

ALSTOM IN CHARLEROI

Alstom has been part of the Belgian railway history for about 130 years, through its origins in the engineering company ACEC. Today the company is active in Charleroi through two centres of excellence for digital signalling solutions and traction systems.

Important efforts in R&D support the development of these activities contributing actively to promoting a safer and more performant railway network, as well as sustainable mobility solutions (energy efficiency solutions). Several partnerships are developed with Belgian universities.

With over 1,100 employees, among which 500 engineers, Alstom's site in Charleroi brings a significant contribution to the development of rail transportation worldwide.



KEY FIGURES

About **130** years of experience

> **1,100** employees

500 engineers

100 engineers dedicated to R&D

36 Senior Experts & **2** Master Experts

2 worldwide centers of excellence

> **100** projects on the **5** continents

Sales 2017/18: **€300M** incl. **70%** towards export

ALSTOM IN BELGIUM

Alstom in Belgium is one of the major suppliers of rail infrastructure. The company focuses on supplying rail vehicles for local rail transport such as metros, tramways, regional trains, but also digital signalling systems for safe and performant railway networks and services for signalling equipment and electronic components. In addition to the **Charleroi** site, **Brussels** is a sales & project management office.

R&D AND INDUSTRIAL ACTIVITIES

▪ ELECTRONIC COMPONENTS



- Design, tests, homologation and production of traction systems of the latest technology including auxiliary converters and low voltage cabinets. Production of prototypes. Project management all over the world. The site is also active in the development of solutions improving the energy efficiency of the systems of transport.

▪ SIGNALLING SYSTEMS



- Design, tests, homologation and production of the national signalling systems and the European Railway Traffic Management System (ERTMS). These systems ensure safety and allows for more capacity on networks, for a greater punctuality and a better energy efficiency. Global management of projects.

▪ MAINTENANCE



- Components traction, auxiliary converters, low voltage cabinets and signalling systems maintenance.
- Renovation of rolling stock

MAIN REFERENCES

SIGNALLING

- Leading supplier in the design and implementation of signalling solutions for rolling stock. Several major success with Alstom ERTMS-based solution Atlas.
 - 1st high speed line (I)
 - 1st global fleet equipped (L)
 - 1st high density and largest fleet (500 tr.) (CH)
 - 1st interoperable project between countries (B-F-N)
 - 1st corridor line freight (Corridor A)
 - 1st ERTMS L2 Baseline 3 track and on board contracts
- Onboard system on SNCB fleet, 449 trains for OBB (Austria), 500 trains for SBB (Switzerland), 300 trains of Siemens, Bombardier, Vossloh....
- Trackside solutions for 4,000 signals on the Belgian network for Infrabel
- Interlocking solutions in the metros of Brussels and Charleroi in Belgium, Beijing and London

COMPONENTS & ENERGY SOLUTIONS

- Successful traction systems for the Chinese metro market: Beijing, Hong Kong, Qingdao, Shanghai, Nankin, Buenos Aires...
- Traction systems and auxiliary converters for Coradia regional trains, Prima locomotives for China, Morocco and France, for high speed trains NTV (I), the 500 M6 trains for SNCB (B).

SERVICES

- Large expertise in ERTMS services for SBB and OBB



PROJECTS ONGOING

- Major Belgian renovation project of the signalling system network: 1,400 shelters including the **Smartlock solution**
- **ETCS Level 2 BSL3 solutions**: in Denmark, on about 12 lines from Banedanmark and on 789 trains for Danish operators. In Norway, implementation of the ETCS Level 2 BSL3 solution on about 500 trains for Bane NOR
- **ERTMS onboard solution** for 500 trains for OBB (Austria) and more than 300 Siemens trains, 79 ICNG trains (NS-Netherlands) and 90 M7 trains (Belgium)
- **Metro traction system** including auxiliary converter based on SiC technology and low voltage cabinets for various customers: Dubai, Hanoi, Riyad
- **Traction systems** for 90 M7 trains for SNCB and 79 ICNG trains for NS
- **Maintenance** of signalling systems for SBB & SNCB fleets
- **Renovation** of 45 tramways for TEC Charleroi
- **R&D** ATO program to improve the punctuality of trains, their energy consumption, the capacity of the network
- **R&D** Hesop new applications (a reversible power-supply substation designed to deliver better energy efficiency for urban and suburban public rail transport networks)
- **R&D** programs to improve traction systems and ERTMS applications

