

# Energy recovery module for urban transport

Every day, trams and metro trains cover tens of thousands of kilometres, resulting in increased electrical energy consumption in urban areas.

At a time when energy transition is hot topic, there is an urgent need to reduce the energy consumption of our public transport systems.

## A Mobility innovation

Mobility offers support to optimise the energy consumption of your transport infrastructure.

Our energy storage system (ESS) technology helps to reduce the environmental impact of public transport systems. The kinetic energy of rolling stock is used during braking to produce electricity that the ESS stores and then delivers for use a very short time later (a few seconds).

Mobility's system offers a dual advantage: stabilisation of the voltage on the network, and savings of up to 15% on annual energy bills.

## Le Havre, a pioneering tramway

Since its inauguration in 2012, the tramway in Le Havre has been fitted with three ESS modules. Its use of this new technology makes it the first French tram line to be equipped with a braking energy recovery system. **On average, 120,000 kWh are recovered each year, which equates to an annual saving of 10 tonnes of CO2.**

*"This system satisfies the aims of Le Havre's local council, which seeks to reduce its energy consumption and recycle various potential energy sources. The recovery of braking energy on the tram line enables real savings to be made. The challenge now is to pursue these efforts further, with Mobility, to improve performance levels."*

Jean-Sébastien Chaboche, Director for Mobility, Deputy to the Director General for Quality of Life at the Communauté de l'Agglomération Havraise (greater Le Havre council).

An award-winning solution

TROPHÉES  
DE LA TRANSITION  
ÉNERGÉTIQUE  
2015



PRIX DE  
L'INNOVATION  
VINCI 2015



## Energy savings

When a vehicle brakes, its kinetic energy is transformed into electricity. This energy can then be absorbed by a vehicle located nearby but most of it is lost through dissipation in the braking resistors or along the length of the line. The ESS, with its ability to store energy, makes it possible to recover this energy for consumption by the following vehicle..



## A solution in keeping with sustainable development

### Energy management

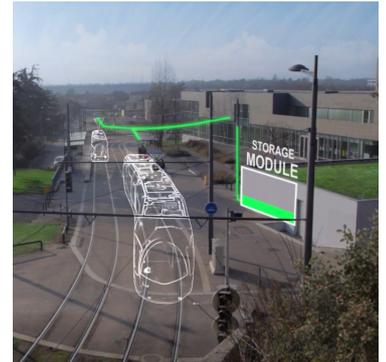
- Energy savings through recovery of braking energy and delivery of that energy for traction
- Very rapid charge and discharge
- Stabilisation of voltage of the electrical network to prevent potential transport system shutdowns

### Ease of installation

- Scalable solution to suit capacity requirements
- Easy to install, compact plug and play solution
- Installation on new or existing networks
- Operates independently of the high-voltage mains power supply
- Operates independently of substation traction energy production

### Profitability

- Optimisation of land costs and costs of connection to the mains energy network, through the option of installing modules at the edge of the line.
- Service life of 30 years for the module and 10-15 years for the supercapacitors depending on usage (approx. 1 million cycles).



### Contact

ess@mobility-way.com  
www.mobility-way.com

