



***Geismar's product evolution
to meet today's market requirements***

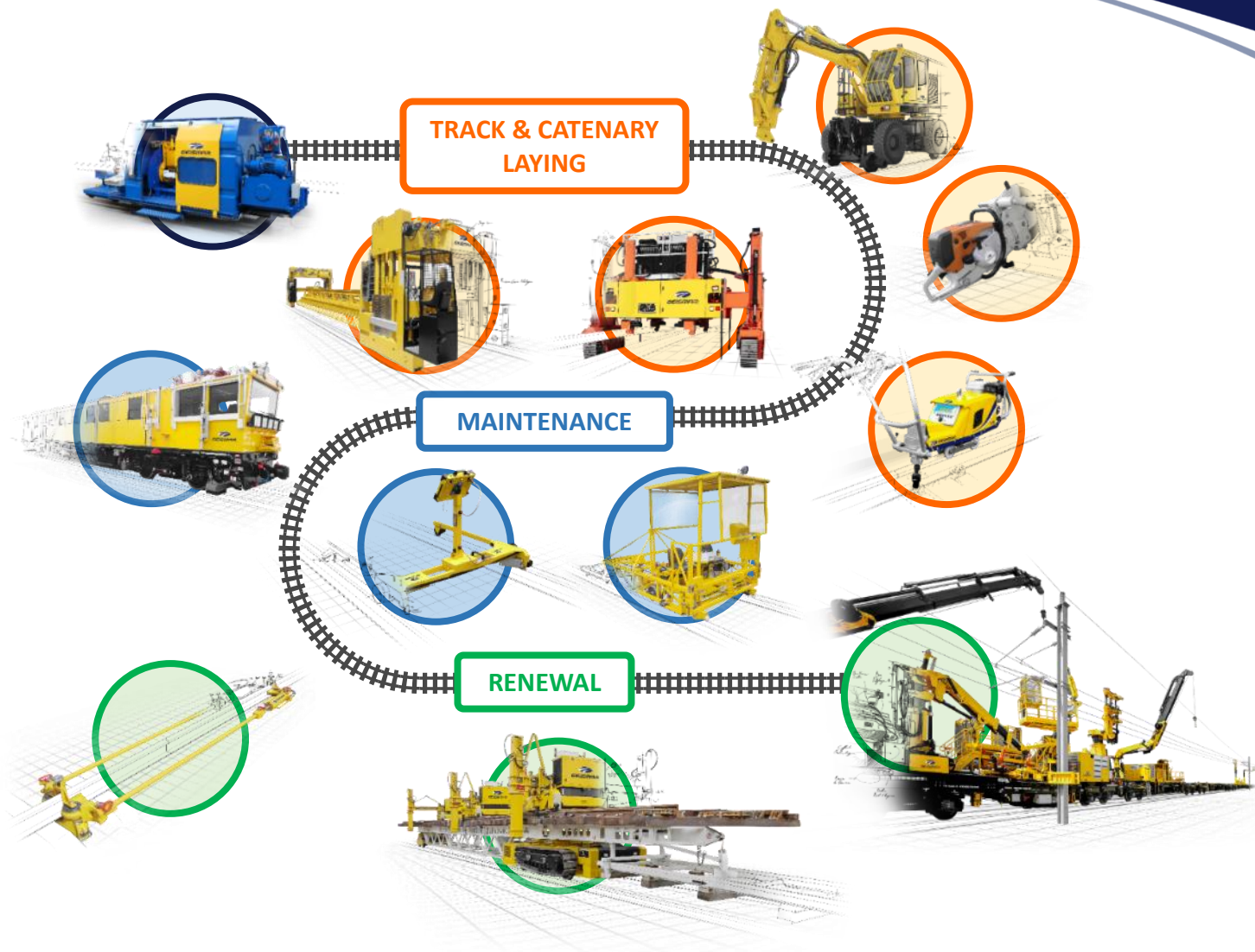
March 2022

1

About us



Geismar at a Glance



1

Our engineering and manufacturing capacity

6 factories in Europe and the United States with specific equipment expertise

9 design offices

100 engineers

We can address any specific regional need and bring creative and productive solutions



A Global Presence



Equipment for every type of projects

MAIN LINE



Track panel laying

Rails and ties laying



Bed of tie laying

TURNOUT & CROSSING



Track panel laying and tilting wagon

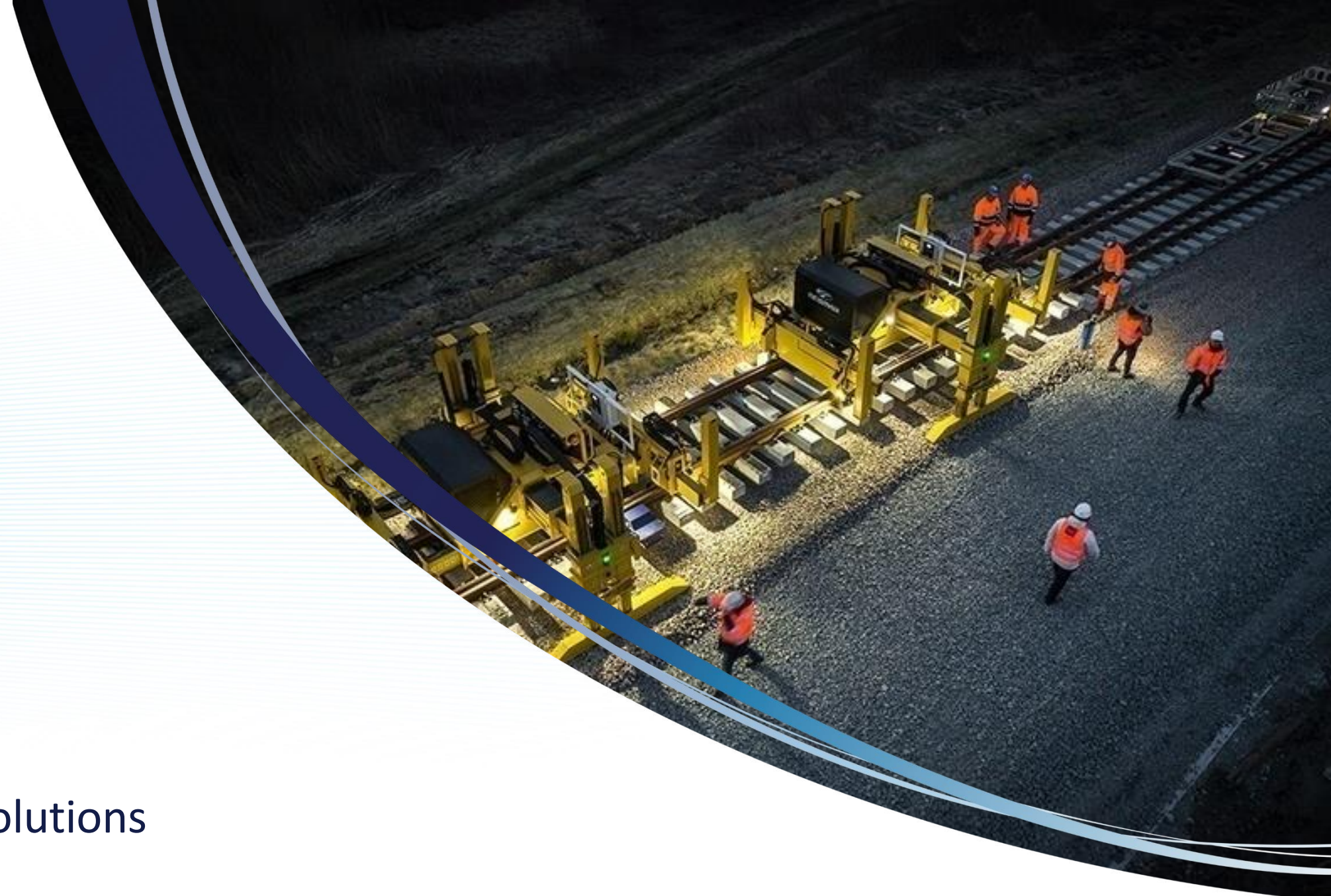


CATENARY



2

Track laying solutions



Equipment Range for track laying = 4 different solutions



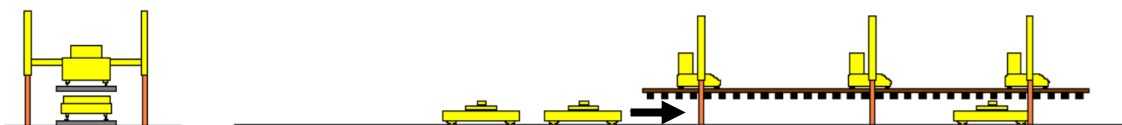


Modular and efficient track laying technology

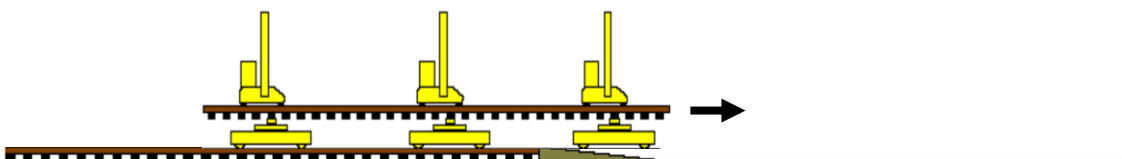
- ✓ **The most successful method worldwide for track laying**
- ✓ **Best-in-class productivity**
- ✓ **Used in 20 countries**
- ✓ **Chosen by 40 customers**
- ✓ **Flexible installation**
- ✓ **Safe remote-controlled solution**

Track laying methodology

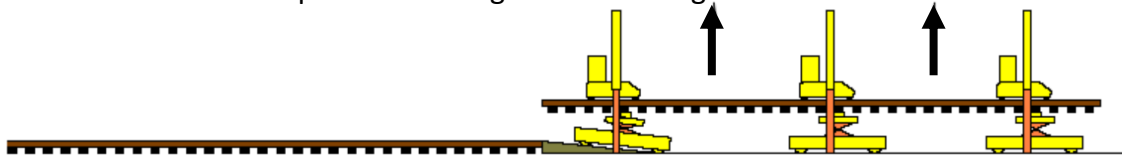
1. Lifting of tracks & turnouts by gantries and positioning of lorries under the load



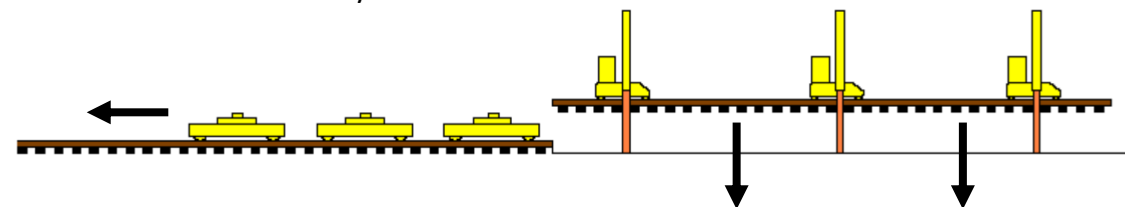
2. Transporting to laying area and preparation to use the ramp



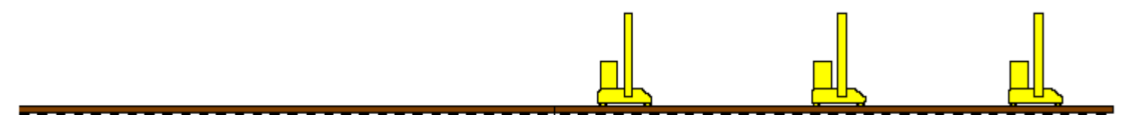
3. Tracks & turnouts on place and lifting the load with gantries



4. Lorries evacuation and lay down the load on area



5. Adjusting the tracks & turnouts (lateral and longitudinal slewing)



6. Evacuation of gantries and lorries



Turnout and panel laying with temporary track

Turnout & track laying system

Modularity of the solution with one operator and one remote control



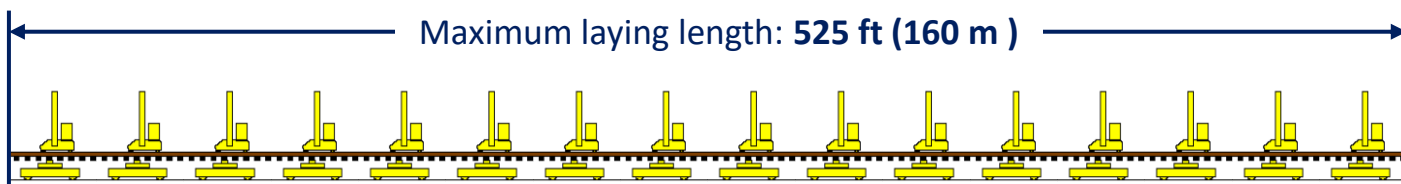
Work site typical efficiency

- ✓ Laying 525 ft (160 m) turnout in approximately 2 hours (implementation and evacuation of machines)

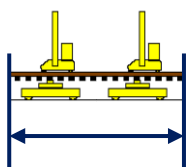
Other applications

- ✓ Transport of concrete mixers
- ✓ Transport of tippers
- ✓ Transport of poles
- ✓ Transport of metallic bridges

Maximum laying length: 525 ft (160 m)



Minimum laying length: 20 ft (6 m)



X-TRACK

Modular laying solution



Modular and efficient track laying technology

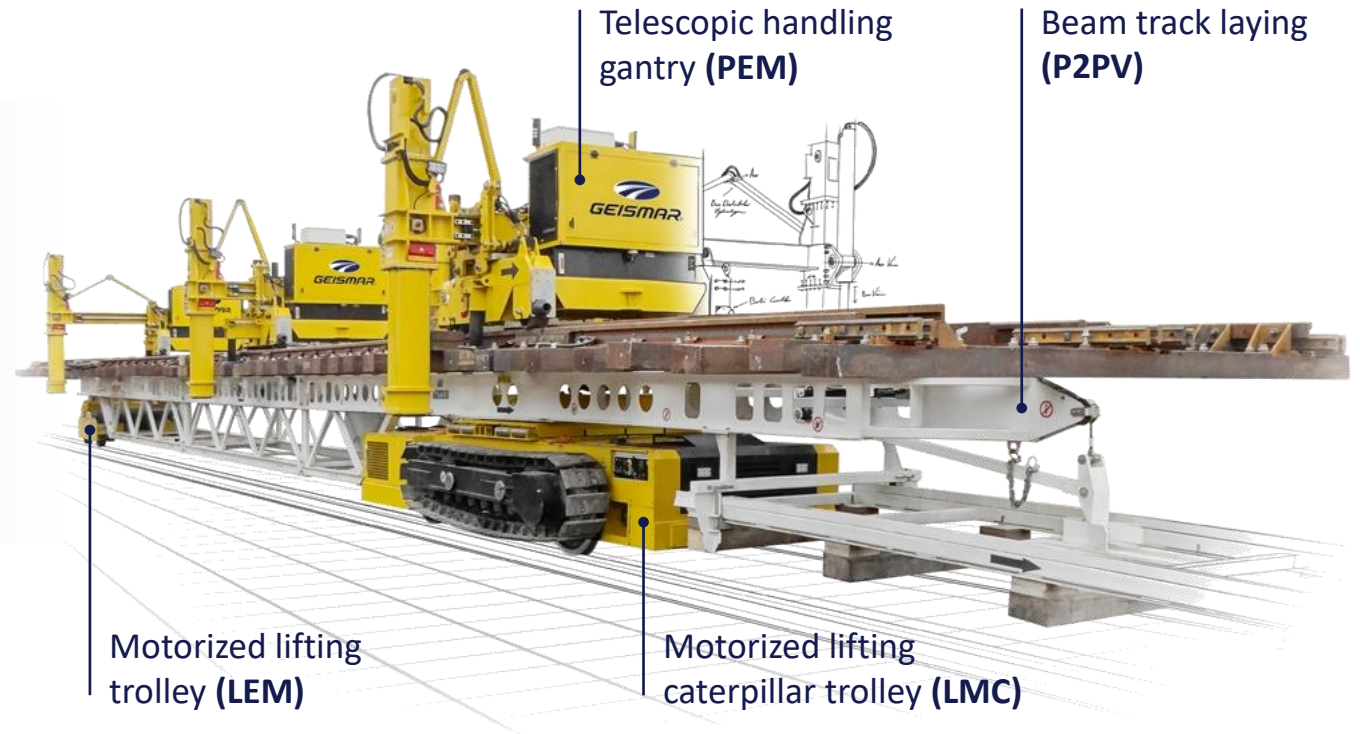
- ✓ High output up to 656 ft of track panels per hour and one switch in less than an hour
- ✓ Compatible with other track laying methods (type PEM-LEM)
- ✓ Possibility to work on any networks
- ✓ Safe remote-controlled solution

X-TRACK

Modular laying solution

Modular configuration for laying any track

- ✓ **No need for temporary track** (trolleys fitted with caterpillars)
- ✓ **Modular configuration for any tracks** (118 ft – 36 m / 22 t) & **turnouts** (118 ft – 42 m length / 42 t)
- ✓ **Limited staff required** (3 operators for X-TRACK / 2 operators for X-TRACK²)



X-TRACK

Modular laying solution

Track panels laying without temporary track



X-TRACK[®]

Modular laying solution

Other situations



Track & turnouts laying solution for tilting wagon



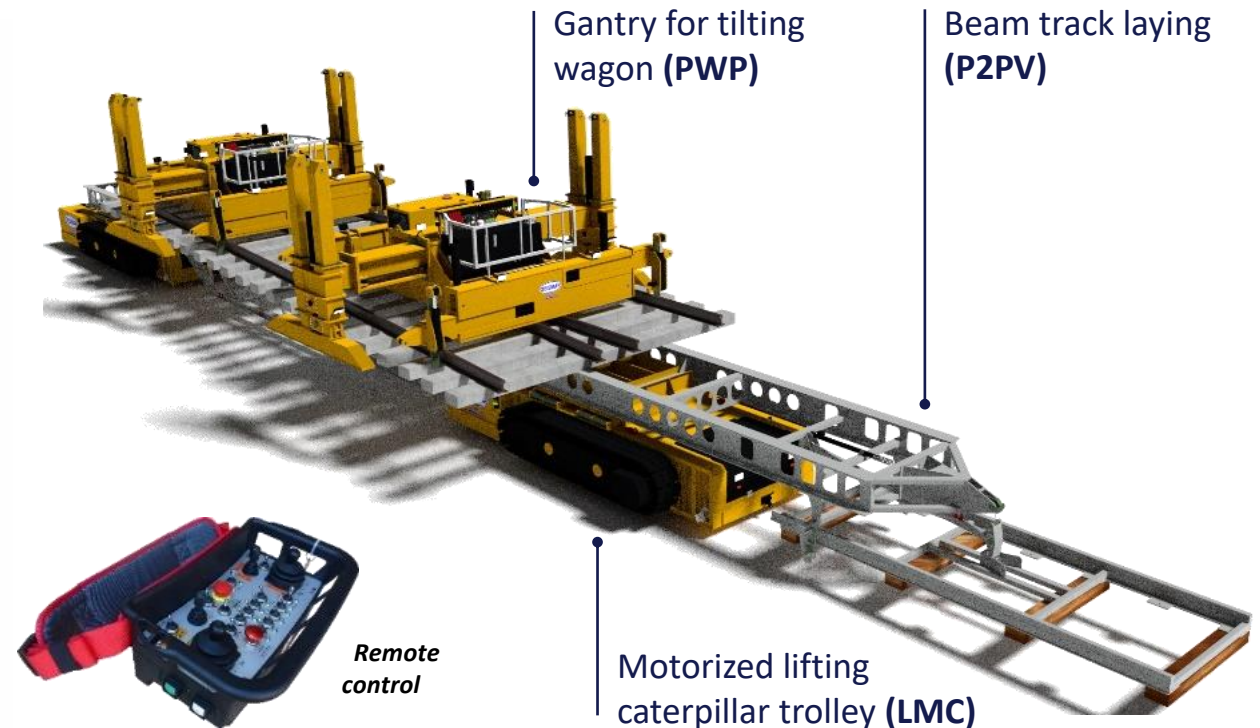
Multifunctional and powerful track laying technology

- ✓ Lays all track & turnouts types from a panel transportation tilting wagon
- ✓ Unique design to maintain geometry of tracks
- ✓ Compatible with other track laying methods (PEM-LEM, X-TRACK...)
- ✓ Possibility to work on any network and single-track
- ✓ Safe remote-controlled solution

Track & turnouts laying solution for tilting wagon

Modular configuration for laying any turnouts from tilting wagon

- ✓ Easy track & turnouts unloading from a tilting wagon (WPA)
- ✓ Efficient organization by slewing track & turnouts or by transporting them on motorized transportation trolleys
- ✓ Safe displacement and accurate positioning of track & turnouts
- ✓ Modular configuration for any track & turnout lengths and types
- ✓ Requires only one operator to unload track & turnouts from a tilting wagon



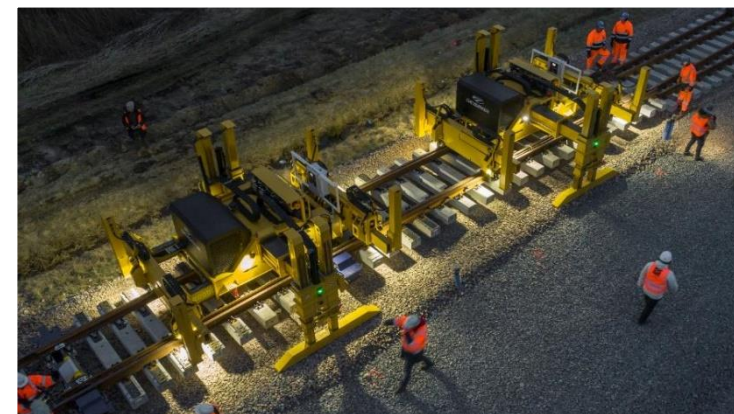
Track & turnouts laying solution for tilting wagon

Turnout laying from tilting wagon



Track & turnouts laying solution for tilting wagon

Other situations



With a load capacity of 20 tons, the ECTR is equipped with both railway wheels and caterpillars, its optimum versatility ensures the laying of:

- ✓ **Up to 3 concrete slabs** of 16 ft (5m) long each
- ✓ **Track panels up to 59 ft (18m) long**
- ✓ **Up to 20 ties** at once
- ✓ **Long welded rails (LWRS) up to 1,417 ft (432m) long**
- ✓ **Even further possibilities on request!**

ECTR is fully radio-remote controlled and equipped with on-board cameras, along with a laser positioning system ensuring perfect results, the safest way.



**RHOMBERG
SERSA**

COLAS RAIL



Pulling LWR from wagon

Catenary laying, renewal and maintenance



From the automated catenary unrolling & rolling system to the self-propelled maintenance unit, Geismar has a complete range of equipment to meet all needs :

- ✓ Unrolling with electronic tension control
- ✓ Maintenance and renewal of catenary infrastructure
- ✓ Quick intervention with road-rail solutions
- ✓ Catenary measurement



Productivity Increase for Catenary Renewal



- 25kv: 6,214 mi. (10,000 kms)
- 1,500 V: 3,666 mi. (5,900 kms)



High Output Catenary Renewal Train

- High-performance industrial technology for efficient and mechanized equipment renewal
- Design and supply of 2 high-output catenary renewal trains
- Training and technical assistance



1 cantilever replaced every 10 min

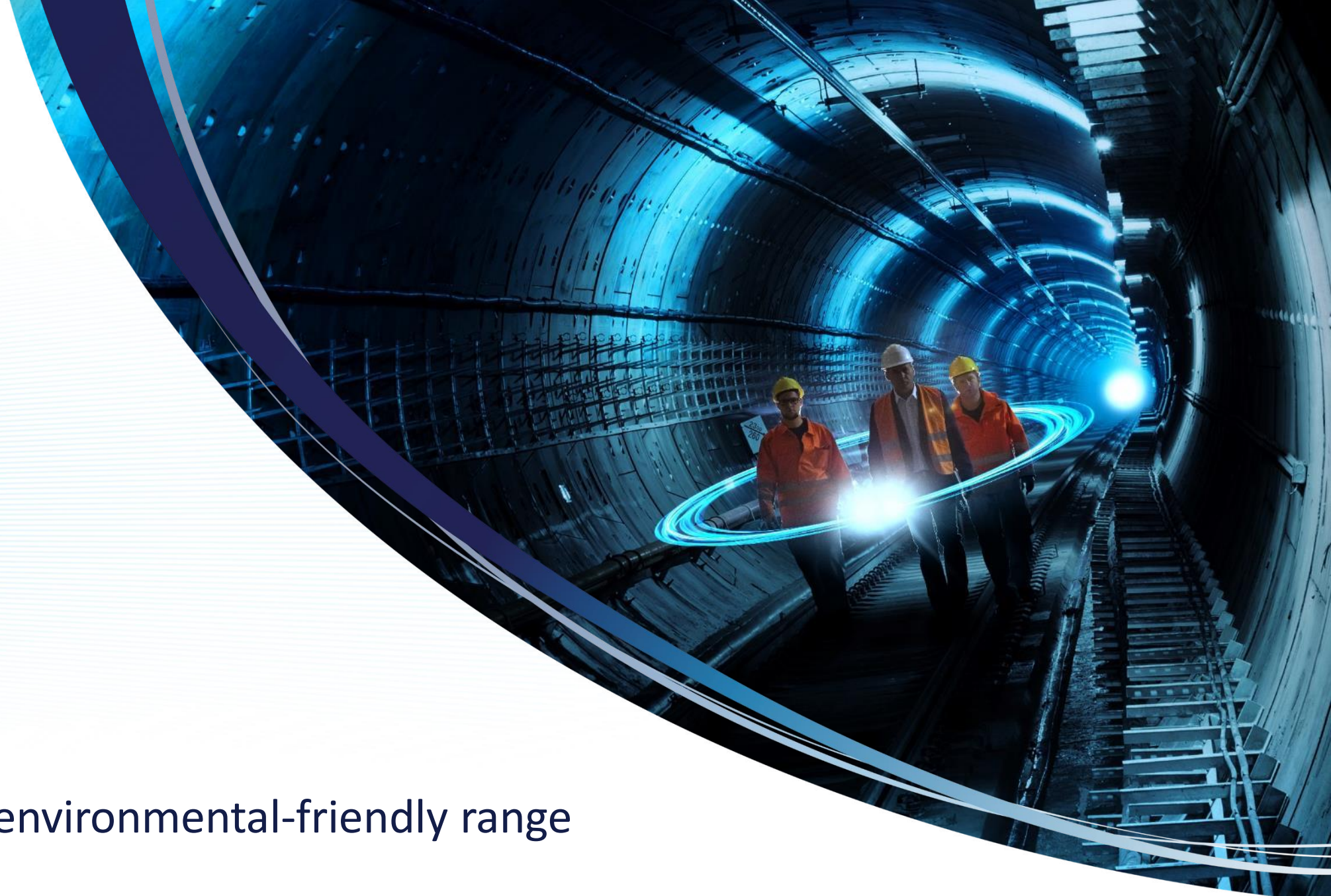


1 catenary post replaced every 17 min

Vs 1 to 2h with traditional methods

3

Activion: our environmental-friendly range



30 years of experience in electric vehicles in Europe & North America



atac
ROMA | ITALY

1990's



atac
ROMA | ITALY

2000's



PATH | USA

2010's



atac
ROMA | ITALY



SNCF | FRANCE



AMTRAK | USA

activion[®] systems 100% battery range



MORAY
Portable tamper



AGX
Electric portable conversion kit



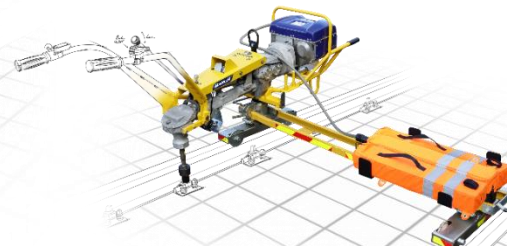
SHARK
Abrasive rail saw



BATTERY TECHNOLOGY



BARRACUDA
Rail profile grinder



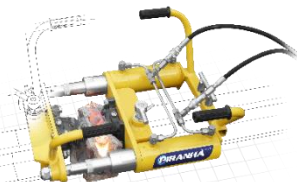
MARLIN
Vertical Bolter



HAMMERHEAD
Rail knocker



NOCTURNA
Worksite projector



PIRANHA
Rail weld shear



KRAKEN
Rail tensor



CRAB
Rail lifting trolley

Rolling stock – All range of power

ELECTRIC SHUNTING UNIT

- Power: 32 kW
- Available energy: 73 kWh
- Autonomy : 8h



HART
HONOLULU AUTHORITY
for RAPID TRANSPORTATION



ELECTRIC TRUCK

- Weight 35 tons
- Speed: 40 kph
- Autonomy: 6-9h
- Power: 230 kW
- Available energy: 290 kWh

ELECTRIC OR BIMODE TRACK MOTOR CAR

Available Energy:

- 225 kWh (bi-mode)
- Up to 465 kWh (100% electric)



BIMODE TRACK MOTOR CAR

- New Jersey

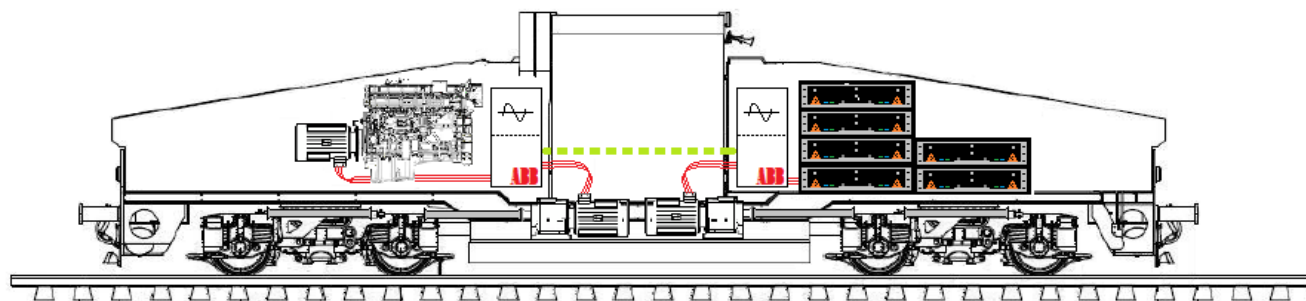
BIMODE ROAD-RAIL TRUCK

- Los Angeles



For industrial application: 1 kWh = 1k€ minimum casing and certification not included

Focus: bi-mode locomotive



Gauge	UIC		
Length	18,000 mm (59 ft)		
Traction & collision	UIC		
Masses	<ul style="list-style-type: none"> • 20 tons per axel • 80 tons in running order 	Bi-mode power (diesel + electric + batteries)	<ul style="list-style-type: none"> • 1 x 550 kW combustion engine • 1 x 500 kW ABB generator • 2 x 400 kW ABB traction motor • 1 x 400 kWh Battery Pack (adjustable)
Speeds	<ul style="list-style-type: none"> • 2.5 kph (1.5 mph) regulated work zones • 30 kph (19 mph) slow speed • 100 kph (62 mph) maximum speed • 120 kph (75 mph) max towed speed 	Braking	<ul style="list-style-type: none"> • 3,000 l/min compressor • Compliant NF IN 14198-A1:2018
		Auxiliaries	Radio remote control for work zones and storage areas
		Sockets	230V & USB

4

Latest news



4

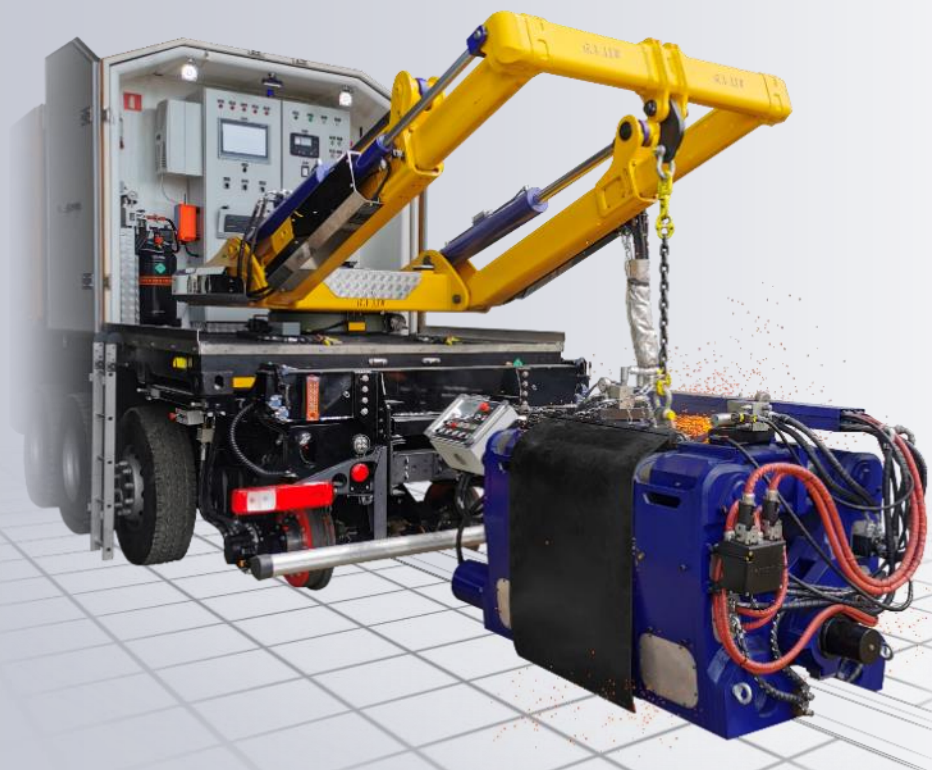
Electrical Flash-butt welding head



Set up example combining a flash-butt welding head, an energy-supply unit as well as a control-and-command module fitted within a 20-foot iso container.

4

Welding heads



	FLASH600	FLASH850	FLASH1000	FLASH1200
Rated power at 50% DC	150 kVA	240 kVA	240 kVA	240 kVA
Transmission factor	1:60	1:60 & 1:54	1:60 & 1:54	1:60 & 1:54
Maximum forging force	600 kN	800 kN	1,000 kN	1,200 kN
Maximum clamping force	1,450 kN	1,650 kN	2,500 kN	3,000 kN
Maximum discharge speed at no load	1.38 in/s (35 mm/s)	1.38 in/s (35 mm/s)	1.57 in/s (40 mm/s)	2.16 in/s (55 mm/s)
Machine stroke	3.35 in (85 mm)	3.35 in (85 mm)	3.94 in (100 mm)	5.90 in (150 mm)
Head mass	3,200 kg	3,350 kg	4,000 kg	4,500 kg
Independent deburring	-	-	-	✓
Closing weld after stress release	-	-	-	✓
Independent deburring stroke	-	-	-	3.35 in (85 mm)

2021 Highlights



Innovative bi-mode gas/battery propelled truck for urban transit
(France)



First full-battery powered vehicle for urban transit
STM (Canada)



New Activion battery for hand held equipment
(France)



High intensity catenary train
(France)



New slab track panel laying system
(Austria)



6 track motor cars in less than a year
(Azerbaijan)



New FB-welding container
(Mozambique)



Thank you!
Any questions?

