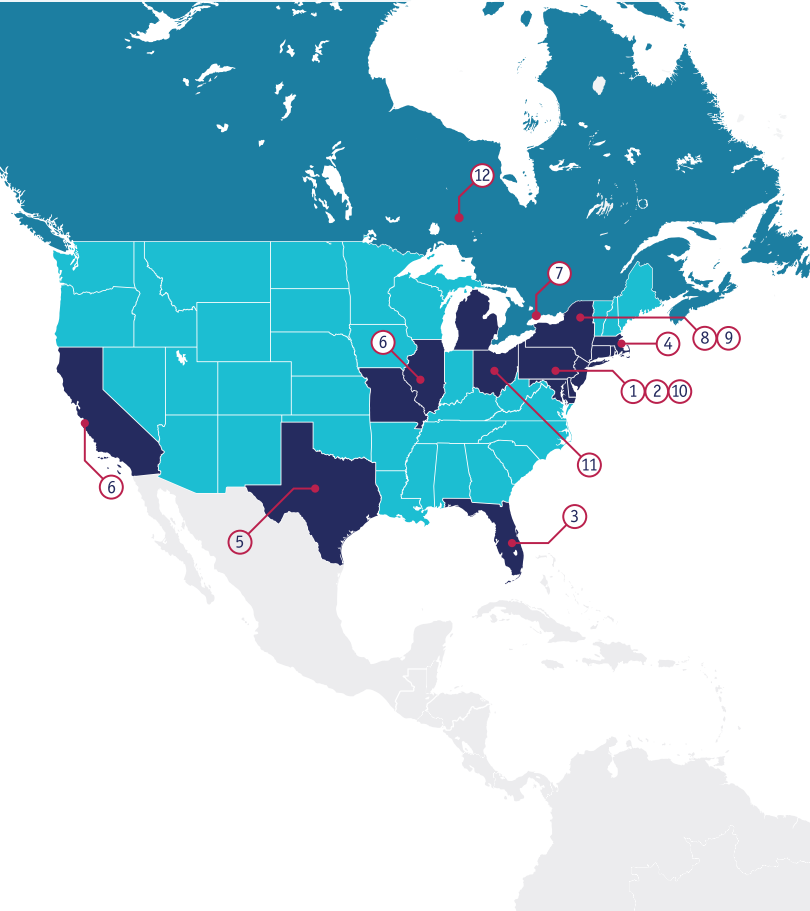





PROJECTS IN NORTH AMERICA

Cetest has participated and is an active player in the testing of some of the most significant recent and present railway projects in North America. Manufacturers as well as authorities have chosen Cetest's services to help them with their test needs.





- 


1 Viewliner 8400 car
AMTRAK
- 


2 Amtrak LDSL
passenger cars
CAFUSA
- 

3 SFRTA passenger
locomotives
BROOKVILLE
EQUIPMENT CORP.
- 


4 Boston LRV
CAFUSA
- 


5 DART Streetcar
BROOKVILLE
EQUIPMENT CORP.
- 


6 Caltrans/IDOT Bi-Level
passenger cars
NIPPON SHARYO
MAN.
- 

7 Metrolinx
Toronto DMUs.
NIPPON SHARYO
MAN.
- 

8 NYCT Vacuum
cleaner.
SOCOFER
- 

9 LIRR M9
passenger car.
KAWASAKI
RAIL CAR
- 

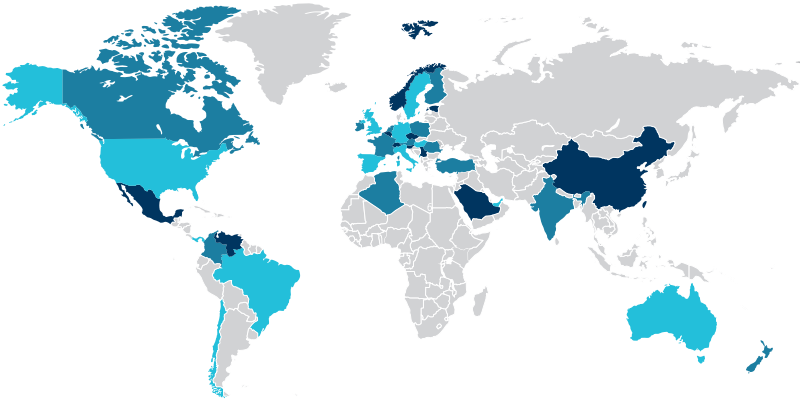
10 Viewliner I car
AMTRAK
- 

11 Cincinnati Streetcars
CAFUSA
- 

12 Riyadh Metro.
BOMBARDIER
TRANSPORTATION



ANYWHERE,
ANYTIME.



T 855 330 3593 (U.S. TOLL-FREE)



cetestgroup.us

YOUR TEST & EVALUATION DEPARTMENT

Cetest is a fully accredited independent laboratory offering services for design, verification, model validation, developmental testing and/or answers to help you identify root causes.

Our unique portable test benches and our state-of-the-art instrumentation and measurement capabilities can support you with a wide variety of test needs. Our field test deployment capacity is global and flexible. Anywhere, anytime.

Cetest is a word reference in railway testing. We offer you more than 40 years of experience through a dynamic team of highly skilled engineers and technical staff.



OUR VALUE PROPOSITION

FLEXIBILITY & PORTABILITY

- Very rapid response with short lead times
- Full adaptability to customer's needs
- Tailor made test & measurement systems
- Proven global deployment capabilities
- Portable test rigs. Do not need to move the vehicle!

ANYWHERE, ANYTIME

EXTENSIVE PORTFOLIO

- One-stop test lab
- Climate room tests
- Lean/wheel equalization/instrumented wheelsets
- Bodysell structural tests
- On-track: EMC, ride dynamics, noise, fatigue, braking & traction,...

KNOW-HOW IN RAILWAYS

- Proven experience in railway testing (APTA, CFR49, PRIIA, EN... standards)
- Wide spectrum of fields of expertise
- Experience in all market segments
- Latest control & measurement technology (wireless systems, advanced acquisition & post-process)

EXPERIENCE WITH US KEY MARKET PLAYERS

- Amtrak
- Bombardier Transportation
- CAFUSA
- Kawasaki Rail Car
- Nippon Sharyo
- Volpe/FRA



OUR EXPERTISE

1

Running characteristics

Our know-how and experience in ride dynamics make us experts in analyzing running characteristics of railway through stationary tests with portable test benches for assessment of safety against derailment or flexibility coefficient evaluation and on-track tests for dynamic performance evaluation on real operational conditions.

2

Wheel/rail contact measurement

We evaluate the interaction between the wheel and the rail through specific instrumented wheelsets as part of vehicle's dynamic behavior evaluation or for study and analysis of track characteristics.

3

Pantograph/overhead

We are specialized in the analysis and evaluation of pantograph-catenary interaction and current collection quality measurement by means of instrumented pantographs or measurements on overhead line.

4

Braking and traction performance

We perform tests to evaluate and assess the braking and traction performance of railway vehicles, including tests for energy consumption and running resistance analysis.

5

Structural integrity and fatigue resistance

We perform tests to verify the endurance and resistance of structures and components in specialized test benches as well as through field instrumentation on systems under real operational conditions.

6

Acoustic and vibrations

We are experts in analyzing and providing solutions for any type of noise and/or vibration problems associated to machines, components up to full systems or vehicles.

7

EMC / EMI

We can analyze electromagnetic compatibility for single components as well as full systems to check for compliance according to specific regulations and standards.

8

Climatics

We perform different types of environmental tests over rail vehicles (k coefficient, UA-value, air balance, HVAC performance, CFD correlations...), including the operation of a climatic chamber for rail vehicles in NY (USA).

CERTIFICATIONS

Name	Description	Logo
✓ ISO 17025	Testing and Calibration Laboratories Standard	ENAC
✓ EN 9100	Quality Management Standard for Aerospace Sector	TÜVRheinland®
✓ ISO 9001	Quality Management Standard	TÜVRheinland®
✓ ISO 14001	Environmental Management Standard	TÜVRheinland®
✓ EN 9712	Non-destructive testing	AEND asociación española de ensayos no destructivos



PORTFOLIO IN NORTH AMERICA

Cetest offers a broad test service portfolio to our customers in North America, from vehicle manufacturers to operators and authorities.

✓ Carbody compression test bench (PORTABLE)

- Can be transported to manufacturer's premises.
- Up to 1 Million lbs compressive load, 340 thousand lbs tensile load.
- Over 700 strain gauge measurement channels.
- Adapted to APTA, PRIIA, ASME, GM and EN standards.

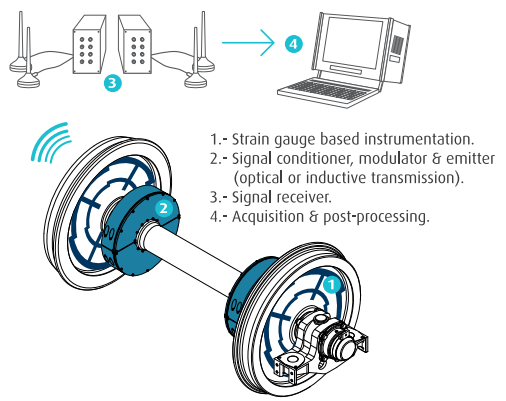


✓ Suspension characterization test bench (PORTABLE)

- Can be transported to manufacturing sites, maintenance depots, etc.
- Lean testing, wheel equalization & center of gravity determination, truck rotational resistance.

✓ Ride dynamics

- Ride comfort evaluation.
- Running behavior evaluation, safety against derailment, hunting.



✓ Instrumented Wheelsets

- Patented and proven advanced technology (more than 70 wheelsets delivered in last 4 years).
- Adaptable to any wheel and axle configuration/geometry.
- Lead time: 3 weeks.

✓ Noise & vibrations

- Interior and exterior noise of full vehicle.
- Studies of influence of auxiliaries and components.

✓ EMC / EMI

- Full vehicle and component EMC measurement – on site.
- EMC Control Plan and FMECA consulting.

