La Rochelle’s ARTS demonstration

Matthieu GRAINDORGE
European projects manager
La Rochelle Urban Community
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Why La Rochelle decided to involve? A gradual involvement

2008: Showcase
• Short Tests in a small & closed environment

2011: Small Demonstration
• A route an urban open environment:
• A 3-month demo (tests included) 3h/d

CityMobil2: an opportunity to offer a real automated transport service
La Rochelle demo in brief

- A local partnership
- A realistic choice
  - The first CM2 large-scale demonstration
    17/12/2014 -> 25/04/15
  - 2,6 km roundtrip
  - Robosoft vehicles
  - IN the city

![Image of Robosoft vehicle]

![Map of La Rochelle with marked locations]
Set-up (1/2): legal aspects

✓ A lack of legal framework

✓ Legal authorization (derogation) after a continuous and in-depth dialogue with State authorities

✓ Operators on-board vehicles
  ✓ To take control of the situation in case of technical failure of the vehicles
  ✓ To provide explanations and answer their questions
Set-up (2/2)

✓ Adjustment of the infrastructure
  ✓ Installation of stations
  ✓ Road marking
  ✓ Traffic lights @ 6 crossings giving priority to the Automated Vehicle
  ✓ Removal of a significant number of uncontrolled on-street parking

✓ Stakeholders consultation: police, fire department, French Post, inhabitants, shopkeepers, PT operators, bike associations, property managers, Aquarium, Tourist Office, LR University, Port authorities

✓ Awareness-raising of the population: public meetings, communication campaigns
Focus on awareness-raising towards pupils
Main results: a positive balance

✓ A success:

✓ A total number of nearly 15,000 passenger trips (14,661 trips) even regular users / 3777 km run by the vehicles
✓ No accidents
✓ A step forward as regards the integration of automated vehicles in cities
   ✓ Technology/systems tested and improved during the demo
   ✓ A contribution towards a legal framework
✓ Warm involvement of the population, satisfaction of the users (notably due to awareness raising actions).
✓ Good cohabitation of the system with the other users (pedestrians, bikes, cars)
What could have been improved?

✔ But some problems did **not allow to provide fully** the “real transportation service” we initially planned.
  ✔ A gradual implementation
  ✔ Active supervision system lacking
  ✔ 3 vehicles operating in parallel
  ✔ Some limits to reach the train station through a park
  ✔ Prototypes: quality of the level of service can be improved

✔ **Improvement** of the road-marking: ensure more visibility of the ARTS route for the other road users
What did we learn?

✔ Be realistic, not too ambitious - as the reality is more demanding than the plans

✔ Operate ARTS in a real urban conditions is not an easy task. Changes and adaptations are continuously necessary.

✔ Paradoxically, human is crucial.
  ✔ Operators were key actors in the demonstration. Needed for a transition period (like grooms in the first elevators)
  ✔ Interactions with other road-users is a key aspect that should be further investigated
The future in mind:
Towards a permanent ARTS...

✓ Prerequisites:

✓ Timing: ambition to operate the system by 2020
✓ Legal: A legal framework to operate
✓ Technical: Technology/systems mature enough: able to operate without an on-board operator; make it easy to use from a user perspective (ICT services needed)
✓ Infrastructures: an adapted environment on the selected route (safety first)
✓ Necessity to prepare well in advance a broad stakeholders consultation
✓ Reasonable costs: consider the best business model scenario.
A potential realistic scenario

✓ main targets: visitors/tourists
  ✓ Assist the visitors in their venue in La Rochelle and in their visit (notably in the old harbour without car context)
  ✓ Main attraction points, accommodations, tourist office

✓ Slow speed / very city center

✓ Complement to the other PT modes

✓ Take advantage of the flexibility offered by such systems: platooning, adaptation in the time range (peak/off season scheduling), goods deliveries options (retailers...)
How could it look like?

- 4.5 km loop
- 9-10 stations
- 10 km/h average - acceptable
- 10 min frequency
- Pay for the service (?)
- Adaptations of the road/infrastructure
  - Change of traffic direction
  - Removal of park places
  - Removal of sidewalks
- A "network" of ARTS – loops
Thanks!

Matthieu GRAINDORGE

Stéphanie NAIR