

Alstom in The Netherlands is one of the major suppliers of transportation solutions. The company focuses on supplying innovative rolling stock solutions for urban transport such as metros, tramways and e-bus, and for regional and high-speed trains. Alstom's state-of-the-art **signalling solutions** allow operators to ensure safe and seamless travel for urban and mainline transportation. A range of **services** using the latest digital technologies is offered for high fleet availability. Alstom has 4 sites in the country: **Ridderkerk** for Digital Services, **Nieuwegein** Depot for tram Maintenance, **Utrecht** and **Duivendrecht** for Signalling solutions.



KEY FIGURES

225	Employees
4	Locations
5	CO2 level performance
> 200	trains in operation
170	km of ERTMS trackside on BetuweRoute and Hanzelijn
49	Tramways in daily maintenance



: ACTIVITY 1 – RAIL SIGNALLING SYSTEMS

- Full-solution provider of Urban and Mainline signalling projects (design, delivery, installation and commissioning, maintenance)
- Leader in ERTMS (European Railway Traffic Management System) on-board and track systems on the Dutch railway ensuring network performance and reliability while being interoperable with all types of trains.
- Frontrunner on innovation Automatic Train Operation
- Maintenance of complete signalling systems



: ACTIVITY 2 - SERVICES

- A range of services guarantees the availability of systems: parts & repair, overhaul, modernization, renovation and support services using the latest technologies.
- Fleet support center with HealthHub predictive maintenance to optimize availability of fleets of vehicles, cost & passenger satisfaction
- Provision of daily availability of fleet with execution of preventive and corrective maintenance as well as overhaul and damage repair.



: ACTIVITY 3 – ROLLING STOCK

- Rolling stock solutions for urban transit, mainline travel, regional transport and freight.

MAIN REFERENCES

A large presence in the public transport with over 200 vehicles with the latest signalling and services solutions

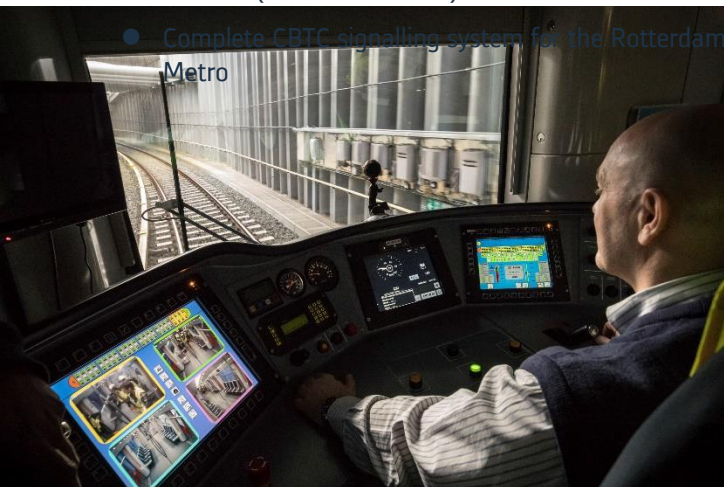
ROLLING STOCK

- 113 tramways Citadis in Rotterdam for RET
- 72 tram-trains Regio-Citadis in The Hague for HTM
- 28 metros Metropolis in Amsterdam for GVB

SIGNALLING

- ERTMS safety system on tracks on the Betuweroute (130 km freight route) and on the Hanzelijn (40km)
- ERTMS on-board equipment in freight locomotives
- Maintenance of on-board/trackside ERTMS systems for operators
- Interlockings and train detection systems for ProRail
- Complete on-board and trackside CBTC (Communications-Based Train Control) signalling systems for the Amsterdam Metro network and vehicles (North South Line)

- Complete CBTC signalling system for the Rotterdam Metro



SERVICES

- Preventive, corrective maintenance on rolling stock for Dutch customers such as VolkerRail and NS
- Modernization program for the VIRM double deck train of NS with auxiliary IGBT power converters

NEW SOLUTIONS

- Alstom has performed in 2018 Automatic Train Operation (ATO) tests in GOA2 on the Betuweroute with ProRail and RFF. New ATO tests in GOA4 (Automatic Shunting) are foreseen in 2021
- Alstom hydrogen train Coradia iLint successfully tested between Groningen and Friesland in March 2020

PROJECTS ONGOING

Innovative solutions to provide a smart and sustainable mobility of tomorrow



- In 2016, Alstom signed a contract with NS for the delivery of 99 new ICNG intercity trains to operate on the high speed line HSL-Zuid and on the core rail network
- CBTC equipment for the Amsterdam metro vehicles and trackside (Ring Line)
- Modernization of the Rotterdam Metro MG2-SG2 fleet, 81 vehicles, control platform, driver desk screen and auxiliary power supply
- Provision of daily availability of the Utrecht tram fleet (49), execution of preventive and corrective maintenance, overhaul and damage repair
- Digital services for the M5M6 metro fleet operating the Amsterdam North South line
- Production of IGBT power & control electronics for 20 hybrid shunting locomotives Prima H3

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