

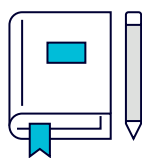


# Services for electrical public mobility

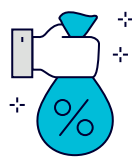
## Services



Bus fleet  
consumption  
simulation  
models



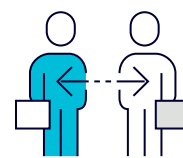
Optimisation  
studies for  
charging  
solutions



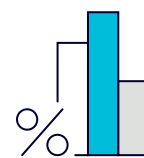
Support  
to project  
financing



Business  
plan model  
definition

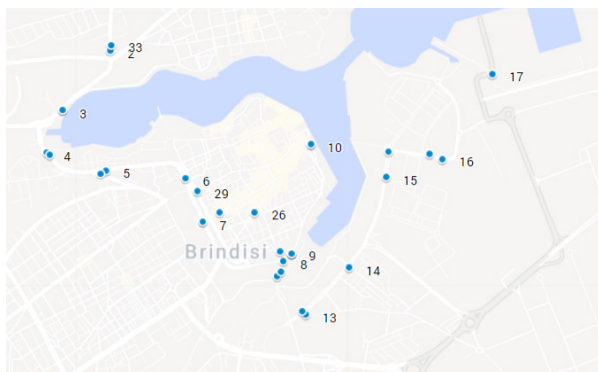


Support to  
procurement



Cost Benefit  
analysis

## Towards public transport electrification



The Environmental and Energy policies of the international communities are dedicating massive investments on the mobility and transport sector. In order to tackle the environmental challenge towards CO<sub>2</sub> reduction and particulate emissions, investment plans are addressed to implement the paradigm of **smart and electric mobility**.

This scenario opens the door to **new business models** and players in the mobility market. On the basis of a recognized long-term international experience in the mobility and transport sector, together with fresh concepts emerging from its R&D activities, RINA is partnering with different actors leading the **mobility revolution**.

## From Mobility Studies..

With the use of a dedicated tool, RINA develop trustable bus fleet consumption **simulation models** of the public transport lines considering input factors such as slopes, vehicles weight, speed, etc. The simulation output is a detailed report of electrical consumptions needs to guarantee the required operational service and a first estimation of the fleet in terms of needed vehicles. Simulations results are then analyzed against physical and operative constraints ensuring, through an optimisation study process, that the most efficient solutions are achieved. Synergies among different lines, switch to different vehicles models and size, an efficient operational service strategy, fleet recharging strategies to support both operational needs and power distribution system limits are considered to provide the most cost-effective solution.

## ..to Business Plan definition

Once the operation model and the fleet have been defined, a **Cost Benefit Analysis** is conducted to evaluate returns in terms of sustainability and cost benefits in general. Sustainable benefits are usually evaluated in terms of CO<sub>2</sub> emissions, global warming and noise reduction. RINA also team up with **Funds and Equities** investing the **Green Mobility** market, which allow us to advise our Clients on the most appropriate financial scheme to fit with the specific needs of their sustainable transport projects. Finally, our services will extend to the procurement phase, to make sure that the best and most innovative technical solutions are considered for the project implementation, and the definition of the business plan.

## Innovative aspects and benefits to the Client

At the core of the de-carbonization challenge, in Europe we are involved in Public Transport Electrification Programs with our **Mobility & Logistics** Competence Center. Recent experiences with big Players pursuing a paradigm shift to fully sustainable mobility have demonstrated the maturity and cost effectiveness of our fully integrated approach to deliver value for money to all involved Parties and identify the financial instruments to overcome any public investment barrier. In addition to full environmental, social and economic benefits, the engagement of private sources of financing to fill the investment gaps makes financial solutions available and the project implementation a reality.

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Make it sure, make it simple.

RINA consists of the parent company RINA S.p.A., the holding which controls the main sub-holdings RINA Services S.p.A. and RINA Consulting S.p.A. In order to ensure compliance with the applicable recognition, authorization, notification and accreditation rules, including those relevant to the management of impartiality, RINA has adopted a governance and organizational model. According to this model, the sub-holdings are subject to direction and co-ordination by the holding in the finance, administration, strategic, organizational, managerial and business continuity fields, while technical and operational decisions remain under the exclusive responsibility of the sub-holdings and their controlled companies. The strict separation of duties in the governing bodies and the impartiality risk assessment, which identifies and manages the impartiality and conflict of interest threats coming from the company relations, ensure compliance with the applicable impartiality rules.