Bombardier is a key player in all international high speed projects for speeds of 200-330 km/h
ICE 3 – Very high speed in Germany

- Developed in a consortium with Siemens
- Full operation since 2002 in Germany, Belgium, Netherlands, Switzerland and in France
- 67 trains delivered and homologated for 330 km/h
- Joint development where Bombardier led in the following key areas:
  - Bogies (incl. riding comfort / Interface bogie-carbody)
  - Structures engineering
  - Aerodynamics
  - Break integration (mechanical)
  - Couplers
  - Pantographs
  - Gangways
  - Production of all end cars and 2 intermediate cars

Bombardier owns key technologies developed and implemented on the ICE 3
AVE S-102 – Very high speed in Spain

- Developed in a consortium with Talgo
- 16 trains delivered and homologated for 330 km/h, plus 30 additional trains in production
- Service operation since February 2005 with high proven reliability and availability
- Train sets consisting of 2 power heads and 12 low floor coaches
- Bombardier scope includes 100% of:
  - Traction (power head)
  - Powerhead bogies and running dynamics
  - TCMS
  - 14 years maintenance contract

Bombardier owns key technologies developed and implemented on the AVE S-102
Every train is configured according to customers’ business targets, using the three basic types of cars with one or two doors:

Bombardier ZEFIRO – Modular technology from 250 to 360 km/h

Motorized end car
DMC

Intermediate trailer car
TC

Intermediate motorcar
MC

4-car configuration

8-car configuration

12-car configuration

16-car configuration

ZEFIRO technology is fully adaptable to customers’ needs, from 4 cars to 16 cars and from 1 to 4 power supply systems.
Bombardier ZEFIRO – high capacity

- Conventional architecture
- 500 to 700 seats for a 200m train
ZEFIRO: Technology for profitable operations

CAPACITY: From premium to low cost seats arrangement

FUTURE-PROOF: Designed for multiple life

RELIABILITY & AUTONOMY: Designed for improved O&M efficiency

ENERGY EFFICIENCY: The lowest consumption/passenger
Thank you for your attention