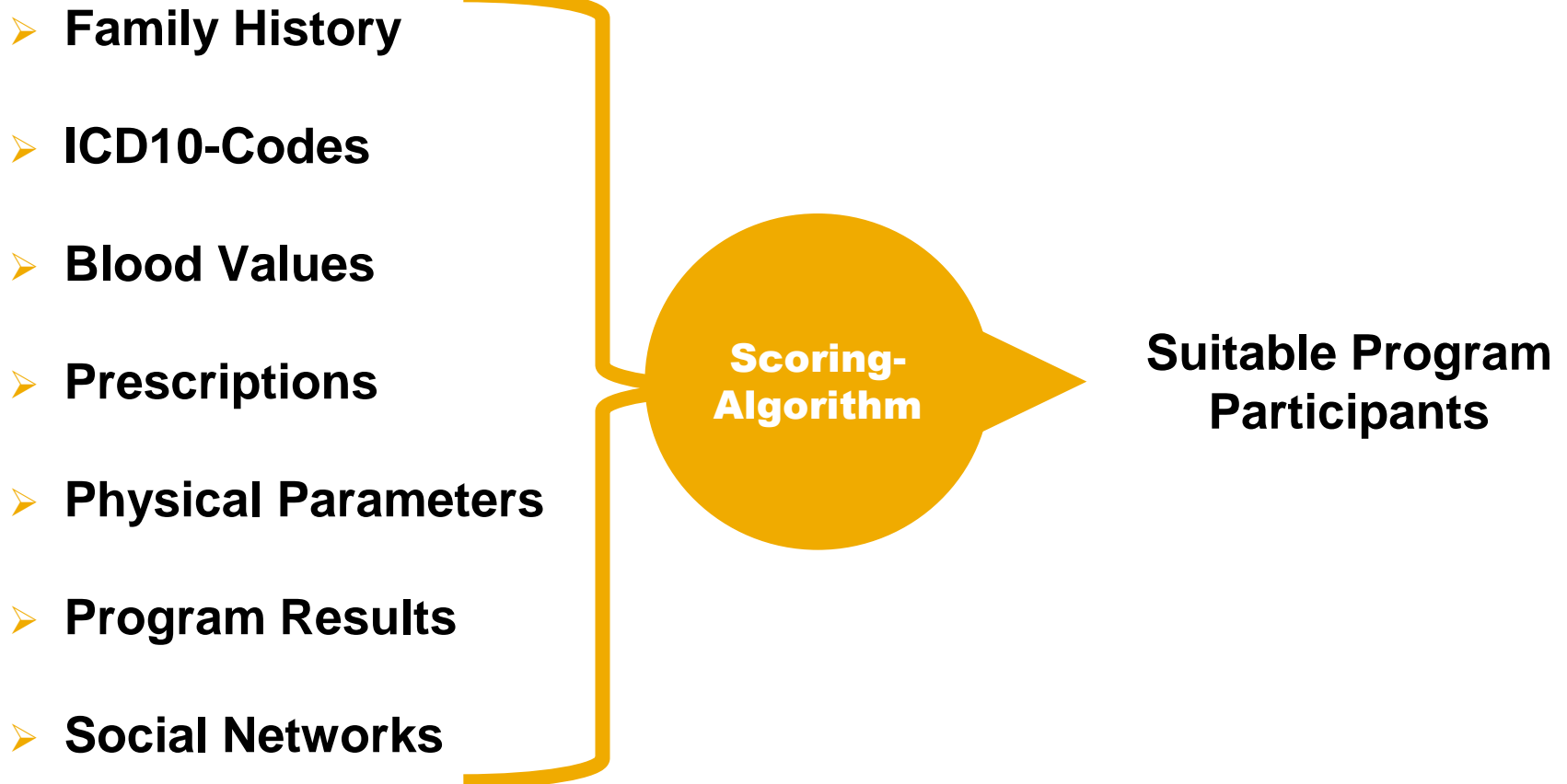
- Early identification of patients at risk allows for cost effective prevention programs

Behavioral Change²

- Biggest lever to sustained health

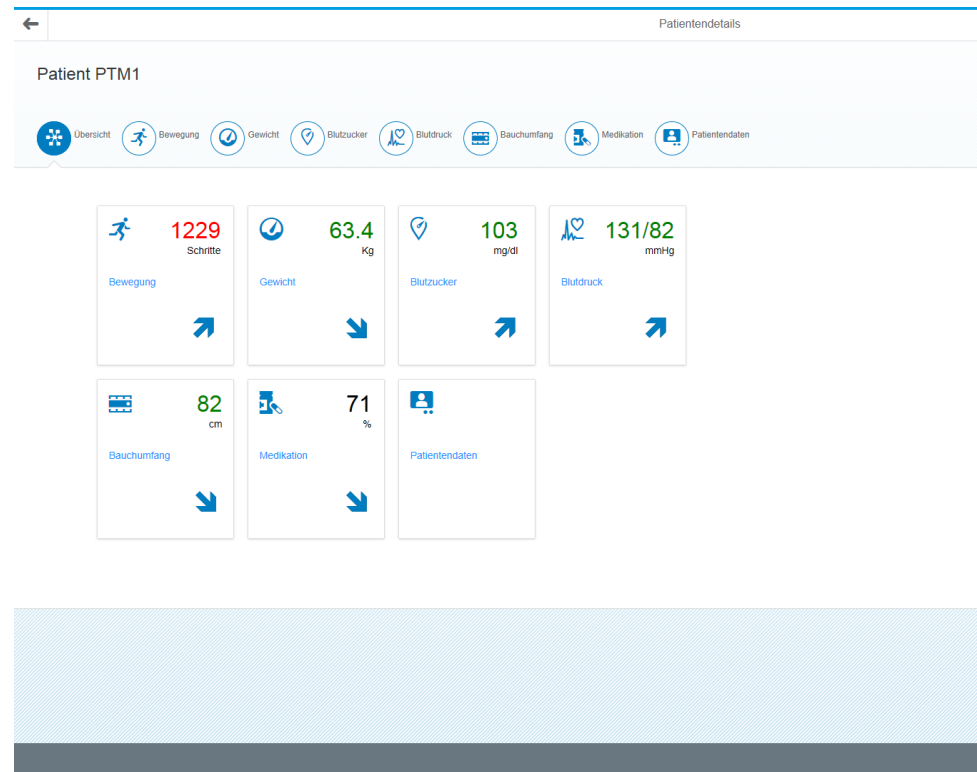
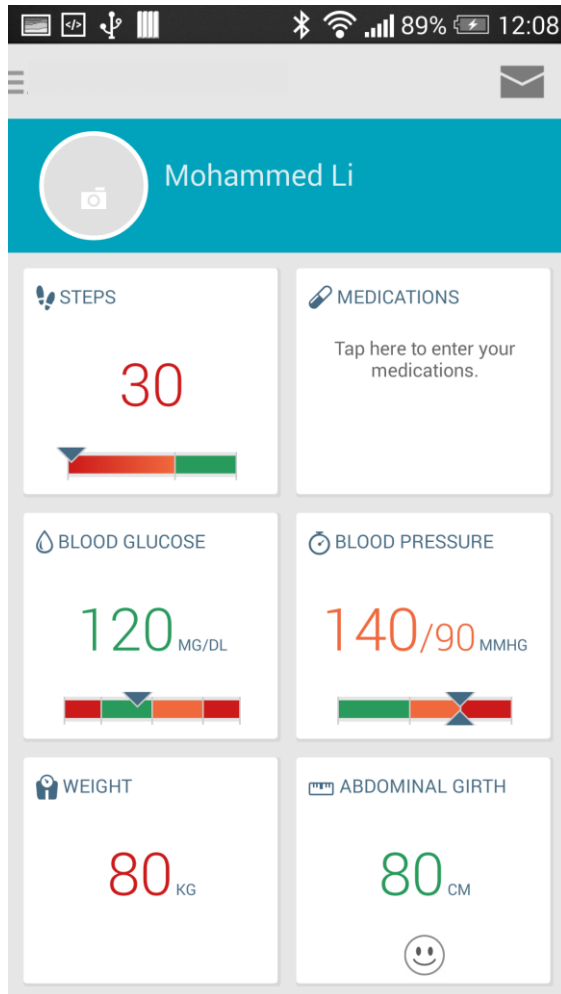
Vision: Integrated Care Process





2

Create new care offers



Measurement

- How long do patients actively participate in the program?
- How do the vital parameters change?

Adoption

- New / changed features
- Improved incentives
- Basis for new business models

IoT enabled Smart Vending



SAP's new Smart Vending machines to use NFC

SAP is currently developing a new type of vending machine called Smart Vending that will feature near field communication (NFC). Based on the SAP HANA data platform, the new NFC Smart Vending machines use both SAP HANA Big Data and SAP HANA Cloud Platform, allowing customers to purchase items and then link these purchases to their social media profiles such as Facebook and Twitter. The implementation of NFC in vending machines should give their owners a better understanding of customer preference, allowing owners the chance to react to changes in the market and manage their vending machines more efficiently.



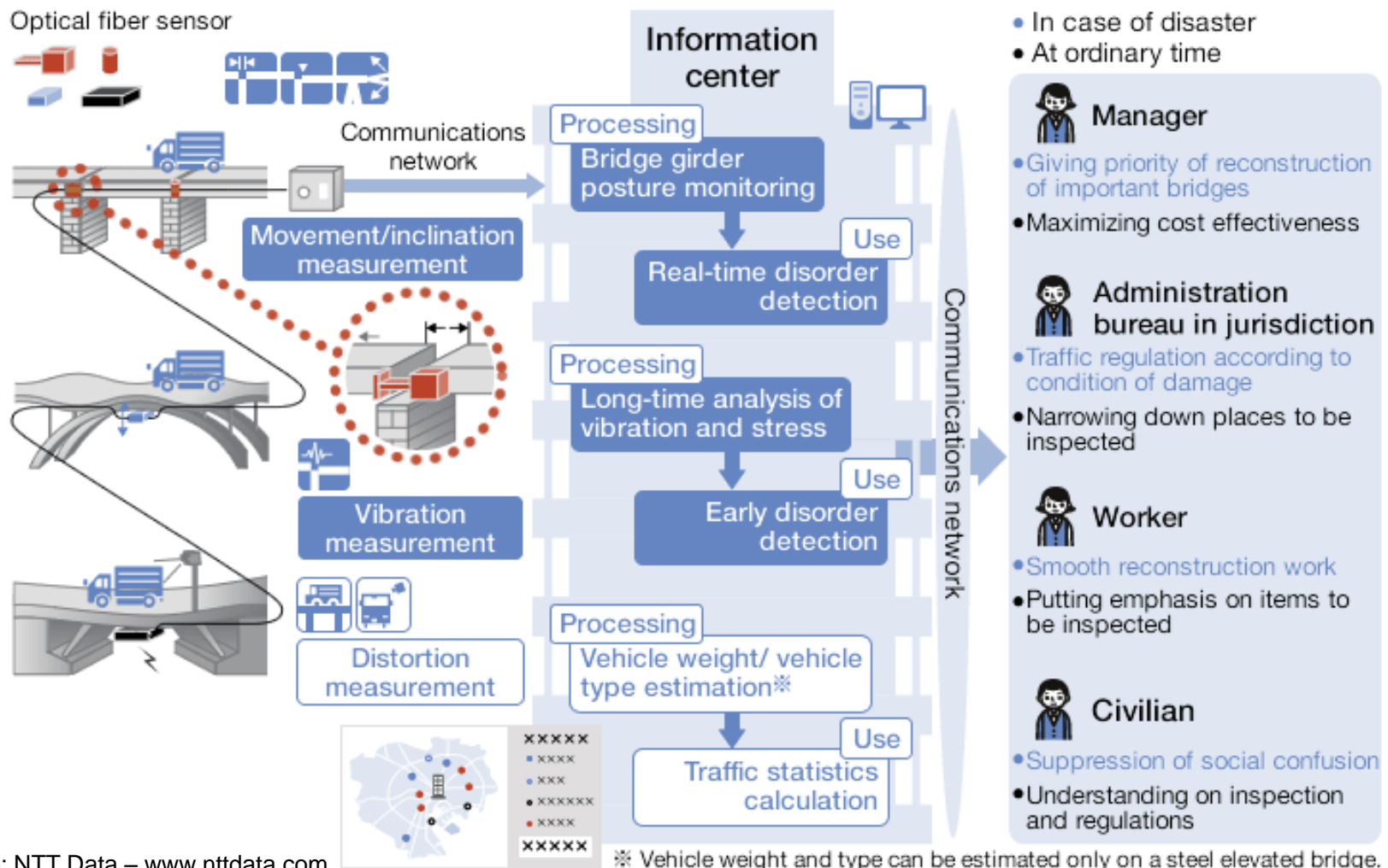
The NFC system will work by letting customers touch their NFC phones against the vending machines which will then use advanced infrared readers to pull up the customers' details on a touchscreen display. This way users can pay using a pre-selected account and receive a more personalized experience.

Changing the way companies interact with

- ❖ Customer Experience ↗
- ❖ Supply Chain Management ↗
- ❖ Costs for Maintenance ↘
- ❖ Profitability ↗
- ❖ Flexibility ↗
- ❖

Another IoT example: NTT BRIMOS (bridge monitoring system) - real-time end-to-end 'bridge management'

BRIMOS Solution's Overview



Source: NTT Data – www.nttdata.com

IoT will drive and enable many different business models (variants) – just examples

- **Freemium (Free + Premium):** product w. free basic services + premium services
- **Digital Add-On / Digital Lock-In:** product + add-on services (Lock-In: provider dependency!)
- **Products as Point of Sales (PoS):** products as multiplier (e.g. real-time offers, real-time advertising)
- **Sensor as a Service**



Source: Mobile Brand Blog – Dominos Pizza

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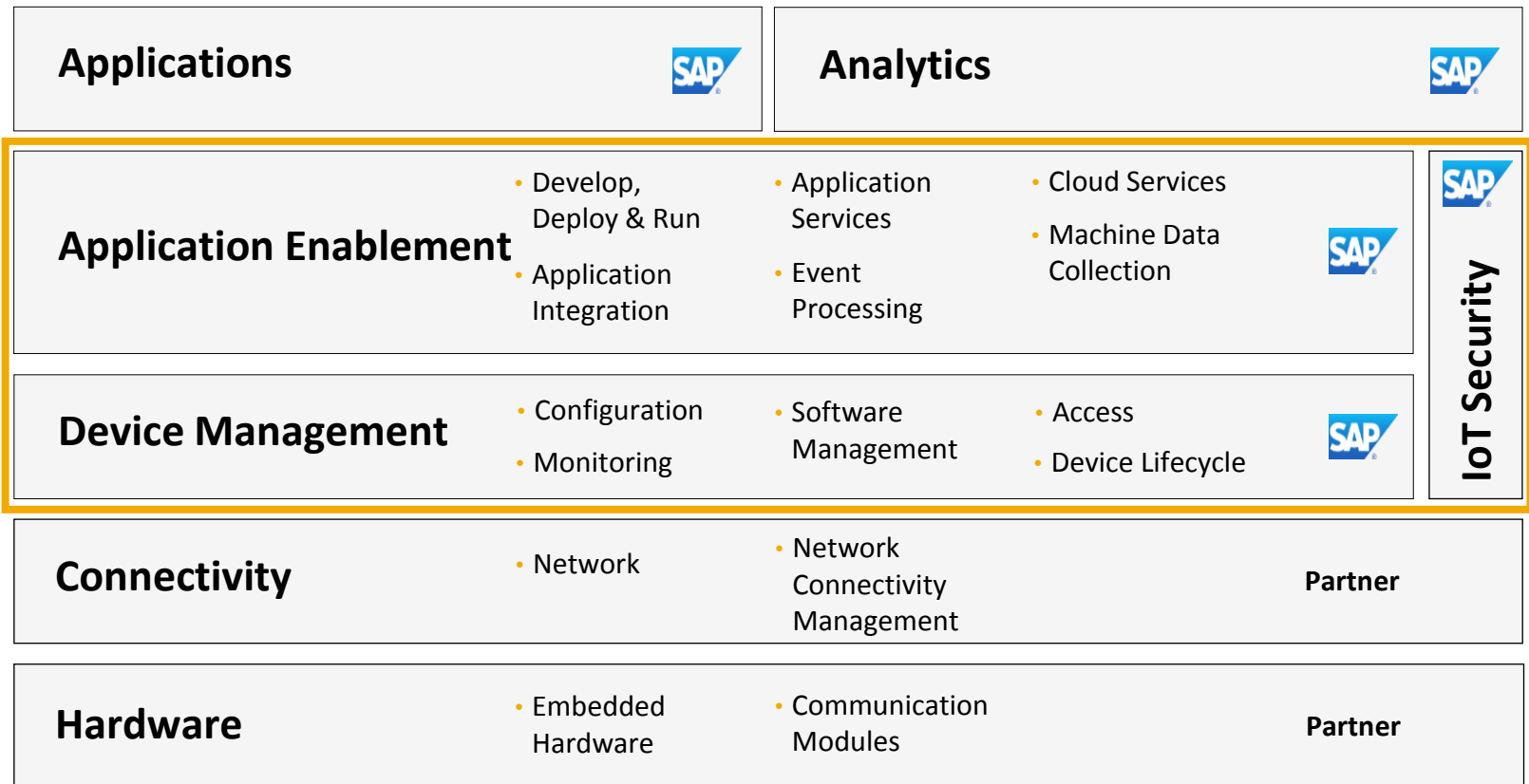

Your stuff, anywhere

[Sign up](#)

or [Sign in](#)

Source: www.dropbox.com

Strategy: IoT Technology Scope



Thank you!



Contact:
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