

ERAdiate

Enhancing Research and innovAtion dimensions of the University of Zilina in intelligent transport systems

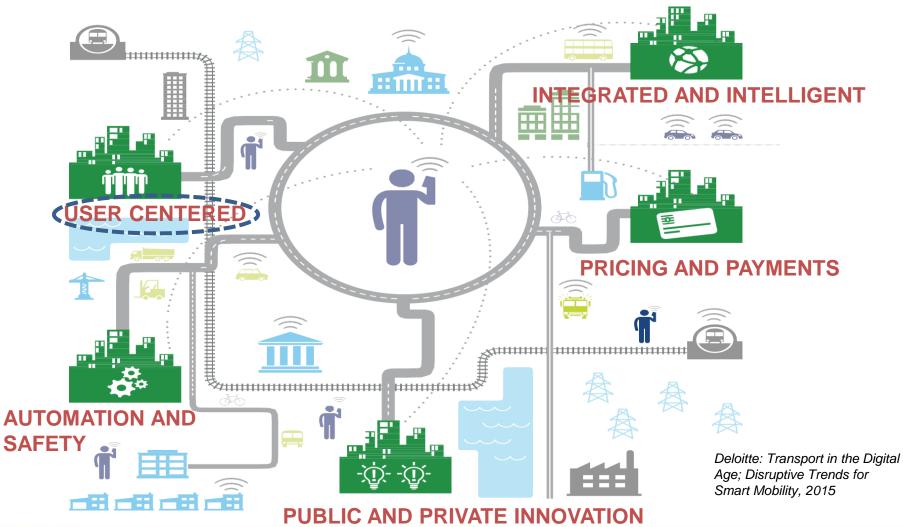
Impact of connectivity and digital infrastructure on value of travel time *MoTiV project*

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Disruptive trends for smart mobility





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

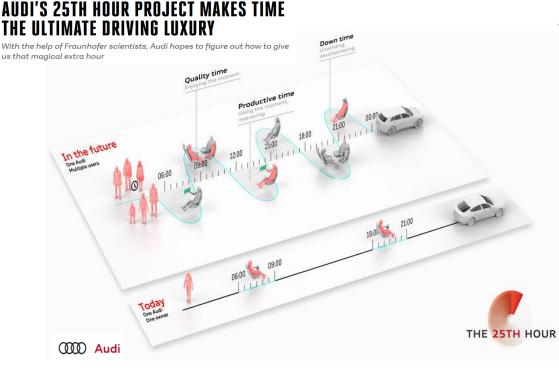
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Total travel time vs productive travel time/ Toronto - Windsor			
То	Productive time Wasted time		
	Average travel time: 4 h 15 min		
SEARCH	O 1 2 3 4 4 h 15 min		
Check departures +	Average travel time: 1 h 02 min (in air) + 2 h (travel time to/from airports, security, lineups) = 3 h 02 min		
and arrivals	O 1 2 3 Productive time: 1 1 2 3 1 h 02 min		
✓ Modify your booking	Total travel time: 3 h 29 min + 30 min for traffic = 3 h 59 min Productive time:		
O Login to your	376 km* 0 1 2 3 4 0 h 00 min "Car distance and trip time based on one-way trip according to Google Maps.		
A profile ⊖	Help reduce air pollution and GHG emissions by choosing VIA!		
The train offers a clear advantage over the car and plane			

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: selfdriving 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 shortdistance travel time (i.e. urban context) is not only about getting people rapidly and safely to destination

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

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

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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
<u>Eurecat</u>	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 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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