Stuttgart Services – Promoting shifts in individual mobility behavior: the case of Stuttgart Services

Cities for Mobility 2014

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Vision of the National Electric Mobility Platform (NPE):

❖ Germany is supposed to evolve into the lead manufacturer and service provider and lead market for e-mobility by 2020.

❖ "E-mobility made in Germany" stands for systemic solutions, which combine climate and resource protection with a technological leadership and a new added value.

How can this goal be achieved?

❖ market preparation until 2014: research and developement, showcase projects

❖ market development 2017: pilot markets for electric vehicles and infrastructure

❖ market roll out 2020: starting point of the mass market, stable business models

2014   2017   2020

| market preparation | market development | market roll out |

In April 2012, four innovative German regions have been selected as national showcases for electric mobility:

Baden-Wuerttemberg

Bavaria and Saxony

Berlin and Brandenburg

Lower Saxony

It is a key part of Baden-Wuerttemberg's roadmap to sustainable mobility.

Their projects funded by four federal ministries...

Federal Ministry of Economics and Technology

Federal Ministry of Transport, Building and Urban Development

Federal Ministry of Education and Research

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

...as well as the individual states and regions

Facts & Figures:

❖ more than 100 partners in 40 projects with a total volume of more than € 110 million

❖ 2015: more than 2,000 electric vehicles and 1,000 charging points in the region of Stuttgart and the city of Karlsruhe

❖ development of sustainable mobility systems and viable business models

❖ electric mobility can be experienced: e-bikes, e-cars & plug-in hybrid busses on the road

4 main themes characterise the LivingLab BWe mobil:

❖ Intermodality

❖ Internationalism

❖ Close to citizens

❖ Close to relevant manufactures

Images: Daimler AG, e-mobil BW GmbH, Flughafen Stuttgart GmbH, SSB AG, Staatsministerium Baden-Württemberg

The LivingLab BWe mobil projects reflect the complex system of e-mobility and address nine key topics:

Intermodality	Fleets & Commercial Transport
Energy, Infrastructure, ICT	Living & Electric Mobility
Urban & Traffic Planning	Vehicle Technology
Training & Qualification	Communication & Participation
Interdisciplinary Research	

Smart Cities = Mobility Markets of the Future

Drivers

Rising environmental Awareness

Share Economy

Urbanization

Electric Mobility

Trade and Commerce

Energy

Industry

Public Services/ Transport
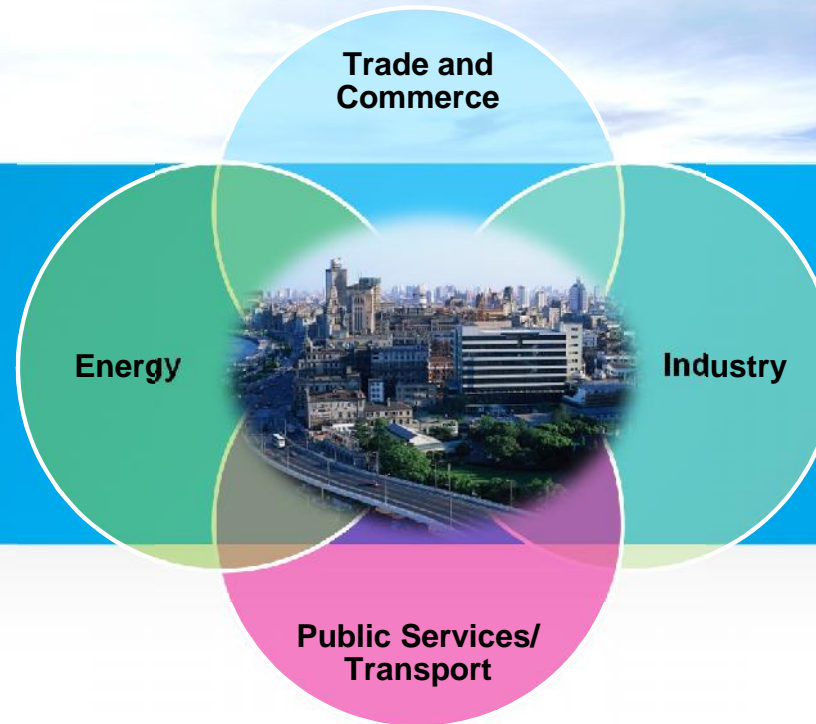
Multimodal Providers of Mobility and Services

Cross-industy, integrated product concepts

Trends

The Challenge is intelligently linking-up all stakeholders using IT based on sound business models

Political Goals (Excerpt)*

Action plan (Excerpt)*

- Reduction of individual motor car traffic in Stuttgart by up to 20% to lower CO_2-emissions, particulate dust and noise as well as avoid traffic jams

- Change the Modal Split to strengthen the sustainable modes of traffic (Public transport, e-mobility, car/bike Sharing, bicycles and by foot)

- Project Stuttgart Services
- Parking management
- Innovative modes of driving
- Speed limits
- Redesign traffic infrastructure in the direction of „Shared Spaces"

* Stuttgarter Zeitung July 23, 2013: Kuhn fordert neue Mobilität für bessere Luft
(http://www.stuttgarter-zeitung.de/inhalt.mobilitaetskonzept-kuhn-fordert-neue-mobilitaet-fuer-bessere-luft.8c3b17f9-a1e8-4926-a74f-9689c419efa7.html)
and Generalverkehrsplan Baden-Württemberg 2010: Nachhaltige Verkehrsentwicklung – Mobilität sichern

VISION

Stuttgart Services – intelligent, networked, sustainable and user-friendly (Electro-)Mobility complemented by urban offers for the citizens in the Stuttgart Region

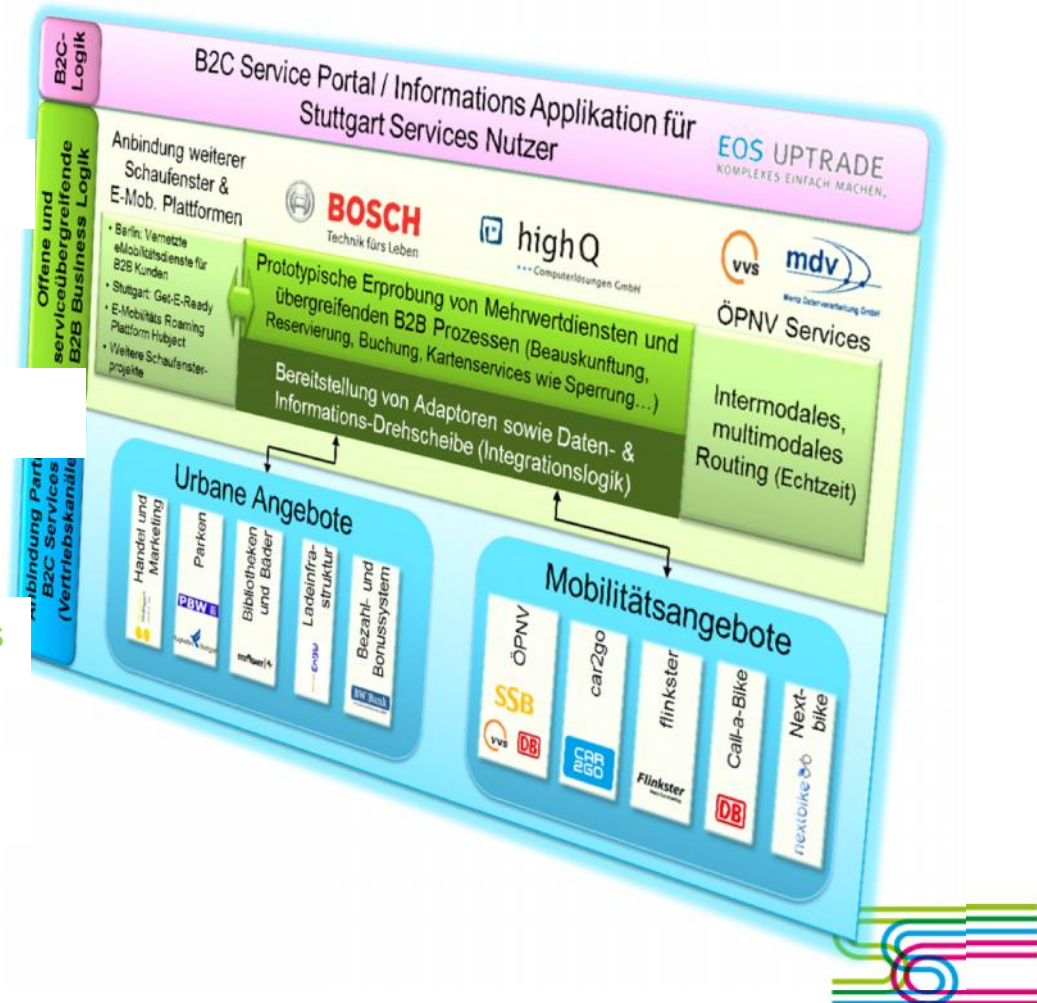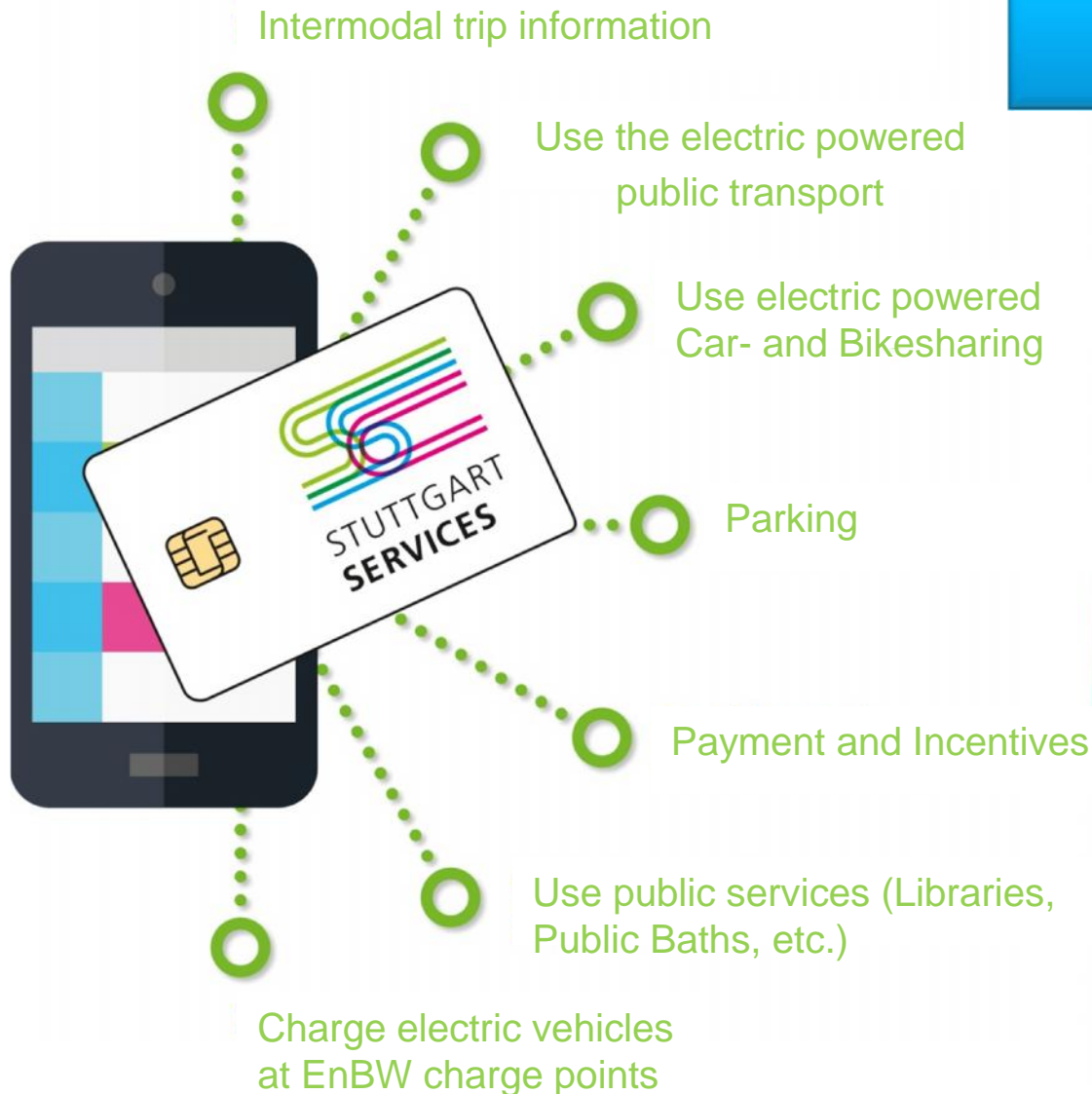| Information	Access	Payment & Incentives
Convenience	Privacy	Security

Sustainability
Social (inclusion) – Environment – Economics

Intermodal trip information

Use the electric powered public transport

Use electric powered Car- and Bikesharing

Parking

Payment and Incentives

Use public services (Libraries, Public Baths, etc.)

Charge electric vehicles at EnBW charge points

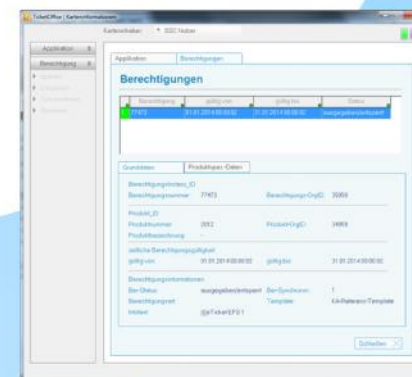The required business logic is provided by the Stuttgart Services IT-infrastructure

5. Card acceptance at EnBW charging station

1. Credit-Card functionality

2. e-Ticket for public transport VDV-Core-Application

4. Card acceptance by electric vehicle

3. Controling e-Ticket with conductor according to VDV-Core-Application

Solution differs from solutions delivered in other parts of the world

❖ Payment and Public Transport as two separate applications

❖ Payment: MasterCard PayPass

❖ Public Transport: (((eTicket Deutschland

❖ Focus on Regular Public Transport-Customers (Subscribers)

>20 Partners from four sectors (Public + Individual Transport, Utility, Banking)

Occasional Users and Non-Users might be even more interesting, but also more challenging.
Same is true for international users (tourists or business travelers)

Consortial Partners

Stuttgarter Straßenbahnen
(Leader of consortium)

BW-Bank

Bosch Software Innovations

EnBW

EOS UPTRADE

Fraunhofer IAO

highQ Computerlösungen

Landeshauptstadt Stuttgart

Mentz Datenverarbeitung

MRK Management Consultants

Scheidt & Bachmann

Universität Ulm

Verband Region Stuttgart

Verkehrs- und Tarifverbund Stuttgart

Associated Partners

DB Regio

car2go

City Initiative Stuttgart

DB Rent

Flughafen Stuttgart

Parkraum BW

stadtmobil

Stuttgart Marketing
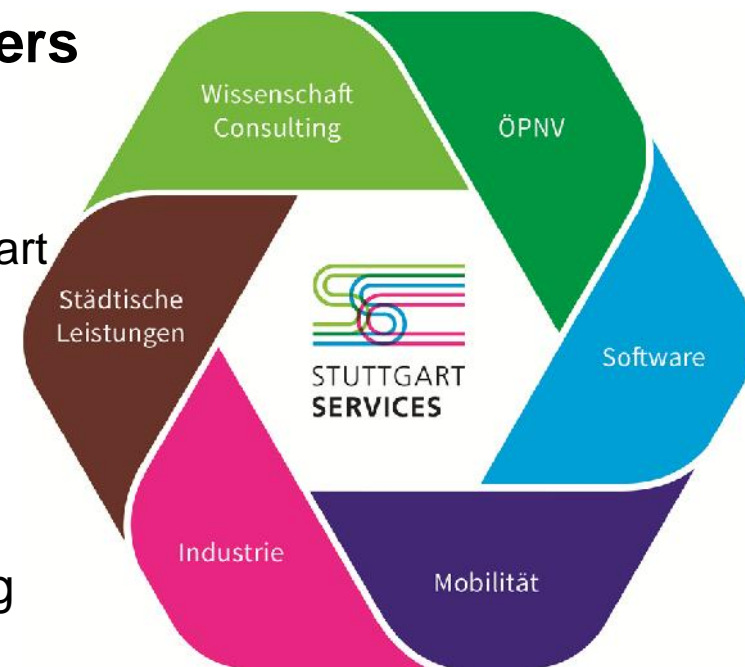
Contact:
Christophe Fondrier
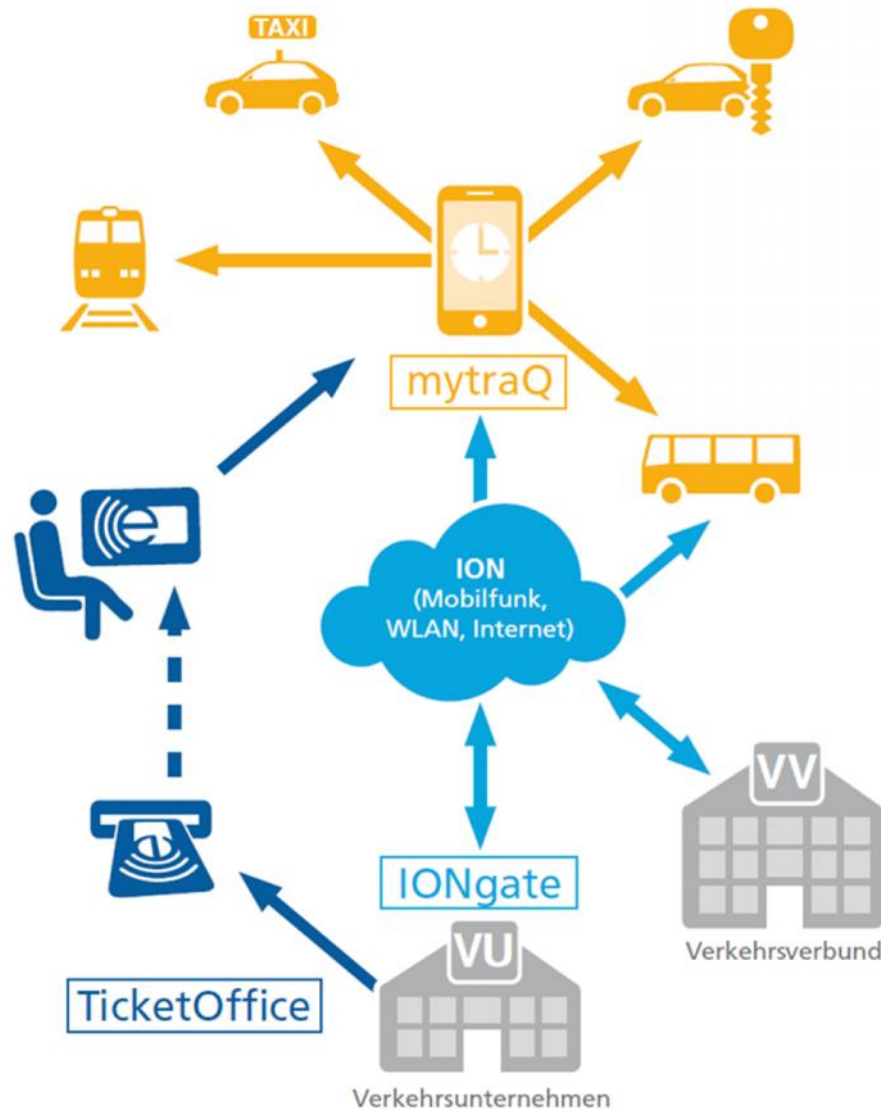highQ
Wankelstrasse 1
70563 Stuttgart
Mail: c.fondrier@highq.de
Phone: +49 – 711 90 14 63 20

Thank you for your attention!

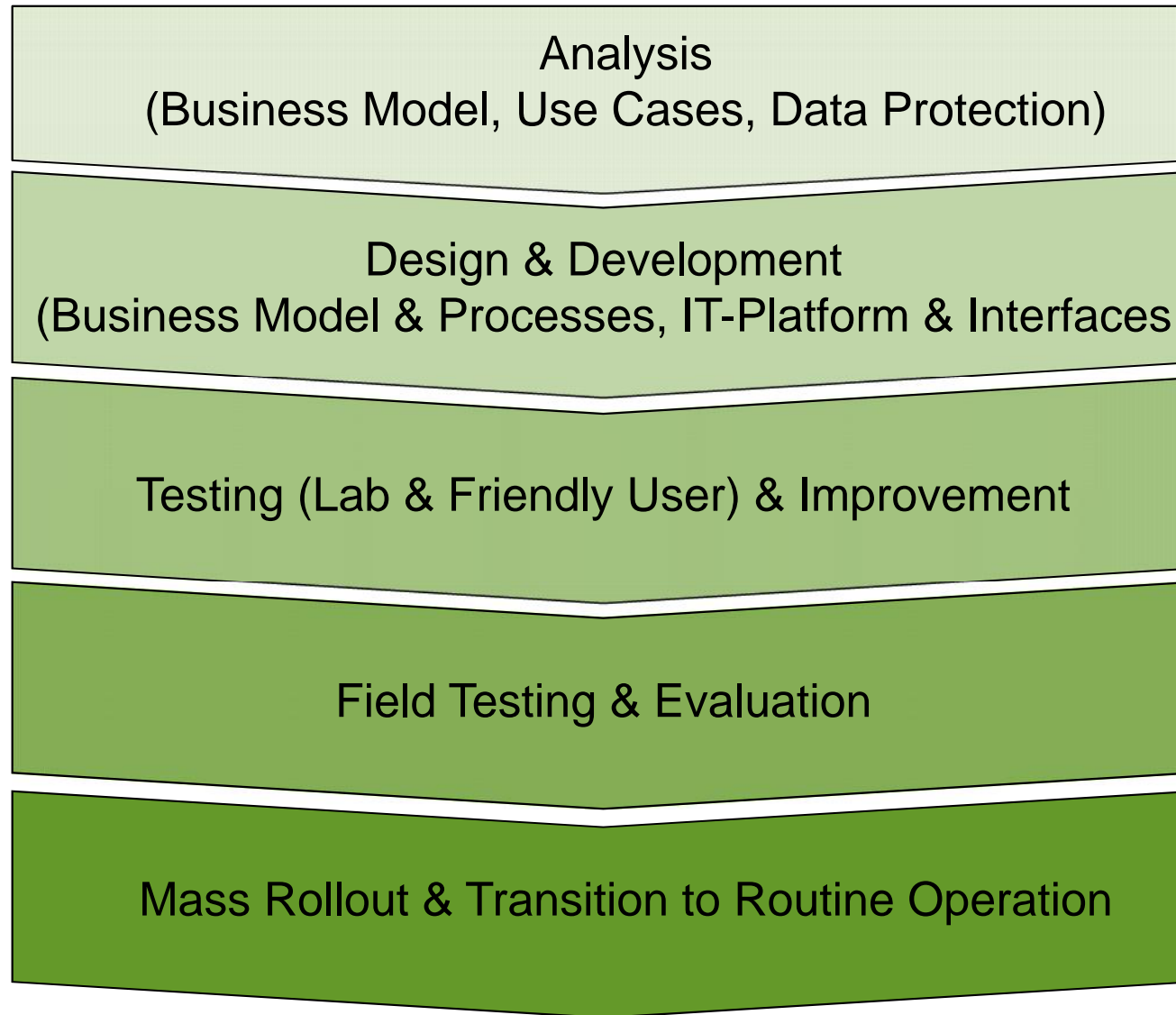SME based in Freiburg, Germany (offices in Hamburg and Stuttgart)

Founded in '96, ~42employees

Goal: comprehensive portfolio of IT-based products and services for mobility providers

Products

❖ TicketOffice: electronic fare management

❖ mytraQ: App for mobile ticketing & more

❖ IONgate:appliance to connect (SME) mobility providers securely & simple

❖ planB: planning & optimizing system (scheduling, duty rosters, timetables)

Analysis
(Business Model, Use Cases, Data Protection)

Design & Development
(Business Model & Processes, IT-Platform & Interfaces

Testing (Lab & Friendly User) & Improvement

Field Testing & Evaluation

Mass Rollout & Transition to Routine Operation

General Requirements voiced by potential customers (excerpt):

Single registration for several services

Simple registration process

Should not be limited to owners of a PC or Smartphone

Availabilty of both automated processes (Internet) and Customer Service Points (e.g. partners' existing service centers)

Single point of truth for all topics (avoid „diffusion" of responsibility vis-a-vis customers/complaints/…)

Multilingual offer

„Rather excellent service than rebates."

Which functions should be offered (excerpt)

Obtaining the card (registration)

General Informationen

❖ Range of service, Uses for the card
❖ Bonussystem (Advantages; Incentive)
❖ Contact / FAQ

Routing

❖ Simple trips and „mobility chains"
❖ Combined products, Reservation / Booking
❖ Information on prices

Login / personal information

❖ Bills, graphic charts on costs
❖ Score bonus program
❖ Info on bonus program (redeem, etc.)

User forum

Market place for Special offers

Information on service disruptions

Which user-specific functions should be offered (excerpt)

Users with special needs

❖ Barrier-free mobility offers
❖ Barrier-free combined products

Categorize offers:

❖ Barrier-free, Culture, Special offers / Last-Minute

Planning/routing support for

❖ Travelling as a group
❖ Travellers with special needs, e.g. Child car seat

Part of website suitable for children

❖ Explain functions to children

Plan and book „mobility chains"

❖ By entering starting point and destination
❖ Search by activity
❖ Browse the list of services offered

Result: several alternative routes

Decision support: Price, Duration…

Register as SSC User

- *Registration using one of several sales channels(Web Service, Customer Service Centers…)*
- *User profile (perferred modes of transport…)*

Activate/ Deactivate Services

- *Activation/ (Temporary) Deactivation of Services, e.g. Carsharing via Web-Service, Public Transport Customer Service Center…*

Use Service based on SSC Media

- *Charge e-vehicle @ EnBW-charging point*
- *Use public transport*
- *Use Car- and Bikesharing*
- *Park (PBW) and Stuttgart airport*
- *Borrow media from public libraries*
- *Pay entrance fee at public baths*
- *Collect Bonus Points for purchases*

Get information / routing

- *Journey planner for pedestrian & bicycle routing and Park & Ride*
- *Journey planner for Car- and Bikesharing*
- *(real time)journey planner for public transport and motorized individual transport)*
- *Comparative and intermodal trip information and routing*
- *Partner and user information (personal data, bonus points…)*
- *Receive information about services, promotional offers, etc.*
- *interactive street map*

Reserve/ Book Service

- *Purchase e-Ticket for Public Transport*
- *Reservation/Booking for Car- and Bikesharing*
- *Reserve Tickets for event at the Public Library*
- *Manage account (cancel Carsharing-reservation…)*

Customer Use Cases

Legend: Use Cases where customer value and implementation costs are high