MATISA

la passion du rail

TRACK RENEWAL TRAINS

P95
P95 T
P190
WCA & WMM

The road to

100%

success

Learn from the past to master the future

The evolution of requirements in automation and safety in maintenance work on railway tracks is one of the many areas in which MATISA has been concentrating since the development of its first track renewal train. Modernising working techniques, aiming at ever greater output, economic control of sites and of maintenance are also targets to which MATISA continually responds enthusiastically.
With over 70 track renewal trains delivered around the world, anticipating ever-growing requirements, MATISA defines the trends and keeps its position as leader and innovator in this sector.

TRACK RENEWAL TRAINS

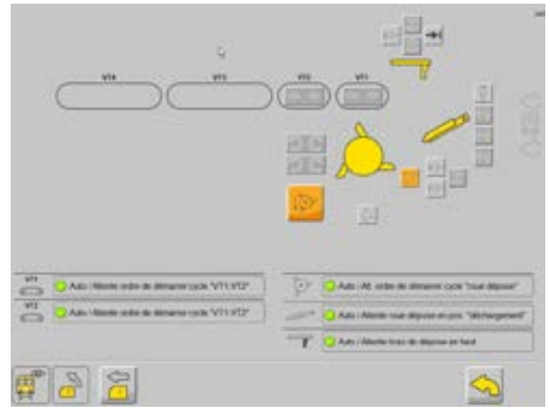
Production-line work in renewal of tracks and sleepers

Often regarded as factories on wheels, MATISA track renewal trains travel on the track to be replaced, leaving behind a renewed track retaining the initial geometry.

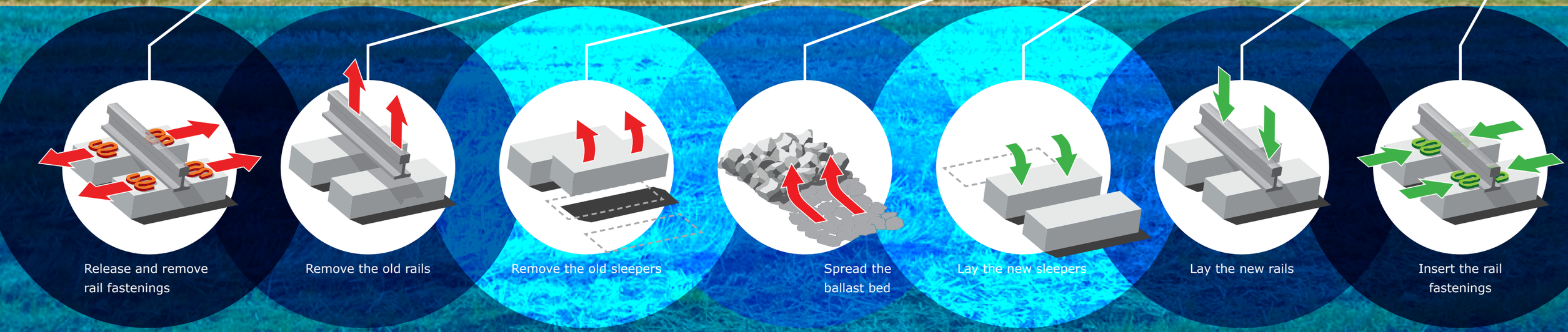
The following are among our latest new developments:

- The HMI (Human Machine Interface): graphic / visual / touch interface
- Lengthening of sleeper transporters
- Automatic fastening release
- New jaws
- Various devices to increase and improve the safety of the personnel

In close discussion with you we build track renewal trains that meet your needs to optimise progress on your worksite.



Example of HMI screen: Removal of old sleepers



P 95

Quality, high accuracy and performance combined in a single machine

The new generation of P 95 is standing out not only by its improved output and performance, but also by its flexibility and its ecological design enabling its use to be more economical.

high accuracy, sleeper spacing regularity and squareness

low stress in the rails

The P 95 track renewal train is a technological jewel, developed using our skills acquired over the years. Its level of quality and performance is, to this day, at the leading edge of research and allows us to offer you a very high degree of accuracy.

The P 95 is standing out in particular by:

- its excellent traction force
- its double crawler track
- its optimised sleeper transporters
- its dynamic ploughs

«pentograph» design that copies the track geometry

Successfull work, thanks to a reliable, economical and easily maintained machine

The P 95 was designed to provide the contractor with the greatest economic benefit from this equipment, thanks to:

- limited wear
- minimal consumption
- operation with a minimum of personnel

The sleeper wagons pushed in front of the train enable the ballasting, shaping and tamping of the new track directly behind the track renewal train and to make the best use of the track possession.

P 95

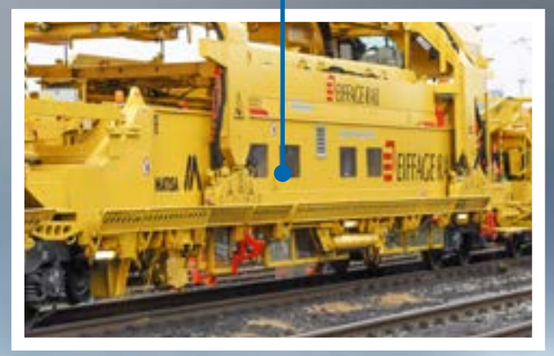
Ensuring high flexibility and safety

With its high flexibility, the P 95 adapts to all kinds of site configuration:

- track renewal:
  - with various types of sleepers (concrete, wood, steel, weakened bi-block, twin sleepers)
  - in stations and on structures
- renewal of sleepers or rails
- laying old rails on the heads of sleepers or in the middle of the track
- recording events and track geometry as required by the network

MATISA track renewal trains enable considerable work-sites time reduction and quick handback of tracks.

In terms of safety, MATISA goes beyond standards in force to provide a safe environment for your operators, provided by the development of:



To respect the environment

Throughout the design of our track renewal trains, we focus on ecological development and environment. This produces significant reduction in:

- noise emissions
- dust
- pollution

P 95 T

Managing ballast with more flexibility

Integrating an excavation system into the design of the P 95 track renewal train enables removal of the excess of ballast, ensuring laying the new track at the same height as the old one. The cleaned ballast can then be removed or re-distributed between the sleepers.

The engine compartment located on the 4th frame of the P 95 T enables potential double motorisation, providing valuable redundancy in case of engine breakdown and therefore valuable safety and reliability.

P 190

Small but with all the qualities of the big ones

The MATISA track renewal trains are also available in economy version. Designed for sites of small to medium length with usually 3-7 sleeper wagons, its short length eases shunting and worksite preparation.

Nevertheless, the P 190 concedes nothing in matters of reliability, durability, flexibility, quality of work or accuracy.

The gantries enable transfert of the sleepers by running on the specific rails fitted on all the sleeper transport wagons and on the track renewal train. Depending on the length of your worksite, one or more gantries can be used. In general two gantries are recommended for 8 to 10 wagons.

WCA

MATISA's design offers the option to add a supplementary WCA wagon on your track renewal train that can include further functions such as:

- protected work stations for loosening small material
- magnetic drums with conveyor
- gantry stowage during transit of the machine
- adjustable running rail for the gantry
- a diesel hydraulic group to provide extra traction force
- small material storage facilities

WMM

The material and measurement wagon will enable you to carry out several tasks ahead of the track renewal:

- track measuring
- excess ballast removal

The WMM can also be used as:

- storage space
- workshop
- social compartment
- additional tank or generator integration
- diesel hydraulic group integration providing extra traction force
- small material storage facilities

Technical features

Technical data	P 95	P 95 T	P 190
Kinematic gauge	UIC / RIV / W6A	UIC / RIV / W6A	UIC / RIV / W6A
Track gauges	1,435 – 1,678 mm	1,435 – 1,678 mm	1,000 – 1,678 mm
Minimum radius in working mode	250 m	250 m	250 m
Minimum radius in self-propelled mode	150 m	150 m	150 m
Travelling speed in convoy	100 km/h	100 km/h	100 km/h
Speed in working mode	0 – 1.1 km/h	0 – 1.1 km/h	0 – 0.95 km/h
Speed in manoeuvring	0 - 5 km/h	0 - 5 km/h	0 – 2.5 km/h
Overall length	72.17 m	92.34 m	64 m
Max. width	3.15 m	3.15 m	3.15 m
Total weight (empty)	~220 t	~250 t	~127 t
Buffers and couplings	UIC or on request	UIC or on request	UIC or on request
Max. canting in operation	160 mm	160 mm	160 mm
Number of bogies	5	6	3
Number of motorised axles	8	8	4
Number of carrying axles	3	5	2
Bogie wheelbase	1,800 mm	1,800 mm	1,800 mm
Wheel diameter of the bogies	920 mm	920 mm	920 mm
Wheel diameter of the carrying axle from the working assembly	760 mm	760 mm	–
Rated power	~400 kW	~500 kW	~300 kW
Hydrostatic drive	Yes	Yes	Yes
Max. sleeper length	2,650 as option 2,800 mm	2,650 as option 2,800 mm	2,650 as option 2,800 mm
Min. sleeper length	2,200 mm	2,200 mm	2,200 mm
Width of spreading (dynamic plough)	2,800 mm	2,800 mm	2,800 mm
Max. depth of spreading (below top of rail)	460 mm	460 mm	460 mm
Lateral Regulation of sleeper laying group	± 250 mm	± 250 mm	± 250 mm
Max. modification of canting (old / new)	± 50 mm	± 50 mm	± 50 mm
Wooden sleepers	Yes	Yes	Yes
Concrete sleepers	Yes	Yes	Yes
Steel sleepers	Yes	Yes	Yes
Can renew mixed rail profiles	Yes	Yes	Yes
Noise level in the cabins	< 80 dB(A)	< 80 dB(A)	< 80 dB(A)
Noise level at 7 m distance	< 85 dB(A)	< 93 dB(A)	< 90 dB(A)
Number of sleepers per package of old / new sleepers	27 - 30	27 - 30	18 - 20

Equipment	P 95	P 95 T	P 190
Rail pulling equipment under the WES or WCA	•	•	x
Rail pulling equipment under the WF	•	•	•
Sleeper holding wheel	•	•	•
Clamps for old / new rails	6/6	6/6	3/5
Sleeper removal for steel, concrete and wooden sleepers and double sleepers (2 sleepers at a time)	•	•	•
Twin-block sleepers module for sleeper removal	x	x	–
Plough dynamic	•	•	•
Ballast excavating chain	–	200 m^3/h	–
Sleeper laying unit with copy of track geometry	•	•	•
Ballast plough on WES or WCA	•	x	x
Ploughs under WF or WMM for ballasting the sleeper heads	•	x	x
Ballast excavating chain in front of the dynamic plough for cutting in and cutting out	x	–	x

Technical data	P 20 TR	P 30 TR
Track Gauges	2,806 – 2,930 mm	2,806 – 2,930 mm
Speed in working mode	0 – 18 km/h	0 – 18 km/h
Overall length	8,700 mm	13,850 mm
Total weight (empty)	12 – 14 t	20 - 22 t
Rated power	90 kW	120 kW
Max. sleeper length	2,800 mm	2,800 mm
Min. sleeper length	2,200 mm	2,200 mm
Sleeper types	wood, steel, concrete, bi-block	wood, steel, concrete, bi-block
Lifting force	68 kN	100 kN
Length of jaws	6,300 mm	9,300 mm
Number of sleepers per package of old / new sleepers	18 - 20	27 - 30
Batten clamp	x	x
Simultaneous take-up of sleepers of different lengths (mixed floor)	–	x
Clamping equipment for worn bi-block sleepers	–	x
Anti-derailment safety device	x	x
Laser base collision avoidance system	x	x
Radar-based collision avoidance system	x	x

Legend: ● Basic equipment | **x** Optional | **–** Not available

The road to 100% success

Subsidiaries and a network of agents

100%

at your service

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