



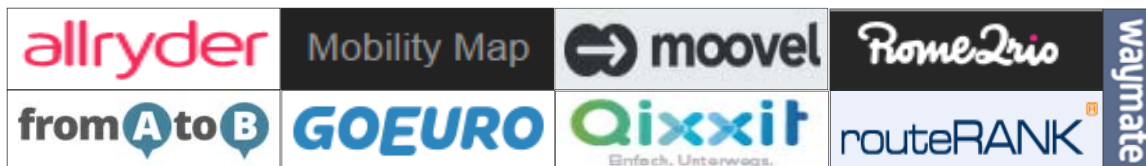
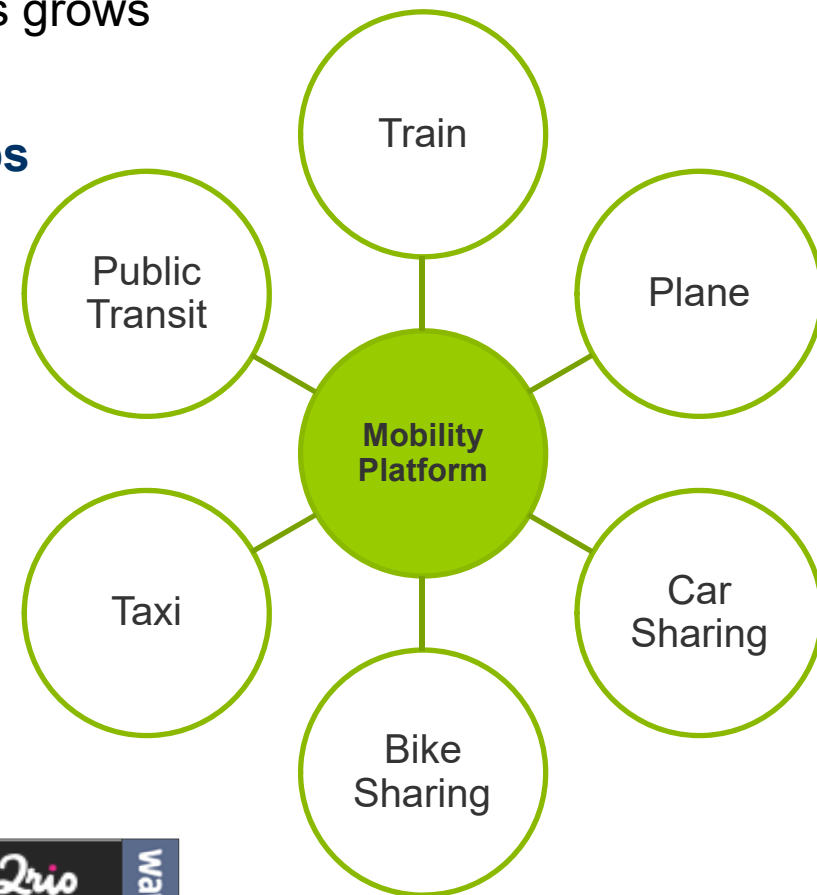
# Combining Mobility Services by Customer-Induced Orchestration

ACM RecTour Workshop  
Boston, Sept 15 2016

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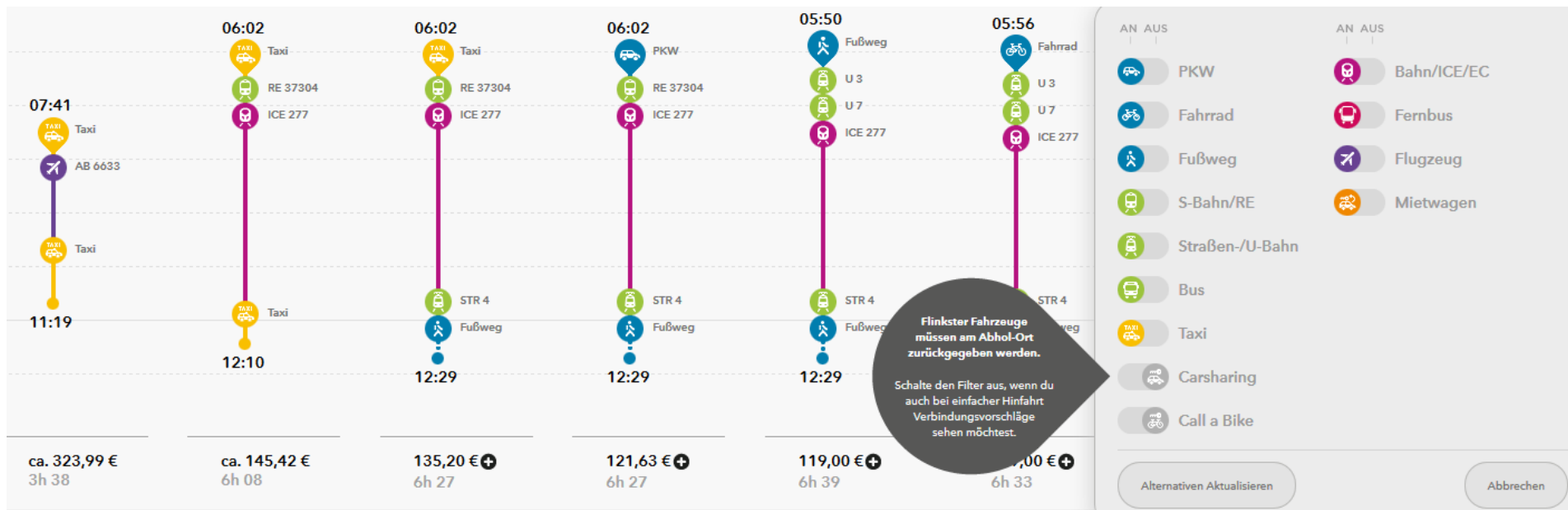
# Background

- The number of (innovative) mobility services grows
- Access to individual services is easy → **apps**
- But: customers expect the solution of a door-to-door problem!
- Multimodal mobility platforms promise to **integrate** different services
- What is the capability of current multimodal mobility platforms?

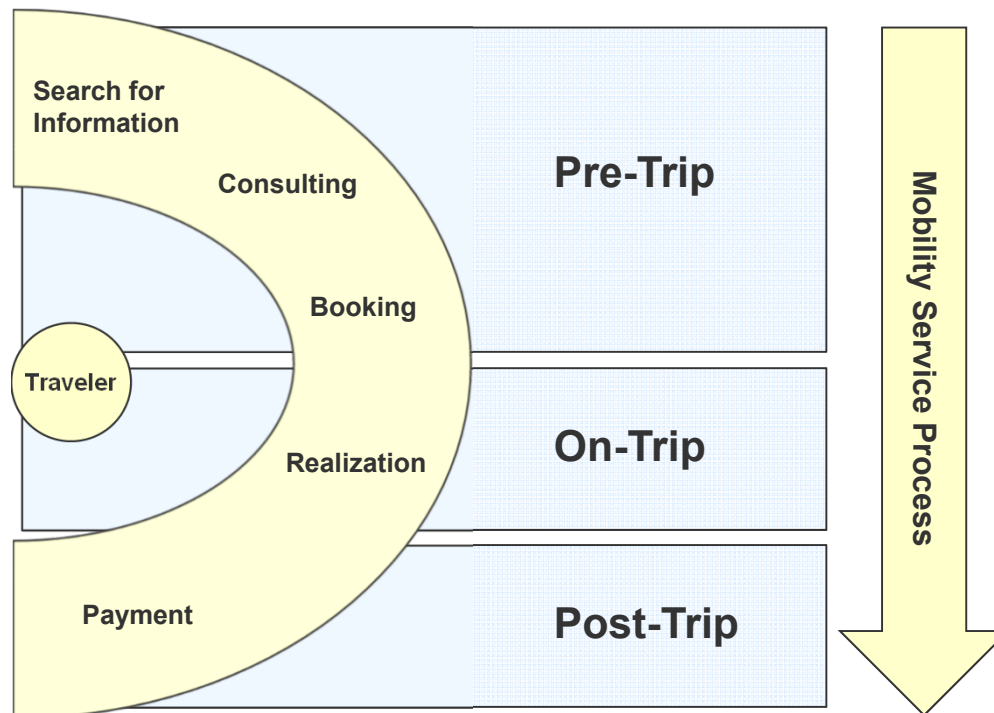


# Mobility Platform Qixxit

- Owned by German Railways
- Door-to-door, multimodal and intermodal search
- Combines and compares car travel, train, rental car, long distance bus, etc.



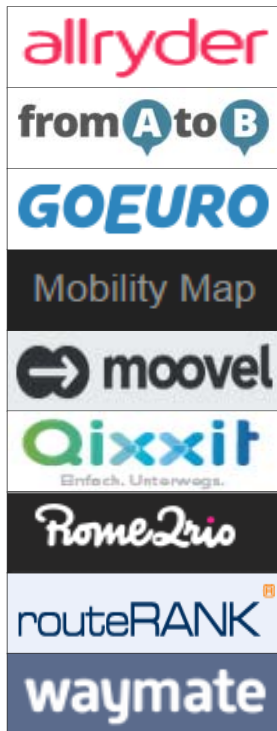
# Systematic Analysis of Mobility Platforms



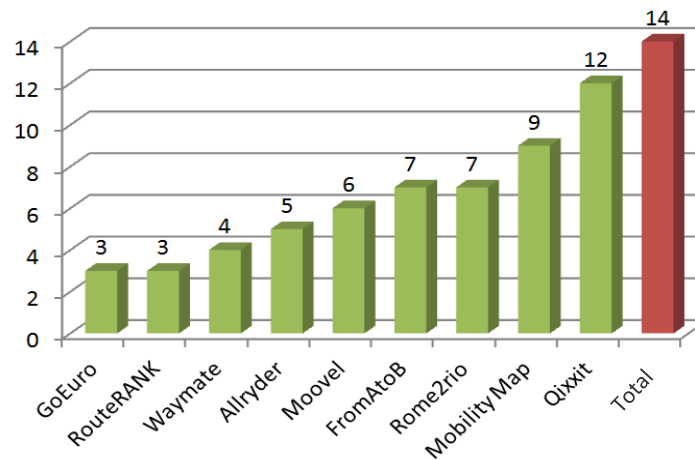
- Based on the general service process (Bodendorf 1999)
- In an ideal setting, multimodal mobility platforms would facilitate the configuration and execution of complex mobility services for all phases of the mobility service process
- We compared existing multimodal mobility platforms currently available in German speaking areas

# Some Results

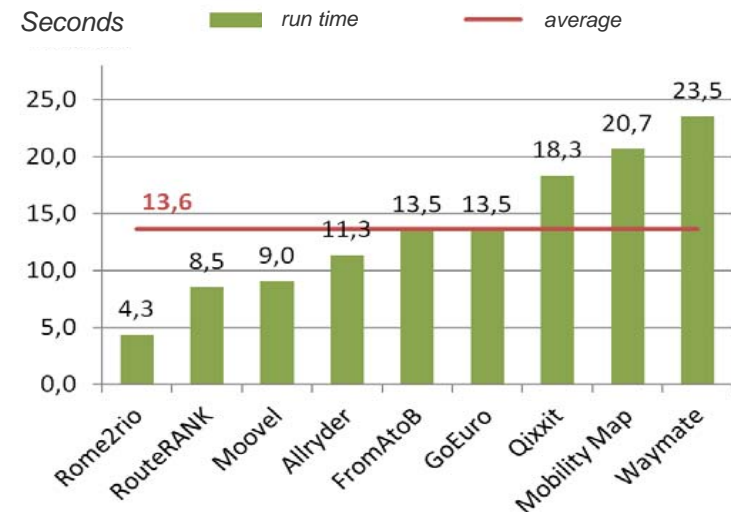
- Analysis of 9 mobility platforms with regard to the **number of services** / supported modes, **computational speed** and **extent of support** (pre-trip, on-trip)



Number of services



Seconds



# Drawbacks of Today's Mobility Platforms

- **Customer context** is considered very rudimentary (age, max. number of transfers, departure time)
- Platforms do not know all relevant services, or they are not **free of discrimination**
- Search for alternatives is usually relatively limited (no interactive specification)
- Resulting alternatives are not **different enough** from a user perspective
- Run times are insufficient
- No **measures of expected service quality** and availability are considered
- Limited integrated booking and **on-trip assistance**

Reiseauskunft

Strecke

Start\*  Bahnhof oder Haltestelle  Ort, Straße Hausnr.  Sehenswürdigkeit (POI)  
 ★

Ziel\*  Bahnhof oder Haltestelle  Ort, Straße Hausnr.  Sehenswürdigkeit (POI)

> Zwischenhalte angeben

Einfache Fahrt  Hin- und Rückfahrt

Datum und Uhrzeit

Hinfahrt\*    Abfahrt  Ankunft



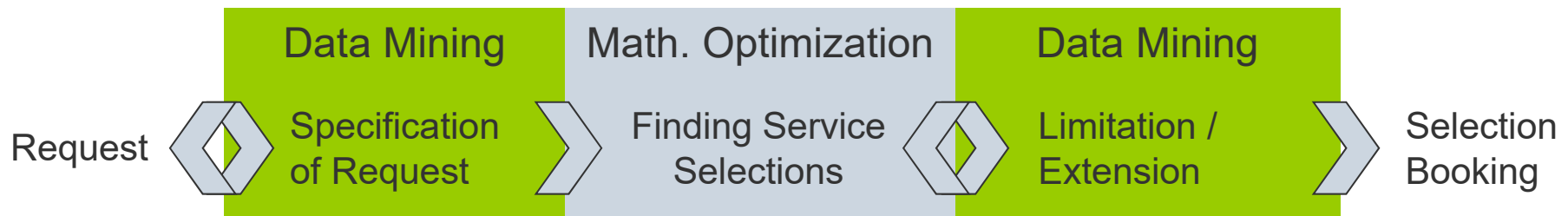
# Following the Customer's Perspective

- Idea: **Customer-Induced Orchestration of Services (CIOS)**
- Build prototype for mobility services
- **Combine different domains** according to customer context → Reference Model
- Proposed methodology:  
Process Modeling, Mathematical Optimization, Data Mining / Machine Learning, Data Security mechanisms
- Customer-induced → **white box** approach



# Automated Service Selection

**Selection and combination of services** based on user preferences, historical queries, service profiles and customer context



**Work in this area?** Please consider our Special Issue **Smart Services: The move to customer-orientation**. Submission deadline: January 30, 2017

