

# HERE IS APTIS

**SO MUCH MORE THAN A STANDARD E-BUS**



**ALSTOM**  
• mobility by nature •

Addressing the challenges of tomorrow's mobility in responsible way. Alstom is committed to cities by promoting urban transport solutions for today and tomorrow.

Aptis is the latest electric 12m long bus designed to improve the limitations of standard buses concerning interior mobility, ease of boarding and accessibility, insertion in city centres and lifetime duration, thus setting a new standard in urban mobility.



**APTIS,  
SO MUCH MORE THAN A STANDARD E-BUS**

# COMMITTED TO CITIZEN



## SUSTAINABILITY

Aptis is the first bus designed to be purely electric. Bus trips become a respectful activity towards the cities in which it operates, with no gas or particle emissions and a very low noise level. Its very high capacity and commercial speed contribute to urban decongestion.



## DESIGNED FOR ALL

All 4 steerable wheels allow very sharp turning, enabling to serve areas in the cities almost inaccessible to standard buses, inserting in narrow streets without invading sidewalks, due to an almost inexistent overhang. On top of that its automatic docking is ideal for those with specific needs like the elderly and disable people.



## IMAGE ENHANCER

Aptis has been designed from an aesthetic and fonctional point of view to enhance cities in which it serves and to strengthen bonds with passengers, thus contributing to caring and minimizing vandalism.



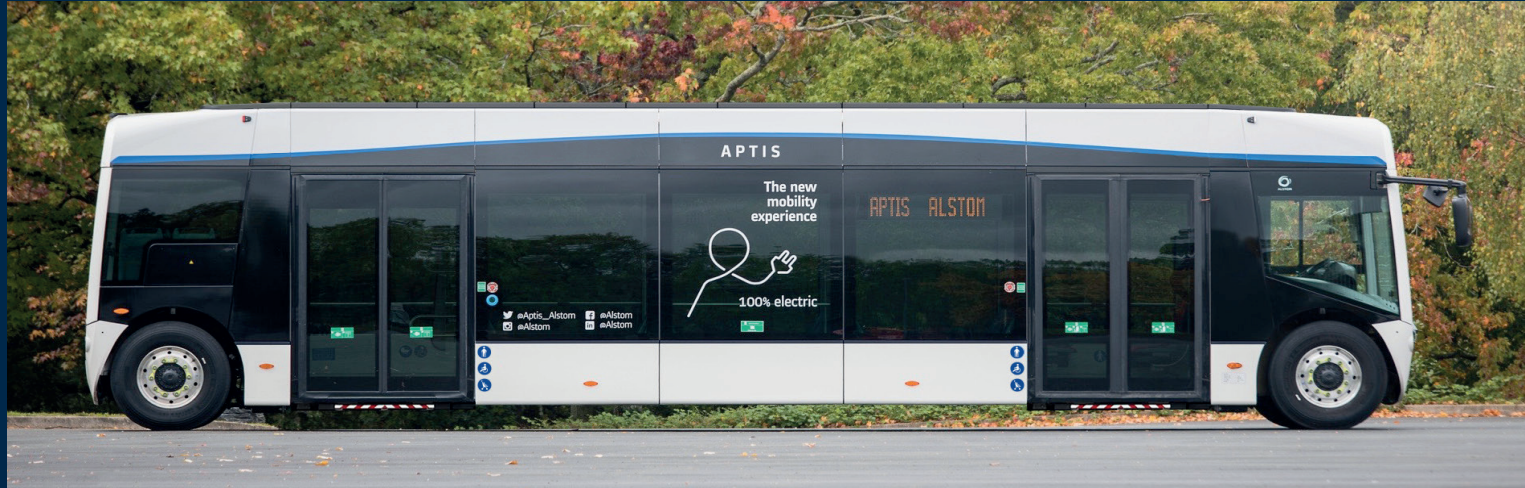
## DECONGESTED CITIES

Aptis' parking assistance minimizes the horizontal gap with the bus stop, permitting a quick and safe passenger exchange through its extra wide doors. This enables a very short stop time, therefore notably increases commercial speed and contributes to reduce traffic in city centers.



# UNMATCHED PASSENGER EXPERIENCE

## 12 M OF ACCESSIBILITY



Aptis' modular architecture allows equipping 2 or 3 extra wide double doors on either side. Combined with its 20m<sup>2</sup> of full flat floor and its parking assistance that gives a very high pull up accuracy, Aptis becomes the most accessible bus in the market.

## INTERIOR FLUIDITY



The unique wheelbase allows a floor completely free of barriers, thus creating wide aisles and standing areas for a fluid passenger movement along the bus, even for wheelchair, pushchair and bike users. Therefore, passenger distribution is always optimal, maximizing comfort throughout the trip.

## SAFETY AS A PRIORITY

The absence of interior obstacle and the design of the furniture in rounded shapes provide a safe environment for passengers. The size of windows combined with the interior lighting and CCTV cameras contributes to the feeling of safety.



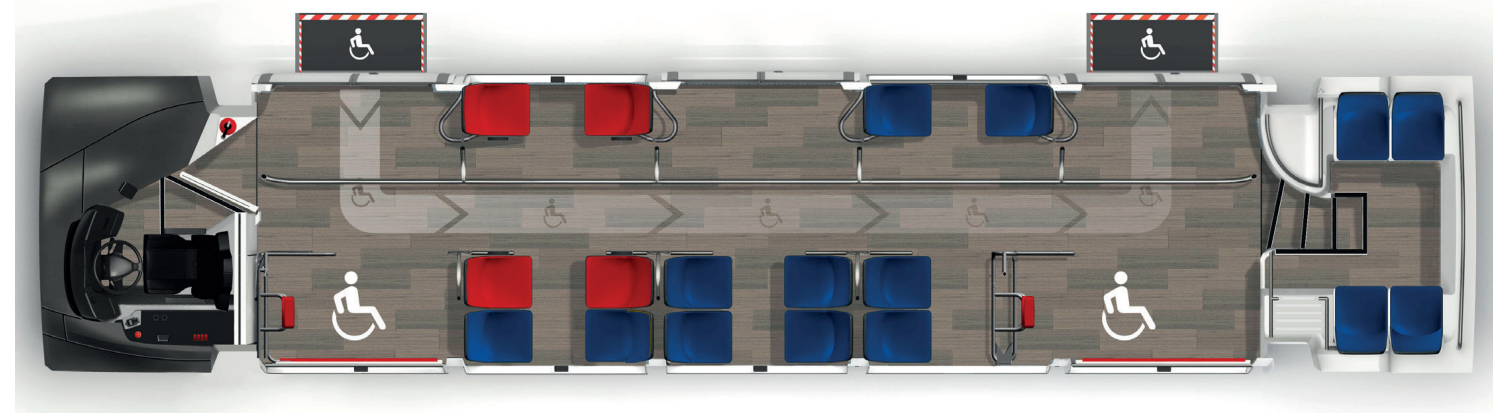
## PROMISES OF WELL-BEING



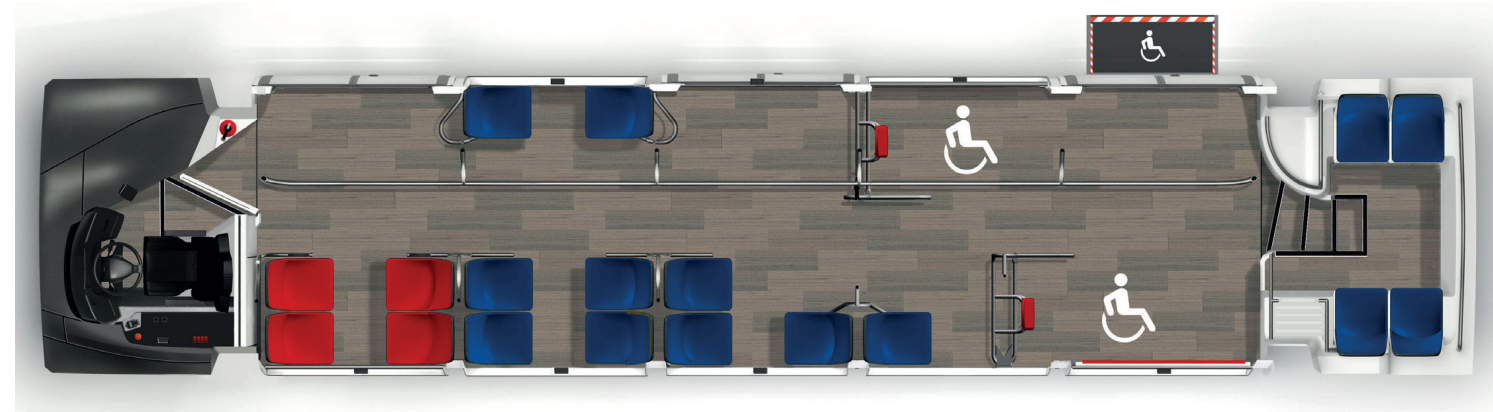
The spacious interior is instantly perceived thanks to the windows, 20% larger than standard buses, and the outstanding 360° views on the city. The different bus areas - seats, platforms, wheelchair areas and a unique elevated platform featuring 4 seats - provide the best possible passenger experience.

# 20 M<sup>2</sup> OF FULL FLAT FLOOR FOR ...

## ... UNLIMITED POSSIBILITIES



Layout 01 : 18 seats including 4 PMR / 2 ramp at door 1 & 3 / 2 UFR zones



Layout 02 : 18 seats including 4 PMR / 1 ramp at door 3 / 2 UFR zones



Layout 03 : 20 seats including 4 PMR / 1 ramp at door 1 / 2 UFR zones

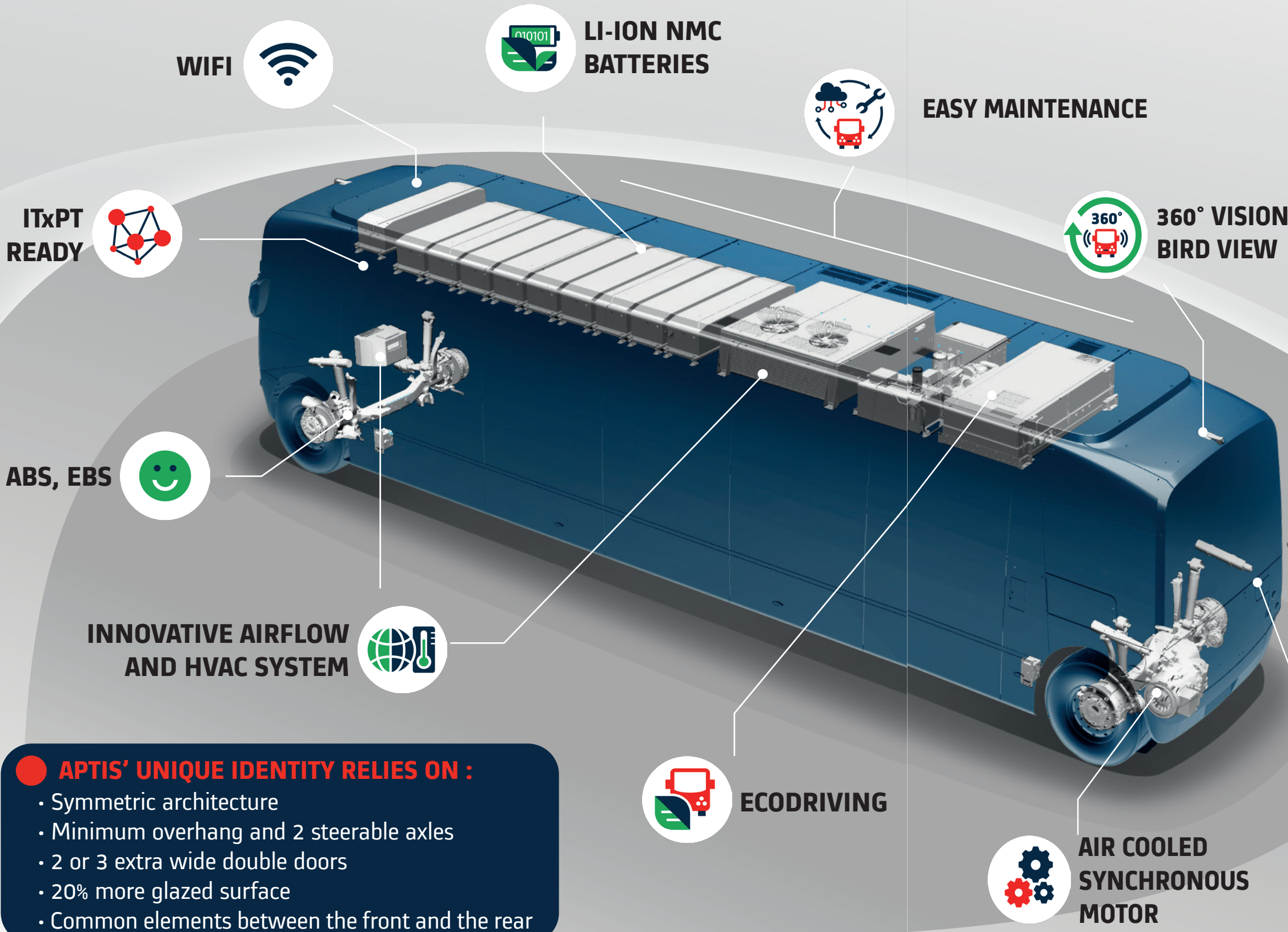
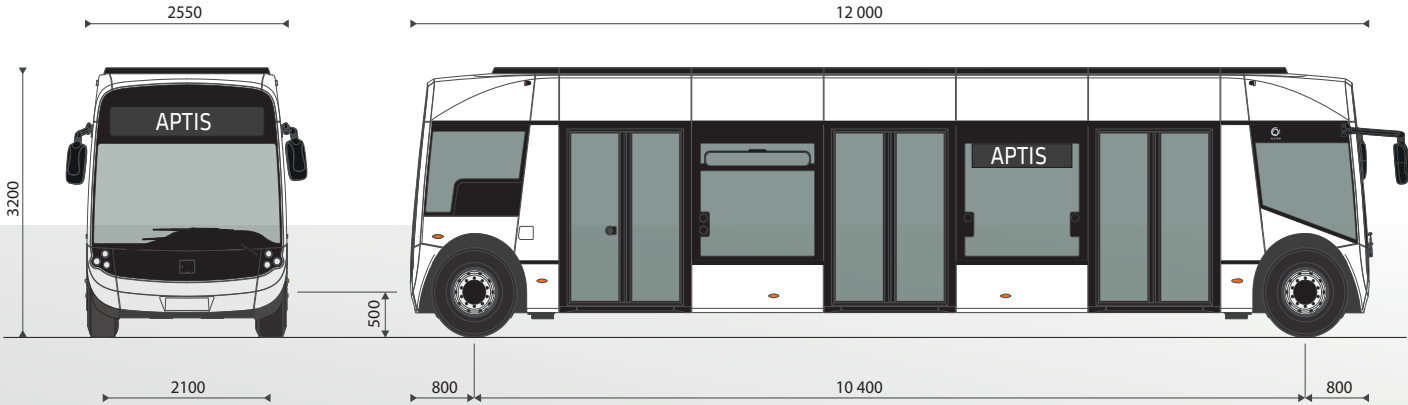


Layout 04 : 32 seats including 4 PMR and 2 folding seats / 1 ramp at door 3 / 1 UFR zones

# MAIN TECHNICAL SPECIFICATIONS

## A UNIQUE ARCHITECTURE

Aptis' architecture is a smart arrangement of technical equipment and travellers' space. All functionalities are located on the roof and at axle level clearing the carbody interior for passengers exclusively.



|                      |                                                          |
|----------------------|----------------------------------------------------------|
| Maximum speed        | Up to 90 km/h                                            |
| Maximum acceleration | 1.2 m/s <sup>2</sup>                                     |
| Run up slope         | 20% (empty) / 13% (full load)                            |
| Passengers capacity  | Up to 107 (depending on configuration)                   |
| Number of doors      | 2 or 3 double doors                                      |
| Maximum motor power  | 180 kW, Alstom's air cooled motor and traction control   |
| Suspension           | Hydraulic suspension                                     |
| Autonomy             | Up to 300 km / day                                       |
| Charging systems     | Combo 2 CCS + connection SRS                             |
| HVAC                 | Heat pump and electric heating for passengers and driver |
| Parking assistance   | Gap between bus and sidewalk of 40 mm                    |

**AUTOMATIC DOCKING**

**CHARGING SYSTEMS :**  
COMBO 2  
SRS

**20 YEARS OF  
COMMERCIAL SERVICE**

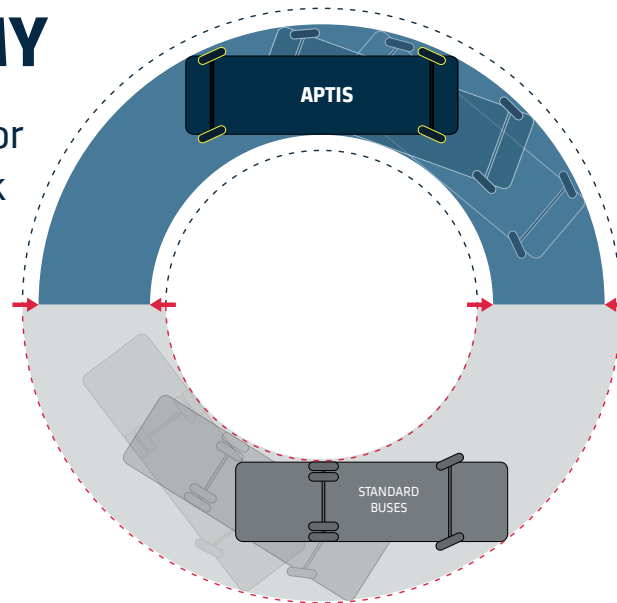
### APTIS' UNIQUE IDENTITY RELIES ON :

- Symmetric architecture
- Minimum overhang and 2 steerable axles
- 2 or 3 extra wide double doors
- 20% more glazed surface
- Common elements between the front and the rear

# PERFECT INSERTION IN THE CITY

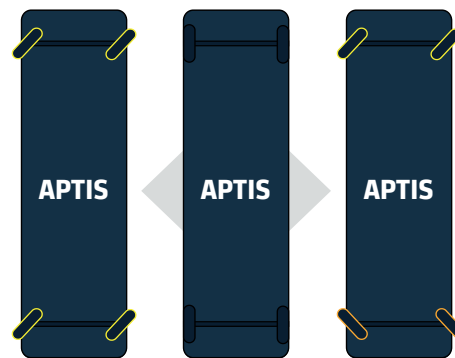
## 25% SURFACE ECONOMY

Aptis' 4-wheel steering and limited overhang remove or significantly reduce all the collision risk and sidewalk encroach thanks to its lower ground footprint. Its 360° vision system with bird view helps the driver in any circumstances.



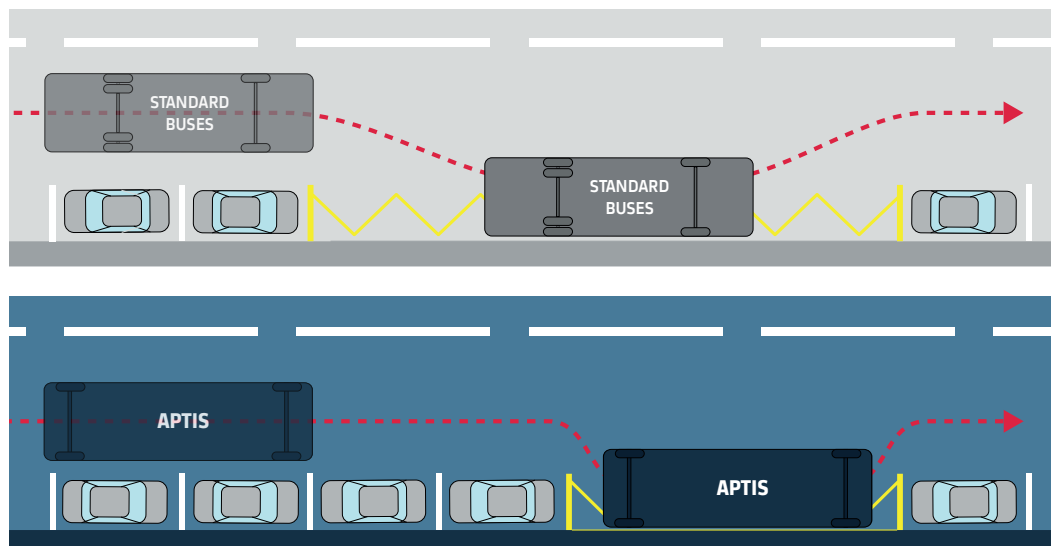
## MOVEMENT AGILITY

The unmatched movement capabilities of Aptis give new possibilities to manoeuvre and move in urban areas unreachable with a standard bus.



## PARKING ASSISTANCE

Thanks to its parking assistance function, an accurate and space-efficient docking at bus stop is easy.



# OPTIMIZED TOTAL COST OF OWNERSHIP

## EXTENDED LIFETIME

Aptis has been designed to operate for over 20 years thanks to its robust architecture. A midlife operation to update obsolete equipment is feasible thanks to all equipment being easily accessible on the roof without severe space restrictions.

## FUTURE NEEDS ANTICIPATION

Passengers needs are constantly evolving. To anticipate future demands, the high capacity storage area on the rooftop grants easy changes triggered both by technological evolution, such as batteries, and new requirements. Aptis' modular interior also permits easy layout improvements to better adapt to new behaviours and passengers experience.

## HIGH CAPACITY

Aptis dedicates the whole interior of the bus to passenger transport, by locating technical equipment on the roof. Therefore, it can carry up more than 100 passengers comfortably, 25% more than conventional buses.

## DIFFERENTIAL OFFER

Aptis aspires to be the preferred means of transport for its passengers, creating a loyalty bond between the operator and its customers, which results in high occupancy and vandalism minimization over its lifetime.



# ALSTOM'S E-MOBILITY GLOBAL OFFER

**Alstom does only design and manufacture e-buses but can also help to dimension, design and provide the whole system necessary for a successful operation of electric buses.**

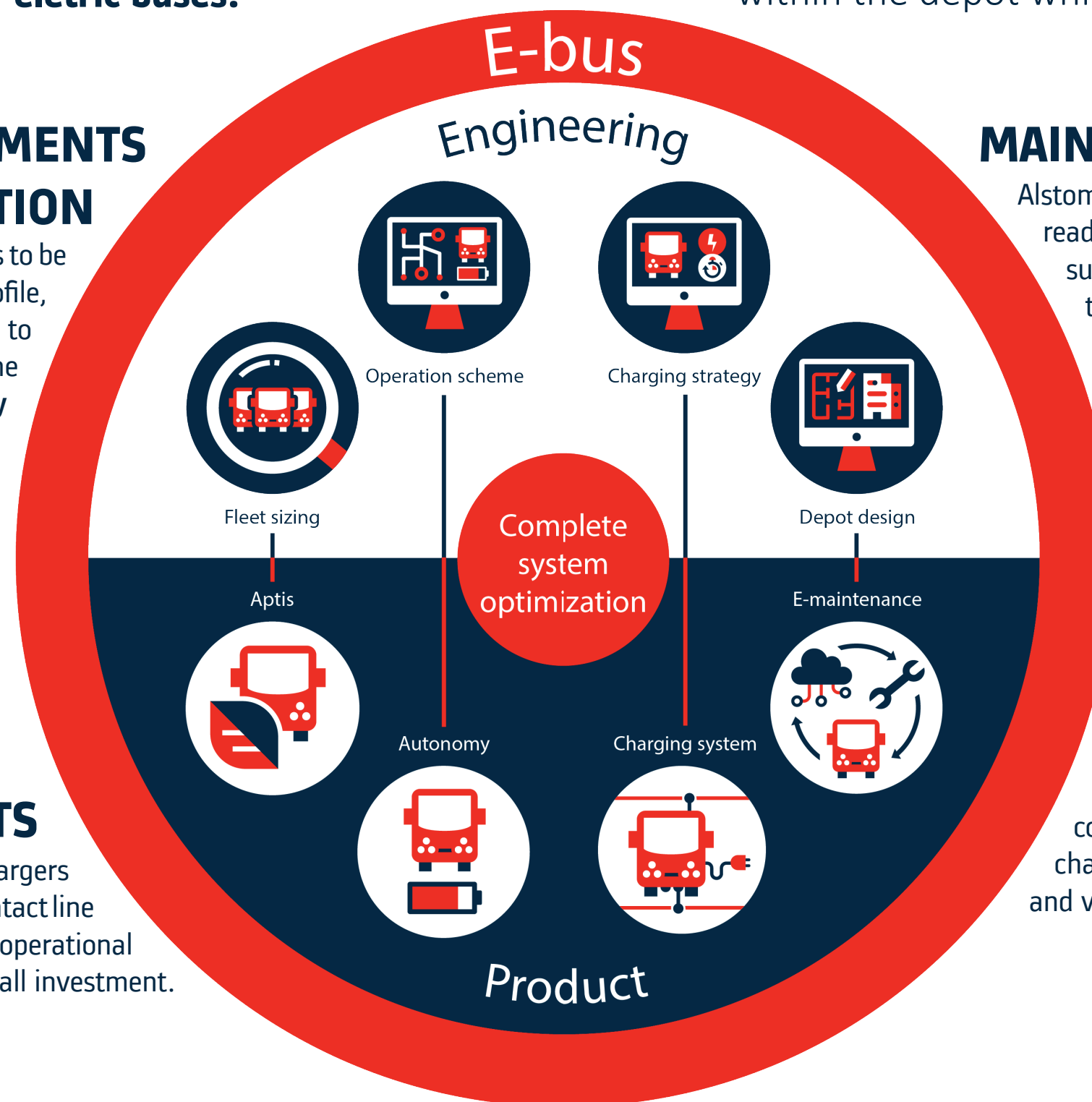
The technology and the number of chargers, and geometry of the depot need to be carefully studied to maximize the bus quantity within the depot while minimizing internal manoeuvres.

## ENERGY REQUIREMENTS DEFINITION

Based on the different configurations of the lines to be electrified (length, distance between stops, profile, climatic conditions) and the operational service to be provided (daily mileage, climatic comfort, time at line ends), **Alstom develops in house energy simulation models allowing to recommend to operators the optimal battery technology, recharge strategy and charging points location to provide the most efficient operation.**

## NIGHT CHARGING POINTS

Alstom can dimension, procure and install chargers using either cable, overhead or ground based contact line and advise output power based on customers' operational needs, in order to minimize overall investment.



## MAINTENANCE

Alstom has extensive experience as service provider and is ready to support operators in all maintenance and parts supply activities up to major revisions committing to strengthen key performance indicators. Alstom has signed up a partnership with leader parts distributor CBM to efficiently serve its customers.

## QUICK RECHARGE POINTS

Alstom has developed a ground charging solution called SRS that can be installed within depots or along the line for rapid opportunistic charging of e-buses. This solution provides, in complete safety for pedestrians and vehicles, charging points with very minimized superstructure and visual aspect.



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