NAME OF CASE

Barge transport in inner city of Amsterdam, the case of Mokum Mariteam

KeyWords:

transport networks, infrastructure and nodes, low emission technologies, innovative operational solutions

Description:

The freight operator Mokum Mariteam uses the canals of Amsterdam to transport goods, waste and to deliver services. This reduces the number of small- and medium-sized trucks operated in the inner-city. The vessels or barges are fitted with silent and clean electric engines. Goods are transported through the city and delivered to their destination without noise or air pollutant emissions. Using existing transport units like rolling containers, pallets and mesh containers, the system has the potential to be implemented by other clients and partners. This makes it possible to scale up the system gradually.

Returned goods including waste and residues are collected from the place of delivery in the same efficient and sustainable manner. This system of reverse logistics increases the efficiency of the distribution concept considerably.

Starting Point/Objectives/Motivation:

Saan, a highway infrastructure business, and Icova, a large waste and recycling businesses based in Amsterdam looked for sustainable transport modes in order to make their business cleaner. They identified opportunities for transport by water, using Amsterdam’s canals. They discussed the possibility of building an electric ship with various shipbuilders. It was important that the ship would have suitable dimensions to sail everywhere in Amsterdam and it had to be stable enough to hoist goods to and from the ship.

In cooperation with shipbuilder Bocxe, which had already built the Bierboot (Beer Boat) in Utrecht and electric canal tour boats in Amsterdam, optimum design characteristics for the ship were identified.

After ship construction, freight operations started. Saan and Icova are looking for more clients and expect that in the future, freight in Amsterdam will be transported by electric ships. This is a sensible way to avoid busy road traffic while also reducing emissions and noise significantly.
Case Description (Cont.):

It is an environmentally friendly way to transport goods in Amsterdam’s canals and it is the only ship that is able to sail everywhere in Amsterdam. Vessel is 20 m long and 4.25 m wide, with a load capacity of 85 m$^3$ (about 4 urban trucks). Mokum Mariteam performs now 3 full sailing days per week for partner Icova. In addition it has several minor projects for the municipality, hotels, events and other clients. They expect that in 2015 more hotels will use their services because they see now that transporting building materials for their hotels by ship is clean and silent. This helps for the stakeholder acceptance of the hotel in the district.

Case Description (Cont.):

The ship has a negligible number of interferences. It is an experimental ship (the first electric transport ship) but because it is based on the canal cruise ships, its design benefitted from this previous experience.

On routes within Amsterdam’s city centre the ship can compete on travel speed with road trucks. Congestion and other heavy traffic often causes delays to trucks and the ship does not experience these problems.

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Transport mode or supply chain elements:

- Road truck
- Delivery van
- Inland waterway vessels
- Urban distribution

Main actors involved
- Transport companies
- City authorities

Picture:

Mokum Mariteam full-electric barge with own crane, operating in Amsterdam
20 m length, 4.25 m width, 85 m$^3$ load capacity

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