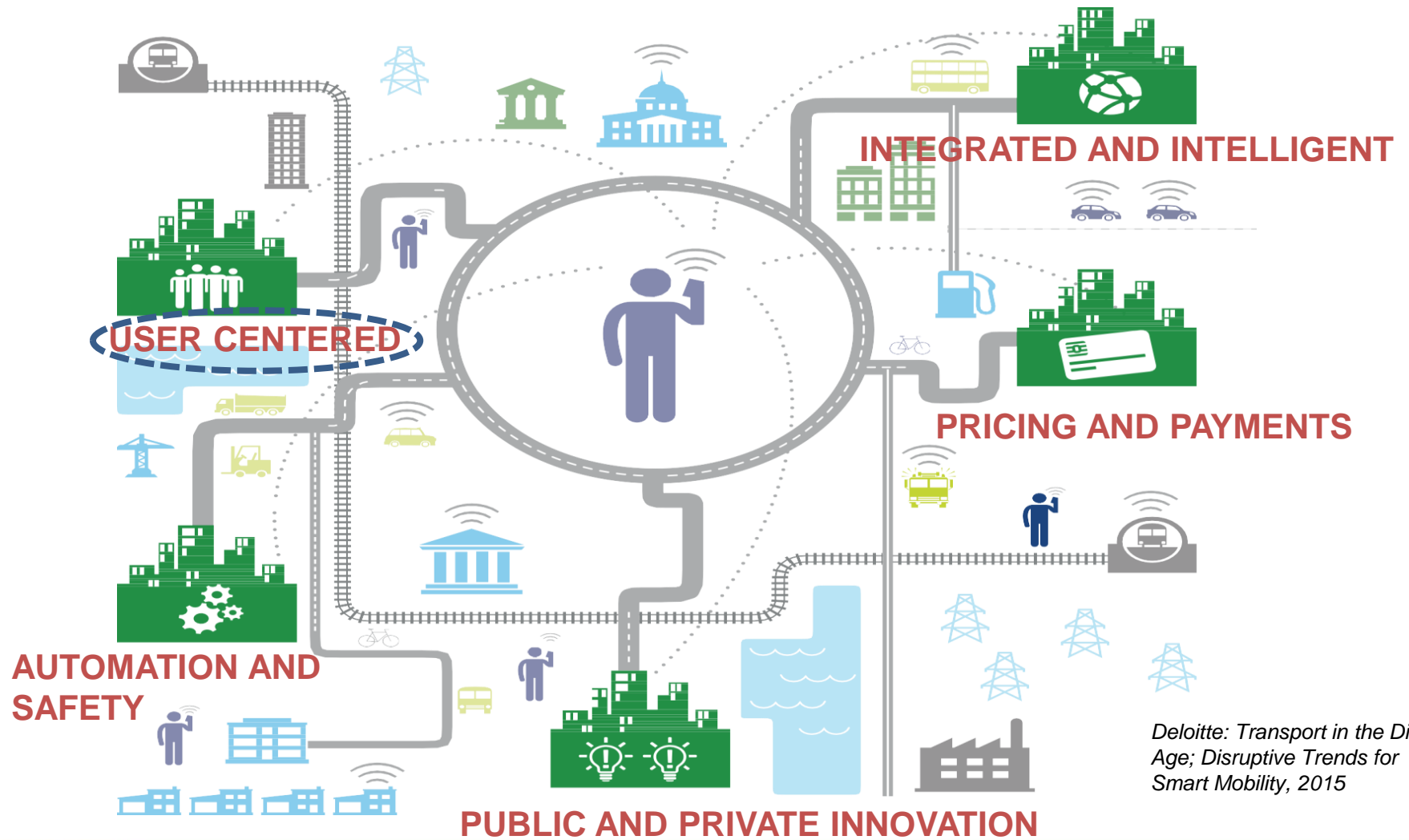# Impact of connectivity and digital infrastructure on value of travel time
MoTiV project

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Innsbruck - Tyrol, Austria

Disruptive trends for smart mobility

INTEGRATED AND INTELLIGENT

USER CENTERED

PRICING AND PAYMENTS

AUTOMATION AND SAFETY

PUBLIC AND PRIVATE INNOVATION

*Deloitte: Transport in the Digital Age; Disruptive Trends for Smart Mobility, 2015*

Changing Value of Travel Time: traditional and emerging views

- *"Travel Time is not productive"*:
"lost" time as an economic loss (justifying aim of time savings)

VS

- *"Travel time may be valuable"*:
value "measured" in terms of quality of experience, not necessarily to productivity or economic indicators (time/cost savings)

What does represent value in mobility from the traveler perspective?

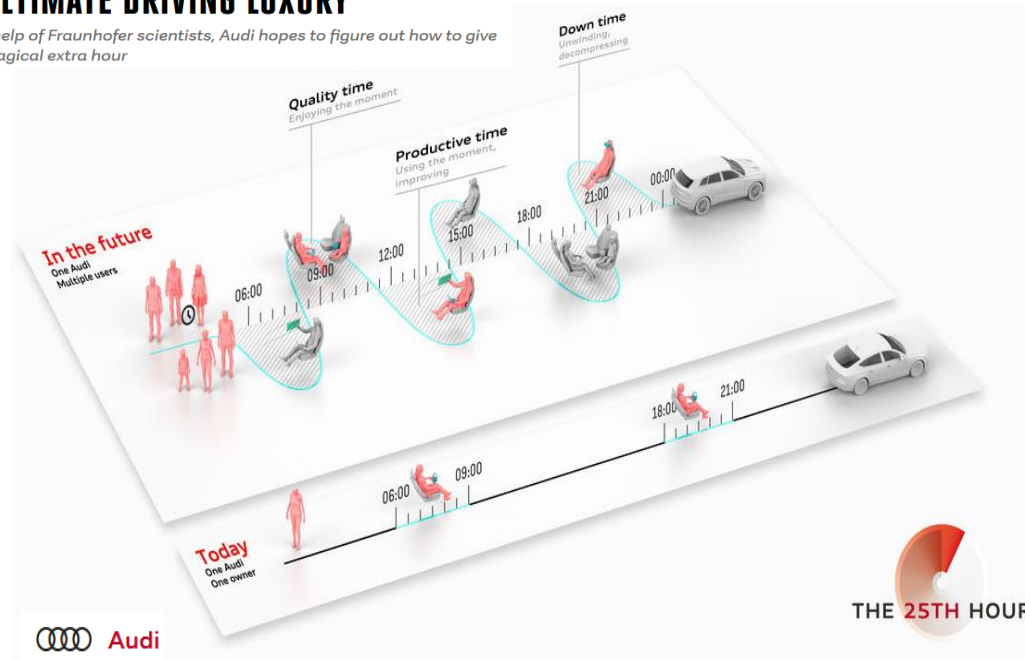# Changing Value of Travel Time: business perspective
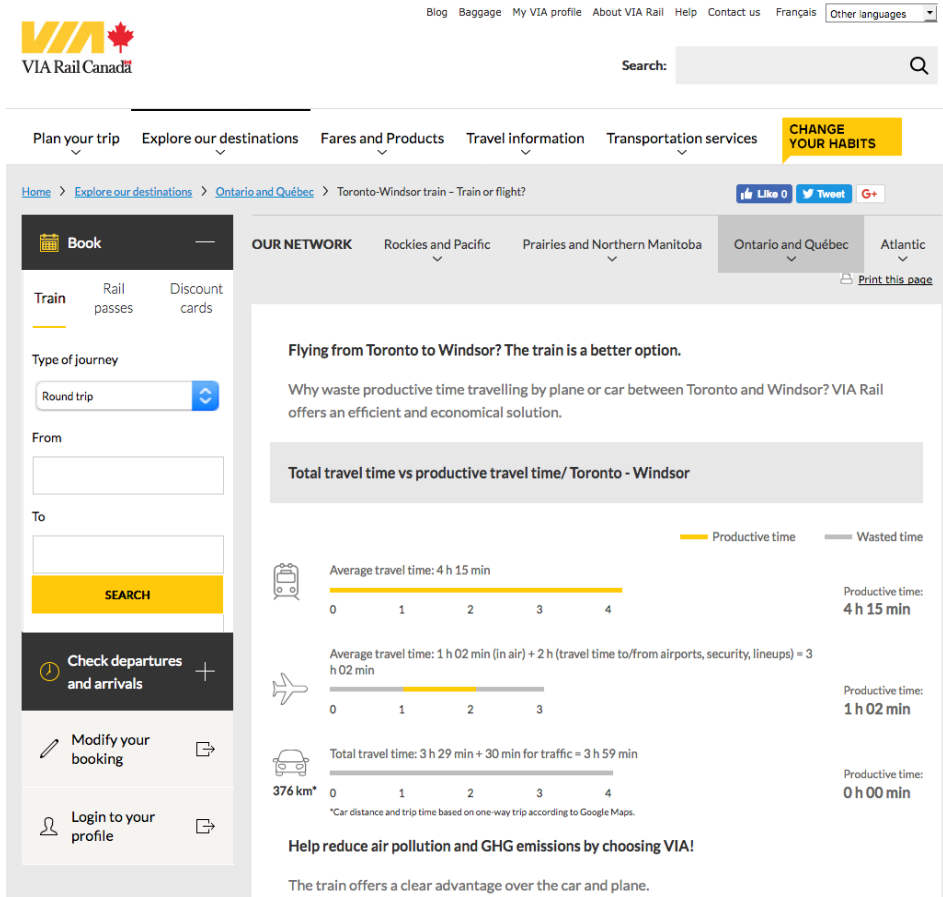
Canadian rail company promoting **time spent in trains as fully productive despite longer travel time** (compared to car and plane)

Assumption: **time value** connected to **possible activities,** in line with traveller needs, expectations and lifestyle

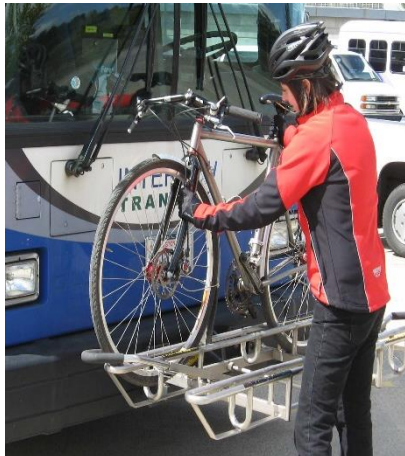# Changing Value of Travel Time: business perspective

Audi's context: self-driving cars

Three categories of Time Perception

- Quality Time
- Productive Time
- Down Time

Changing Value of Travel Time: transport operators perspective

Public transport operators recognize that **even short-distance travel time (i.e. urban context) is not only about getting people rapidly and safely to destination**

Increasing amount of free-of-charge services enhancing travel experience and supporting activities while on the move

- USB chargers
- Wi-Fi onboard
- Entertainment and information displays
- Bike racks
- …

Mobility and Time Value (MoTiV)

- **30-month project funded under H2020 call MG-8-5-2017** started in 1 November 2017
- **Action Type:** Research and Innovation Action(RIA)
- 7 Partners from 6 EU Countries

PARTNER	COUNTRY	PROFILE
University of Žilina (UNIZA)	Slovakia	University
Eurecat	Spain	Research Organisation
TIS PT – Consultants in Transport, Innovation and Systems	Portugal	Consultancy Company
European Cyclists' Federation Aisbl (ECF)	Belgium	European-wide end-user Association
routeRANK Ltd	Switzerland	Company
Coreorient Oy	Finland	Company
INESC ID - Institute of System and Computer Engineering in Lisbon	Portugal	Research Organisation

MoTiV Rationale and MoTiVation

- **Smart City Transition:** focus on perceived "quality of time"
    - Strategic objective: designing smart city, its services and infrastructure for "worthwhile" use of time

- **Why "worthwhile time" instead of "productive time"?**
    - Quality of living is not only about "effective" and "productive" use of time
    - Need to extend "time and cost savings" with other relevant dimensions of value
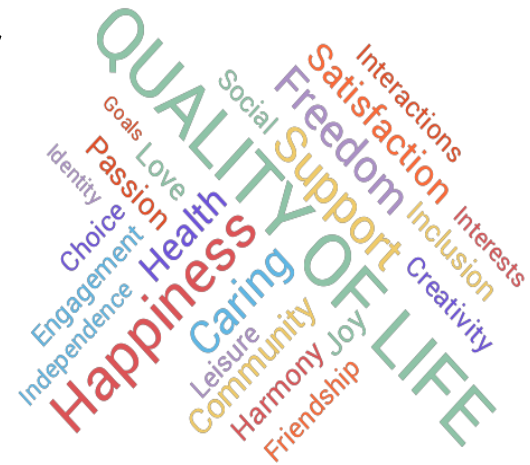
Approach: What makes time valuable while on the move?

- **Identifying "enablers / satisfiers"** (as well as "dissatisfiers") **of worthwhile travel time**

- **Focus on the individual Travel Experience**
  - **Personal characteristics** including (but not limited to)
    - Attitudes and preferences towards mobility and time
  - **Exploring travel activities**
    - Leisure / Work-related activities
    - Role of digital connectivity and devices
  - **Investigating role of contextual factors**
    - Cognitive and emotional status
    - Space and locations (transit / destination location)
    - Transport and mobility services / infrastructure
    - Weather
    - …

Approach: Collecting and analyzing Data on Travel Experiences

- **Smartphone-based data collection via the MoTiV app** (available by the end of 2018)

- **Continuous collection of mobility/activity behaviours**
  - smartphone-based sensing of mobility behaviour
  - traveler's input on activities and time appreciation (e.g. ratings, contextual surveys on influence factors)

- **Gamification and campaign incentives for user engagement**
  - Completion of tasks (e.g. validating day trips, filling contextual survey) associated to e.g. points/credits, badges
  - "Offline" incentives to also engage users less interested in gamification aspects

MoTiV App

MoTiV Data Collection Campaign

- **Target:** Minimum 5.000 valid samples (active use for minimum 2 weeks) from as many users from at least 10 EU countries

- **Obtain a balanced sample** in terms of:
  - **Age:** young adults (16-24 y), adults group 1 (25-49 y), adults group 2 (50-64 y), older population (65+).
  - **Gender:** male, female.
  - **Transport modes:** walking, cycling, public transport, car use, shared mobility, long-distance train, plane.
  - **Residence:** urban/sub-urban, rural.
  - **Socioeconomic status**
  - **Other demographic indicators**

MoTiV Outcomes

- **To introduce and validate a conceptual framework for the estimation of value of travel time (VTT)**
  - Broaden definition of VTT beyond "time savings"
  - Gain knowledge on traveler's reasons/purpose connected to the perceived value proposition of mobility
  - Assess to what extent ICT connectivity and transport services/infrastructure affect VTT
  - Provide specific actions and recommendations for all stakeholders (including end users) shaping the value proposition of mobility

MoTiV – ERAdiate outcome

- ERA Chair pilot project funded under FP7 Pilot (2014-2019) at the University of Žilina, Slovakia
  - Part of H2020 pillar "Spreading Excellence and Widening Participation" expected to close the research and innovation gap in the EU
  - 11 ERA Chair projects funded out of 111 applications

- Contribute to scientific excellence in ITS and support regional innovation strategies fostering economic and social development

- Build an attractive and internationally competitive environment at UNIZA through the development of human resources and maximisation of research infrastructure exploitation

Interested?

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