

Italy's leading
organization
in conformity
assessment



SAFETY

CONFORMITY

QUALITY

PERFORMANCE

EXCELLENCE

RELIABILITY

AUTHORITATIVENESS



together toward excellence

IMQ GROUP ALL OVER THE WORLD



together toward excellence

CSI MAIN SERVICES & SECTORS



Testing Laboratory
(ISO/IEC 17025)

Product certification
(ISO/IEC 17065)



Agri-food



Automotive



Chemical



Construction



Inspection body
(ISO/IEC 17020)

Agri-forest supply chain
certification



Maritime



Packaging



Transport-Logistic



Wood-Furniture



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CSI MAIN FIGURES

more than **340**
employees



more than **200.000** s.m.
testing area & labs



more than
4.300 certified
companies



more than
14.500 certified
products



more than
900 annual
inspections



more than **18.000**
reports per year



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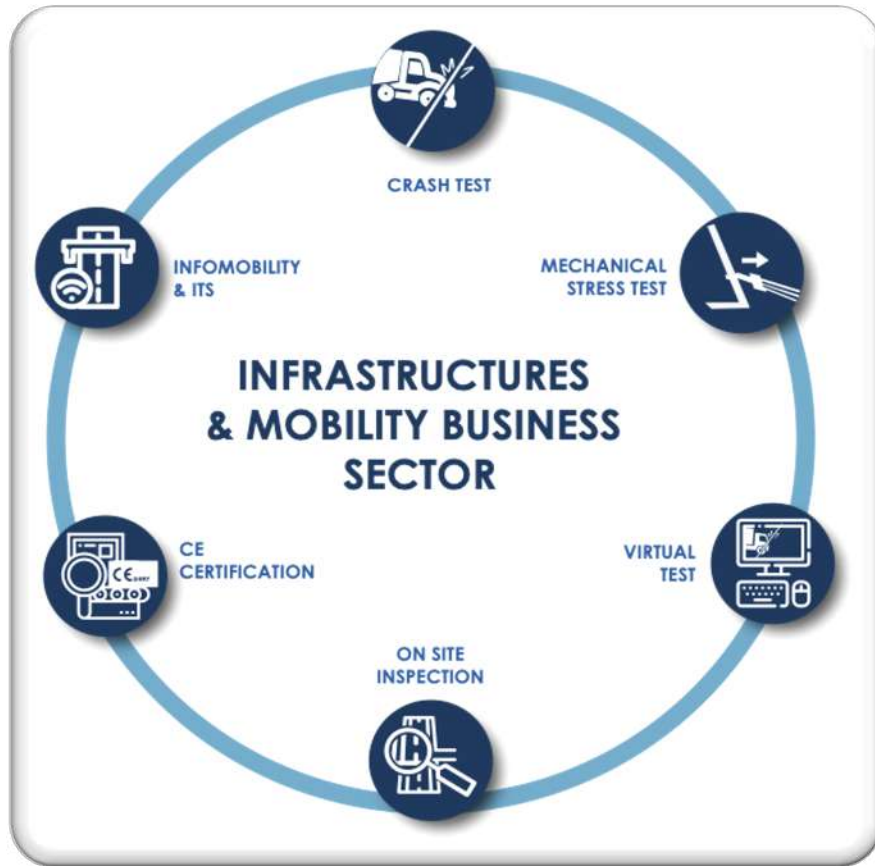
We **Test** and **Certify**
Road Safety

FOCUS ON INFRASTRUCTURE & MOBILITY BUSINESS SECTOR



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MAIN SERVICES



*Testing activities are carried out in conformity
with the standard EN ISO/IEC 17025*



Road restraint systems (longitudinal barriers, parapets, crash cushions, terminals)



Motorcyclist devices



Antinoise devices



Support structures



Security fence systems



Vehicle security barrier systems (bollards, blockers, swing gates, structural walls)



**Intelligent transport system
and Info-mobility tools**

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MAIN FACILITIES



160.000 m²

testing sites

11.000 m²

laboratories

INSTALLATION



Asphalt



Concrete
foundation



Bridge



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FULL SCALE CRASH TEST

According to the most common European & international standard:



Road Restraint Systems

» EN 1317, AASHTO MASH Standard, GOST 33129-14 and JTG B05-13

Motorcycle devices

» CEN / TS17342

Support structures for road equipment

» EN12767

Vehicle security barrier systems

» BSI PAS68, IWA 14, ASTM F2656

Security fence systems

» ASTM 2781

Antinoise devices

» EN14388



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FULL SCALE CRASH TEST



6 test sites

Installation:

- Asphalt
- Concrete
- Foundation
- Bridge



Test specifications

- Up to 5 fast motion digital recordings and slow-motion recording
- Up to 100 data channels monitored on the test vehicle
- Instrumented dummies Hybrid III 50%, 5% and 95% available



Test characteristics

- Drive-less vehicle launching
- Vehicle range: from 900 kg up to 38 t
- Position of impact precision: +/- 5 cm
- Impact velocity range: 50 to 130 kph



MECHANICAL STRESS TEST

Customized tests



Simplified impact tests with bougie



Detection of the stresses by means of strength gauges and/or load cells



Anchor bolts dynamic pull-out



Soil and foundation characterization



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WORK SITE TESTS

Check of the behavior of barrier posts installed along the roads or on bridges



“ **M.A.R.T.I.N.A** equipment, to perform of performing push tests in a **quasi-static** and dynamic regime on posts either driven into the ground or anchored to steel/concrete foundations ”



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VIRTUAL TEST

Road restraint system crash simulations and 3D numerical models are carried out in accordance with:



EN 16303

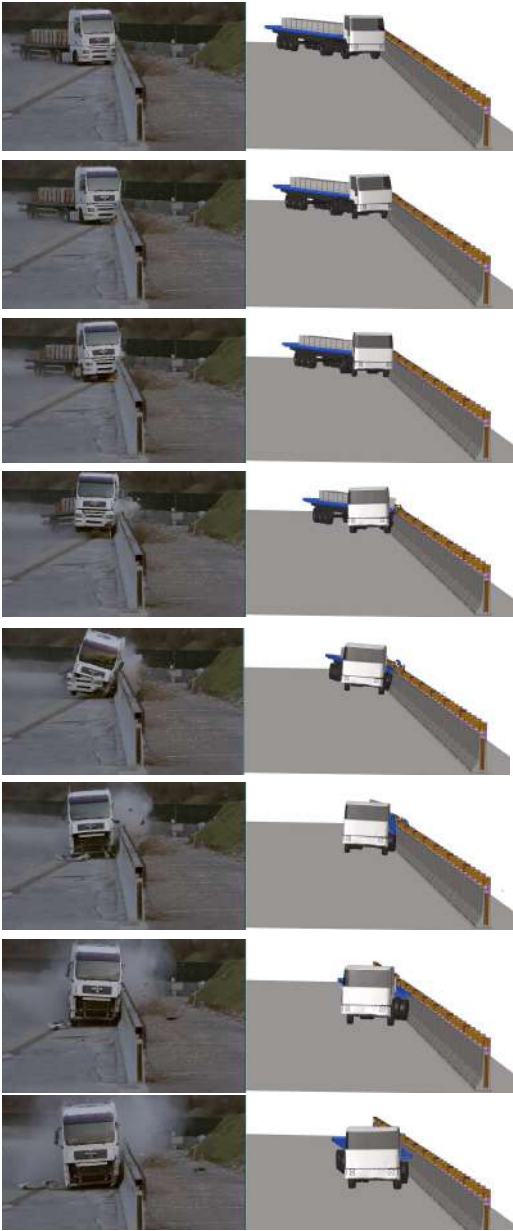
“Validation and verification process for use of virtual testing in crash testing against roadside device”



Virtual simulation of full vehicle crash test and methodology support



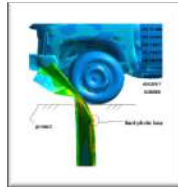
Evaluation of product modification for CE marking assessed by numerical models



VIRTUAL TEST

Component behavior analysis and load path analysis

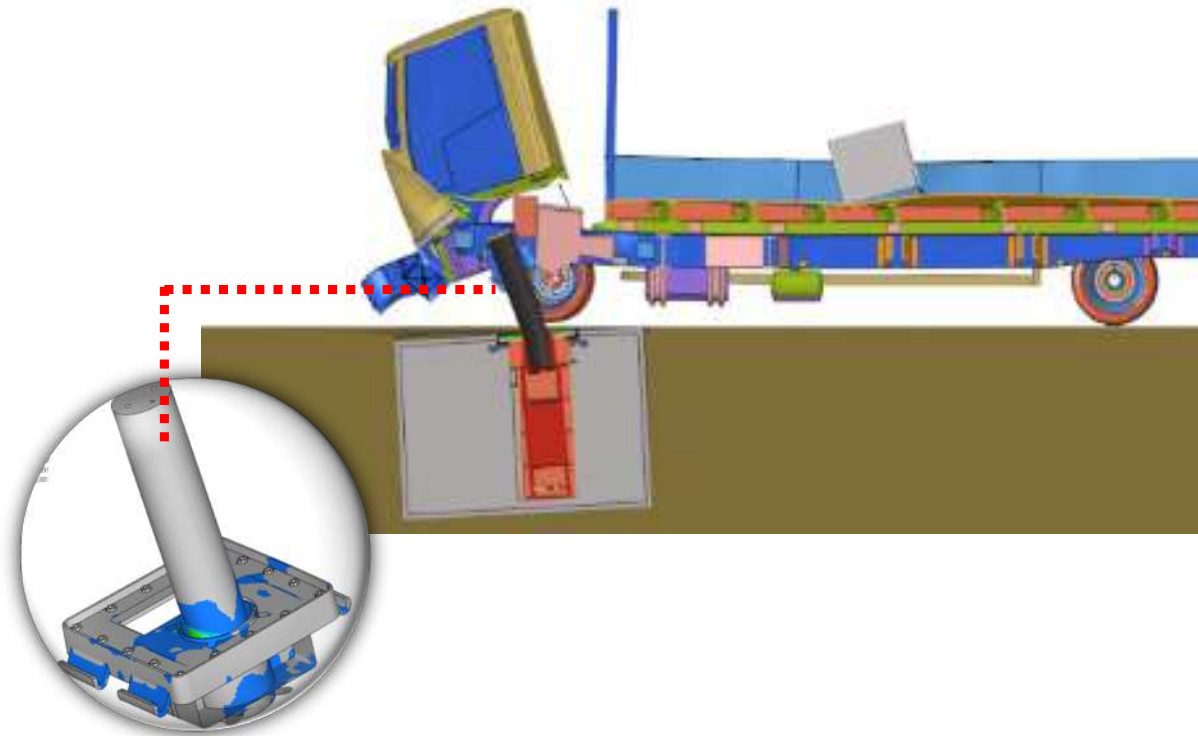
Evaluation of influence of connection on wheel snagging effects



Analysis of loads transfer from the anchorages

Dynamic testing of subcomponent installed on the field and comparison with f.e. models

Definition of procedure for assessing design modification performances



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EETS TESTING



Protected environment for testing ITS type V2I, V2V and I2X on circuit



Tests on "On Board Unit" (OBU) and "Road Side Equipment" (RSE) for different kinds of road applications (tolling, traffic control, access control in conformity to standard ISO/EN 17025)



ADAS tests and road tests with autonomous vehicles, under expert supervision



IMQ Notified Body for several European Directives, in particular 2019/520/EU (EETS) and 2014/53/EU (RED), both directly used in ITS environment.



NOTIFIED BODY SERVICES



“ CSI is **Notified Body (no. 0497)** for CE marking of Road Restraint System, Signposts, Lighting columns, Acoustic barriers and several other products. ”

Notified Body



Initial
assessment



Factory
production
control



CE
Certification

CE 0497



Annual
surveillance

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To improve quality of life, reduce risks,
increase productivity, boost efficiency
and **add value.**



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APPROVED. 

Massimo Cucchietti | CSI Automotive
BU Infrastructures and Mobility | Business Sector Manager
massimocucchietti@csi-spa.com | mob. (+39) 335 6410648
automotive.csi-spa.com

**Giving you certainty:
that's our imperative.**



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TOGETHER TOWARD EXCELLENCE



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