

BEST – BETTER ELECTRIC SOLUTIONS FOR PUBLIC TRANSPORT

Innovations and Benefits - BEST is a Decision Support System supporting the choices of public transport (PT) operators in electrifying urban bus lines with Batteries Electric Vehicles, developed within the National Electric System Research Program. It carries out an accurate verification of the technical and economic feasibility of some possible technological solutions for the electrification and compares the selected solution with two conventional alternatives, namely diesel and Compressed Natural Gas, both from the economic and environmental points of view.

BEST is an innovative tool integrating specialized knowledge on several subjects, from vehicular technologies to

Uses - BEST is composed of four calculation modules allowing, respectively:

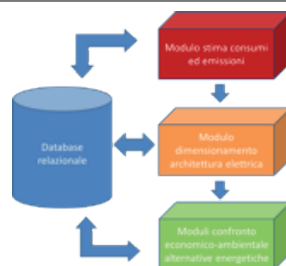
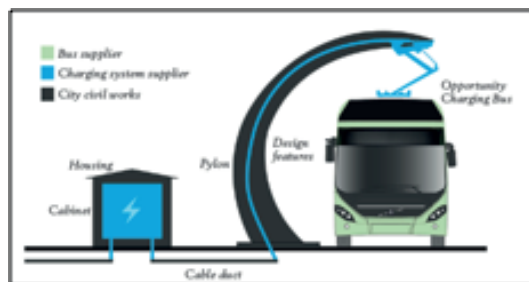
- to estimate energy consumption and gaseous emissions for all the different technological alternatives;
- to verify the technical feasibility of the three electric architectures and to size the on-board storage and the related power supply system;
- to compare all the feasible solutions, both electric or conventional, from an economic point of view, using a function of investment and operating costs;
- to estimate the social external costs generated by pollutant emissions and vehicular noise in the different energy alternatives.

BEST functionalities allow PT operators to evaluate ex-ante their investment and adopt the preferable alternative.

Past and Present Activities - BEST has already been tested on some bus lines of the ATAC network (Rome). It can be easily applied to every urban context thanks to standardization of the input data; in fact it will be soon applied to examine the electrification potentiality of PT in two medium Italian towns.

Moreover, by the end of 2017, an upgrading of the tool will be carried out in collaboration with the University of L'Aquila, taking into account other technological solutions for PT electrification, such as hybrid-electric buses and trolleybuses.

Besides, a tool evaluating the electrification of PT network as a whole, considering possible scale factor, is being carried out in the next year.



Characteristics: CUSTOM

Thanks to its flexibility, the service can be adjusted to different needs and contexts