



SMART
MOBILITY



TURN-KEY BRT SOLUTIONS

The ultimate goal of a transportation system is to improve how citizens travel and move within a region. A BRT (Bus Rapid Transit) solution is able to provide an attractive infrastructure and efficient transport in order to boost the local economy and quality of life of the commuters.

SICE offers a turn-key BRT solution based on high-quality electric buses, built on the solid foundation of more than 90-year industrial experience gained from satisfied customers around the globe. The comprehensive solutions of passenger transportation, based on electric buses operating on BRT fast corridors, are a high quality alternative for medium-sized cities.

CONSULTANCY AND DESIGN

Transport solutions have to be adapted to each particular city or region.

It is required to: identify the needs, calculate the transport demand, design the best solution to provide enough transport capacity, and define the operational and exploitation models.

SICE brings extensive experience in the field of traffic and transport to expand its portfolio of services with engineering and consultancy services for BRT projects.

A right and optimum design of civil engineering infrastructure and pipelines trenching and the proper design of depot and stations will allow facilities to be easy to maintain and integrated with the environment.

Projects range from the design and supply of rolling stock, infrastructure installation and maintenance to operation of the entire system:

- Civil works
- Rolling Stock
- Stations and Depot
- Power Supply and charging infrastructure
- Communications
- Traffic management and public transport prioritization
- Operational Control Center
- Software for operation assistance

POWER SUPPLY INFRASTRUCTURE

Electric buses are fed from catenary or more recently by onboard batteries. Power supply system is designed to ensure that the rolling stock is powered under maximum consumption conditions. A full range of parameters of consumption, such as route slopes and distances should be taken into account.

For electric buses powered by overhead catenary line, both traction substations and the catenary line must be adequately dimensioned, making intensive use of electrical simulation to validate and assure the designed solution.



Electric buses with batteries require power infrastructure by pantographs, cabled power station or wireless induction at depot or garages.

ELECTRIC BUSES

SICE offers different kinds of electric powered buses (or eBuses): battery-buses powered with cable charging or fast charging power stations, catenary powered buses, or even induction powered buses.

SICE as technological integrator, working altogether with manufacturers and coachbuilders, designs eBuses in order to offer an attractive alternative to private vehicle. The vehicle must be of a catching-eye design, providing high levels of comfort and adapted and customized to the needs of each client.

TOOLS FOR OPERATIONS MANAGEMENT

SICE develops and integrates an operational control center platform to support the management of the entire system including:

- Electromechanical SCADA
- Fare Collection System
- Operational assistance tool
- Traffic light management
- Security and Safety System
- Maintenance Management

COMMUNICATIONS NETWORK

The communications network covers the needed connectivity over the entire transport system.

An optical fiber backbone supports applications and operations management tools and network security (CCTV surveillance and alarm monitoring), fare collection solution, and IP telephony.

In addition to the wired network, a wireless network provides IP connectivity between vehicles and the Core Network in order to provide on board connectivity.

Audio communications might be supplemented with analog radio (PMR) or digital radio communication (TETRA) that allows voice communication between drivers, control center operators and maintenance operators.

Passenger information system improves communication to the passengers and it is implemented on screens and public address system at stations and on board.

TRAFFIC LIGHTS CONTROL AND PRIORITY

SICE, as traffic and transport systems integrator, integrates BRT operational systems allowing traffic management and public transport prioritization in order to assure the scheduled headway of the line.



Coordination of Urban traffic and the dedicated public transport line is a highly recommended requirement for BRT systems, in order to optimize the headway and transport capacity.

