



SHENZHEN CANSINGA TECHNOLOGY CO., LTD.

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CANSINGA

SUPPLIER OF SAFETY  
PROTECTION AND  
TECHNOLOGY SYSTEM

SHENZHEN CANSINGA TECHNOLOGY CO., LTD.



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## ABOUT US

## CANSINGA CORPORATE CULTURE



Shenzhen CANSINGA Technology Co., Ltd. is committed to becoming the leading provider of traffic safety protection technology system in the world, providing safety protection products and technologies for Rail Train, Passenger Car and Special Purpose Vehicle, Road Transportation, Waterway Transportation and Aerospace, and has provided products and services for many domestic and foreign partners.

From the Lunar Landing Probe to the Renaissance High-Speed Rail, and from a Large Surface Combat Ship to Recyclable Rockets, CANSINGA has promoted traffic safety with more advanced technologies. CANSINGA has successively got the National High-Tech Enterprises and the coordinated demonstration project enterprises of industrial resilient base of national MIIT.

Relying on the academician workstation, postdoctoral innovation practice base, traffic safety protection laboratory and other innovation carriers. CANSINGA has strived to build a diversified innovation platform, aiming at the international leading safety protection technology, breaking the monopoly of many foreign products and technology.

In 2020, Cansinga completed Series-A funding and obtained investment capital from China Merchants Group and HIT. And always adheres to the corporate mission of "Making Travel Safer with Technological Innovation", and is committed to becoming an excellent company to help "Zero Death" in traffic accident!



## CORPORATE VISION

Become an excellent company to help "Zero Death" in traffic accident



## CORPORATE MISSION

Making Travel Safer with Technological Innovation



## CORE VALUES

Trustworthy Sincerity  
Entrepreneurial Innovation  
Mutual Benefit



## ENTERPRISE SPIRIT

Concentrated  
Professional  
Specialistic

## DEVELOPMENT HISTORY

**2020.06**

Pilot of New Generation Buffer Isolation Facilities  
March into the field of Road Traffic Safety Facilities



**2015.03**

Shenzhen Cansinga Technology Co., Ltd. was established



**2020.09**

Completed Series A funding



**2021.01**

Automobile Aluminum Honeycomb barrier realizes import substitution



**2021.06**

Foshan Intelligent Factory put into production



**2019.03**

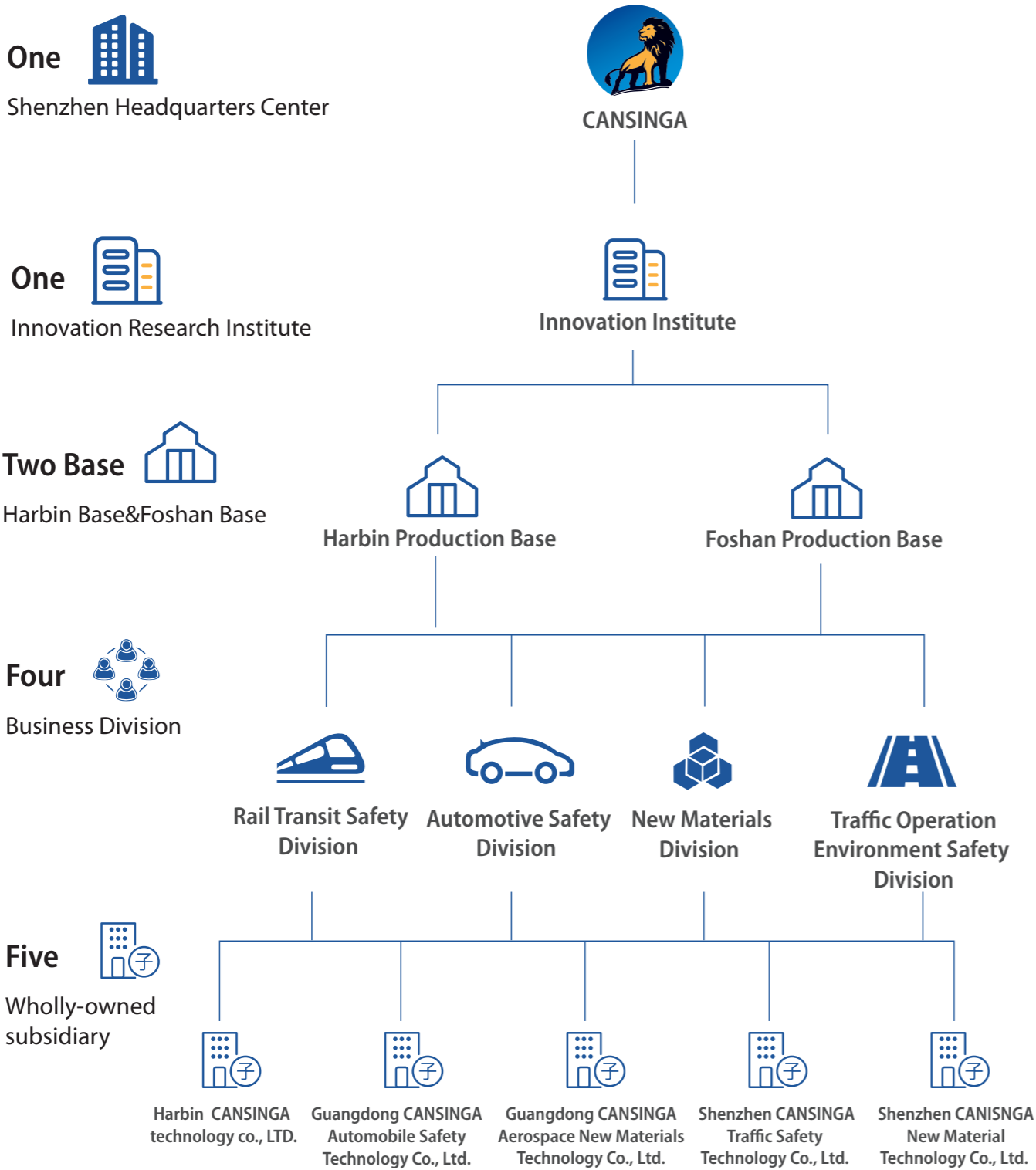
TMA Successful development, marching into the field of Automobile Safety

**2017.03**

Bulk Supply of Renaissance High Speed Railway  
National High-Tech Enterprise



COMPANY PROFILE



MAIN BUSINESS



Automotive Safety



Rail Transit



Special Honeycomb Materials



Traffic Operation Environment Safety



NATIONAL LANDMARK KEY PROJECTS

01

Independent Research and Development, Instead of import

Anti-collision and energy-absorbing protection system for 350 km/h Renaissance High Speed Train

02

Marine Environment, Breaking the blockade of foreign technology

Safety protection of emergency braking for Next Generation Large Surface Combat Ship

03

Import Substitution

Honeycomb Barrier for automobile collision in China Automotive Center

04

Keep up with Top Foreign Aerospace Technology

Recoverable HJ landing buffer system

05

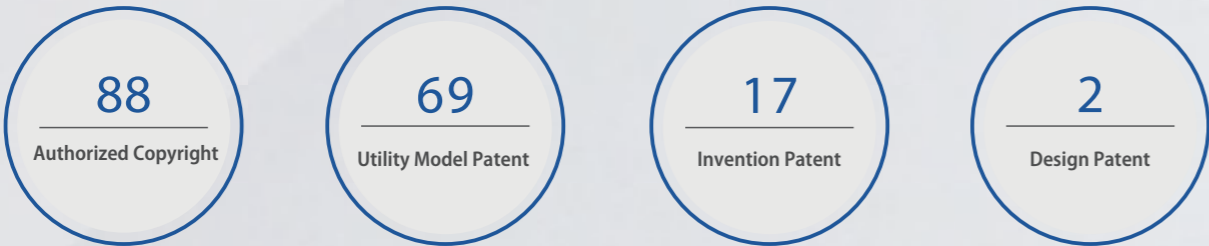
High Speed Penetration

600km/h Maglev Train

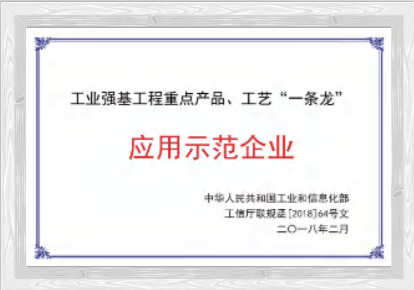


QUALIFICATION AND HONOR

INTELLECTUAL PROPERTY



WON THE 22ND CHINA PATENT AWARD



Demonstration Enterprises of Industrial Resilient Base

National High Tech Enterprises

First Prize of Science And Technology Progress in Heilongjiang Province



ISO9001

EN15085

DIN6701



CWF

ISO/TS 22163

IOHSAS18001-2007



Intellectual Property Management System Certificate

CHINA CLASSIFICATION SOCIETY CERTIFICATE OF WORKS APPROVAL



# INNOVATIVE BEARING PLATFORM

Innovation Research Institute is established by Shenzhen CANSINGA Technology Co., Ltd, to explore traffic safety technology and serve the company's strategic goals. Sustainable development is formed through talent training, technological empowerment, cutting-edge layout and industrial incubation.



● Traffic Safety Laboratory



● Academician Workstation



● Postdoctoral Innovation Practice Base



● Postgraduate Base

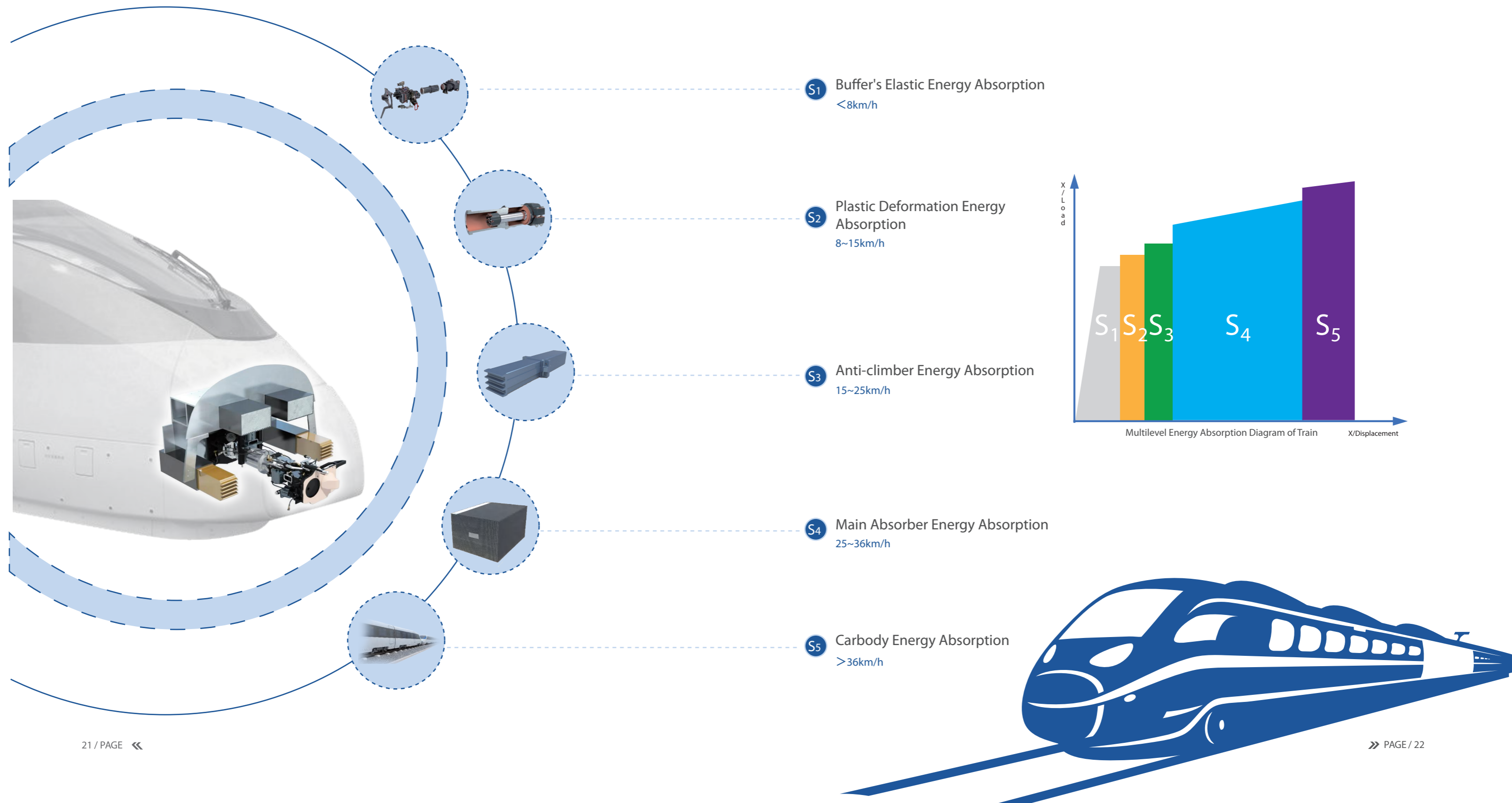
# *RAIL TRANSIT*



Making Travel Safer with Technological Innovation

## MULTILEVEL ENERGY ABSORPTION OF PASSIVE SAFETY PROTECTION IN RAIL TRANSIT

CANSINGA is the largest supplier of series protection products in the field of rail transit safety in China, and Anti-collision Buffering products of High-Speed Rail and High-Speed Maglev Train have replaced imports.



## SOLUTION



### Maglev Train

Application Products:

Anti-collision Energy-absorbing Box, Skirt Board



### Subway

Application Products:

Anti-climber, Energy-absorbing Cowcatcher, Front-end Open and Close Energy Absorber



### High Speed Rail

Application Products:

Anti-climber, Main energy absorber, Energy-absorbing Cowcatcher



### Light Rail and Tramcar

Application Products:

Anti-climber, Energy-absorbing Cowcatcher, Front-end Open and Close Energy Absorber, Anti-climber for Mid-train, Pedestrian Protection Device, Skirt Board



### Urban Rail

Application Products:

Anti-climber, Energy-absorbing Cowcatcher, Front-end Open and Close Energy Absorber, Anti-climber for Mid-train



### Railway locomotive

Application Products:

Buffer, Side Buffer



# *AUTOMOBILE SAFETY*



## SAFETY PROTECTION SOLUTION FOR SPECIAL PURPOSE VEHICLE

### Application Scenario



Road Maintenance Vehicle



Sanitation Vehicles



Recovery Vehicle



Dangerous Chemical Vehicle

### Cloud Monitoring System Platform



GPS Visual Positioning



Visual Monitoring



Trajectory Tracking



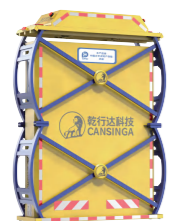
Data Record



C70K



C80K



C100K



C50E



Trailer Version



Active Early-warning

### PRODUCT DESCRIPTION



### Truck Mounted Attenuator (TMA)

An anti-collision buffering core component of product is developed for the safety of special vehicles by Shenzhen CANSINGA Technology Co., Ltd, which is suitable for road conditions of 60km/h, 70km/h, 80km/h, and 100km/h. And related technical indicators have reached the advanced level abroad, which can buffer and absorb energy in the event of a vehicle collision, guaranteeing the life safety of operators and rear-end collision accidents person in the greatest extent.

### PRODUCT CHARACTERISTICS



Adopting aluminum alloy materials of the Aerospace and Renaissance High Speed Rail, which has good buffering effect, light weight and corrosion resistance;



Energy-absorbing modular design of two-stage, fast replacement of front-end components under low-speed impact;



External energy-absorbing guiding frame, high stiffness of overall structure, low risk of vehicle penetration, and good energy-absorbing effect;

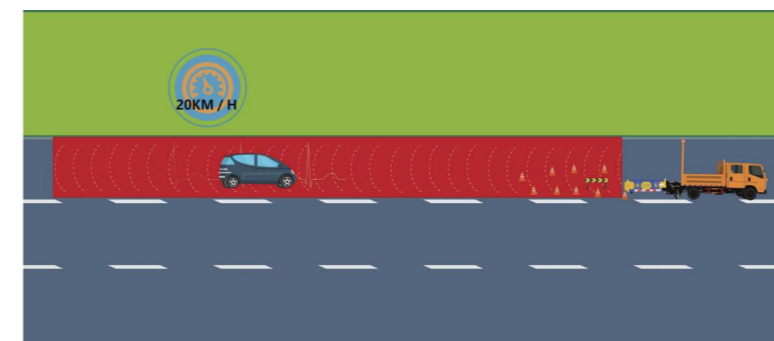


Strategic cooperation with CPIC, product quality assurance and product after-sales service guarantee;



Deformed part bends outwards, larger for protection range, and small for probability of impact;

### INTELLIGENT EARLY-WARNING SYSTEM

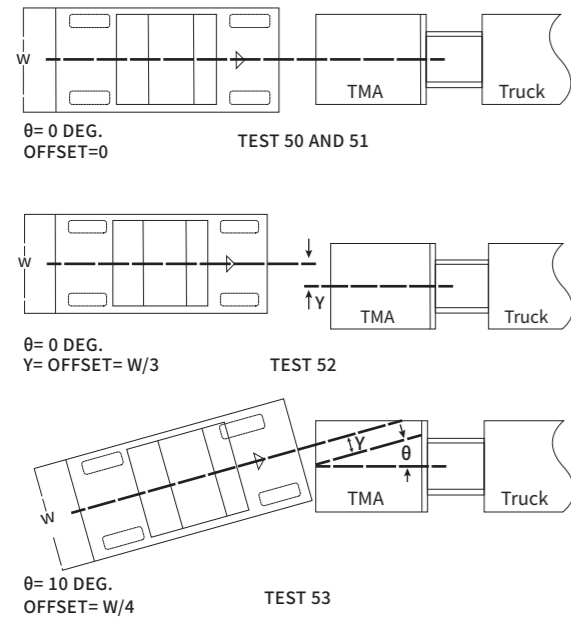


TMA equipped with an intelligent operation detection system can accurately record the trajectory of product, analyze the impacting risk, and send an early warning signal to potential causing-trouble vehicle and construction workers. When happens accident, can accurately record the impacting scene, locate the accident location, and helping to quickly deal with the accident.

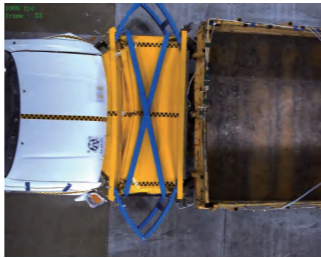
PRODUCT TESTING

TEST STANDARD

At present, only Cansinga can meet the international advanced American MASH2016 TMA test standard in domestic, and satisfies the wide-range protection of the rear vehicle weight between 1.1-2.3 tons, and the only manufacturer that can meet four test conditions in domestic(Front Impact of small vehicle, Front Impact of big vehicle, Side Impact of big vehicle and Offset Angle Impact of big vehicle).



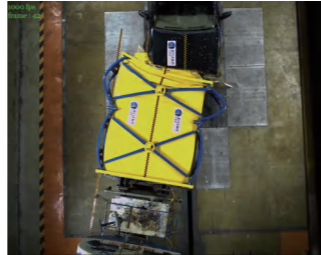
50 working condition (1.1t vehicle)  
Frontal impact test



51 working condition (2.27t vehicle)  
Frontal impact test



52 working condition (2.27t vehicle)  
Side impact test



53 working condition (2.27t vehicle)  
Offset angle impact test

REAL COLLISION CASE



Taizhou, Jiangsu Province

Rear vehicle condition: 6-ton Heavy Pickup Truck  
Collision situation: Side Impact  
Accident situation: Driver of Rear vehicle is Non-life threatening, TMA has sufficient absorb energy, and the parts are not scattered



Huai'an, Jiangsu Province

Rear car situation: One child and two adults on 2T car  
Collision situation: Frontal Impact  
Accident situation: Passenger of Rear vehicle is Non-life threatening, TMA has sufficient absorb energy, and the parts are not scattered

APPLICATION CASE



Sanitation Vehicle



Road Maintenance Vehicles



Road Maintenance Vehicles



Recovery Vehicle



Road Maintenance Vehicle



Other Vehicles

# *TRAFFIC OPERATION ENVIRONMENT SAFETY*

# NEW GENERATION OF ROAD TRAFFIC SAFETY PROTECTION FACILITIES

Road traffic safety protection facilities of buffering energy-absorption is a new type of road safety protection facilities, which launched by CANSINGA under the guidance of the Shenzhen Municipal Transportation Public Facilities Management Office with the core design concept of "Flexible Energy Absorption + Rigid Obstruction", including Island head of buffer energy-absorbing type , buffering isolation column, etc.. The road traffic safety protection facilities of buffering energy-absorption adopt aerospace buffering technology and materials, which developed by CANSINGA, and have the characteristics of high energy-absorbing efficiency, short construction period, strong plasticity, and low comprehensive cost. The design indicators meet the "Safety Performance Evaluation Standard of Highway Guardrail" ( JTG B05-01-2013) and the American MASH2016 standard, in the event of a collision accident, it can effectively prevent vehicles from getting on the island and absorb the impact energy, protect the safety of pedestrians on the island, and greatly reduce the risk of injuries and deaths for the driver and passengers.



## PROJECT APPLICATION PILOT



Qiaoxiang Road-Nonglin Road Intersection



Hongli West Road-Nonglin Road Intersection



Hongli West Road-Xiangmihu Road Intersection



Chen Shu, Director of Facilities Division, inspects the pilot



Bureau Zeng Yuexiong , Director of Futian Transportation Bureau, inspect the pilot



Luo Yude, Secretary of the Luohu District Party Committee, inspect the products



Huaxia Road Second crossing



## ENERGY-ABSORBING ISLAND HEAD

Safety island head of buffering energy absorption is a buffering energy-absorbing device, which developed by CANSINGA, and applied to the canalization island of road intersections and the headon surface of the secondary crossing island. The product design with reference to the "Safety Performance Evaluation Standard of Highway Guardrails", to ensure that the acceleration does not exceed 20G when impact and the impacting speed of people and vehicles does not exceed 12m/s, which can effectively protect the safety of pedestrians on the safety island and the safety of the driver and passengers of the causing-trouble vehicles.



## BUFFERING ISOLATION COLUMN

Buffering isolation column is adopted aerospace buffering technology by CANSINGA, which developed and formed by the combination of Chang'e steel and aerospace polymer materials, to improve the safety performance, in the meanwhile, and with a small angle collision and can be turned, modular design, size and appearance can be customized, and easy to replace and with the advantage of low maintenance cost, at present, a multisize series product has been formed.



### PRODUCT BENEFITS



Quick install



Use buffering materials of aerospace-grade



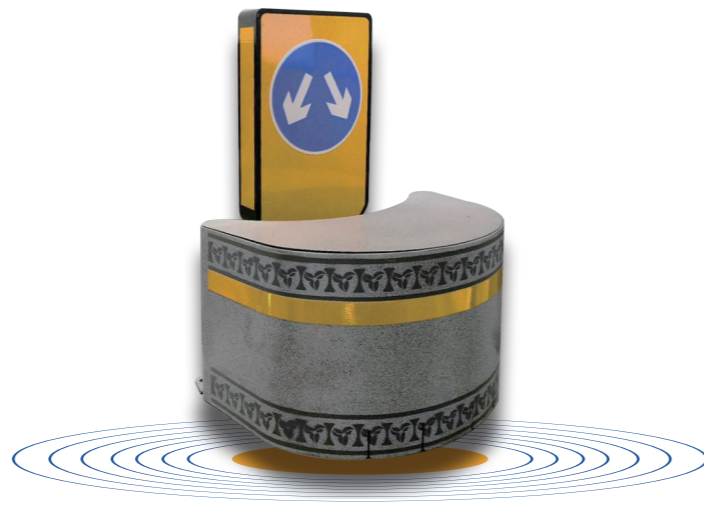
Modular design



Appearance design Diversification



Overall low cost (Production, Maintenance)



### PRODUCT BENEFITS



Small angle collision Transferable



Use buffering materials of aerospace-grade



Modular design



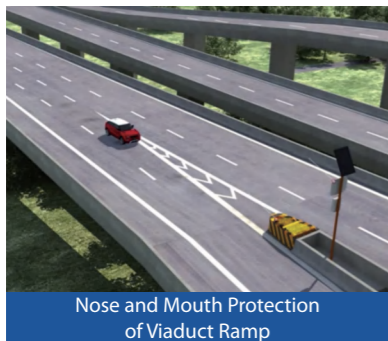
Appearance design Diversification



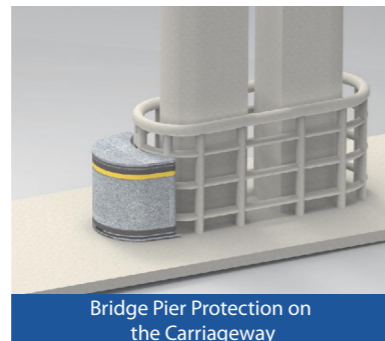
Overall low cost (Production, Maintenance)



### EXTENSIBLE APPLICATION SCENARIOS



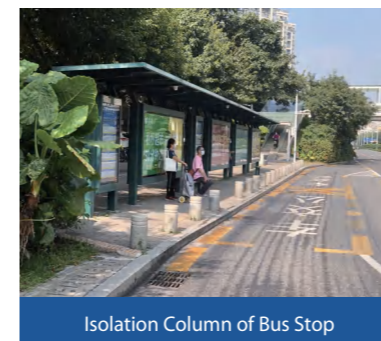
Nose and Mouth Protection of Viaduct Ramp



Bridge Pier Protection on the Carriageway



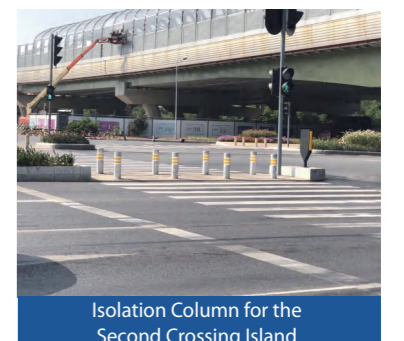
Highway Toll Station Protection



Isolation Column of Bus Stop

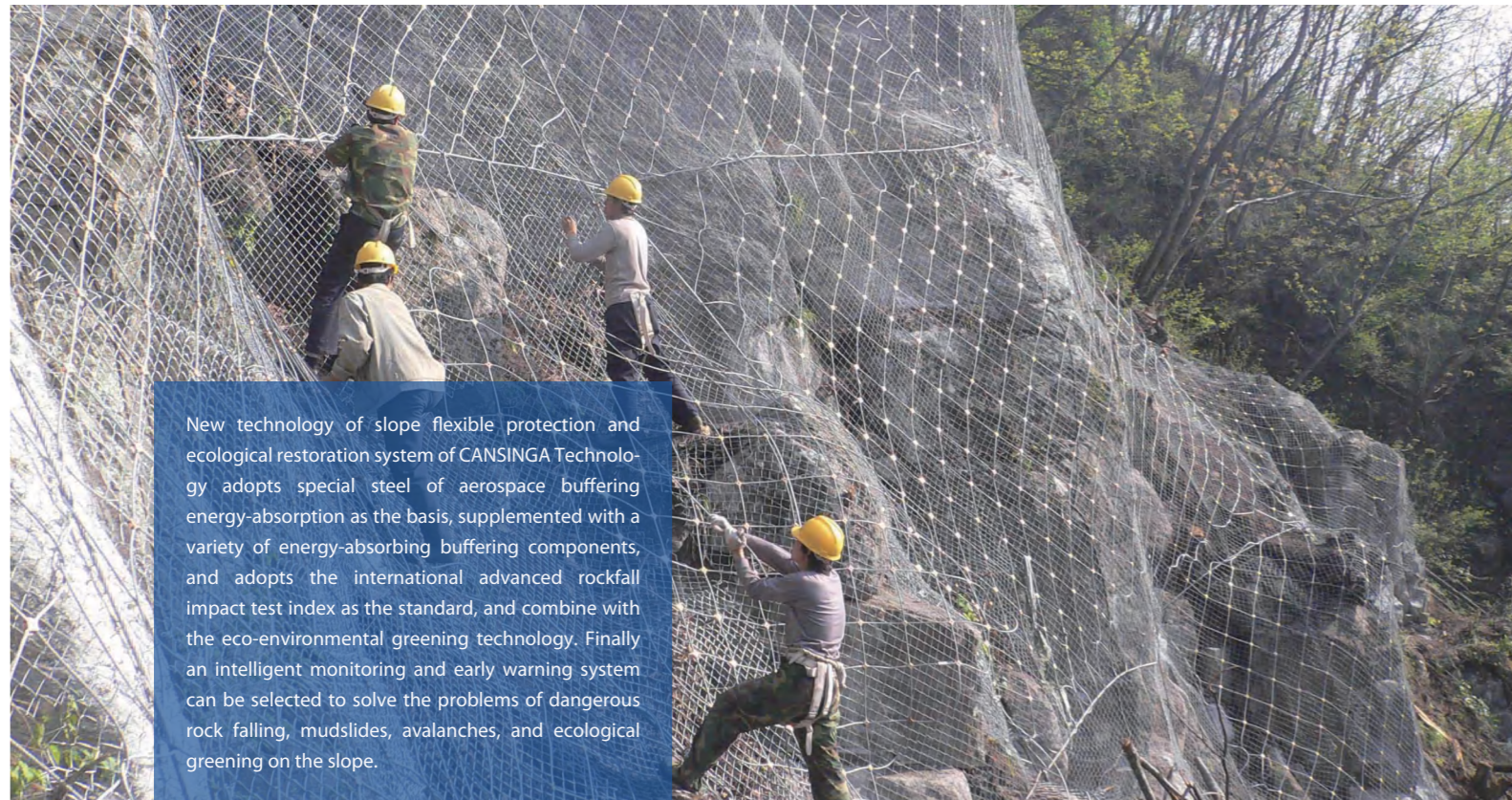


Isolation Column of Canalization Island



Isolation Column for the Second Crossing Island

## NEW TECHNOLOGY OF SLOPE FLEXIBLE PROTECTION AND ECOLOGICAL RESTORATION SYSTEM



### PRODUCT CHARACTERISTICS

- 01 Higher structural strength and protection level, to ensure the safety of traffic and personnel on the slope section.
- 02 Combining a new type of flexible protection net with eco-environmental greening technology, while solving the slope protection, it also realizes the construction of ecological greening, which can be described as "killing two birds with one stone".
- 03 Equipped with a monitoring and early warning system, which can intelligently warn the slope disaster environment and establish an efficient management platform.
- 04 Actively respond to national policies, improve the safety of slopes along railways and roads, ensure the safety of traffic and personnel, and at the same time realize the construction of urban ecological greening.
- 05 Improve the slope supervision platform system and build a comprehensive intelligent safety solution system of slope protection.

# 5

1 Flexible protection and Ecological Restoration System

2 Active Protection Net

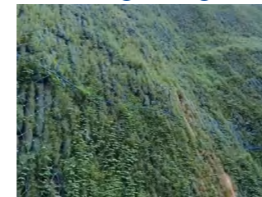
3 Passive Protection Net

4 Structure Shed of Flexible Steel

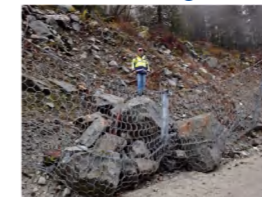
5 Protective Net of Open and Curtain Type

### APPLICATION CASES

Slope protection and greening



Protection of dangerous rock and falling rocks



Debris flow protection



Avalanche protection



Military protection



Protection for bridge pier of water transport



Circuit protection



Mine protection



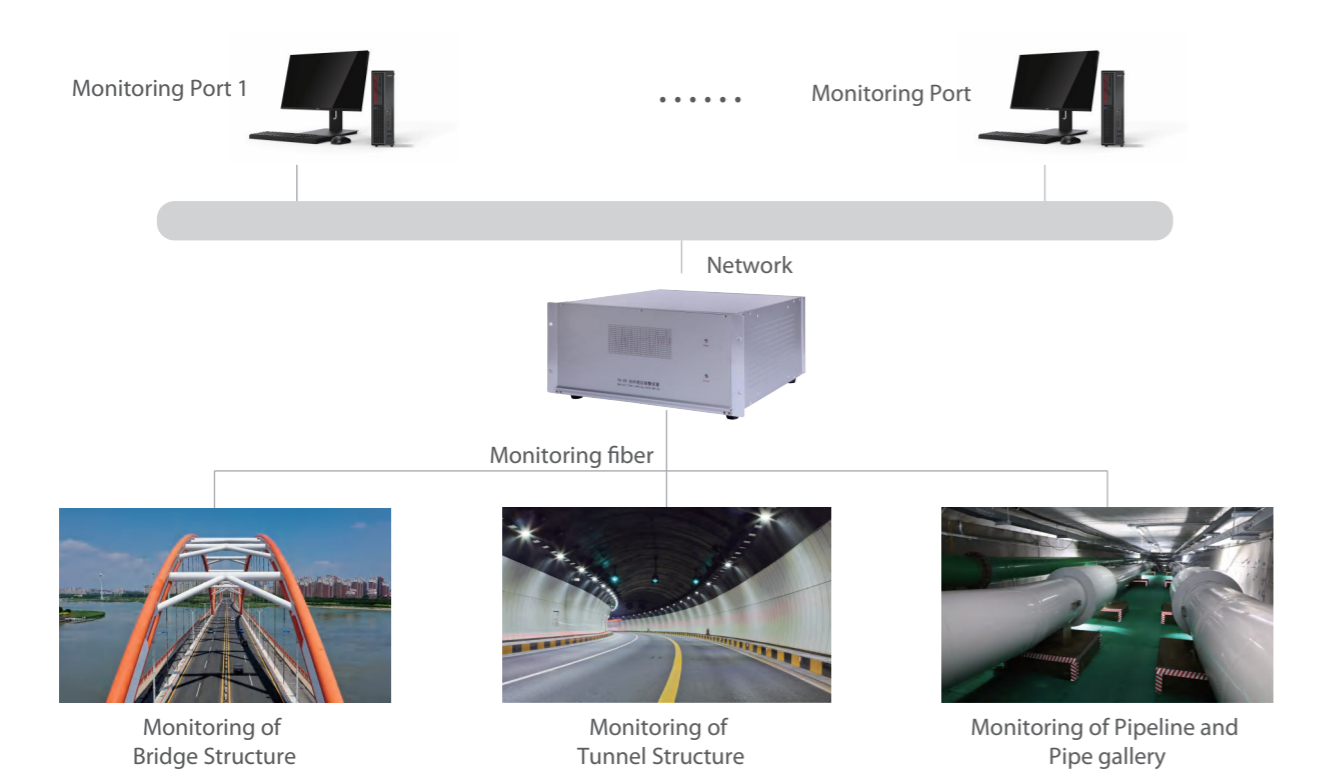
# *WISDOM SECURITY*



Making Travel Safer with Technological Innovation

# STRUCTURAL HEALTH MONITORING OF BRIDGE TUNNEL PIPE GALLERY

Health Monitoring Technology Solution of Bridge Tunnel Pipe Gallery Structural of CANISNGA Technology uses distributed optical fiber sensing technology to monitor the structural health of bridges, tunnels, and pipe corridors. The cutting-edge technology of the structural health monitoring is jointly developed and applied by CANSINGA and Harbin Institute of Technology Transportation College. And the core advantage of this technology is good for using optical fiber sensors of high-precision and environmental noise removal algorithm of its own patented , which greatly improves the accuracy and sensitivity of monitoring.



## PRODUCT CHARACTERISTICS

- 01

High transmission rate of optical fiber signal, easy system integration
- 02

Integrated sensing and transmission, convenient construction
- 03

Good electrical insulation performance, suitable for use in flammable and explosive environments
- 04

Can realize serial and parallel multiplexing, distributed measurement
- 05

High temperature resistance, Anti-corrosion, Anti-electromagnetic interference, Anti-radiation, High reliability for long-term
- 06

Stable chemical properties, long life span, up to 25 years
- 07

Wide measurement range, Displacement, Acceleration, Strain, Pressure, flow, Vibration, etc.



## APPLICATION CASES



Fenghuang Road, Jinan City, across the Yellow River of Intelligent monitoring of large bridge clusters



Jinan Metro Line 3 Settlement intelligent monitoring



Monitoring of Comprehensive Pipe Gallery in Yan'an New District

# *NEW MATERIALS FOR AEROSPACE*

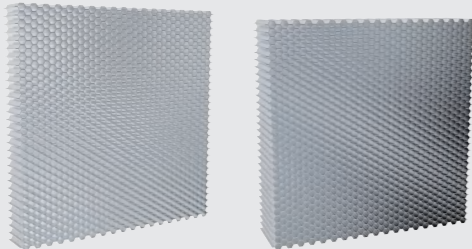


# ALUMINUM HONEYCOMB BARRIER OF AUTOMOBILE EVALUATION

Shenzhen CANSINGA Technology Co., Ltd. has passed ISO9001:2015 Certificate. The honeycomb aluminum barrier for safety testing of new vehicles developed by our company, which has passed the authoritative testing of CATARC Automotive test Center(Tianjin) Co., Ltd. and relevant European testing institutions, and the relevant performance indicators meet the test requirements.



## ALUMINIUM HONEYCOMB FOR STANDARDIZATION



CANINGA Technology focuses on the field of honeycombs and has independent R&D and production capabilities, and can customize non-standard size and strength honeycombs according to demand of customer.

## TECHNICAL INDICATORS

01

Euro NCAP TB014 v1.0

02

Euro-NCAP TB022 v1.2

03

United Nations ECE R95 Amendment3

04

European Directive 96/27/EC

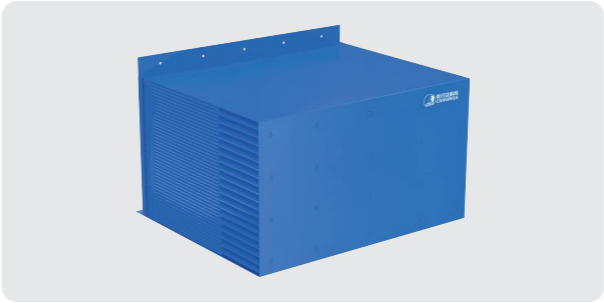
05

United Nations ECER94  
European Directive 96/79/EC

06

NHTSA Lab Test Procedure  
Dynamic Side Impact Protection  
TP214D Appendix C

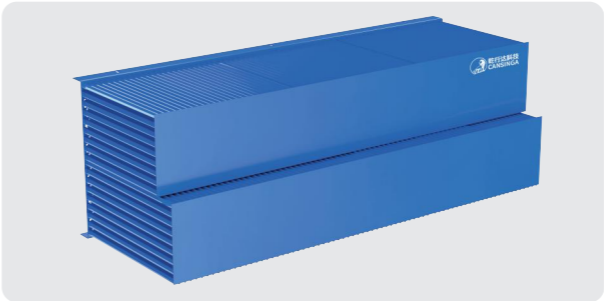
## PRODUCT CLASSIFICATION



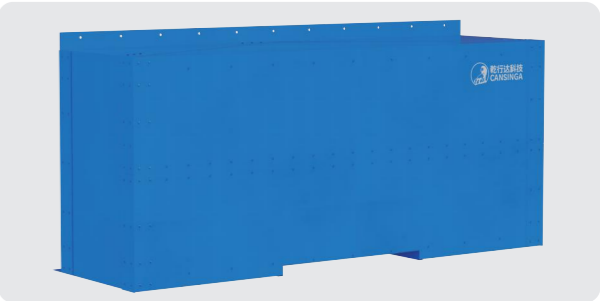
MPDB



ODB



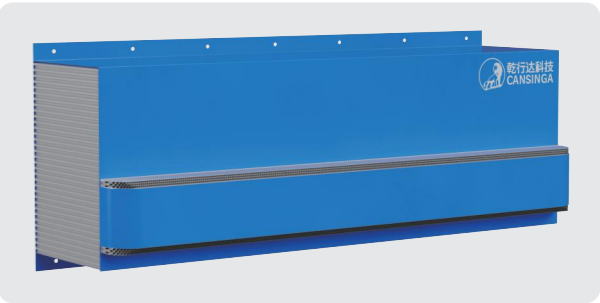
MDB



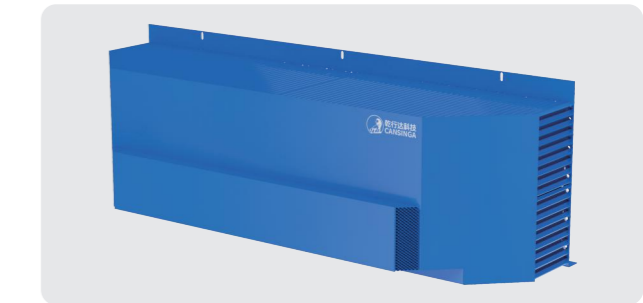
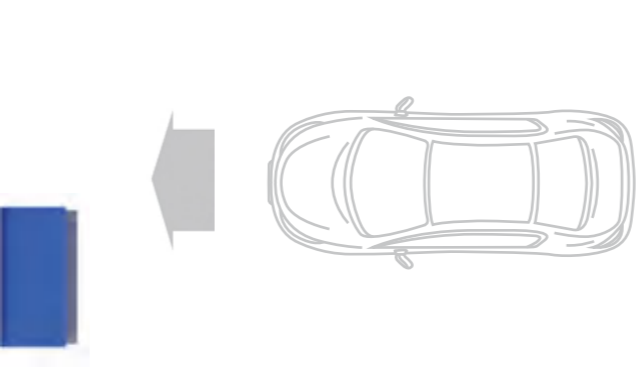
NHTSA-OMDB



IIHS-MDB V2.0



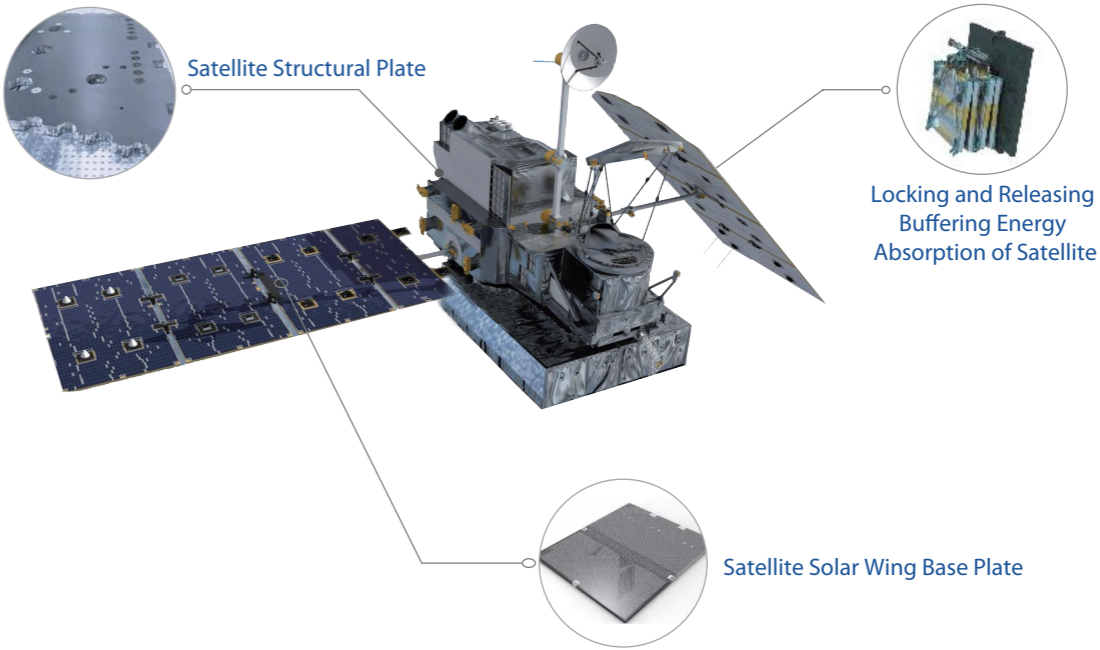
NHTSA 214-MDB



AE-MDB

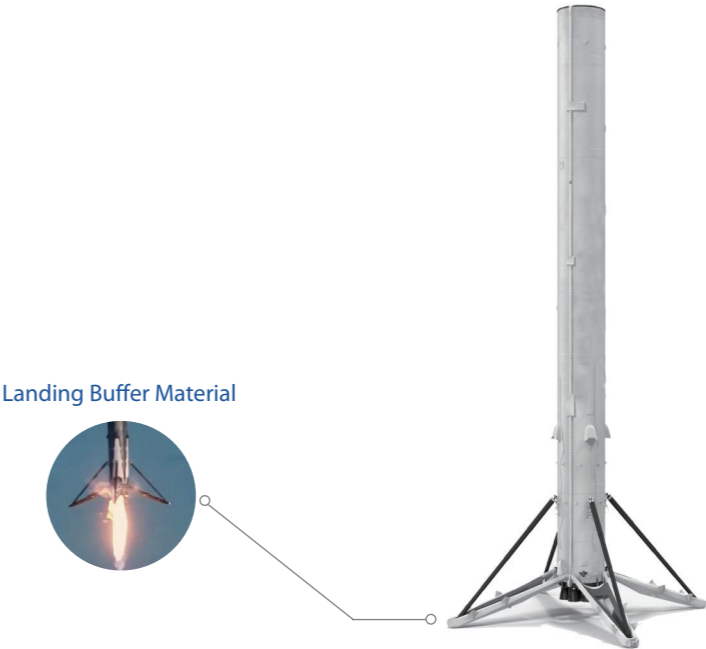
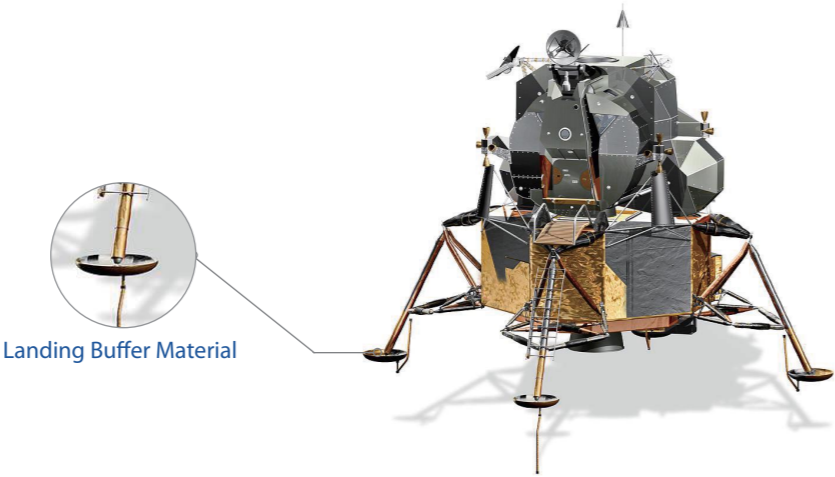
PA

COMMERCIAL SATELLITE APPLICATION

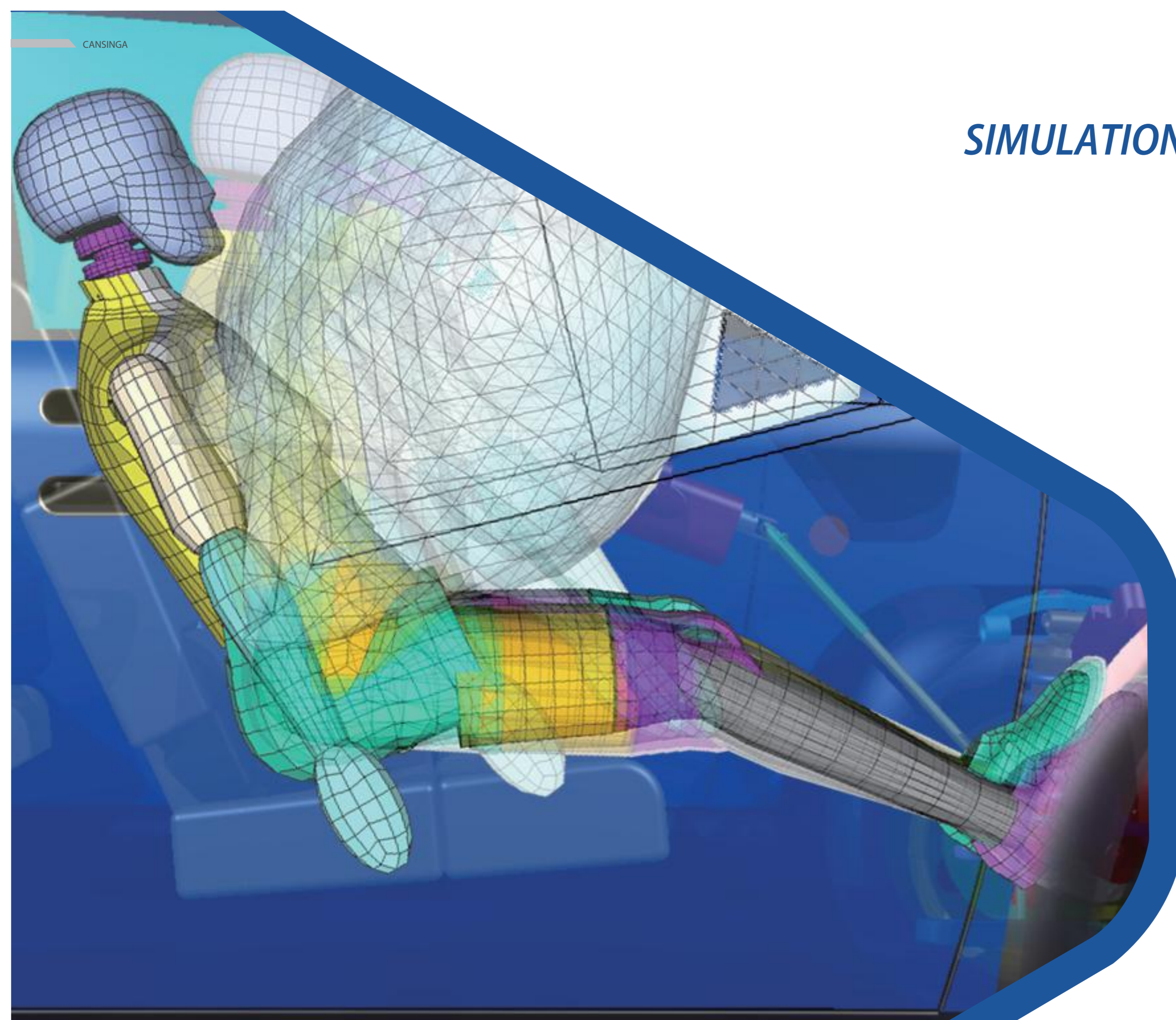


RECOVERABLE ROCKET

SPACE LANDER

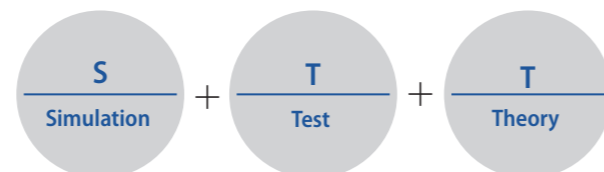


## ***SIMULATION TEST SERVICE***

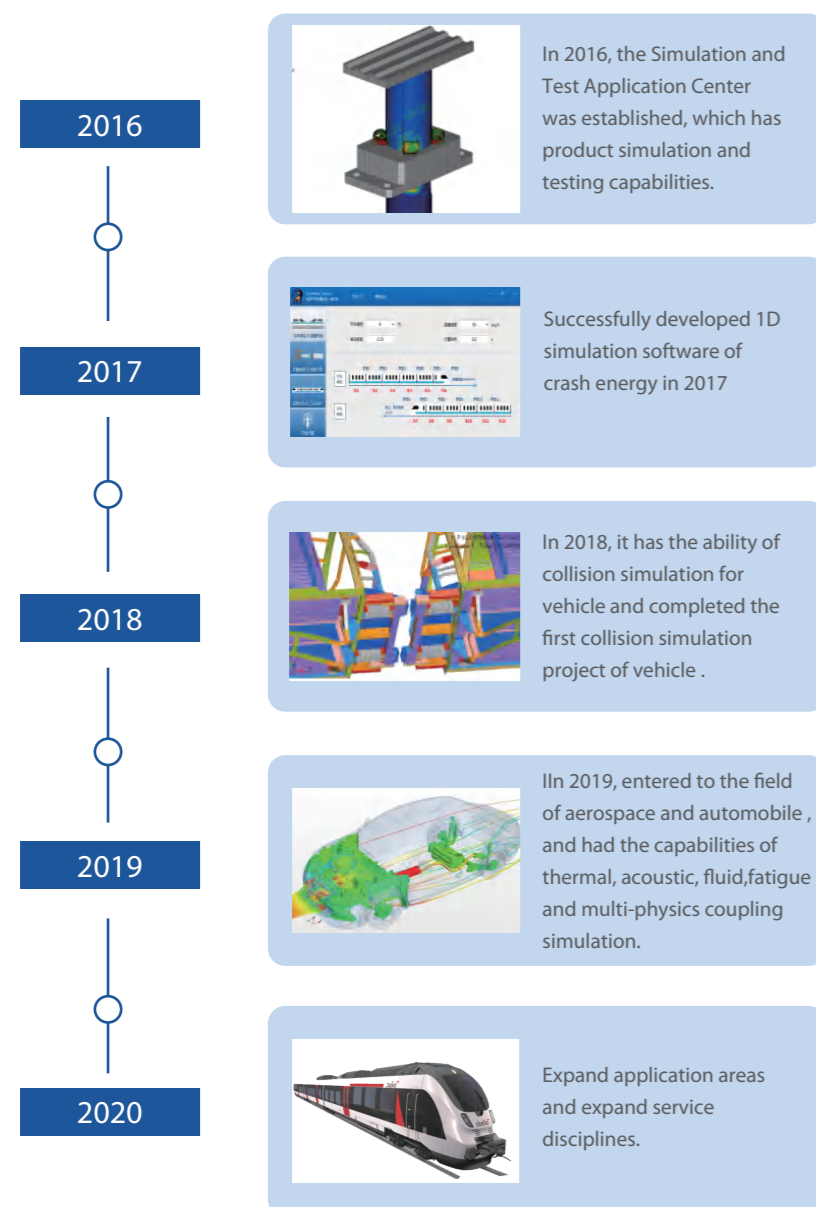


## SIMULATION AND TEST APPLICATION CENTER

Always use "Application" as the guiding principle for the scheme formulation, and "Simulation + Test + Theory" as the main method to solve the problem. Through deep participation in the project implementation process, we provide tailor-made solutions for our customers.



### SIMULATION TECHNOLOGY



### Refined simulation technology in the field of Anti-collision

#### Mechanical Simulation

Dynamic simulation of collision, explosion, etc.; simulation of structure strength, vibration, modal, etc.

#### Thermal Simulation

Simulation of heat conduction, heat convection, heat radiation, thermal stress, temperature field, etc.

#### Multi-body Mechanics Simulation

Simulation of mechanism movement, mechanism control, rigid body,elastic body, etc.

#### Fatigue Simulation

Analysis of fatigue stress and parts of car body , lifetime, etc.

#### Acoustic Simulation

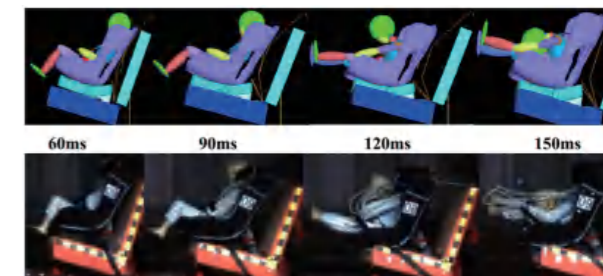
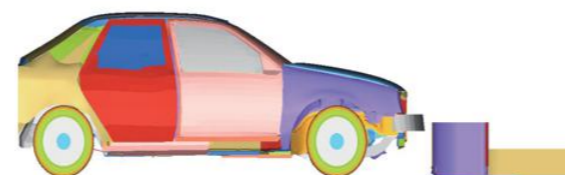
Analysis of sound radiation, diffraction, guided propagation, absorption, etc.

#### Multiphysics Coupling

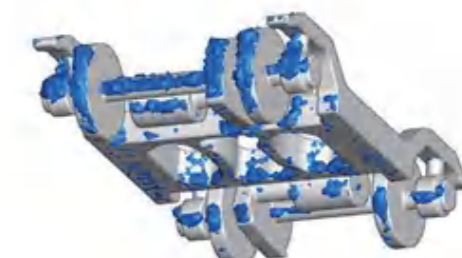
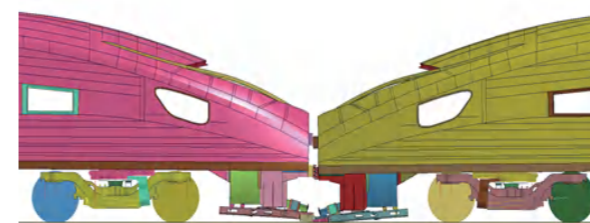
Multi-physics coupling analysis of mechanics, heat, fluid, magnetic field, etc.

### APPLICATION FIELD

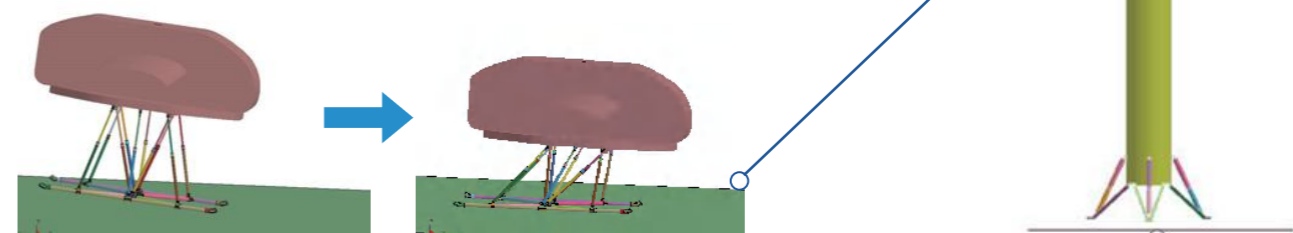
#### Automobile Safety



#### Rail Transit



#### Aerospace



INTRODUCTION TO THE INSTITUTE

