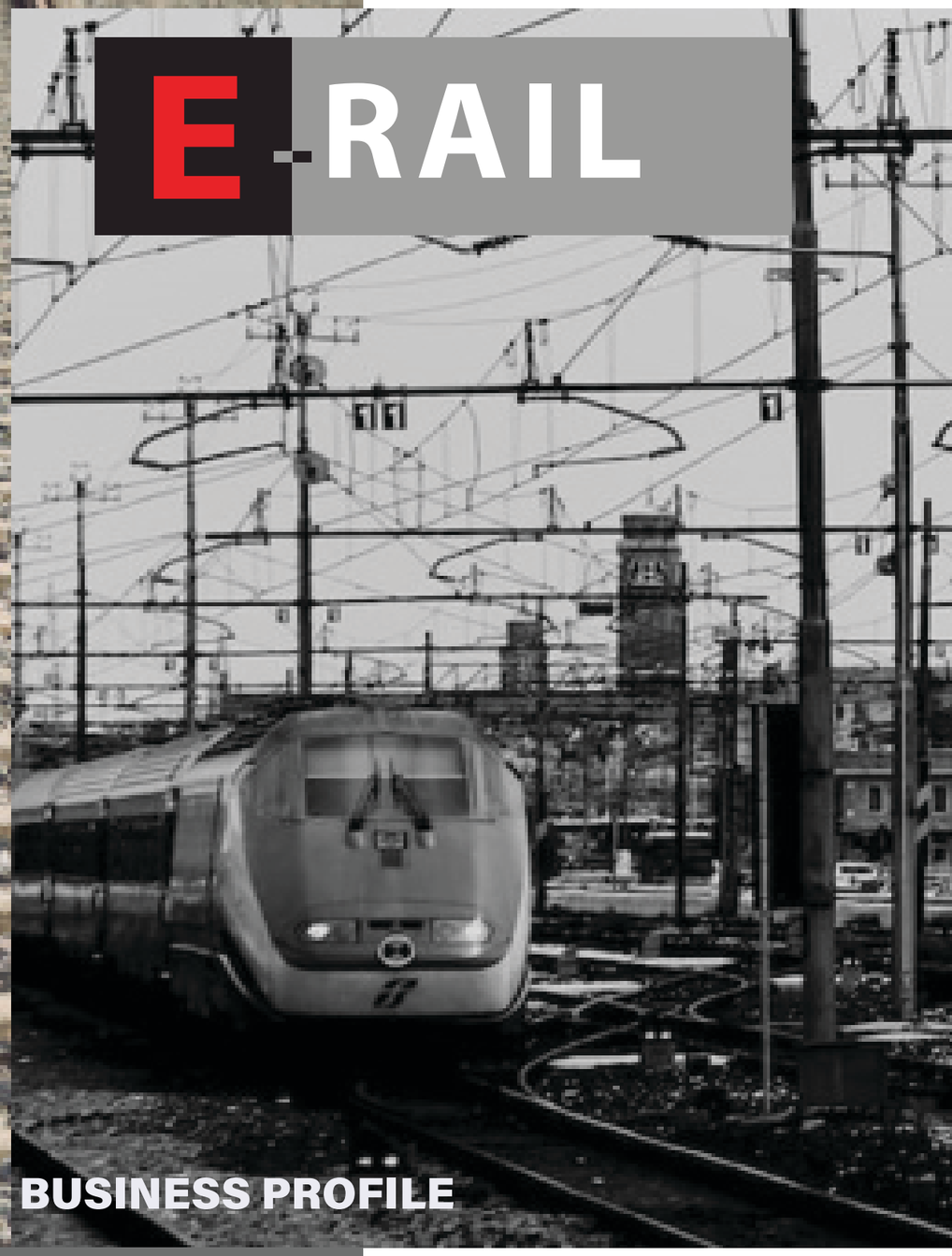
EAST
Engineering And Services Technology
SUSTAINABILITY & INNOVATION

E-RAIL



BUSINESS PROFILE

EAST
Engineering And Services Technology
SUSTAINABILITY & INNOVATION

EAST is a joint stock company that provides local and regional markets with engineering related products services. EAST started long ago rooting from a family-owned business that was active in construction and roads building. Today the company is active in major infrastructure, energy and industrial sectors. It features a diversity of applications through its divisions, its activities ranges from a simple supply of equipment up to a complete complex EPC projects.

E-ROADS

E-INDUSTRIES

E-RAIL

EAST has a long history of providing innovative and energy-efficient technologies to the rail sector, manufacturing and servicing all components and subsystems in urban, intercity and high-speed networks for rail infrastructure and rolling stock. We also provide life-cycle service support, including retrofits and maintenance.

CONTENT

E-RAIL

RAILONE has intensively collaborated on the railroad market for more than 100 years. In this era – which has been marked by breathtaking technical and social changes like hardly any other – we have always applied an iron-clad principle, we assure compliance with strictest quality standards and guarantee customer orent-ed innovations. For customers in Germany, Europe, and the entire world, we employ our experience, our competence, and our know-how to develop intelligent and modular track solutions that can be individually matched to customer requirements.

Traditional B 70 sleepers

Type B70 concrete sleepers are the simplest way to achieve your finished track. The main advantage of these sleepers lies in their great flexibility. For new rail lines or upgrading of existing tracks, for mainline tracks or urban transport, for trunk or secondary lines, and for freight and passenger traffic: this concrete sleeper offers a fast and reliable solution for any application. And simple assembly assures fast installation. The B70 concrete sleeper also can be produced and delivered on very short notice.

- Permissible axle load: 25 metric tons
- Maximum speed: 250 km/h
- Concrete grades: C 50/60
- Concrete volume: 114 I
- Weight (without rail fastenings): 280 kg
- Length: 2600 mm
- Width: 300 mm
- Sleeper height: 234 mm
- Height of rail-seat center: 214 mm
- High of sleeper center: 175 mm
- Supporting-surface area (total): 6801cm²

Turnout sleepers

For turnouts as well, concrete sleepers have become widely and successfully accepted. Their economic and technical advantages are the results of longer life cycles, less maintenance, and mechanized installation techniques. With their great weight, concrete turnout sleepers assure optimal position permanence and stability – even for turnouts that take traffic at high speed

- Permissible axle load: 25 metric tons
- Maximum speed: 250 km/h
- Concrete grades: C 50/60
- Concrete grades: 63,4 I/m
- Weight (without rail fastenings): 155 kg/m
- Weight: 800-4700 mm
- Width: 300 mm
- Sleeper height: 220 mm
- Height of rail-seat center: 220 mm
- High of sleeper center: 220 mm
- Supporting-surface area (total): 3000 cm²/m

Traditional B 70 sleepers

Turnout Sleeper

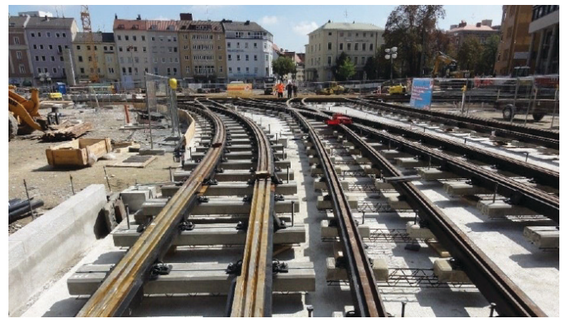
RHEDA 2000 BALLASTLESS HSR TRACK SYSTEM

- A maximum of cost effectiveness and reliability by utilization of concrete sleepers as superi-or-quality precast concrete building components in the critical area of the rail-seat zone
- Great precision of track-geometry parameters by application of precise concrete sleepers
- Great adaptability to all types of substructure and models executed, by means of application of cast-in-place concrete for the concrete track-supporting layer
- Great reliability as a result of technologically mature concrete engineering of the track-support-ing layer for a great diversity of climatic conditions and concrete standards

RHEDA CITY

- Slab track for tram-ways in accordance with EN 16432 and associated standards, e.g. for con-crete, concrete sleepers and rail fastenings
- Modular structure based on bi-block lattice girder sleepers embedded in in-situ concrete slab
- Suitable for tracks and switches with all common Vignol and grooved rails
- Suitable for track covering as green track or with road
- Surface in asphalt, concrete or pavement
- Design with structure-borne noise protection or highly insulating against stray current dis-charge possible

RHEDA CITY Sleeper



MATISA

MATISA is a world leading manufacturer of rail construction equipment. MATISA has been striving for more than 70 years to ensure that outcome by designing and building the best track construction and maintenance machines that deliver track quality and precision that is acknowledged worldwide. It is by maintaining that production quality that we can accompany you proudly and confidently through your various future projects.

Track construction machine

The construction of new railway tracks is based on the latest quality and safety requirements as well as on the experience and know-how acquired over more than 70 years of existence. Taking advantage of this experience MATISA has developed the latest generation of track construction trains (TCM) which can lay new tracks in continuous mode and achieve the highest level of output and precision. MATISA's TCM have already laid thousands of kilometers of new tracks all over the world. They are a key factor in the rapid growth of the Chinese railway network. MATISA listens to your needs to develop and build track construction trains which will optimize the operation of your worksites.

TCM 60

- Gantry capacity 20 sleepers
- Laying rate 16 sleeper/minute
- Automatic sleeper precise spacing.
- Automatic rail positioning.

Track construction machine

TCM 80

- Gantry capacity 20 sleepers
- Laying rate 16 sleeper/minute
- Optional to add WCA wagonpowered by 4 driven axels
- Automatic sleeper precise spacing.
- Automatic rail positioning

Track inspection machines

MATISA track inspection vehicles are versatile and suitable to each customer requirements and will fulfill your entire satisfaction. They can be equipped with one or more measuring systems to inspect your railway infrastructure parameters. Thanks to their construction which is similar to "passenger" type rail vehicles, The Top range of our vehicles covers the specific needs of heavy-traffic, high-speed networks. Their advanced auscultation system enables us to offer a high quality, safety and an optimum maintenance of your railway networks.

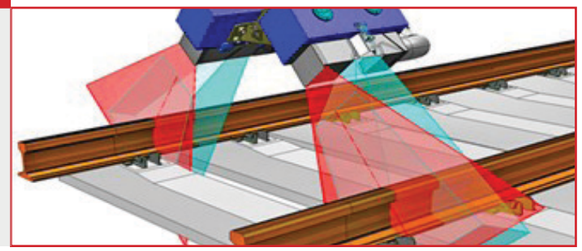
- Suitable for Metro
- Works on different track gauge
- Operates in different climatic conditions
- Speed up to 80km/h

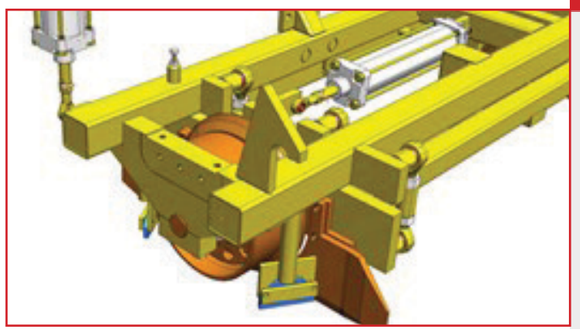
- Suitable for large railway network
- Rigid frame
- Works on different track gauge
- Speed up to 100km/h

- Multiple track inspection
- Suitable for high speed traffic trains
- Equipped with diesel engine
- Speed up to 120km/h

OPTICAL SENSOR

The optical sensor technology is based on projecting LASER pulses onto the rail. The profile is obtained this way and, with the help of a camera, the useful data for calculating the parameters of the track geometry are determined by triangulation.



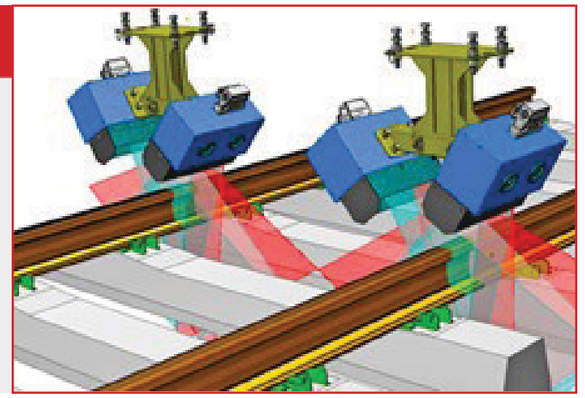


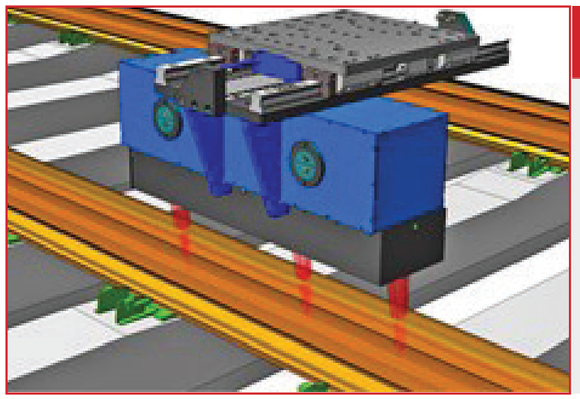
MECHANICAL SENSORS

The MATISA mechanical sensors are composed of rollers which simulate the passage of railway wheels and are sensed pneumatically against the rails. The counter-rollers ensure a smooth run over any type of turnout.

RAIL PROFILOMETRY

Two MATISA optical sensors determine the transverse profile of the rail, each measuring one side of the profile of the same rail.
The complete rail profile is obtained by superposing the two measured profiles.





CORRUGATION MEASURES

Based on a set of punctual LASER sensors, the longitudinal profile of the track is determined using the 3-point measurement principle. A control system guided with the help of a pair LASER-CAMERA keeps the punctual lasers at the rail top.

Tamping Machines

With its outstanding performance, the range of MATISA plain line tamping machines seduces the most demanding networks and machine users for many years. Their ability to accurately correct the geometry, as well as their high output, widely contributed to the good reputation of these machines. All MATISA plain line tamping machines are fitted with independent tamping units benefiting from the high frequency elliptical tamping technology. This MATISA unique technology ensures an unequalled tamping quality and, therefore, a limited and regular settlement of the track after tamping. This feature is well appreciated, in particular when MATISA plain line machines are operated on track renewal worksites. The MATISA plain line machine range has recently received a significant technology upgrade. The optimization improves comfort, flexibility of use, reduction of fuel consumption and maintenance costs even further.

B 35 A8 TAMPING MACHINE

- Continuous action plain line single head machine
- Designed for normal lines on narrow gauge networks.
- A plain line clamp with a longitudinal movement as well as a measuring trolley
- Available with 16 tools
- Productivity up to 600 meters/hour

B 35 D TAMPING MACHINE

- Suitable for normal and high speed lines
- Supported with double bogies
- Double head tamping units totaling 32 tamping tools
- Productivity up to 1,100 meter/hour

Ballast regulator

R24 Ballast Regulators
The R24 is a high-output ballast regulator on bogies, especially designed for the construction and maintenance of high speed lines. It is equipped with a $10m^3$ hopper, expandable to $13m^3$ which allows the excess ballast recovery and redistribution to the areas with low ballast density. More powerful, it also offers more comfort as well as a more spacious and customizable cabin. This ballast regulator offers excellent modularity and will satisfy your most demanding needs.

C75 Ballast Cleaners

The MATISA C 75 is a compact, high-output ballast cleaner characterized by very quick and short ramp-in and ramp-out capabilities, enabling its deployment on very short as well as on longer, more complex worksites. Its efficient guiding system allows excellent work quality, safely using the full working gauge, even during ramp-in phase. Its dimensions ensure a ballast cleaning output of 750 m3/h and up to 1000 m3/h ballast excavation output. Its size warrants efficient logistic management and stabling possibilities within the worksite vicinity. The standard component selection eases maintenance activities, reduces costs while ensuring maximal availability. Of robust and flexible build, the working tools of the C 75 ballast cleaner enable worksite optimization.

Everything on board has been designed for efficient working and driving: perfect view over working tools, ergonomic control panels with clear displays allowing functions checks and key indicators at a glance.

Catenary line accessories and services

EAST offers various services in Rail Catenary line. For long period EAST has the capabilities and experience to fabricate various components of steel items, supply cables and accessories ,and installation on site.

Steel Fabrications

EAST has long in steel fabrications in rail sector. Starting from metro steel brackets, steel electrification towers, or even full workshop steel structure. We are authorized fabricator and contractor under NAT umbrella.

Workshop Overhead Cranes

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