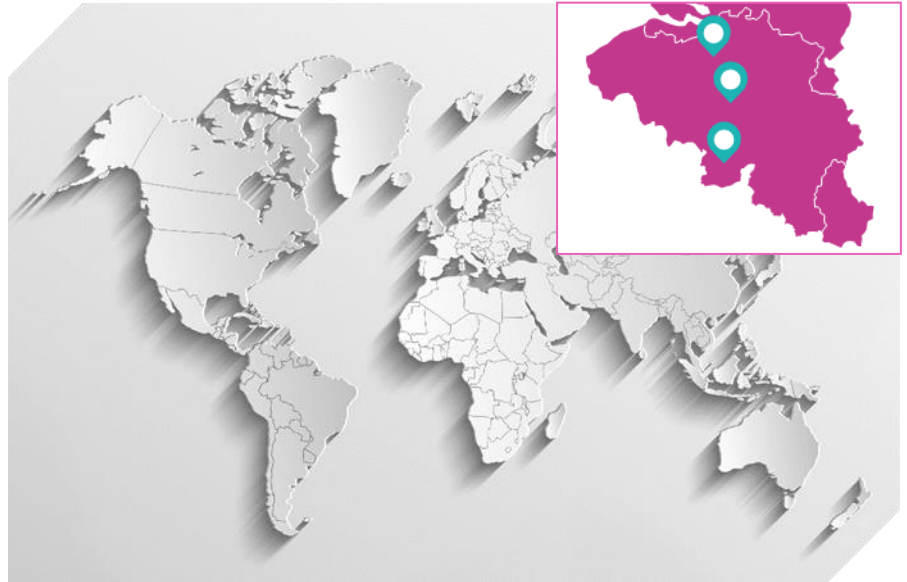


ALSTOM IN CHARLEROI

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 through two centres of excellence for digital signalling solutions and for traction systems.

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

With 1,050 employees, among which 500 engineers, the site makes a significant contribution to worldwide rail transportation development.



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. These activities are led by 3 sites: Antwerp, **Charleroi** and Brussels. Brussels is a sales & project management office and Antwerp is a service site.

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.

▪ SIGNALLING SYSTEMS



- Design, tests, homologation and production of the national signalling systems and the European Railway Traffic Management System (ERTMS). Global management of projects.

▪ MAINTENANCE



- Components traction, auxiliary converters, low voltage cabinets and signalling systems maintenance.

KEY FIGURES

1,050 employees

500 engineers

100 researchers

2 worldwide centers of excellence

About **130** years of experience

Sales 2016/17: **268** million €

MAIN REFERENCES

- Leading supplier in the design and implementation of signalling solutions for rolling stock with several major success and a world Première with Alstom ERTMS-based solution Atlas.
 - 1st high speed line (I)
 - 1st entire fleet (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 of major rolling stock of SNCB in commercial service, 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
- Successful traction systems for the Chinese metro market: Beijing, Buenos Aires 1, Hong Kong SIL, Qingdao, Shanghai, Nankin...
- 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)



PROJECTS ONGOING

- Major Belgian renovation project of the signalling system on the Belgian network - 1,400 shelters to be implemented including the Smartlock solution.
- Denmark: implementation of the ETCS Level 2 solutions on about 12 lines from Banedanmark and 789 trains for Danish operators
- 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)
- Traction system including auxiliary converter and low voltage cabinets for various metros: Beijing L15, Hong-Kong, Buenos-Aires, Montreal, Valencia, Melbourne...
- Traction systems for 90 M7 trains for SNCB and 79 ICNG trains for NS
- Maintenance of signalling systems for SNCB fleet
- R&D programmes to improve traction systems and ERTMS applications
- R&D Hesop new applications (a reversible power-supply substation designed to deliver better energy efficiency for urban and suburban public rail transport networks)

