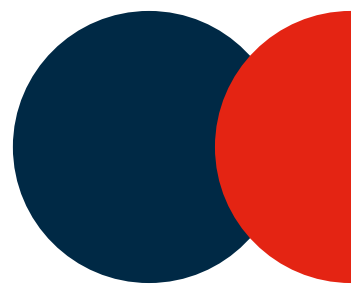


BRINGING MADRID AND SEVILLE CLOSER WAS JUST THE BEGINNING...



April 21st marks the anniversary of the first Madrid - Seville AVE commercial trip. **Three decades ago, we were pioneers in introducing high speed in Spain.** Since then, we have added a long list of innovations to continue revolutionizing rail transport. And today, we remain committed to mobility of the future.



AVELIA™

ALSTOM'S FAMILY OF HIGH SPEED AND VERY HIGH SPEED TRAINS



More than 2,900 trains with Avelia™ technology sold in the world.



Over **40 years** of experience in high speed.



574.8 km/h: a world railway speed record.



High speed trains in **25 countries** and crossing **19 borders**.

LEADING HIGH SPEED IN SPAIN FOR 30 YEARS



HIGH SPEED IS BORN IN SPAIN

The first very high speed train in Spain. 300 km/h Madrid - Seville.
AVE S100 trains: manufactured in Spain.

Introduction of **Euromed** in the Mediterranean Corridor.

Alaris S495: active tilting at 220 km/h.

The first 2 x 25-kV catenary system between Madrid and Lleida.
The first on-board GSM-R.

Alstom power cars on **AVE S102**.

First trains with **ERTMS** on-board.

Power cars with Alstom technology on **Alvia S130**.



RECORD OF RELIABILITY

The high speed shuttles achieve the highest reliability indexes (1,700,000 km).

Avant S114: second generation of regional shuttles. Pendolino family.

First AVE with **Wi-Fi**.



LIBERALISATION

OUGO. Avelia Euroduplex trains.

IRYO. Alstom technology.

1992

1993

1994

Renfe / Alstom **on-time commitment** in high speed (5 min.).

1995

1996

DOUBLE-DECKER HIGH SPEED

The first double-decker high speed train in commercial service. It currently runs in France, Germany, Switzerland and Spain.

1997

1998

1999

2000

PENDOLINO

Alstom acquires Fiat Ferroviaria.
Pendolino joins Alstom's high speed range.

2001

2002

2003

2004

The first regional shuttles in the world: **Avant S104**. Part of the Pendolino family.

2005

2006

Alstom's traction technology on **Alvia S120**.

2007

574.8 KM/H

World speed record reached with a double-decker high speed train.

2008

2009

2010

2011

WITHOUT BORDERS

First direct high speed connection, running on French and Spanish lines.

2012

2013

2014

2015

Electrification of the 30-km **Guadarrama tunnel**, the longest within the entire Spanish high speed network.

2016

2017

Energy Management System (**EMS**) to reduce consumption in the **S102, S112** and **S130**.

2018

2019

2020

2021

2022



ALSTOM
• mobility by nature •