

RAILWAY

COMPANY PROFILE

EXCELLENCE IS OUR MISSION

BLUE Group Engineering & Design, founded in 1993, provides specific services to fields of excellence, such as automotive, railway, aerospace. The strong multi-sector know-how and the singular specialization in numerical analysis distinguish us on the market and permit us to give you, at the highest quality level, during all the development stages: concept & styling, design, engineering, virtual prototyping simulation, testing validating and ICT



B

O. BERKOL



L

D. LAZZERI



U

P. USLENGHI



E

M. EID

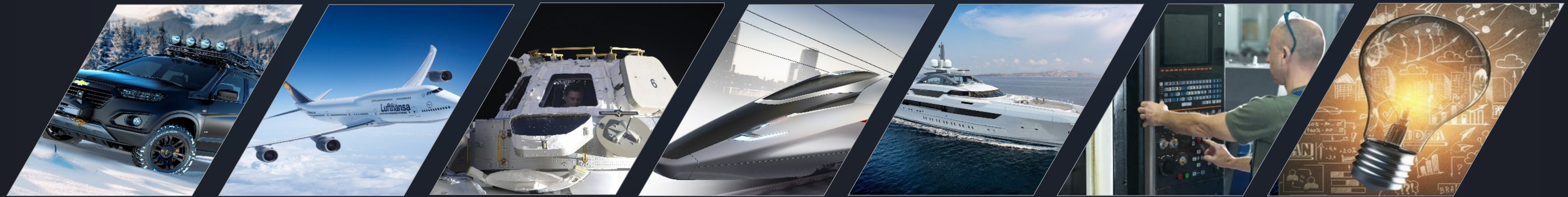
HEADQUARTER SUBSIDIARIES

Our main office is in Turin, Italian car design hometown, 2008 World Design Capital. Subsidiaries are located in Naples and Modena (Italy).



EXCELLENCE IS OUR MISSION

Located in the core region of Europe and with its advantages in terms of technology, market, talent and scientific research, BLUE has been engaged in the technical service of transportation products for the last 29 years.



AUTOMOTIVE

AERONAUTICS

AEROSPACE

RAILWAY

MARINE

TEST BENCH & ITC

R&D

WHAT WE DO

- TURN-KEY DEVELOPMENT
- PLATFORM MANAGEMENT
- CONTRACTOR COORDINATION
- ISSUING OF SPECIFICATION
- TECHNICAL DOCUMENTS
- COST ANALYSIS

PLUS

- IDEAS OF INNOVATION
- OPTIMIZATION IN QUALITY/CHARGE RELATIONSHIP
- EFFECTIVE PROCESSING METHODS
- PERFECT KNOWLEDGE OF NEW CAD/CAE SYSTEMS
- HIGHLY SKILLED TEAM
- TOP FLEXIBILITY OF SERVICE

IDEA OF DESIGN

- TO GIVE EACH PRODUCT ITS PERSONALITY
- TO BE THE POINT OF CONTACT BETWEEN DESIGN AND TECHNOLOGY
- TO IMPROVE CONSUMERS' QUALITY OF LIFE
- TO REPRESENT THE BASIC FEATURE OF PRODUCT SUCCESS
- TO ACT A LEVER OF ECONOMIC DEVELOPMENT GIVEN THAT IT IS COMPETITIVE AND INNOVATIVE
- TO EXPRESS CULTURAL VALUES

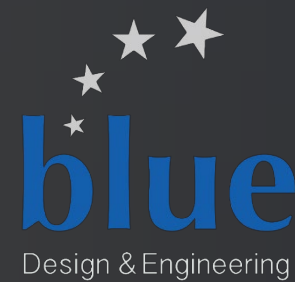
BLUE SHAREHOLDERS

60%



中车唐山机车车辆有限公司
CRRC TANGSHAN CO., LTD.

20%



15%



5%



2019 APPOINTED RESEARCH CENTER





RAILWAYS

RAILWAY DEVELOPMENT

The company boasts extensive experience in the design of a variety of rail vehicles, including locomotive, high-speed trains, electric multiple units (EMUs), diesel multiple units (DMUs), articulated vehicles, pendulum trains, light rail vehicles, low-floor options, subways, and both single-deck and double-deck passenger cars, narrow gauges, as well as bogies, carbody and testing equipment.

Blue is prepared to provide a complete turnkey solution for entire rail vehicles or systems. Our technical competencies include body design, bogie development, simulation analysis (such as FEM, dynamic, and aerothermal), along with the ability to integrate with various other components.

HIGH SPEED TRAIN



EMU - DMU



METRO



TRAM - LRV



COACH



 中车唐山机车车辆有限公司
CRRCTANGSHAN CO., LTD.

 中车长春轨道客车股份有限公司
CRRCCHANGCHUN RAILWAY VEHICLES CO., LTD.

 中车齐齐哈尔交通装备有限公司
CRRCCQIQUHAR ROLLING STOCK CO., LTD.

 **TRENITALIA**

 **RFI**
RETE FERROVIARIA ITALIANA
GRUPPO FERROVIE DELLO STATO

 **STT**
GRUPPO TORINESE TRASPORTI

 **ALSTOM**

 **ofv**

 **SOFTRONIC**

 **AnsaldoBreda**
A Finmeccanica Company

 **TUVASAS**

 **Istanbul Ulasim**

 **Ansaldo STS**
Una Societa Finmeccanica

 **DURMARAY**

 **DURMARAY**

 **FIREMA**

 **MAPNA GROUP**
Dedicated to Excellence

 **IRICO**
Iranian Rail Industries Development Co

 **arenaways**
RAIL DIFFERENT

 **vossloh**
KIEPE

 **CORIFER**

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DESIGN CAPABILITIES

- ✓ **EMU – Loco projects**
 - Carbody installation
 - Carbody shell design
 - Bogie design
 - Pneumatic system design
 - Gauge analysis
 - Components design
 - Jigs&Fixture design
 - Test bench Tools design
- ✓ **DMU – Loco projects**
 - Carbody installation
 - Carbody shell design
 - Bogie design
 - Pneumatic system design
 - Gauge analysis
 - Components design
- ✓ **TRAMWAY projects**
 - Carbody installation
 - Carbody shell design
 - Bogie design
 - Pneumatic system design
 - Gauge analysis
 - Components design
- ✓ **LRV projects**
 - Carbody installation
 - Carbody shell design
 - Bogie design
 - Pneumatic system design
 - Gauge analysis
 - Components design

- ✓ **DOUBLE DECK projects**
 - Carbody installation
 - Carbody shell design
 - Bogie design
 - Pneumatic system design
 - Gauge analysis
 - Components design
- ✓ **METRO projects**
 - Carbody installation
 - Carbody shell design
 - Bogie design
 - Pneumatic system design
 - Gauge analysis
 - Components design
- ✓ **FREIGHT projects**
 - Bogie design
- ✓ **MONORAIL projects**
 - Carbody installation
 - Carbody shell design
 - Bogie design
- ✓ **TEST BENCH projects**
 - For bogies
 - For carbody
 - For equipment
 - For vehicle

Types of Vehicles

- ✓ High speed
- ✓ EMU
- ✓ DMU
- ✓ Metro
- ✓ LRV
- ✓ Tram
- ✓ Monorail
- ✓ Freight

Software

- ✓ Catia V5
- ✓ Creo
- ✓ Autocad

Certification

- ✓ UNI EN 15085 CL4



European Standards

- ✓ UNI EN 13739
- ✓ UNI EN 1266
- ✓ UNI EN 15085
- ✓ UNI EN 15227
- ✓ UNI EN 14363
- ✓ UNI EN 13104
- ✓ EN 61373
- ✓ ERRI_B12-Rp60
- ✓ ERRI_B12-Rp17
- ✓ Eurocode UNI EN 1993-1-1
- ✓ Eurocode UNI EN 1991-1-3
- ✓ DVS 1608
- ✓ EN13103:2018
- ✓ UIC 510-5
- ✓ EN-14067

USA Standards

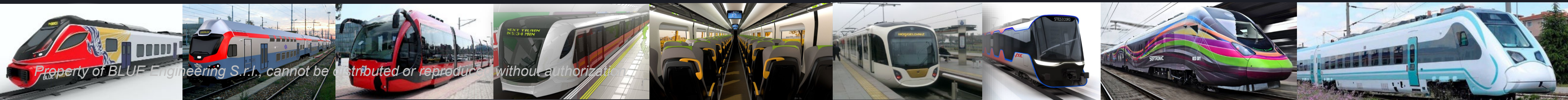
- ✓ CFR
- ✓ APTA

Chinese Standards

- ✓ SAC-TB_T 1335_1996
- ✓ SAC-TB_T 3451_2016
- ✓ GB5599-2019

British Standards

- ✓ BSI-8535



ELECTRIC/ELECTRONICS CAPABILITIES

✓ EMU – Loco projects

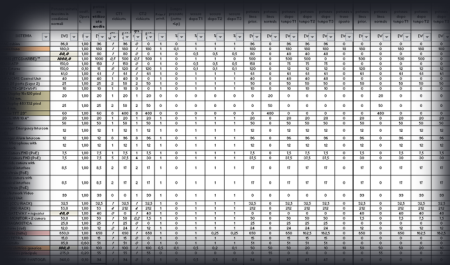
Functional schemes
Topographic layout
Cable lists
Electrical cabinets
Detailed Harnessing
Functional specification
TCMS software functions

✓ DMU – Loco projects

Functional schemes
Topographic layout
Cable lists
Electrical cabinets
Detailed Harnessing
Functional specification
TCMS software functions

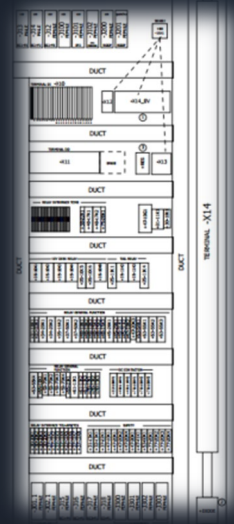
✓ TRAMWAY projects

Functional schemes
Topographic layout
Cable lists
Electrical cabinets
Detailed Harnessing
Functional specification



✓ LRV projects

Topographic layout
Electrical cabinets
Detailed Harnessing
Functional specification



✓ DOUBLE DECK projects

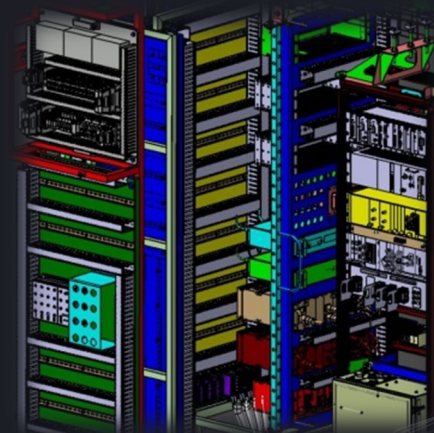
Functional schemes
Cable lists
Electrical cabinets
Detailed Harnessing
Functional specification

✓ METRO projects

Functional schemes
Topographic layout
Cable lists
Electrical cabinets
Detailed Harnessing
Functional specification
TCMS software functions

✓ MONORAIL projects

Topographic layout
Functional specification



✓ Functional and Topographic Schemes

- Single lines schemes
- Multiwired schemes
- Automatic cable list generation
- Topographic layouts
- Terminals definition

✓ Electric cabinets design

- Components displacements
- Structure design
- Ducts definitions
- Racks arrangement
- Cabinets installation
- 3D modelling
- 2D detailed drawings
- Cabinets Bill of material

✓ Harnessing design

- 3D modelling of cable ducts
- 3D modelling of conduits routing
- 3D complete modelling of interconnections between equipments
- 2D detailed documentation
- Bll of material management

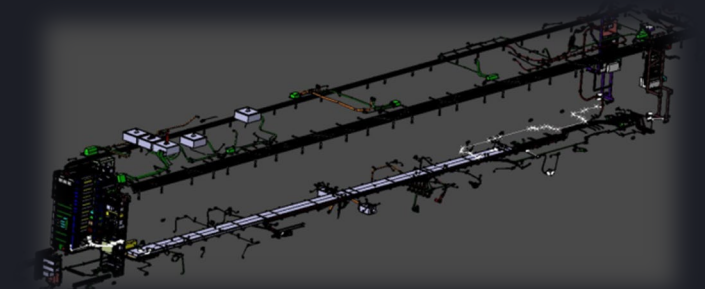
✓ General Documents

- Functional specification development
- Electric load balance calculations
- Power consumption management

- TCMS scenarios
- Components and equipment specifications
- EMC plan

✓ Main norms managed

- EN50343 - Rules for installation of cabling
- EN50155 - Electronic equipment
- EN50153 - Protective provisions relating to electrical hazards
- EN61000 and EN50121 – Electromagnetic compatibility
- IEC61375 – Train communication network
- EN 15380 - Classification system for railway vehicles



VIRTUAL VALIDATION CAPABILITIES

✓ EMU – Loco projects

- ✓ Carbody validation
- ✓ Bogie validation
- ✓ Dynamic running gear
- ✓ Gauge analysis
- ✓ Interiors validation
- ✓ Components validation
- ✓ Testing Specifications
- ✓ Correlation with exp. test

✓ DMU – Loco projects

- ✓ Carbody validation
- ✓ Bogie validation
- ✓ Dynamic running gear
- ✓ Gauge analysis

✓ TRAMWAY projects

- ✓ Carbody validation
- ✓ Bogie validation
- ✓ Dynamic running gear
- ✓ Gauge analysis
- ✓ Components validation
- ✓ Testing Specifications
- ✓ Correlation with exp. test

✓ LRV projects

- ✓ Carbody validation
- ✓ Bogie validation
- ✓ Dynamic running gear
- ✓ Gauge analysis
- ✓ Components validation

✓ DOUBLE DECK projects

- ✓ Carbody validation
- ✓ Bogie validation
- ✓ Dynamic running gear
- ✓ Gauge analysis

✓ METRO projects

- ✓ Carbody validation
- ✓ Bogie validation
- ✓ Dynamic running gear
- ✓ Gauge analysis
- ✓ Components validation

✓ MONORAIL projects

- ✓ Dynamic running gear

Analysis Types

- ✓ Linear Static
- ✓ Non Linear Static
- ✓ Buckling
- ✓ Fatigue
- ✓ Modal Analysis
- ✓ Frequency Response Analysis
- ✓ Crash
- ✓ Multibody Analysis
- ✓ Kinematic Gauge
- ✓ Aerodynamics
- ✓ Crosswind
- ✓ Thermal comfort
- ✓ Thermal Management
- ✓ Aeroacoustics
- ✓ Lighting

Materials Validation Capabilities

- ✓ Steel
- ✓ Aluminum
- ✓ Cast Iron
- ✓ Titanium
- ✓ Carbon Fiber
- ✓ Fiberglass
- ✓ Honeycomb
- ✓ Additive Manufacturing
- ✓ Glues
- ✓ Rubbers

European Standards

- ✓ UNI EN 13739
- ✓ UNI EN 1266
- ✓ UNI EN 15227
- ✓ UNI EN 14363
- ✓ UNI EN 13104
- ✓ EN 61373
- ✓ ERRI_B12-Rp60
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- ✓ DVS 1608
- ✓ EN13103:2018
- ✓ UIC 510-5
- ✓ EN 14067
- ✓ DIN 6701
- ✓ EN 13129
- ✓ EN 14750
- ✓ EN 14813
- ✓ EN 13272
- ✓ EN 15273
- ✓ UIC 505
- ✓ TSI 1302
- ✓ TSI 1304

USA Standards

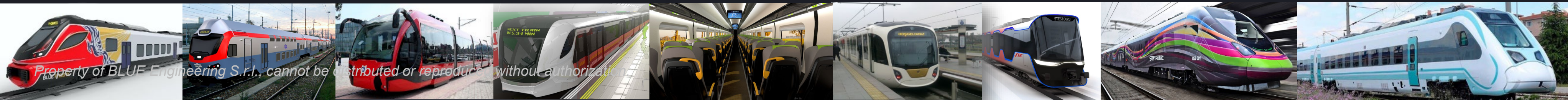
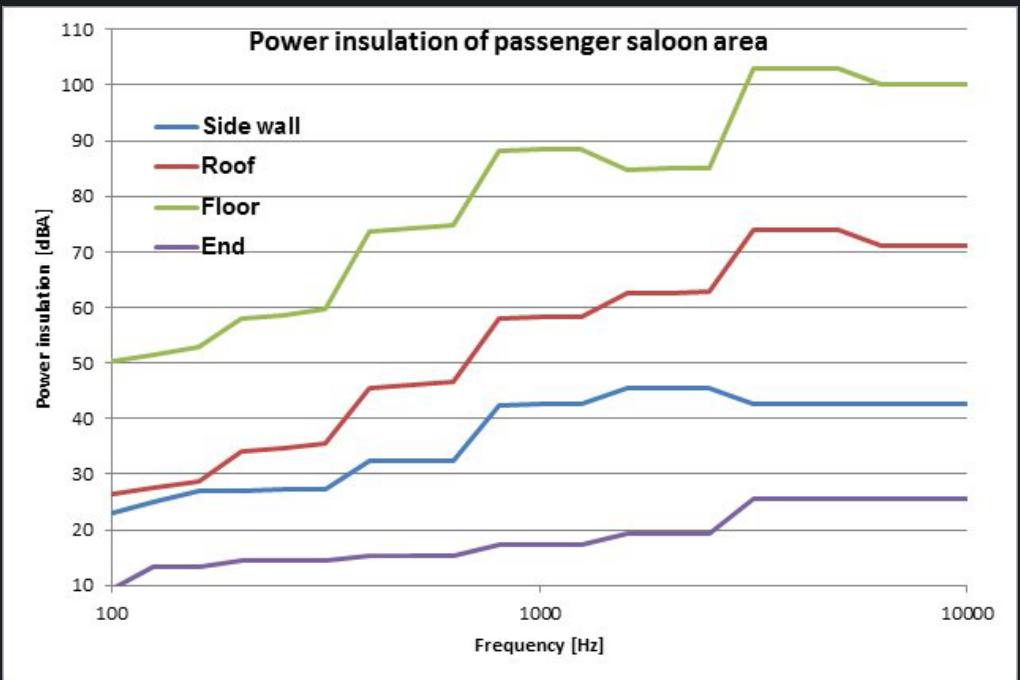
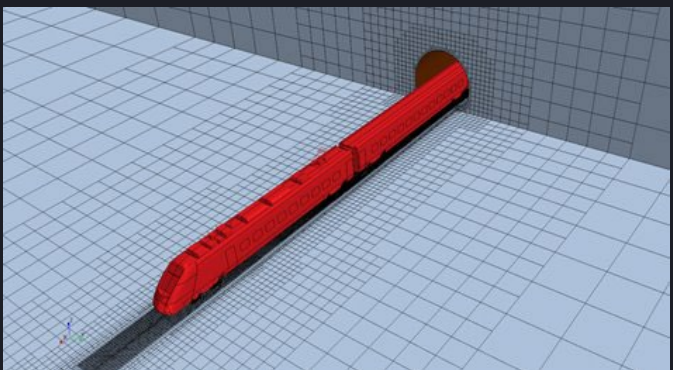
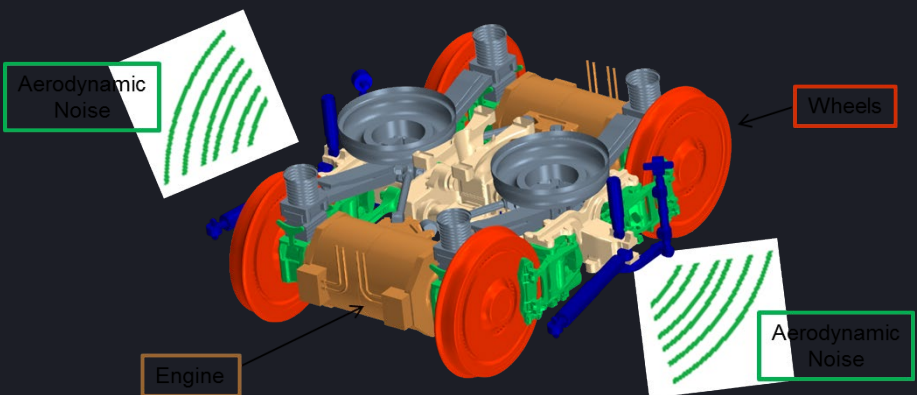
- ✓ CFR
- ✓ APTA

BRITISH Standards

- ✓ BSI-8535

CHINESE Standards

- ✓ SAC-TB_T 1335_1996
- ✓ SAC-TB_T 3451_2016
- ✓ GB5599-2019



RAMS CAPABILITIES

✓ EMU – Loco projects

- ✓ RAMS Analyses
- ✓ Technical Specifications
- ✓ No. Bo. Documents
- ✓ Homologation Documents
- ✓ Manuals

✓ DMU – Loco projects

- ✓ RAMS Analyses
- ✓ Technical Specifications

✓ TRAMWAY projects

- ✓ RAMS Analyses
- ✓ Technical Specifications
- ✓ Tender Documents
- ✓ No. Bo. Documents
- ✓ Homologation Documents

✓ LRV projects

- ✓ RAMS Analyses

✓ METRO projects

- ✓ RAMS Analyses
- ✓ Technical Specifications
- ✓ Tender Documents

✓ OTHER projects

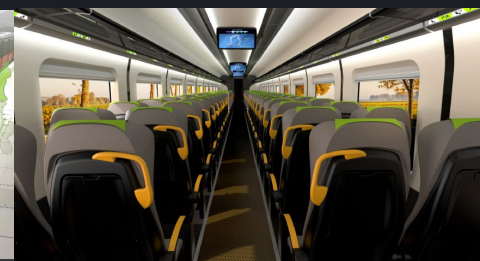
- ✓ Monorail TS & Preliminary RAMS Analyses
- ✓ Test Benches Technical Specifications
- ✓ Hydraulic Tilting System RAMS Analyses

ACTIVITIES

- ✓ Reliability analysis and documentation
- ✓ Maintenance analysis and documentation
- ✓ Safety analysis and documentation
- ✓ SIL allocation
- ✓ Management of homologation activities
- ✓ Safety analysis for homologation
- ✓ Manuals
- ✓ LCA

STANDARDS

- ✓ UNI
- ✓ EN
- ✓ DIN
- ✓ BS
- ✓ NF
- ✓ ERRI
- ✓ APTA



Industrial design CAPABILITIES

- ✓ Exterior industrial design
- ✓ Interior industrial design
- ✓ Lightening analyses
- ✓ VR experience



PROJECT MANAGEMENT CAPABILITIES

✓ EMU – Loco projects

- ✓ full management from preliminary design to homologation

✓ DMU – Loco projects

- ✓ Design management

✓ TRAMWAY projects

- ✓ full management from preliminary design to homologation

✓ LRV projects

- ✓ Design management

✓ METRO projects

- ✓ full management from preliminary design to homologation

✓ BOUBLE DECK projects

- ✓ full management from preliminary design to homologation

✓ TEST BENCH

- ✓ Design management

SPECIFIC SKILLS:

- ✓ PMP method
- ✓ Stage and gate method
- ✓ Agile approach
- ✓ Team building
- ✓ Planning
- ✓ Budgeting
- ✓ Test management
- ✓ Institutionally body collaboration
- ✓ NoBo collaboration



Ongoing project and last successful project (23'-25')

Customer	Turasas (Turkey)
Type	Commuter train EMU
Speed	120 km/h
Standard	EU
Status	Under homologation



Customer	Turasas (Turkey)
Type	Locomotive (Diesel, electric, Dual)
Speed	120 km/h
Standard	TSI
Status	Design ongoing

Ongoing project and last successful project (23'-25')

Customer	Titagarh (India)
Type	Metro (GoA4 ready)
Speed	120 km/h
Standard	EU
Status	Design ongoing
Activity	Complede vehicle desing



Customer	Titagarh (India)
Type	Metro (GoA4 ready)
Speed	120 km/h
Standard	EU
Status	Design ongoing
Activity	Complede vehicle desing

Ongoing project and last successful project (23'-25')



Customer	Turasas (Turkey)
Type	EMU
Speed	160 km/h
Standard	EU
Status	TSI certified

Customer	Turasas (Turkey)
Type	Locomotive (Diesel, electric, Dual)
Speed	250 km/h
Standard	TSI
Status	Manufacturing ongoing – under homologation

BOGIE REFERENCES

The Bogie Projects developed BY BLUE:

HIGH SPEED

- ✓ V 250
- ✓ TLW

EMU/DMU

- ✓ TJT
- ✓ EBF
- ✓ TBD
- ✓ TBE
- ✓ SBF
- ✓ CVS

COACH

- ✓ ABC
- ✓ CBX
- ✓ REMAR

METRO/LRV

- ✓ LWB
- ✓ MEA
- ✓ MEB
- ✓ T4
- ✓ MCNE
- ✓ K2M

METRO/LRV

- ✓ TBF (Only support)
- ✓ TIB
- ✓ BBTC
- ✓ 6000

FREIGHT

- ✓ HSFB
- ✓ QBB

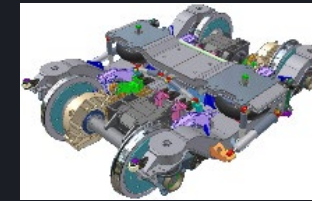
INNOVATIVE

- ✓ CFRP
- ✓ MB3D
- ✓ ARCO

OTHER SECTOR

- ✓ MRA

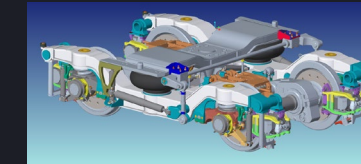
High speed train



Ansaldo V250



CRRC TLW



Turasas FTB



CRRC CFRP



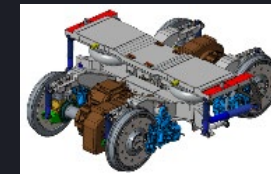
CRRC MB3D



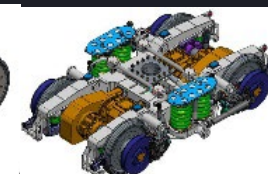
CRRC ARCO

Innovative

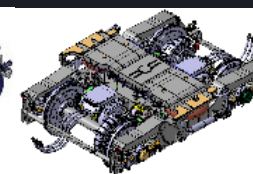
EMU/DMU



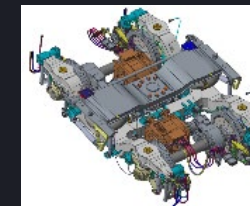
CRRC TJT



CRRC TBD



CRRC EBF



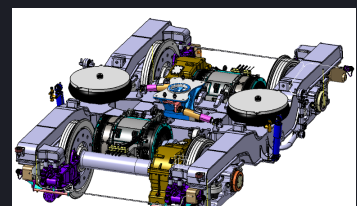
TUVASAS TBE



SOFTRONIC SBF

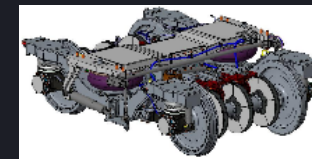


FIREMA CVS

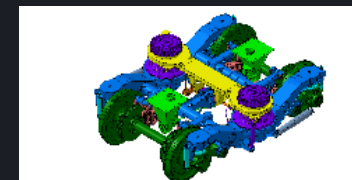


TBG

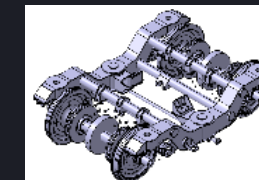
Coach



CRRC ABC



ARENAWAYS CBX



REMAR

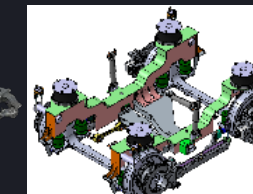
Metro, LRV



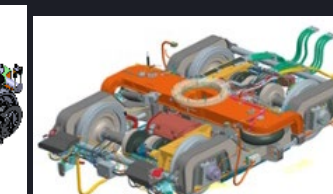
CRRC MEA



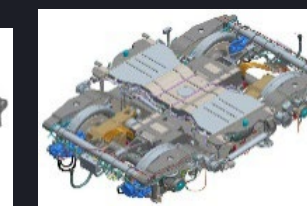
CRRC MEB



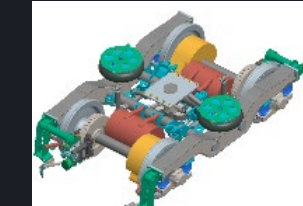
CRRC TBF



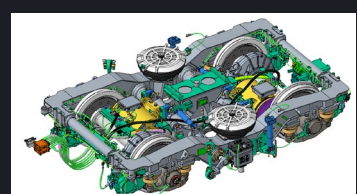
Istanbul ULASIM T4



FIREMA MCNE

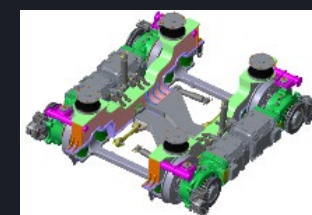


IRICO K2M

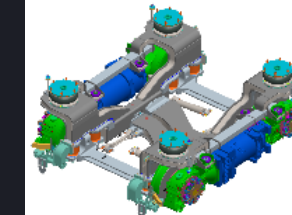


Surat

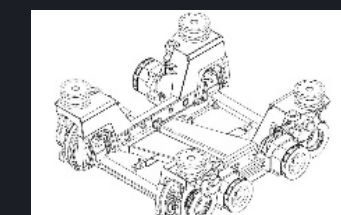
Metro, LRV



DURMAZLAR TIB



DURMAZLAR BBTC

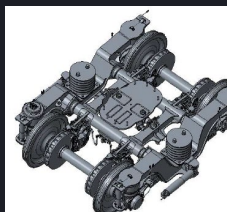


FIAT FERROVIARIA 6000

Freight

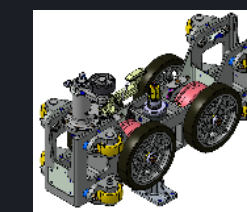


QIQIHAR HSFB



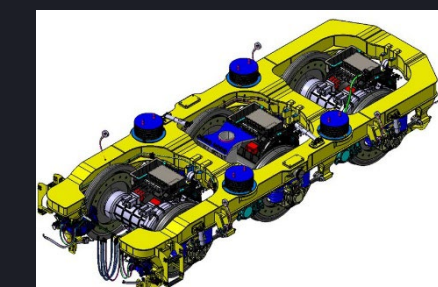
QIQIHAR QBB

Other sector



CRRC MRA

LoCo



Vehicle REFERENCES

Past main project:

- ✓ VIVALTO Double Deck Coach
- ✓ RBDD Double Deck Coach
- ✓ SBE EMU
- ✓ TBD Family
- ✓ CDD and CDP Double Deck Coaches
- ✓ EMU TBE
- ✓ K2 Metro
- ✓ B80 LRV
- ✓ T4 LRV
- ✓ TIB 2.65 Tram
- ✓ MBC Monorail

High speed train



Fyra V250



ALSTOM



FIAT FERROVIARIA



ICE T Pendolino FIAT FERR.



FIAT FERROVIARIA

EMU



TUVASAS



CRRC



SOFRONIC



FIREMA



ALSTOM

Coach



Vivalto



MISE



ARENAWAYS



REMAR S.A



Ansaldo Breda



CORIFER

Metro, LRV



DURMAZLAR



Istanbul ULASIM



IRICO



IRICO



IRICO

Metro, LRV



DURMAZLAR



DURMAZLAR



GTT ALSTOM



FIAT

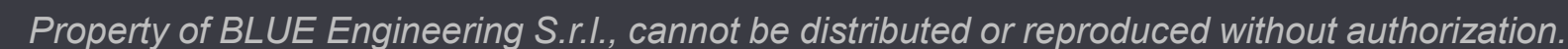
CERTIFICATION

Idea of quality moves every single thought, every source and every activity of ours. Our actual level of development and bases for future evolution are due to this propulsive thrust. Quality is all we want to show in every word and every image. Now the attempt is to prove our idea in facts. BLUE Engineering experience, know-how and skills are fully expressed in the work committed from the customer.

BLUE Engineering is in your product.

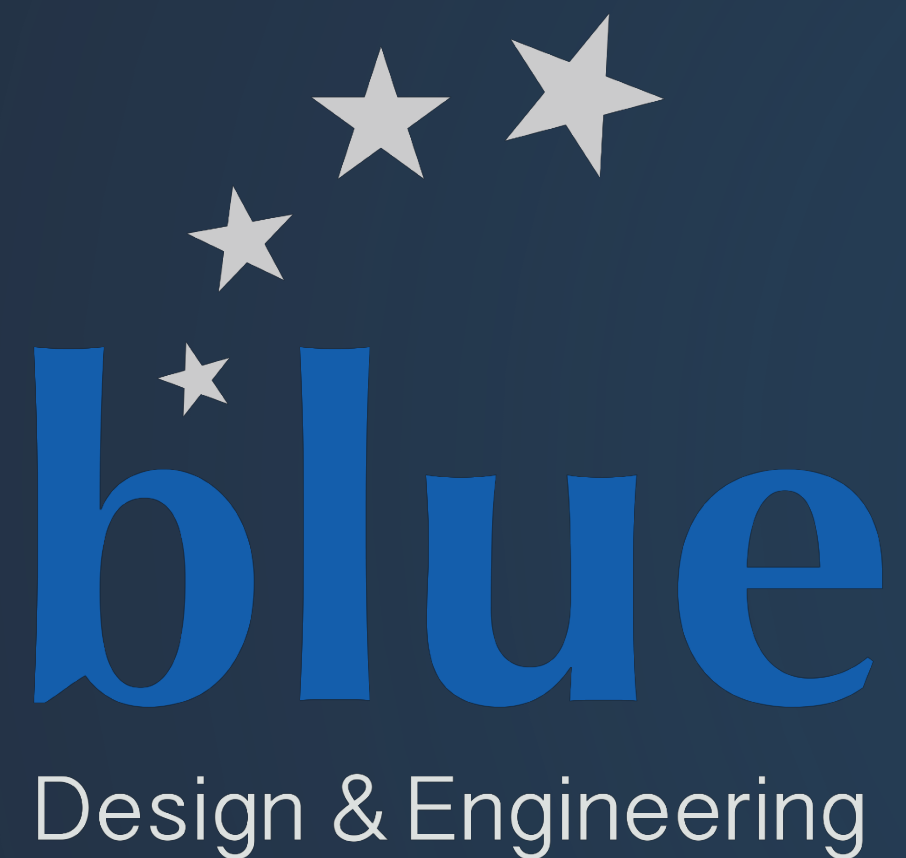
BLUE Engineering is in innovations required by the market, is in highest reliability, is in economic corresponding to quality you duly demand.





COSTUMER REFERENCES





THANKS FOR YOUR ATTENTION

Mr. Pierangelo Farina

Railway Marketing & Business Development Manager

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Mobile. +39 342 7101104

Fax +39 011 9504217

E-mail: p.farina@blue-group.it

Website: <https://blue-group.it/>

