NEWBITS

NEW Business models for **I**ntelligent **T**ransport **S**ystems

Developing innovative business models for ITS applications by using a value-network approach

Webinar

04 October 2018 – 16:00 CET / 15:00 GMT / 10:00 EST

newbits-project.eu

NEWBITS Project

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What you will learn

EU-Project	Developing business models	Business ecosystem
Get to know the NEWBITS project and its goals	**Find out** how to use a value-network-based approach to craft new business models for ITS services	**Understand** the importance of the dynamics of intangible value flows between stakeholders

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Speakers

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SPEAKER

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Facts about NEWBITS

- **Funding |** Horizon 2020
  Smart, Green and Integrated Transport
- **Duration |** 30 months (Oct 2016-Mar 2019)
- **Partners |** 9 partners from 6 countries
- **Coordinator** | Viara Bojkova, Ortelio

- **Aim |** An improved the understanding of the conditions affecting Intelligent Transport Systems (ITS) innovation deployment using an improved value network-based framework that
  - minimizes failures inherent to (C-)ITS innovation diffusion
  - evolves current business models
  - identifies effective incentives to accelerate (C-)ITS deployment

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NEWBITS Case studies

1

University carpooling service in Spain

an example of the sharing economy collaborative consumption, where the platform matches users to vehicles to reduce unnecessary trips

2

Urban traffic control solution in Italy

an example of the ‚Internet of Things' (IoT) smart city's C-ITS platform to monitor drivers' behaviour and forecast

3

Container tracking service in the NL

an example of how smart data analytics and real-time information can improve the logistic chain

4

Rail maintenance solution in the UK

an example of big data analytics and visualisation service of infrastructure assets to avoid unplanned repairs

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Methodological Framework

To explore any deployment of ITS innovation with the involvement of multiple stakeholders, we established three methodological stages:

- **Stage 1** Define relevant case studies
- **Stage 2** Apply key concepts that can be extrapolated to the ITS domain such as Business Ecosystem
- **Stage 3** Formalise the model by developing a 5-step tailor-made Value Network Analysis

Reference:
Bojkova V., Leal X., M. Piera, “Developing Innovative Business Models for ITS applications: Value Network Approach”. ITS World Congress 2018 Proceedings.

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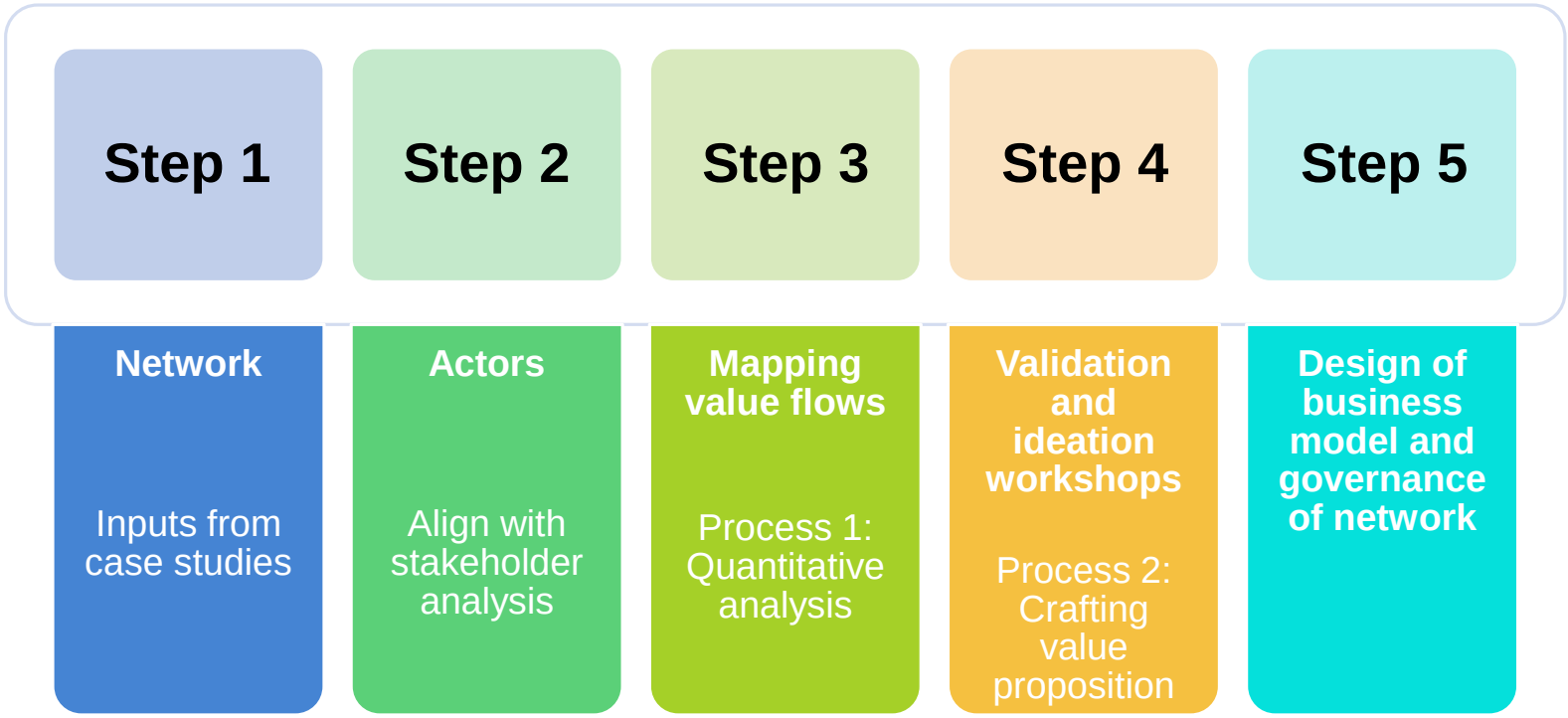
5-step tailor-made Value Network Analysis



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Step 1 | Identification of Network

- CS1: VaoPoint Mobility, Barcelona, Inter-city carpooling platform that matches users to vehicles

- Size of network: 10 stakeholders
- Direct value flows: More than 100
- Indirect value loops: More than 1,000

- Central stakeholder: Autonomous University of Barcelona (UAB)
- Primary stakeholders: Aslogic, UAB LOGA, UAB CORE, UAB Mobility unit, FrontierCities, Members of Community, Websays
- Secondary stakeholders: Government, Educators (colleges, schools)

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Step 2 | Identification of Stakeholders

Stakeholders are those who:

(1) have a direct or indirect involvement in the core activity;

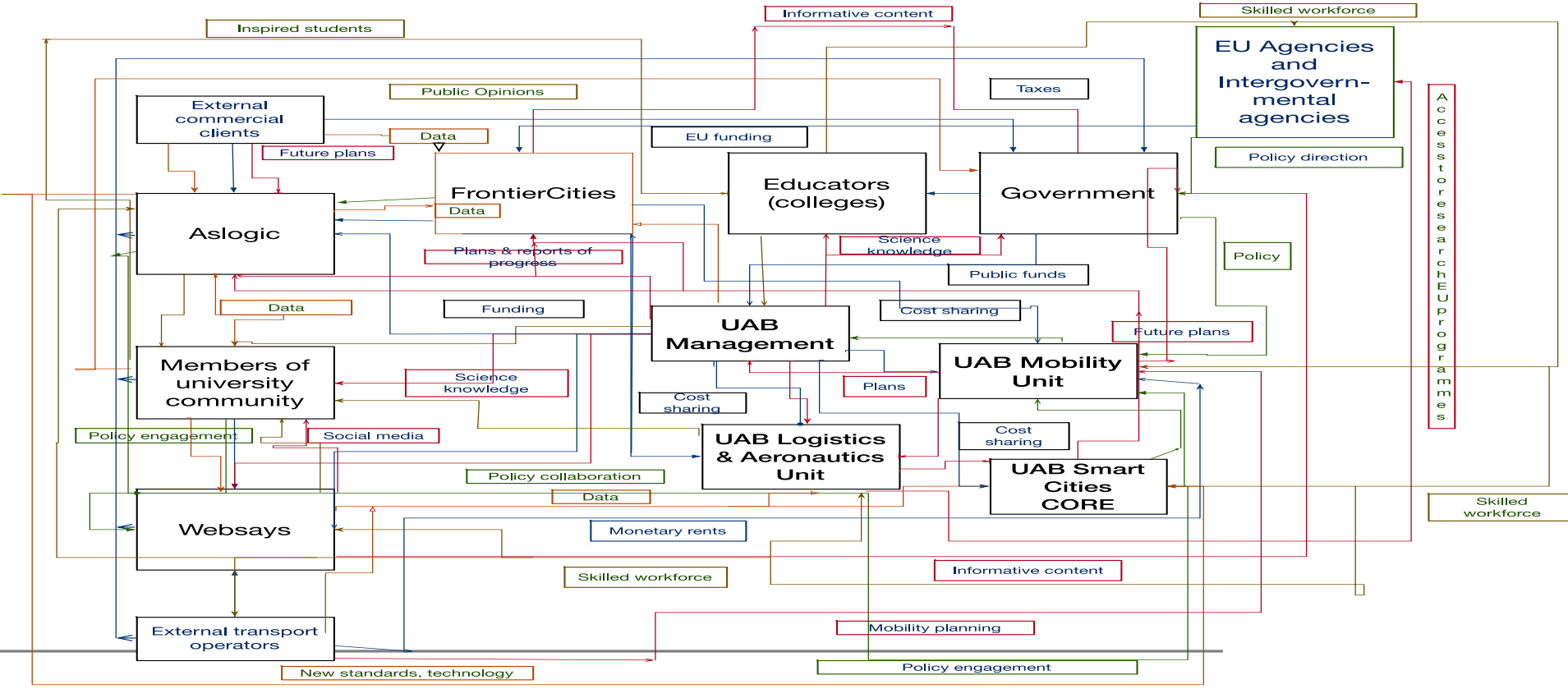
(2) receive direct or indirect benefits from the core activity;

(3) possess a significant, legitimate interest in this core activity (regulators).

In the stakeholder network each stakeholder is treated as a **node** with **links** to the rest of the network.

Stakeholder objectives, needs and inputs/outputs – these details were requested by the stakeholders of each network, primarily their roles, objectives and needs in order to trace the inputs that each stakeholder receives from others.

Step 3 | Value Flows Map



Step 4 + 5 | Quantitative Analysis and Business Model Visions

- Surveys
- Ideation workshops to validate results
- Joint group discussions with the involvement of external experts
- Calculations of value loops and ranking of stakeholders' major interactions
- Conclusions and Recommendations

SPEAKER

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Socio-Technical Systems

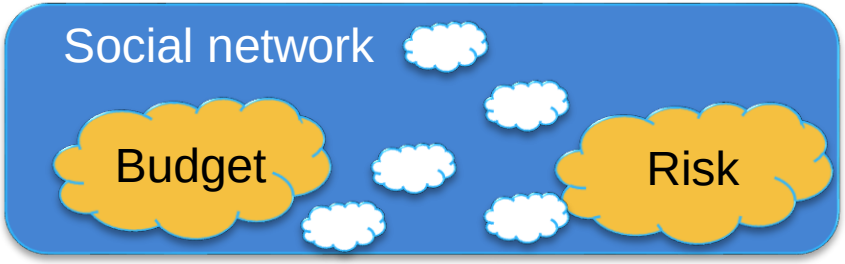
1. Do I adapt the competences of my company or do I look for a partnership with the right competences ?
2. Aversion to the innovation risk vs. excessive enthusiasm?
3. Know-how flows among partners vs. effectiveness of the organization's work groups and structure?
4. Cost vs.utility (the match between user needs and functionality), usability (ability to utilize functionality in practice) and likeability (affective evaluation)

Time-to-market

Cultural Barrier

Acceptability

Trust



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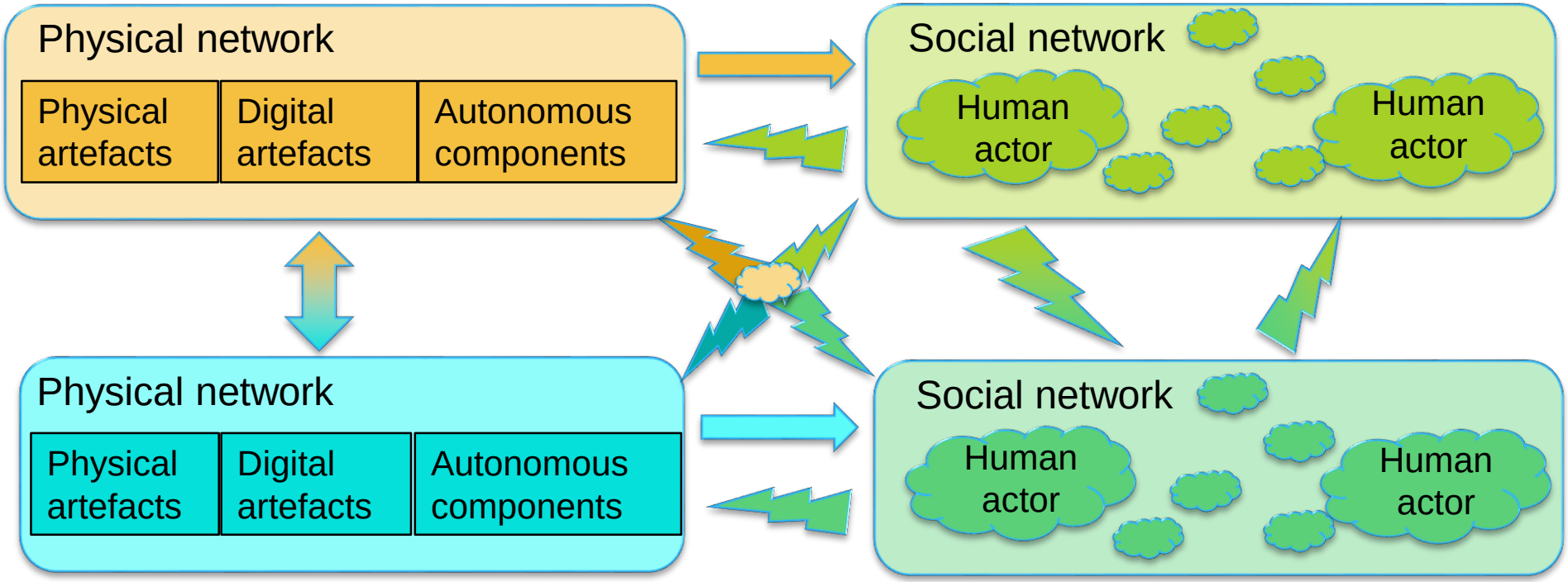
Socio-Technical Approach to Business Ecosystems



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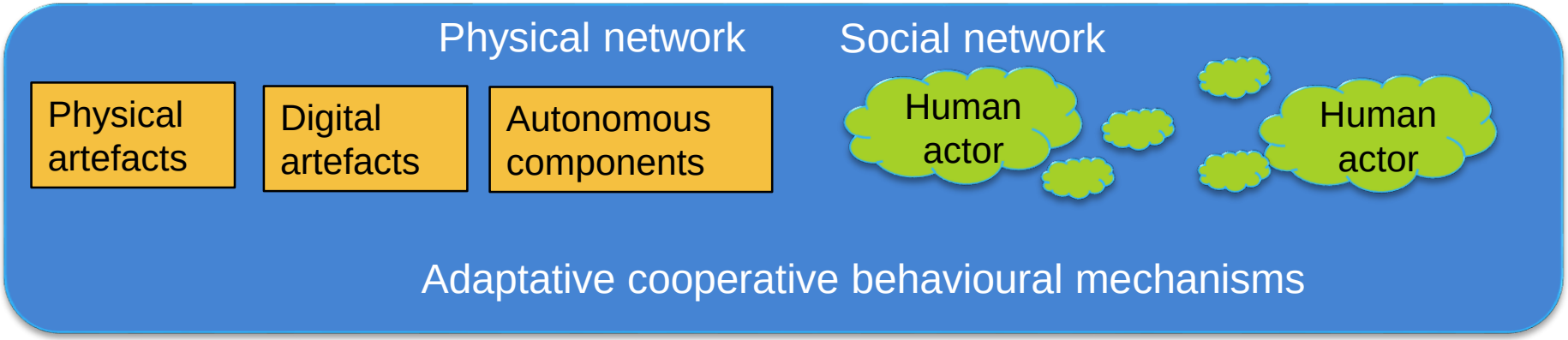
Hidden Behaviours of Business Ecosystems

Business ecosystems behave as **complex adaptive systems** (CAS):

- Multiple loops and multiple feedback paths between actors/components
- Inhibitory interdependencies
- Preferential reactions
- Business evolves over time due to member's interactions and its everchanging business environment



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Internal Structure of Business Ecosystems

Business ecosystems envisage to reach a **stable structure** to be competitive:

- Is there any method to check for the right amount of stakeholders?
- How member's competencies could complements in a cooperative framework ?
- How value could be created by putting together their assets and skills?

Expected Business ecosystem **robustness** is founded on:

- Risk sharing
- Competitive time to market

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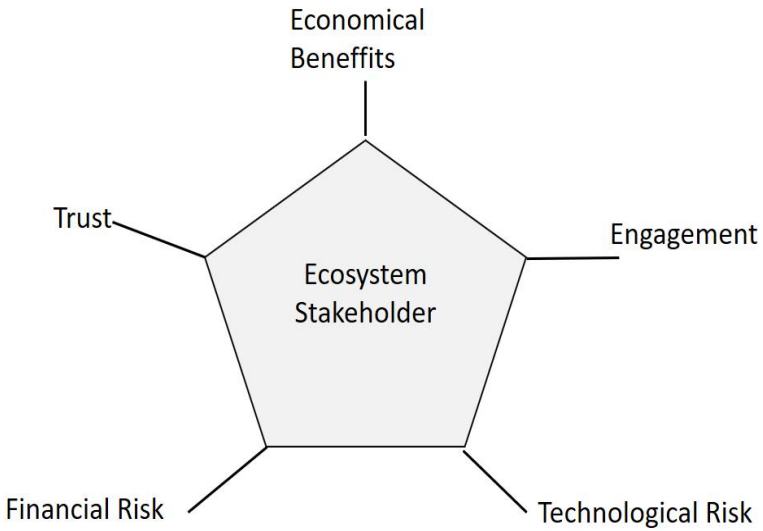
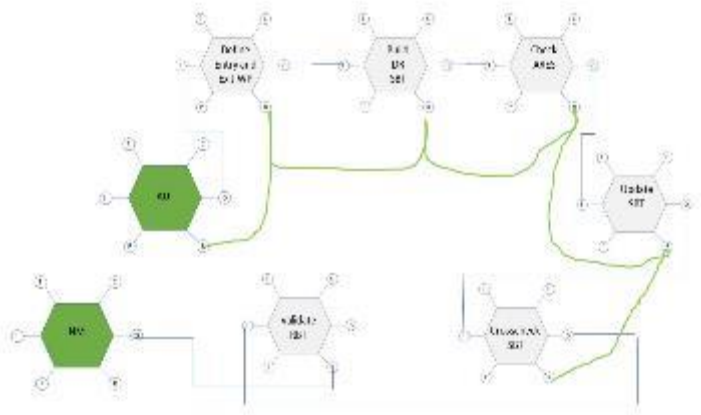
Agent Technology to understand Business Ecosystems

Agents' behaviour is described by rules which consider:

- The effects of receiving tangible or intangible values
- The positive or negative network externalities
- Other agents' status in making its own decisions





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Key Characteristics of Business Ecosystems

Engagement: It represents the importance of the stakeholder in the ecosystem and is measured by the amount of stakeholders in which it can influence.

Trust: Sharing organizations' know-how is an important enabler for the ecosystem as a whole but it can weaken the role of the stakeholder in the ecosystem if its competences can be absorbed by another stakeholder.

Technological Risk: Despite the fact that some technologies have been tested and validated, its integration in an ITS development have inherent risks. This attribute considers only the technological risk of a stakeholder to fit the ecosystem's expectations.

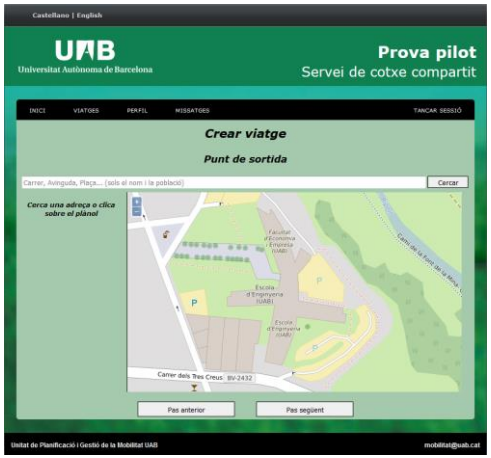
NEWBITS Case study I – VAOPoint

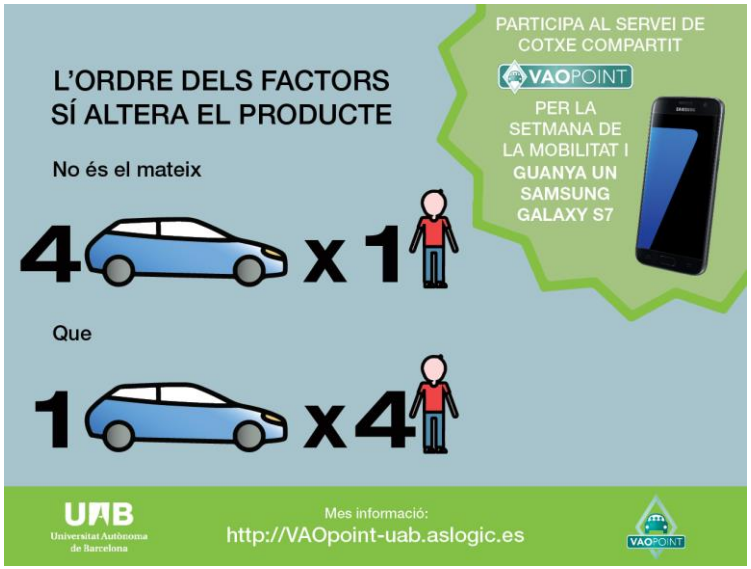
UAB mobility survey: Average vehicle occupancy rate = 1,2 people/car

Main aspect conditioning car use: travel time, flexibility, autonomy

Carpooling platform prototype: UAB's own app to avoid demand segmentation

Possibility to check if the user's share a car





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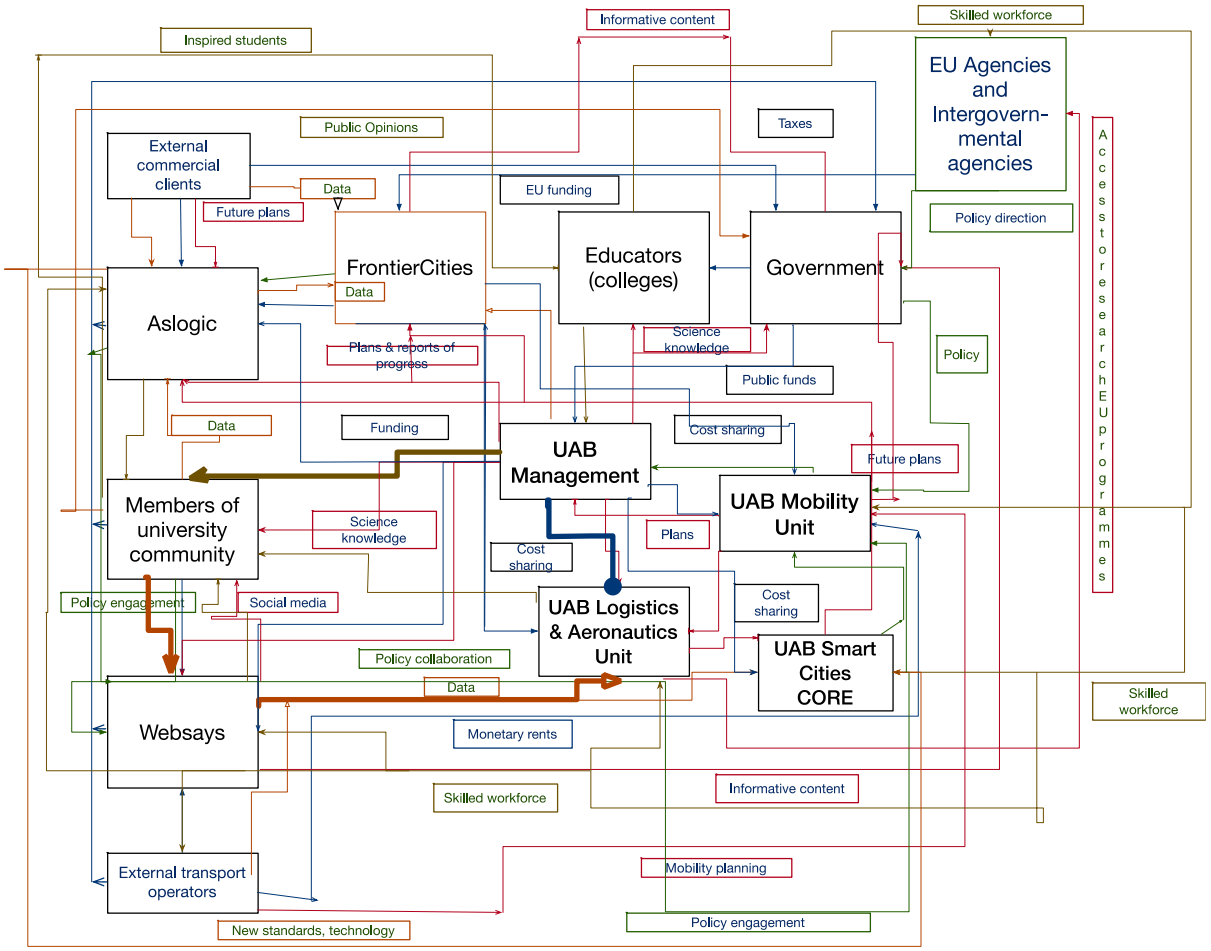
Inspired students
Informative content
Skilled workforce
EU Agencies and Intergovern-mental agencies
Public Opinions
Taxes
External commercial clients
Data
EU funding
Future plans
Policy direction
Access to research EU programmes
FrontierCities
Educators (colleges)
Government
Aslogic
Data
Science knowledge
Plans & reports of progress
Policy
Public funds
Data
Funding
Cost sharing
UAB Management
Future plans
Members of university community
UAB Mobility Unit
Science knowledge
Plans
Cost sharing
Policy engagement
Social media
Cost sharing
UAB Logistics & Aeronautics Unit
UAB Smart Cities CORE
Policy collaboration
Data
Skilled workforce
Websays
Monetary rents
Informative content
Skilled workforce
External transport operators
Mobility planning
Policy engagement
New standards, technology

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Conclusions

- **Business Ecosystems** provides a framework for a better understanding of the changing conditions and dynamics that affect and/or influence ITS innovations.
- **New KPIs** should be designed to feed reactive and network oriented value creation propositions that improve the collaborative decision-making process across the various stakeholders in order to:
- Minimize the failures inherent to **ITS innovation diffusion.**

More information in http://newbits-project.eu/publications/deliverables/

- D4.1 Formalization of NEWBITS modelling method and systemic business dynamics
- D4.3 Report on Value Network Analysis for NEWBITS

NEWBITS Webinar Series

Recordings on www.newbits-project.eu

Unveiling the Potential of ITS Applications / Services in Europe

- **results from a conjoint analysis** specifying elements of an ITS service that are **key for the potential user**
- **market insights** for four ITS services (representatives for the current ITS market in Europe, covering all ITS market segments (ATIS, ATMS, ATPS, APTS, CVS) and different transport modes)

Communities of Interest (CoIs) for the advancement of new collaborative business models of C-ITS products and services – NEWBITS Network Platform (NNP)

- how a CoI - an **exchanging accumulation of different stakeholders**, which share common goals and interests - can create a momentum to drive the development of new business models for ITS.
- **functionalities, tools and features** of the online ITS collaboration tool NNP

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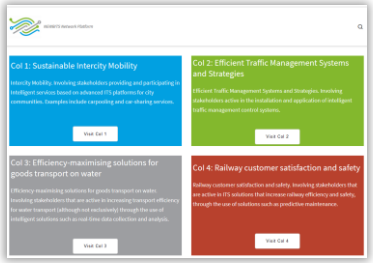
Join the NEWBITS Network Platform today !

Online Collaboration Tool for ITS Services



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