HvA Research Award
Smart City Mobility Projects

An evaluation of the partnership, the value created and the upscaling potential of four mobility projects

Wieke Schrama MScBA
City of Amsterdam is growing in numbers of visitors, citizens, and jobs

City faces big challenges on mobility:
- Reducing congestion
- Improving air quality
- Enabling reverse logistics
- Reducing traffic noise

Our definition of smart city projects

Project where urban stakeholders (government, knowledge institutes, firms, citizens, NGOs etc.) innovate together to increase the quality of life in the city
- Using new technologies
- Societal/environmental objective

In collaborative efforts many organisations partner up in smart mobility initiatives.
- Upscaling is difficult
- Users are not involved
- Knowledge on how to manage these projects misses.
### Challenge
A smart city should be easily accessible to visitors and residents, while at the same time providing room for commercial transport essential for the city economy.

### Explorative Case Study Research, projects listed on the Amsterdam Smart City Platform
The researched 12 projects met three criteria:

1. *there is development or use of new technology, intending to generate not only economic value but also ecological and/or social value;*

2. *there is an element of innovation or experimentation*

3. *the project is not run by only one organisation, but as a partnership*

### Methodology
- Understand how the partnerships work
- Draw lessons
  - Upscaling
  - Partnership dynamic
  - Value
- Triangulation:
  - interviews (in-depth) representatives partnering organisations (Nov 2015 – Apr 2016)
  - Relevant documents
Evaluated Smart Mobility Projects

- Cargohopper
- Mokum Mariteam
- REloadIT
- WeGo Fleet Mobility
Cargohopper - INTRO

Initiated in Amsterdam by: Transmission

Cargohopper helps reducing heavy and polluting goods traffic in the centre of Amsterdam by “electrifying” the last mile

- Goods from different shippers arrive at a depot site in Duivendrecht

- From there, the cargo is re-bundled, and loaded onto the Cargohopper, using end-users addresses as the bundling logic

- Only full loads move into the environmental zone of Amsterdam
Cargohopper - Partners
Cargohopper – Key insights

Replication is complicated, because the context of the city matters: The electric solution must be adapted to the city layout. City size is a determinant for the business case.

The partnerships in each city differ.

Local government regulation, such as setting up an environmental zone in the city centre, or dispensation from specific transport regulations, is important for projects to be able to compete. **Strict environmental regulations are an important trigger for sustainable innovation.**

Enlarging the environmental zone would increase business opportunities.

It is a challenge to involve more logistics providers in a common last-mile solution.
Initiated by: Icova and Koninklijke Saan

It showcases the possibilities for smart and clean distribution using Amsterdam’s historical canal infrastructure

- The aim is to reduce the number of trucks in the city centre and increase the air quality;

- It is a smart solution for circular economy using the vessels for reverse logistics;

- The employees working on the vessel are people with low employment opportunities.
Mokum Mariteam- Partners

New innovative collaborations

strengthen

the business case
Mokum Mariteam – Key insights

Innovation rests in the co-operation between the collaborating parties and what connects them.

The partners in the project are moving faster than the city’s ambitions.

Using electric cargo ships is context bound: *Amsterdam historically has a profound logistic system for transporting through the canals.*
REloadIT - INTRO

The project ran from 2013 until 2015 and acted as a pilot for innovative technology facilitating clean mobility.

The project showcased how to optimally deploy sources of renewable energy for charging 16 electric municipal cars, driven by civil servants during business hours.

By forecasting electricity production and consumption through an operational smart grid application, the booking system for electric vehicles could be compared to the forecast of the renewable energy production in order to determine the most efficient charging strategy for the City’s electric fleet.
REloadIT - Partners
REloadIT – Key insights

Participating in the EU project was the catalyst for innovation, creating the initial idea for the project.

Less successful projects can generate the knowledge base for further stakeholder collaboration on local energy production and consumption.

Early stage technologies are difficult to roll out to market.

Small municipalities are feasible as testing grounds for new projects due to ‘short lines’ in the organisation

When key-players in organisations are withdrawn from projects due to reorganizations, it is difficult to proceed with the project.

The technology was ‘pushed’, and the showcase project showed the feasibility of smart grid flexibility solutions. However for these projects to roll out to market, behavioural change is needed.
WeGo Fleet mobility - INTRO

Initiated by: Commercial Business Idea

WeGo started as a peer to peer car sharing company by providing the platform, insurance and technology to make every transaction safe, convenient and easy.

- Now, WeGo focusses on the B2B market: corporate fleet management
- Same mobility performance with less vehicles
- Winning a public tender, and becoming the City of Amsterdam’s fleet management partner, gave WeGO a substantial boost and publicity
WeGo - Partners

Public partners:
• Reiswijzer stadsdeel West
• Green Metropole

Private partners:
• Louwman group
• ARS Traffic & Transport
• Centraal Beheer Achmea
WeGo Fleet management—Key insights

Scaling up requires different competencies from setting up new technologies and concepts:

- Partnership with ARS offers the operational competences needed to roll out WeGo’s products and services to market, and to organisation-clients with larger fleets to manage.

Governmental organisations such as the Amsterdam Municipality can act as launching customers for start-ups, giving them the opportunity to upscale their business, to acquire new knowledge, and to innovate together.
Key insights Smart Mobility Projects

- Local government regulation, such as setting up an environmental zone, is important for projects to be able to compete.

- **Context matters**: smart mobility is adapted to the city lay out
  - Mokum Mariteam: historic canal infrastructure
  - Cargohopper: partnership and vehicle specifications

- **Innovation rests in the co-operation** between the collaborating parties and what connects them.

- Scaling up requires different competencies than setting up new technologies and concepts.

- Participating in the EU project can be the catalyst for innovation.

- Less successful projects can generate the knowledge base for further stakeholder collaboration.

- Governmental organisations such as the Amsterdam Municipality can act as launching customers for start-ups, giving them the opportunity to upscale their business, to acquire new knowledge, and to innovate together.