



# NEWBITS

NEW Business models for Intelligent Transport Systems





## Unveiling the Potential of ITS Applications / Services in Europe

Webinar

25th June 2018 – 16:00 CET / 15:00 GMT / 10:00 EST



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 723974.

 [newbits-project.eu](http://newbits-project.eu)  
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## What you will learn

**EU-Project**

**Get to know**  
the NEWBITS  
project and its  
goals

**Conjoint  
Analysis**

**Find out** which  
elements of an  
ITS service are  
key for the  
potential user of  
the service

**Market  
Research**

**Gain** novel  
market insights  
from selected  
ITS markets in  
Europe



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## ITS services discussed

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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## Speakers



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## SPEAKER

# Viara Bojkova

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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





## Status quo in ITS deployment

### Achievements



Basic technology of C-ITS developed and improved in past decade



Technical feasibility demonstrated in many projects



Standards developed as result of projects

### Obstacles



Services not resonate with **consumer needs**



Insufficient time spent on last mile effort: **no clear business models**



**Redundancy**: many ITS projects have been launched without a full evaluation of existing solutions



**Difficult cooperation** frameworks between private and public actors + development of multiple and competing technologies



## Approach by NEWBITS in Europe

- **The effects of digital transformation** manifest
  - in the **creation of new markets**,
  - the **distractive creation** in many sectors of the real economy (health, transportation, finance, education, agriculture and others),
  - the emergence of **new forms of work** and a trade landscape
- **Policies to support digital innovation** tend to focus on
  - innovation networks, access to finance, data use and security of data, but pay less attention to knowledge-based capital and data analytics <sup>(1)</sup>
- **Many businesses develop new business models** to create additional business value by extracting, refining and capitalizing on data <sup>(2)</sup>





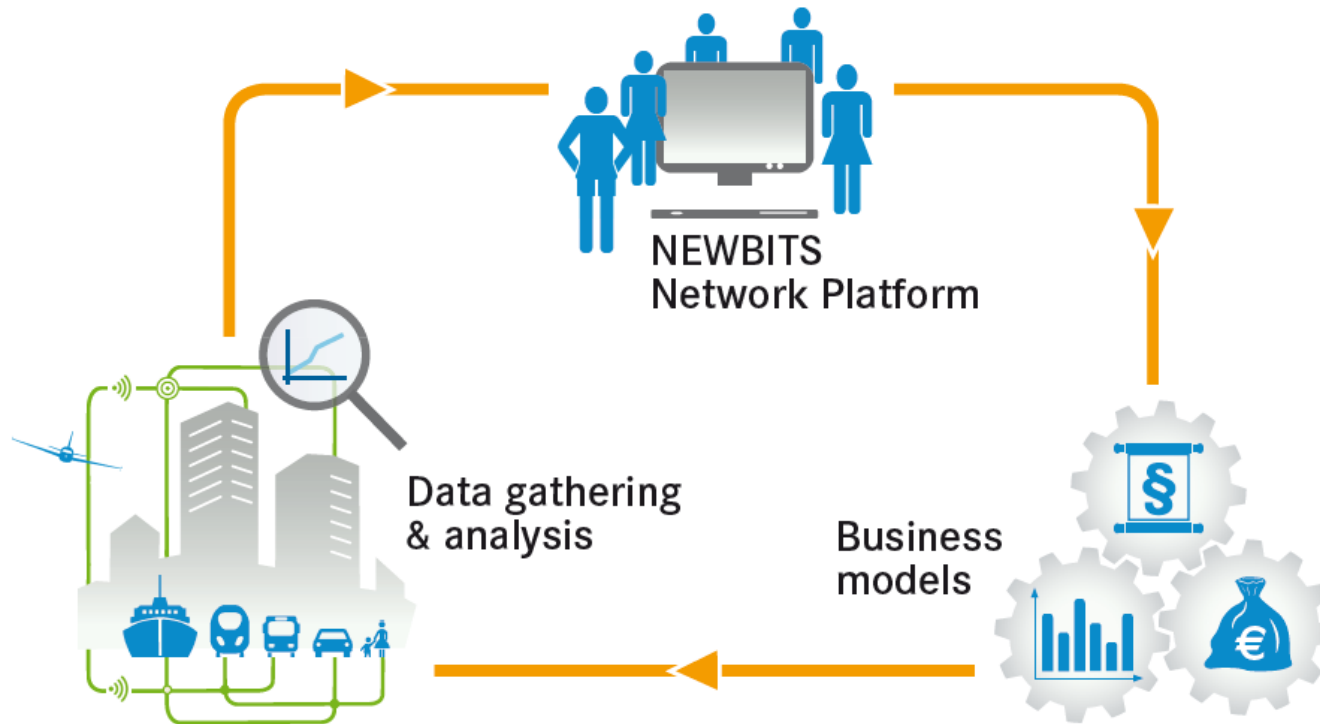
## Approach by NEWBITS in Europe

### Digital markets and ecosystems

1. Digital technology (goods) and the “end-to-end” principle of the Internet has moved the intelligence of the network from the centre to the periphery. Users are free to design their own networks through mailing lists, hyperlinks and social networks;
2. Digital technology (goods) enables expanded interactions and behaviour among individuals, communities (end-users), businesses and governments via the multi-sided markets, which we know as platforms;
3. Digital technology (goods) are aspatial. Value mobility and the global reach of Internet enable value creation, transaction and interaction regardless of borders or geographical territories.



## Approach by NEWBITS in Europe





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## SPEAKER

# Ivan Zaldivar

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## NEWBITS market and stakeholders analysis

- Segmented analysis of the market supply and demand
- PESTLE and SWOT analysis
- Competitors assessment
- Identification of stakeholders interests and characteristics
- Stakeholders importance and influence
- Mapping of stakeholders relations and dependences
- Value chain





## NEWBITS conjoint analysis

- Attributes and levels identification
- Creation of profiles
- Data gathering
- Data analysis
- Attributes importance and levels utilities

Example conjoint choice task





## ITS Market

Market for Intelligent Transport Systems (ITS) will grow from

**20.22 Billion\$**

In 2015 to

**57.44 Billion\$**

By year 2024 with a compound annual growth rate of

**12.7%**

Transparency Market Research (TMR) study, "Intelligent Transportation System Market—Global Industry Analysis, Size, Share, Growth, Trends and Forecast 2016-2024."



## ITS Trends



**Connected Car**



**MaaS**



**Autonomous vehicle**



**Big Data**



**Smartcities**



## NEWBITS Case studies

1



**University carpooling service**

2



**Intelligent traffic light intersections**

3



**Synchromodal track-and-trace solution**

4



**Predictive maintenance solution for rail**





## NEWBITS Case study 1

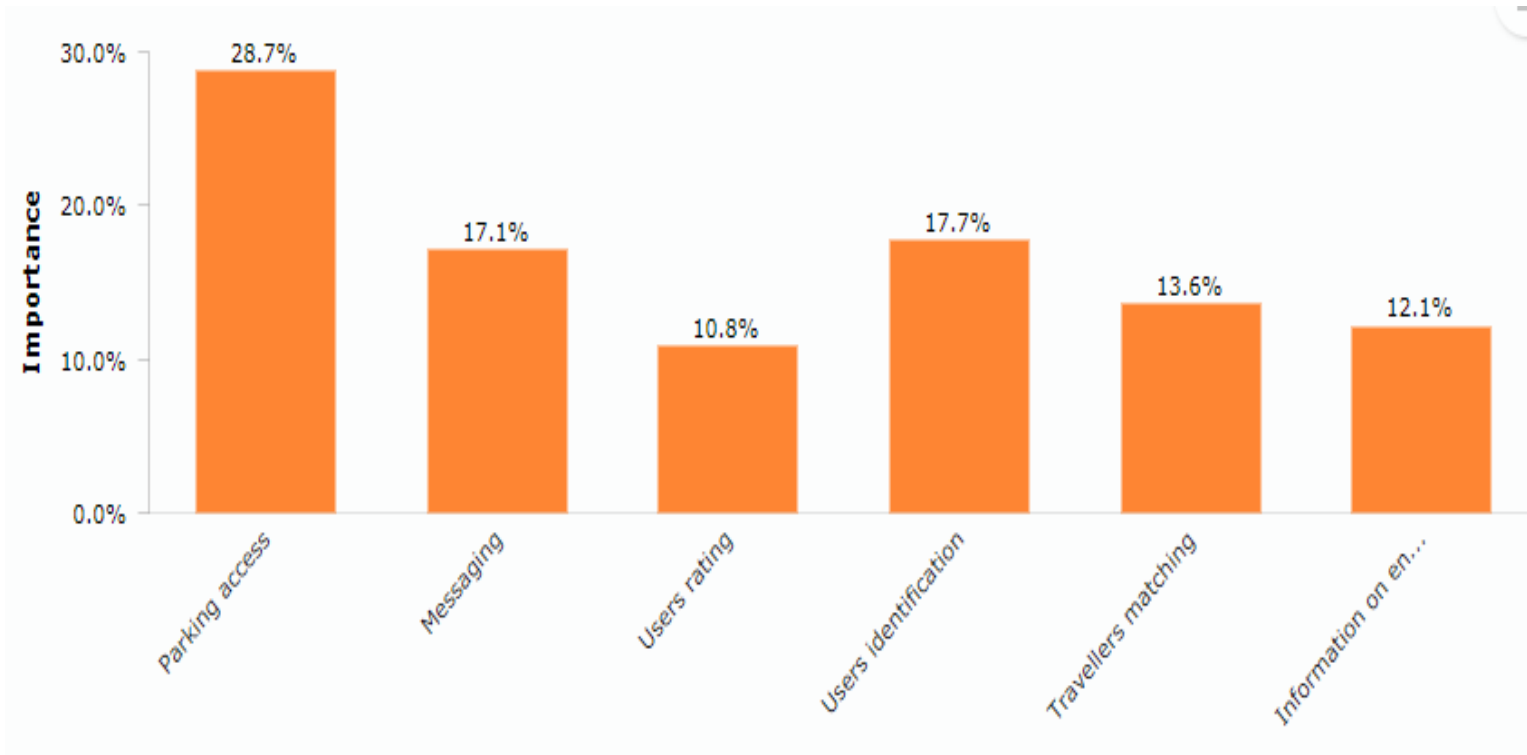


### University carpooling service

- Students = 46,769
- Employees = 6,024
- Index of occupation = 1.11
- Daily average number of vehicles entering and leaving the campus / parking areas = 39,790
- Solution costs = 8.500€



## CS1 Conjoint attributes importance





## CS1 results

- Solution applicable to other campuses and industrial areas.
- End users have high resistance to share a vehicle. The carpooling service should offer as many benefits as possible (parking space, communication, security, etc.) to break that resistance.
- Dedicated parking space highly increases the service acceptability.



## NEWBITS Case study 2

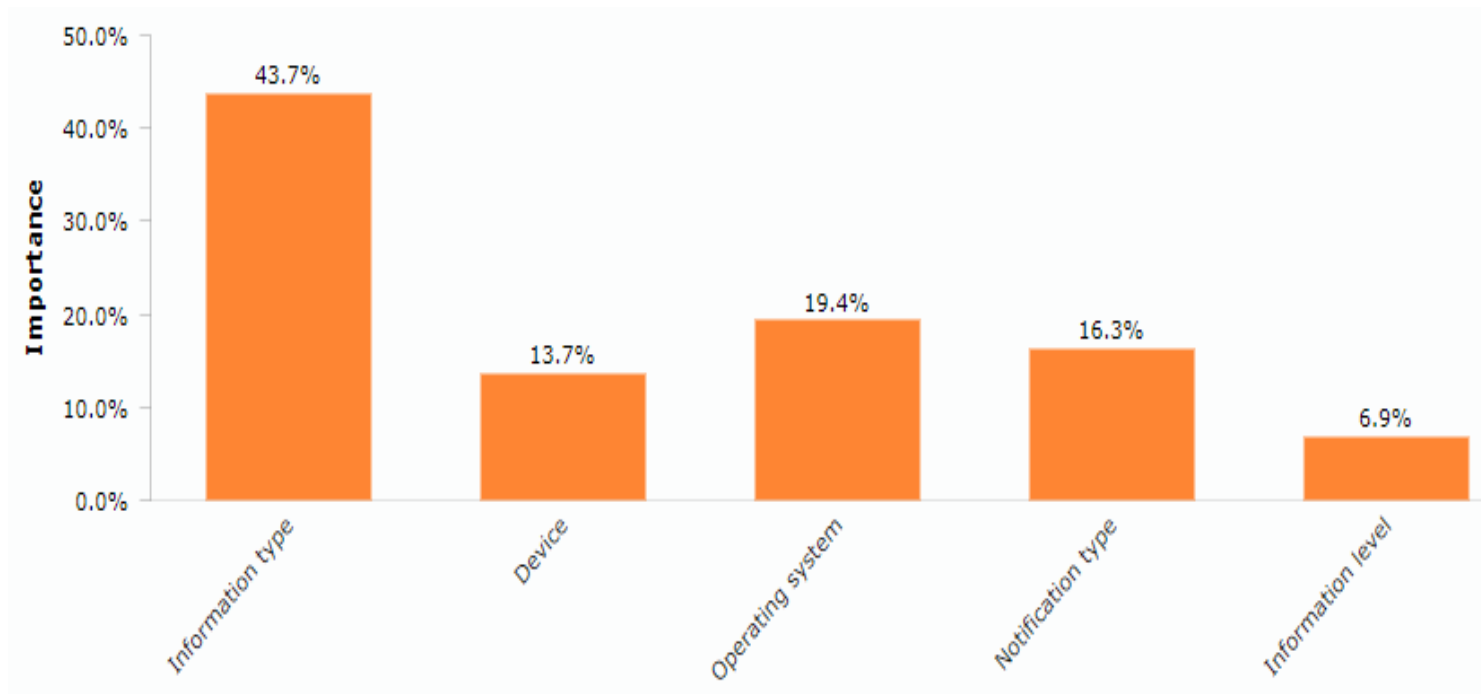


### Intelligent traffic light intersections

- Private cars in Verona = 159,285 (1 car per 1.6 habitants)
- Average increase of cars per year = 400
- Extra travel time due traffic congestion = 19%  
(19 mins per day / 74 hours per year)
- Reduction in travel time = 28.9%
- Reduction in pollution = 14.45%
- Solution costs = 33.000€ (initial investment) + 20.000€ annual operation and maintenance costs (simulated medium sized European city)



## CS2 Conjoint attributes importance





## CS2 results

- Solution applicable to 45.000 (2016) traffic hotspots in European roads.
- A Traffic Light Assistance service is still perceived as an “intrusion” into the driving experience. Users prefer information they can manage directly.
- Technical aspects (operating system or the way the information is delivered) are quite important, especially for younger users.



## NEWBITS Case study 3

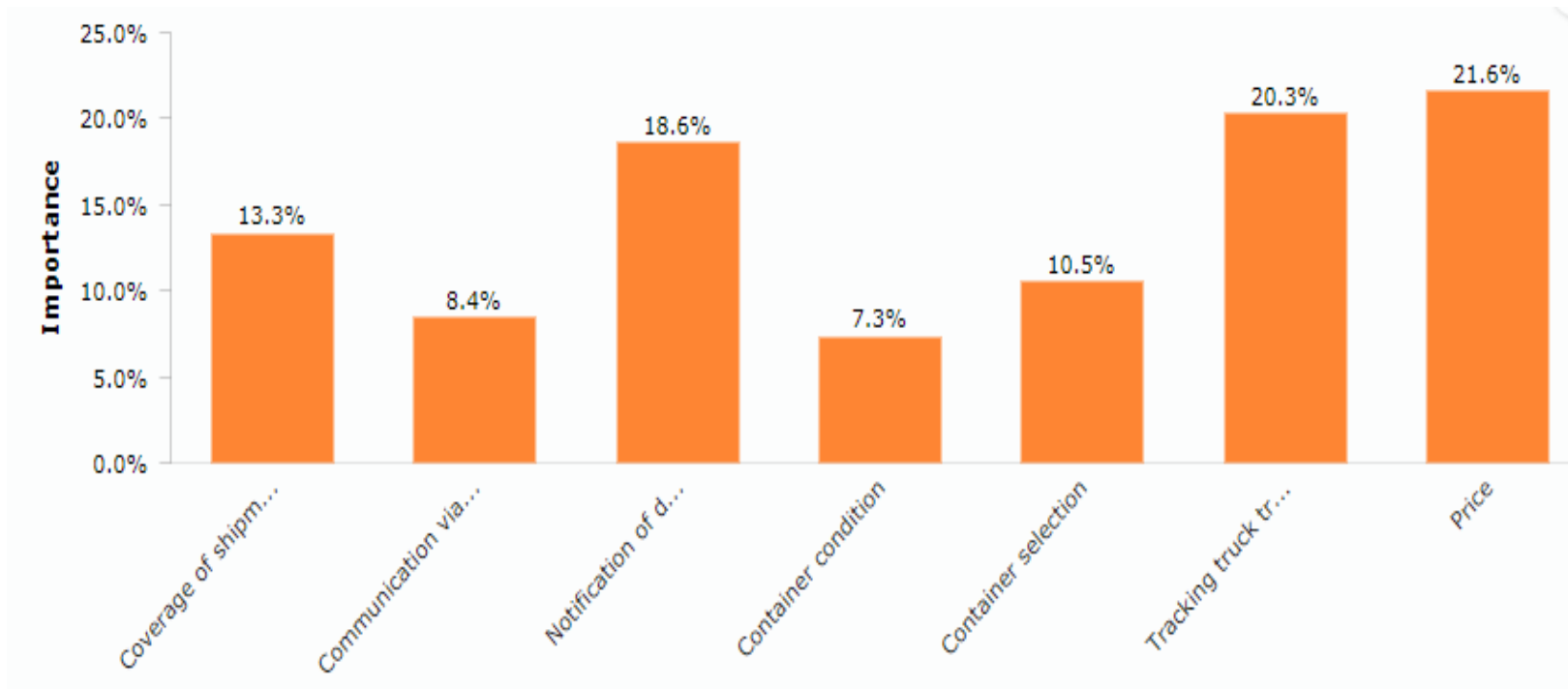


### Synchromodal track-and-trace solution

- Inland terminal capacity = 125.000 (TEU per year)
- Warehouse operator number of containers= 8,000-12,000 (TEU per year)
- Shipper number of containers = 1.800 (TEU per year)
- Travel time reduction (days) = 2-3
- Benefits of travel time reduction (€/TEU) = 7- 25
- Solution costs = 600.000€ average (ranging from 300,000 to 900,000)



## CS3 Conjoint attributes importance







## CS3 results

- Logistic chain companies (mainly small companies) are in great need of tracking services.
- Service monetisation per container seems to work well for small companies but providing another monetisation model will help the acceptability for medium and big companies.
- The perception of the utility of the information provided by the service varies a lot depending on the role of the person within the company. The service will increase its acceptability being offered as a “bundle” and configuring it depending on the user’s needs.



## NEWBITS Case study 4

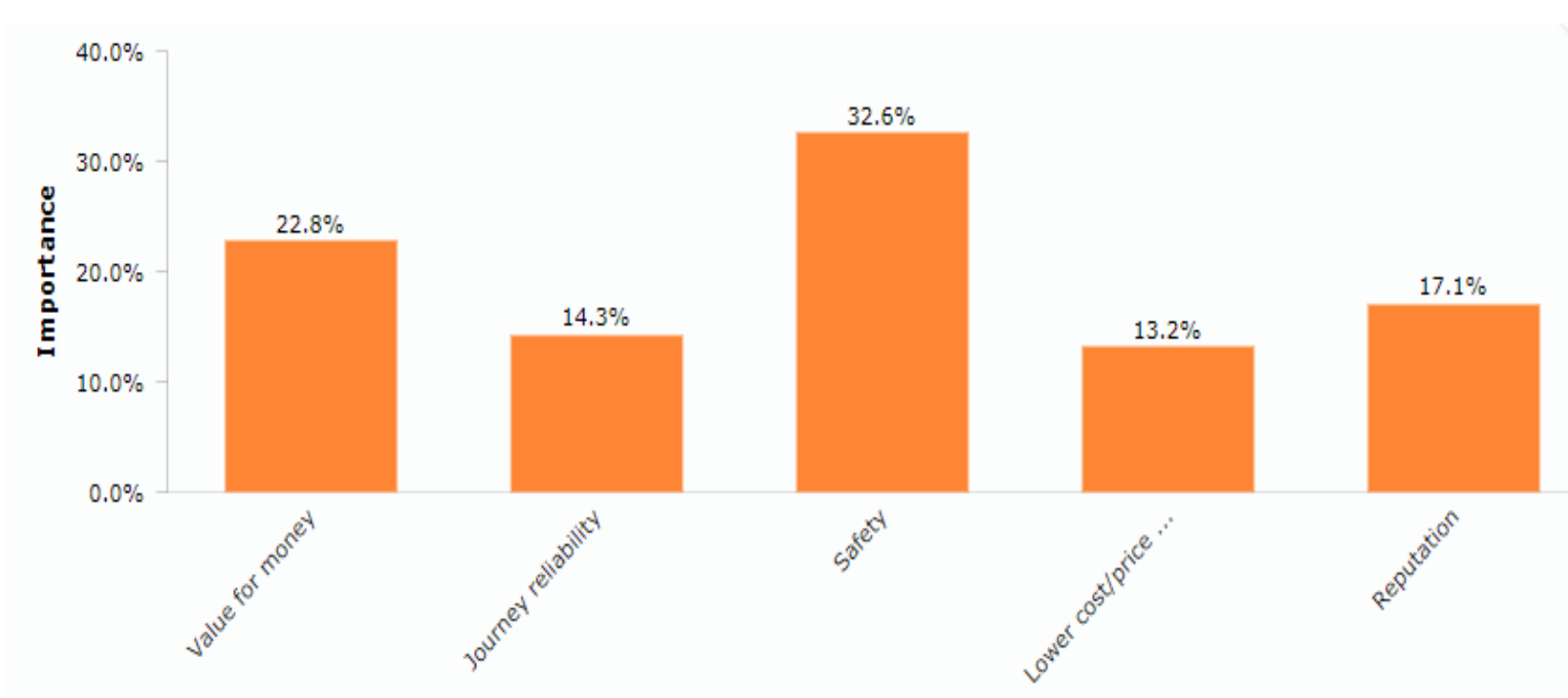


### Predictive maintenance solution for rail

- Train services per day= 6,009
- Annual rail passengers journeys = 246.5 million
- Reduction of maintenance costs = up to 12%
- Increase network availability = up to 20%
- Solution costs = 125.000€



## CS4 Conjoint attributes importance





## CS4 results

- A predictive maintenance service counts with high base acceptability given the great benefits it can provide.
- Security information (causes of an accident) highly increases the service acceptability.
- A trial approach could work well as a marketing strategy given the low costs of deploying the service with reduced functionality and the potential benefits obtained.



## Conclusions

- ITS is a growing market which will experiment many changes in the coming years. MaaS is changing the way the market understands mobility and new mobility services are pushing providers to rethink about their existing business models and explore new ones.
- NEWBITS case studies as representative of the current ITS landscape at the moment, cover several transport modes and are aligned with the market trends.
- The conclusions reached by the NEWBITS case studies market and conjoint analysis are a perfect basis for the establishment of new ITS business models.





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

- D3.1 Market research analysis
- D3.3 Conjoint analysis on case studies



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## Join the NEWBITS Network Platform today !

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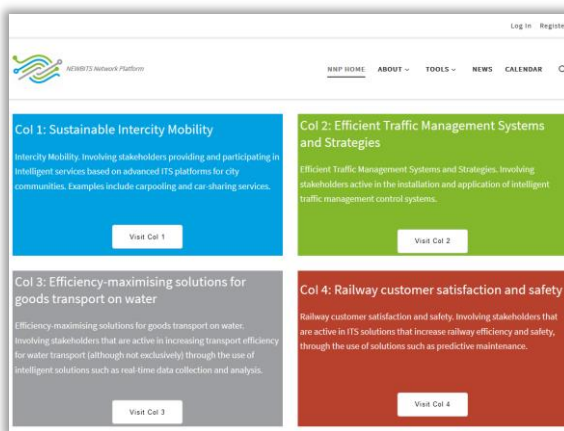
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## NEWBITS Webinar #2

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

Webinar: 26th June 2018 – 16:00 CET | 15:00 GMT | 10:00 EDST

<https://global.gotomeeting.com/join/891727389>



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