

Seamless Mobility for Individuals and Cargo – The Role of Digital Platforms and Services

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The Journey

- The Future for Mobility
- What Travelers are asking for
- Design Principles for Smart Mobility Offerings
- A Word about Digital Agendas
- How to get started

The Future for Mobility

Expectations are high

- „10% improvement in transport infrastructure = 10% increase in trade“
Pravin Krishna, Professor of International Economics and Business, Johns Hopkins University, USA
- “Shared, network assets always provide more value than proprietary assets”
Robin Chase, Founder Zipcar, Veniam
- “Technology development will impact mobility and the use of the different transport modes”
Mohamed Najib Boulif, Deputy Minister of Transport, Ministry of Equipment, Transport and Logistics Morocco

Constraints are apparent

No real-time information to support governance and citizenship

Uncovered potentials in traffic data analysis

Time pressure & stress with long waiting time diminish urban efficiency

Isolated data sources hinder ad-hoc and preventive urban services

How well is mobility fulfillment managed?

Is sustainability measurement targeted towards better control, transparency and urban resilience

How to create a livable, productive and satisfying environment?

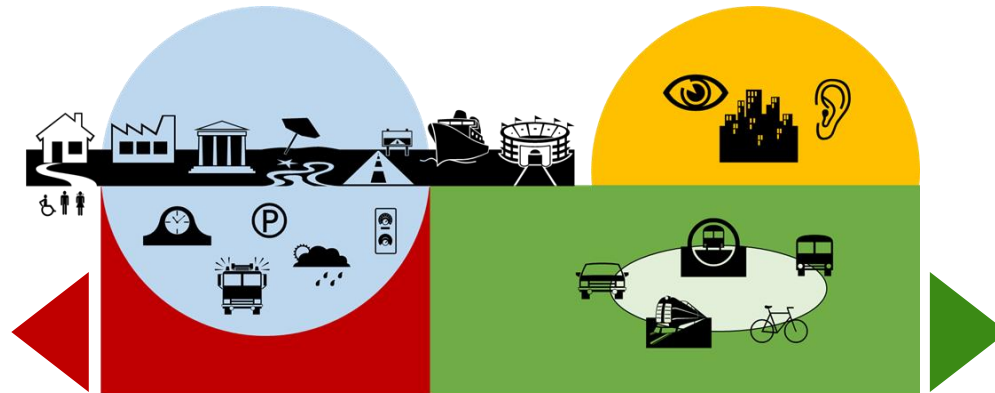
The Future „Everyone has a Right to Mobility“

Vision Throughout our Digital Cities and Regions Framework we provide Excellence and Leadership in Designing, Developing and Offering Sustainable Intelligent Solutions for Governments, Citizens, and Businesses

Mission

- Consumer targeted offerings and premium business services for the community
- Sustainable operations for governmental decision makers
- Network collaboration to solve intermodal transportation challenges
- Real-time monitoring of core services in urban ecosystems
- Manageable and executable wherever needed

- Turn Constraints into Opportunities for Social and Economic Welfare in Everybody's Ecosystems



- Predict Operations Needs
- Offer Premium Business Services
- Resolve Inter-Modal Transportation in a Collaborative Manner

Constraints we are facing



Consumed Infrastructure

- Freight transport activity is projected to increase by ~80% by 2050 compared to 2005

Mismatch at the Point of Need

- Isolated mobility offerings instead of integrated, intermodal approaches being a person, a thing, or an expertise travelling
- Urban freight related lifecycle management resides in silos: distinct units and organizations
- Urban assets are rarely made visible or even accountable



Planning Ahead

- Current demand to travel originates in a person's business, private and / or leisure need
- Future demand will be driven more than ever by coincidental, not-yet-known demand in combination of own and 3rd party preferences

Costs

- Traffic congestion costs in Europe around 1% of Gross Domestic Product
- Unassigned deliveries and assets result from up to 70% waiting time for drivers, trailers & trucks
- Short-sighted infrastructure investments turn into monetary, longterm roadblocks for the next 20-30 years effecting spatial planning

Local versus Destination driven Demand Generation

- Passenger traffic is projected to grow by ~51% by 2050 compared to 2005

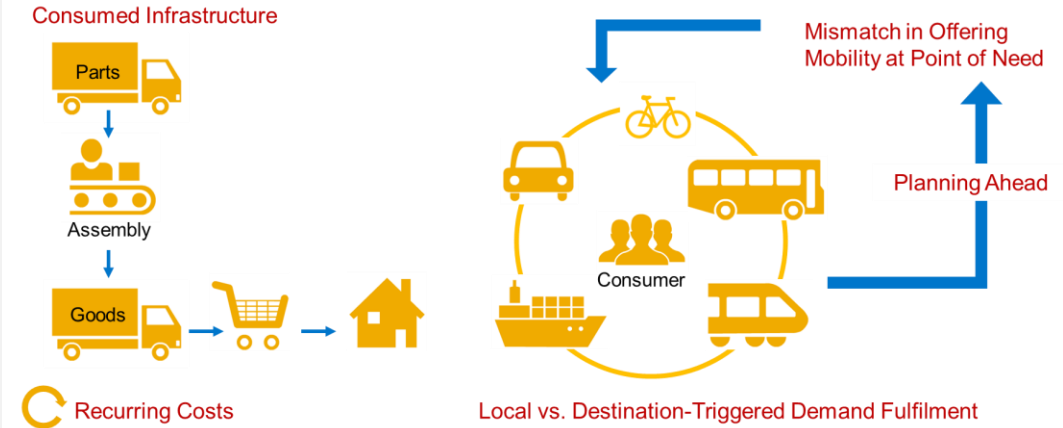
Challenges in Mobility

Gathering the real End-to-End Mobility Process

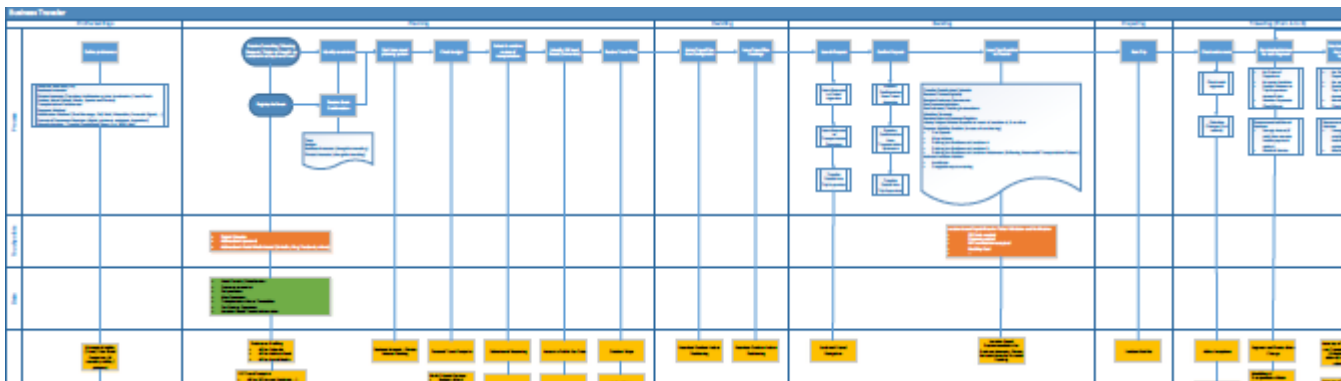
Customer Journey Mappings



Isolated View on Individual and Cargo Needs



Personae Assessments



Customer Engagement Initiative



Reflection #1

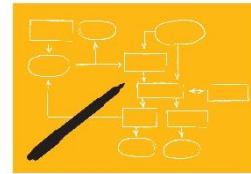
Technology is a Key Enabler



A **SENSOR'S** COST AND SIZE ALLOW FOR GAME CHANGING NOW! STILL REQUIRING A PROPER ROI ...

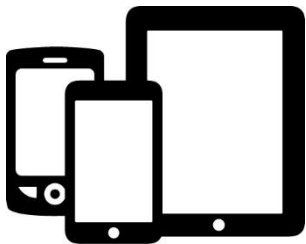
BUSINESS PROCESSING

COSTS REDUCED 60 TIMES OVER THE PAST 10 YEARS



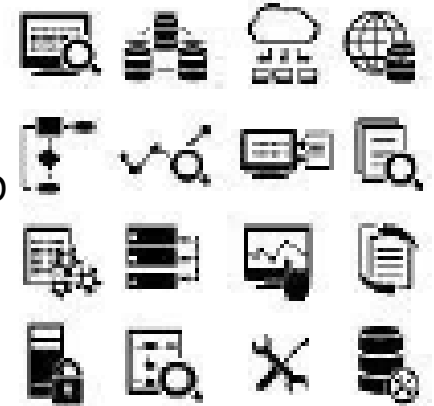
BIG DATA VOLUMES ARE BEING CREATED EVERY SECOND WHERE DEVICES, SENSORS, AND PROCESSES ARE BEING TOUCHED

2 BILLION CONSUMERS TO GET **SMARTPHONES** BY 2016



USERS EXPECT FROM THEIR TECHNICAL «BUDDIES» **INSTANT, IF NOT EVEN SPONTANEOUS SENTIMENT DRIVEN ACTIONS**

STANDARDS OPEN UP FOR MULTI-DEVICE INCLUSION AND MULTI-PURPOSE USABILITY E.G. BANDWIDTH, PROTOCOLS OR DATA PROCESSING

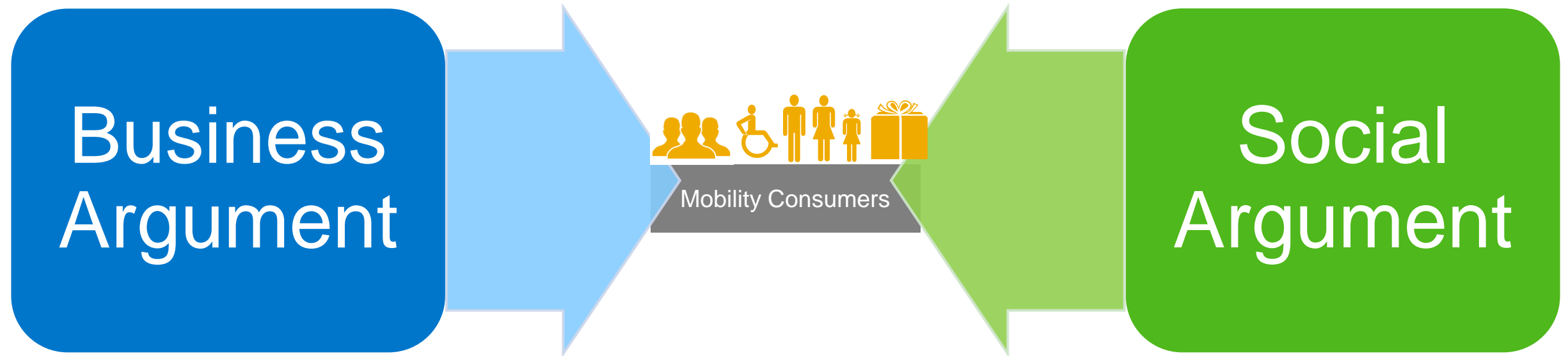


UBIQUITOUS ACCESS THROUGH **WIFI & 5G**
DISRUPTIVE OFFERINGS CONSUMER-2-CONSUMER



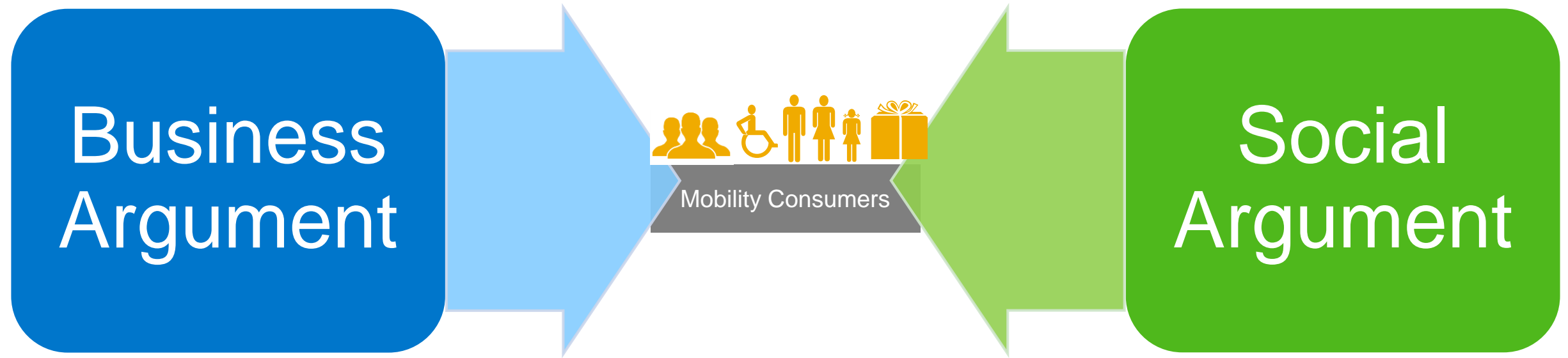
Reflection #2

The Art of the Possible is in our Consumers' Hands



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The Art of the Possible is in our Consumers' Hands



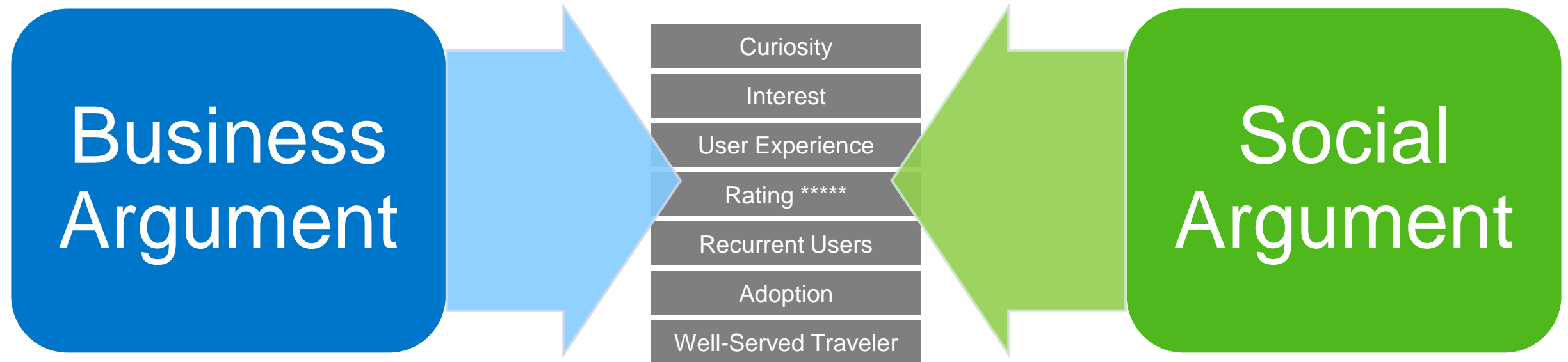
- Top four event countries in Europe [2013]
 - 2.7 Million Germany,
 - 230.000 The Netherlands,
 - 210.000 Austria and
 - 190.000 Italy in the year of 2013
- 1 Million attendees traveling to the 20 top fairs in Germany and Switzerland
- # fans and sport enthusiasts plus accompanying family and friends traveling e.g. to the Super Bowl, USA

- Turn focus onto sports event
- Save time and money for travel arrangements
- Avoid delays and unnecessary transportation mean changes for attendee and accompanying family / friends
- Align with community members on the spot
- Travel as part of the in shared economy momentum
- Save time to connect, work and relax by transforming 1 hour of back office and front office efforts to plan and deploy travel and adjacent business arrangements as cost efficient, smooth and effective as possible

Data Source: Association of the German Trade Fair Industry, <http://www.auma.de/en/press/seiten/press16-2014.aspx>, accessed 08/2016
Upcoming Publication:

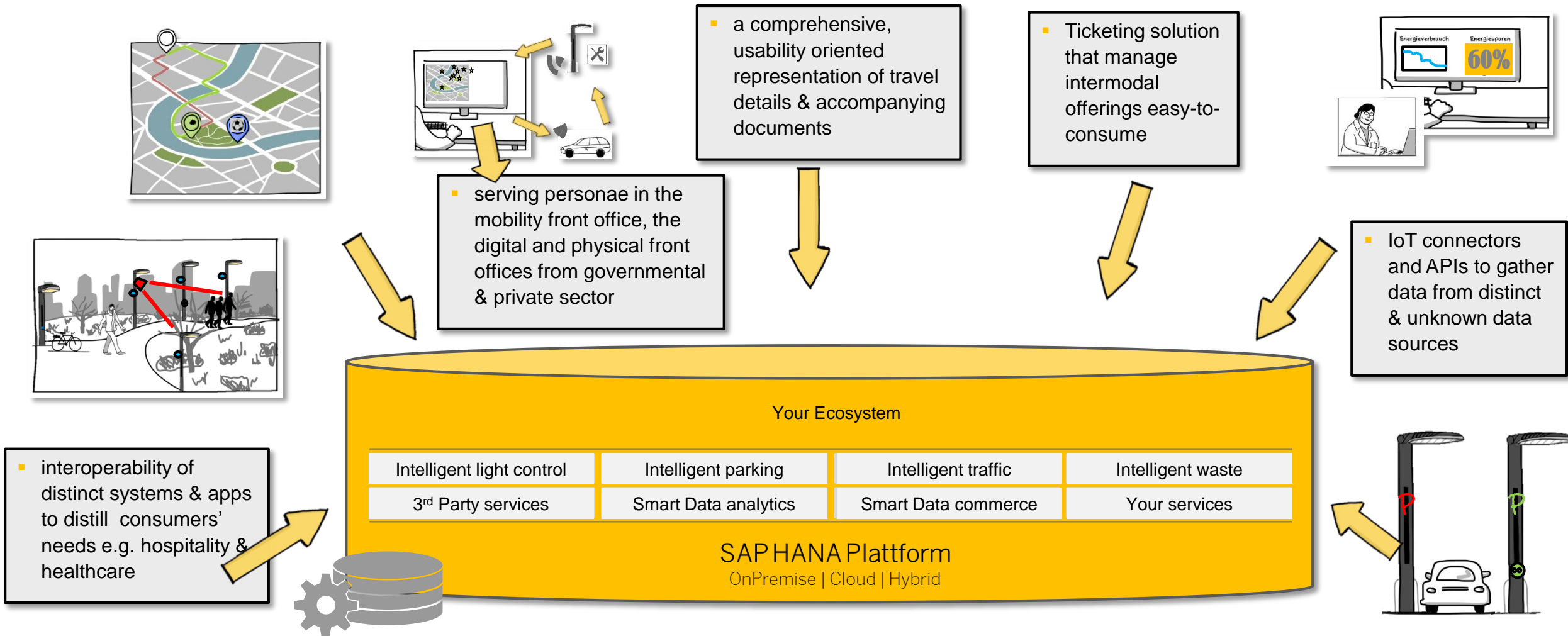
Reflection #2

A Smart Offering about Matchmaking Business and Social Requirements



Reflection #3

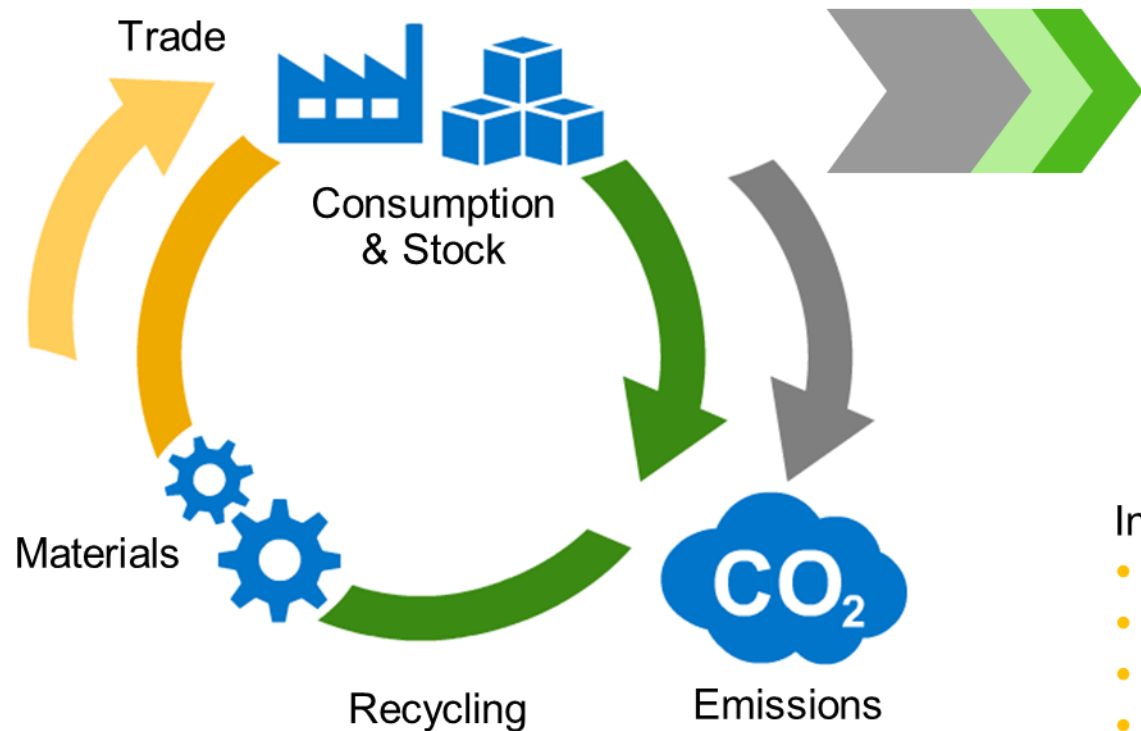
A coherent, collaborative approach is needed for the entire ecosystem



About Smartness and Digitization Potential

Example 1: Shared efforts, Shared benefits

Circular Mobility for Goods and Things



Collaboration across organizations



Share mobile space for goods

Instead of :

- Wasting transportation space due to half-empty trucks
- Consuming road infrastructure unnecessarily
- Raising stress for mobile personnel
- Increasing effort to recruit drivers and other personnel

Source:

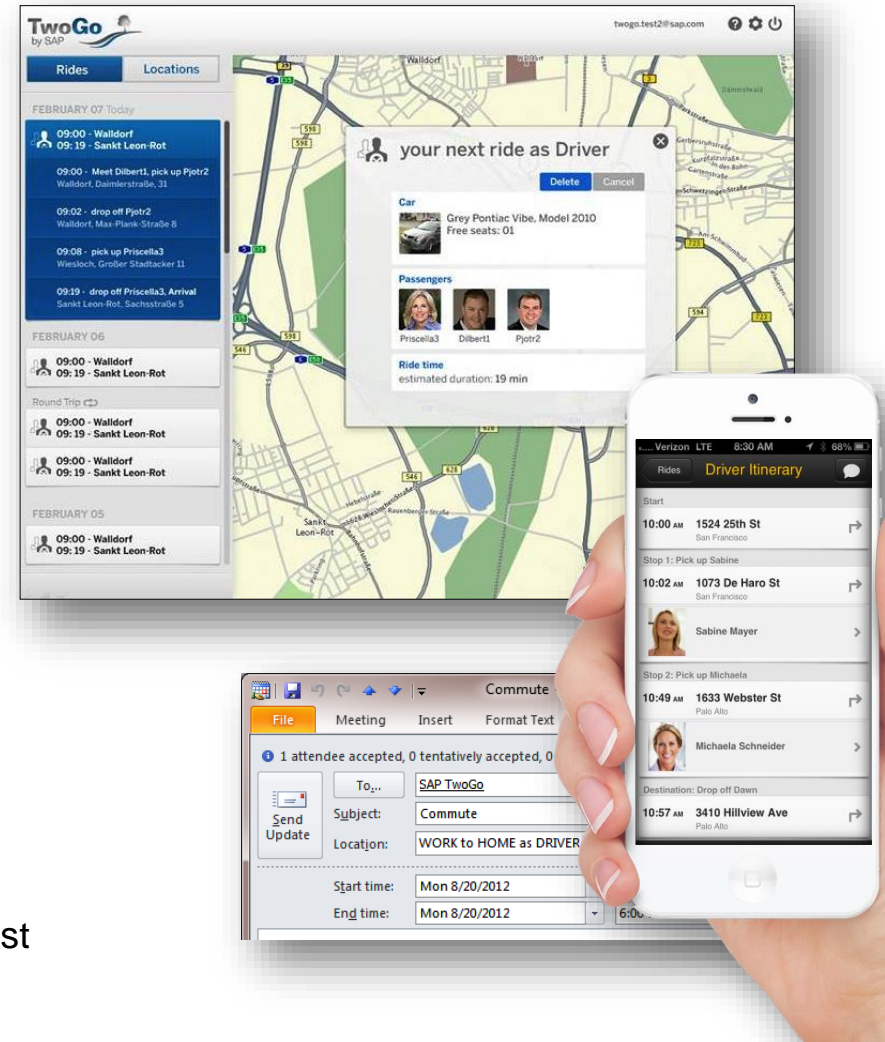
Sustainability through Digital Transformation – openSAP, Barbara Flügge, 2016

About Smartness and Digitization Potential

Example 2: Shared Rides, Shared Interests, Shared Assets

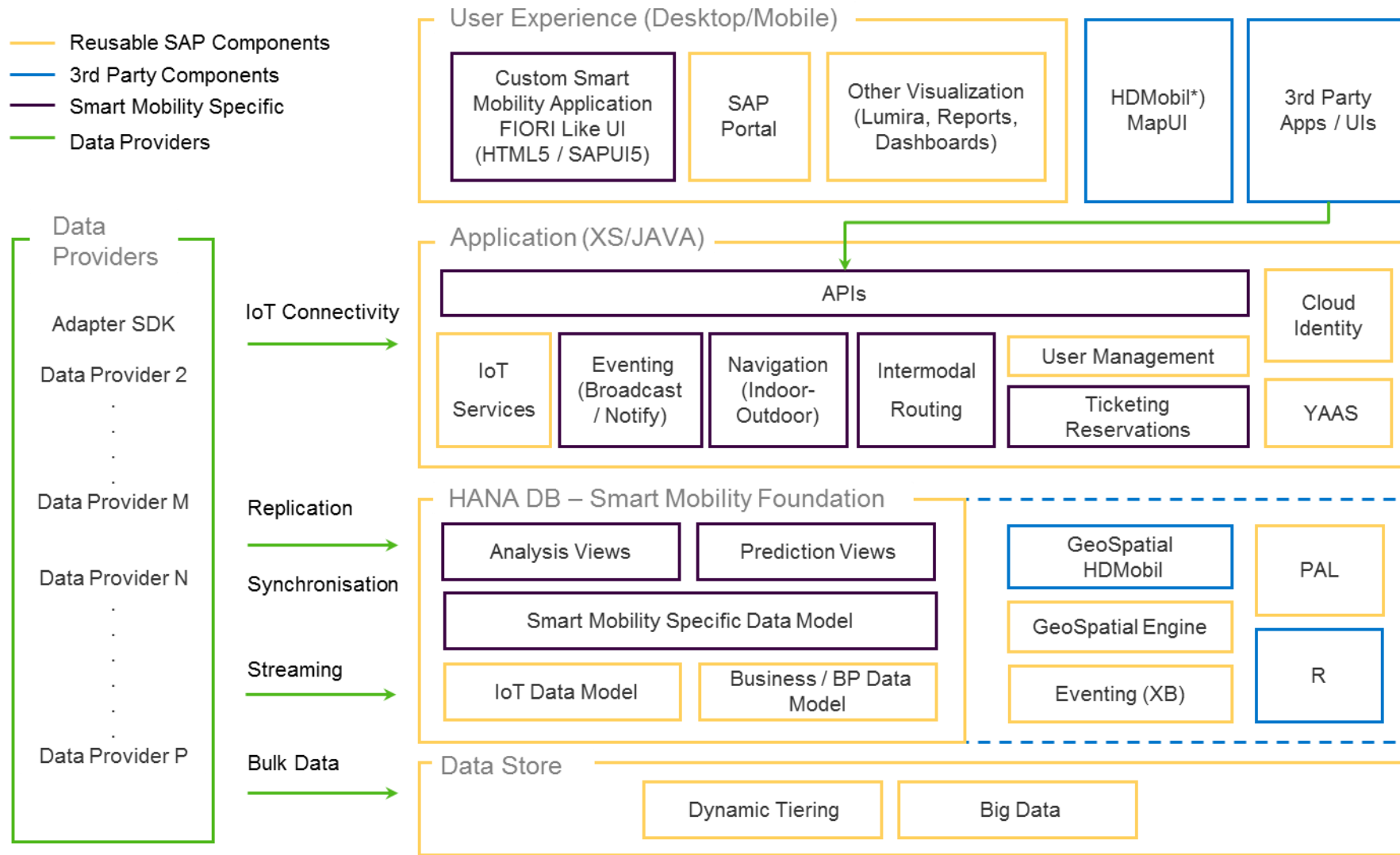
Turning the First Mile into the Next One

- **Instant Use**
Being a Cloud-Service there are no IT adjustments necessary!
- **Everywhere and Integrated**
Calendar, Web, Smartphone, Tablet, and Text Messaging
- **Automated and Comfortable**
Matchmaking driven by person's preferences and Safeguarded based on public and private available transport means
Booking as calendar entry and intelligent background processing
Secure processing, Secure driving and co-driving
- **Viral Offering**
Turning into communication package, lottery, active requests and much more
- **Optimized for Individual, Governmental and Business Needs**
Meet-your-colleagues-while-commuting, Pick-up service for employees, delivery services for goods, Site2Site / round trips, analytics, international use, per default multi-lingual (9 languages)
- Usable for goods, equipment, spare parts, services, collateral and any other interest
- Projected alignment with Mobility-as-a-Service Alliance



Innovate Your Smart Mobility Strategy with SAP

Smart Mobility Solution Stack – Graphical Depiction



*) HDMobil stands for Heidelberg mobil

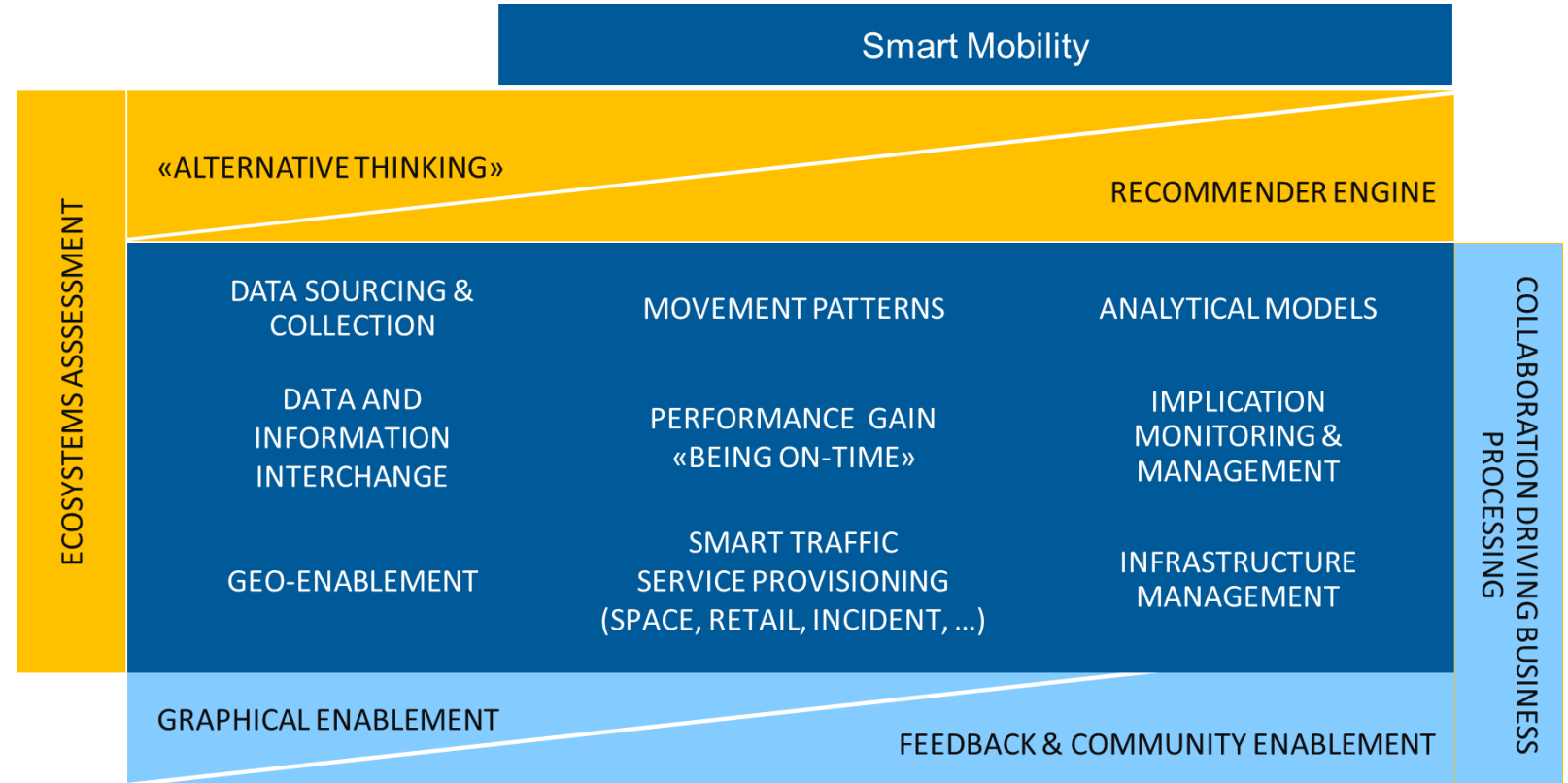
Innovate Your Smart Mobility Strategy with SAP

Key Characteristics of Smart Mobility Offerings



Throughout our engagements we identified these requirements to engage and propose Smart Mobility for your community:

- Addressing individuals (PR) and public / private businesses (PU)
- Incorporating a persona driven access with the utmost personalized offer
- Deploying offerings via accessibility channels that are already established in the markets
- Giving space to offerings from 3rd party, other departmental units and others



Digital Cities

Evolution and Capabilities

Defining Digital City and Region:

A Digital City or Region succeeds in the use of digital diffusion means to provide public and private services and hereby create socio-economic and socio-ecological value to the community and its constituents in any of the **six dimensions** of Smart Cities.

Smart
Governance

Smart
Economy

Smart
Environment

Smart Living

Smart Mobility

Smart People

Capabilities:

Learning
Virtual
Intelligent
Connecting
Sustaining
Renewing
Innovating

Digital Cities and Regions Framework

The Ask by Governmental, Business and Individual Constituents

Smart Governance

The Digital Government

Governing within-city and across the city data, services and interactions that link and integrate public, private, civil, and supranational (EU) and / or inter-governmental organizations

Smart Economy

The Digital Ecosystem

Fostering the local economy with new products, services, data, businesses and business models throughout ICT enabled innovation, production, deployment and business formation

Smart Environment

The Smart Climate

Deploying locally the UN sustainability development goals by promoting smart energy grids, smart waste management, smart buildings, green communities, resource renewal and re-use

Smart Living

The Smart and Safe Life

Establishing a healthy and safe infrastructure for living, appreciating, commuting, visiting and working

Smart Mobility

The Mobility for Everyone & Thing

Establishing an affordable and consumable Smart Mobility management system of shared, private and public intermodal transport offerings for individuals and cargo

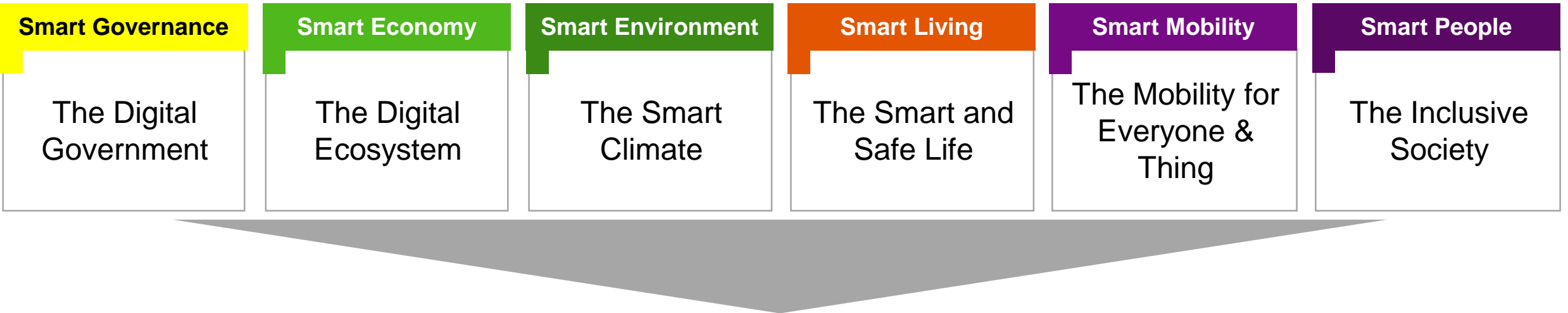
Smart People

The Inclusive Society

Generating a physical and virtual safety net for everyone no matter the individual's age, race, orientation, focus and capabilities, a safety net that conveys human rights and democratic principles throughout digital means

Digital Cities and Regions Framework

The Ask

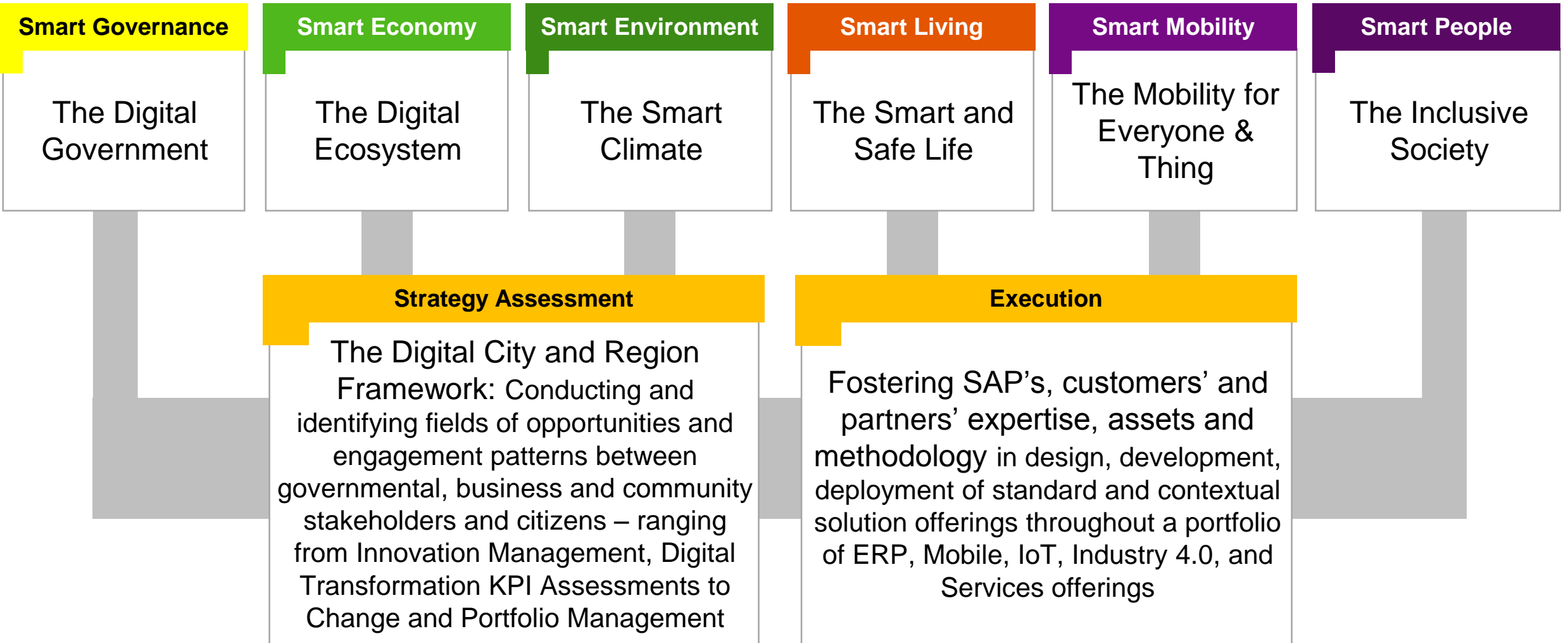


Transformation Principles:

- Any of the above stated asks can be fulfilled in a **phased approach**, once reasonably defined and agreed.
- The scope for each of the pillars finds place in other pillars, too: a good understanding of the **context, collaboration and co-creation** are therefore key success factors!
- A **strategy assessment** is recommended in first place to identify the transformation phases, the needs concerning resourcing and success factors.
- The **execution** is driven by achieving small, doable and scalable results based on the ecosystem's needs, resources, and budget.

Digital Cities and Regions Framework

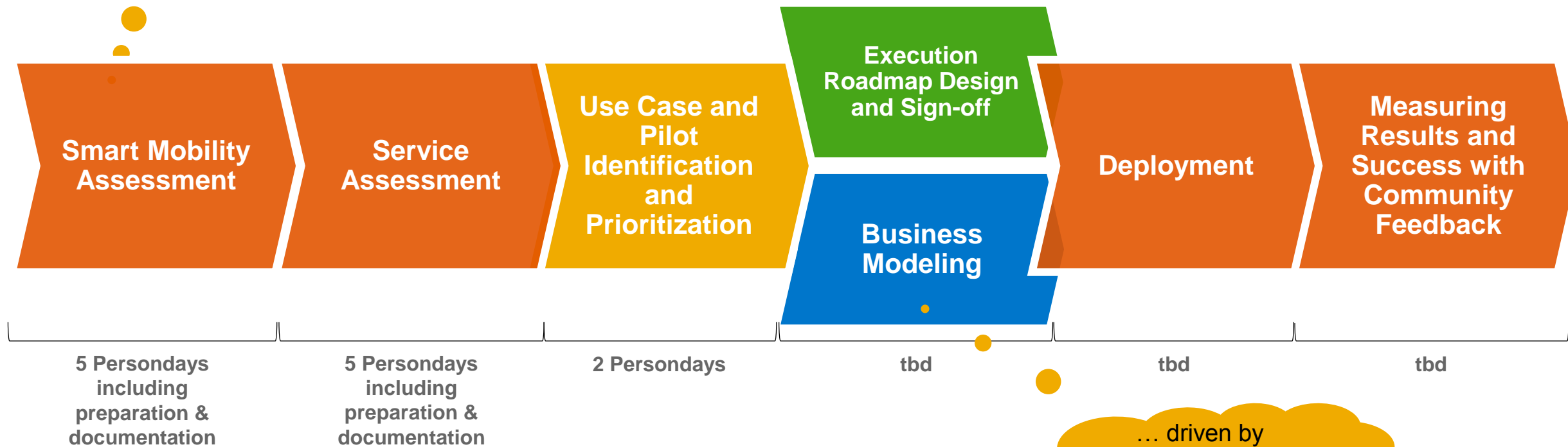
The Offering



How to get started

Engagement Roadmap - 1

Join us for a 2-Days
Discovery Workshop in
your Location



Good to know:

3-4 weeks lead time required for the 1st workshop

... driven by
Execution Roadmap
and pre-defined
Strategic Plans

Digital Agendas

Anchoring Progress and Future of Mobility

co-creating innovation throughout your country and your region

communication enabler among things and people

sourcing best of breed products

proud to apply digital services homemade

our future grows, matures and settles down here

creating a digital heritage of best practices that exports to the world

bringing back the dream of “invented here”

multi-modal transport among all member states with one ticket – one fare

digital knowledge sharing is possible “I talk German, You understand Polish”

integrating refugees through modern education and learning technologies

strengthening rural areas through intelligent mobility concepts

societal welfare introducing jobs-of-the-future

facilitate digital business-to-business collaboration among entire ecosystems

make businesses stay



Thank you

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Empowering Ecosystems

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Further material:

Sustainability through Digital Transformation – openSAP, Schmid, Ritzrau & Flügge,
<https://open.sap.com/course/sbi2>, 2016

Flügge, B. (Hrsg.), 2016: Smart Mobility – Trends, Konzepte, Best Practices für die intelligente Mobilität.
Springer Fachmedien Wiesbaden, ca. 240 S.

Flügge (Ed.): Smart Mobility – Connecting Everyone, 1st Edition, Springer Vieweg, 2017. ISBN (print): 978-3-658-15621-3 (English)