



4<sup>th</sup> July 2018

## **Press Release**

### **E-LOBSTER looks to reduce energy losses**

#### ***Project E-LOBSTER to reduce energy losses in European power distribution networks and light-railway networks***

E-LOBSTER the EU funded project coordinated by RINA started in June 2018 and will run for three years and half with the aim of developing an innovative, economically viable and easily replicable electric Transport-Grid Inter-Connection System that will establish synergies between power distribution networks, electrified transport networks (metro, trams, light railways etc.) and charging stations for EVs in Europe.

European distribution networks and light-railway networks have been developed as independent networks, relying on the resilience and robustness of existing power supplies. But with the increased use of renewable energy systems (RES) there are new challenges that need to be addressed. There is now a need for integrated solutions that will reduce electricity losses, increase grid stability in areas of high local RES penetration and accommodate the needs of EVs, local electrical storage and prosumers.

Today the average losses in transmission networks (TNs) in EU vary between 1-2.6%, while for distribution networks (DNs) between 2.3-13.4%. This variation is mainly due to the historical development and current state of the grids in each country dependant on age, design etc.

Meanwhile, energy demand in the transport sector has grown in line with transport activity during recent years. The European Rail Industry has calculated that through innovation between 5% and 20% of energy savings can be achieved. The key is the use of dedicated external power supply facilities (plants and grids) and better control methods. Up to 5% saving potential exists in reducing transformer losses in medium frequency traction transformers.

E-LOBSTER is proposing an advanced R+G (Railway to Grid) Management system that will be able to reduce electricity losses in both networks, maximizing the use of local RES generators for both application and making them interacting one each other in a mutual synergy strategy.

Specifically, E-LOBSTER will:

- Develop an innovative unique tool for the real-time monitoring of losses and energy consumption of power distribution networks and railway electrification networks validated through real data
- Develop and validate innovative power electronics
- Develop and validate a new real-time Railway to Grid/Grid to Railway (R+G) energy management aiming to optimize the interaction between electrified transport and distribution networks using shared assets



**The E-LOBSTER kick-off meeting was held in July** where members of the international project consortium comprising RINA, Turbo Power Systems, RSSB, the University of Birmingham, Lithium Balance, Metro de Madrid, University of Newcastle, FFE and UITP met in Brussels, Belgium, to present their technologies and discuss the future actions over the next six months.