

**New Equipment**

# Geismar gains approval for the next generation of track maintenance equipment

**Richard Cradock, Commercial Manager - Geismar UK, describes the company's new equipment.**

Since it was founded in 1924, Geismar has been helping the world's railways to monitor and maintain their infrastructure by providing high quality, innovative products, ranging from sophisticated track measuring devices and hand tools to road/rail vehicles and large machinery for the handling of track panels and turnout assemblies.

### Mobile gantry cranes

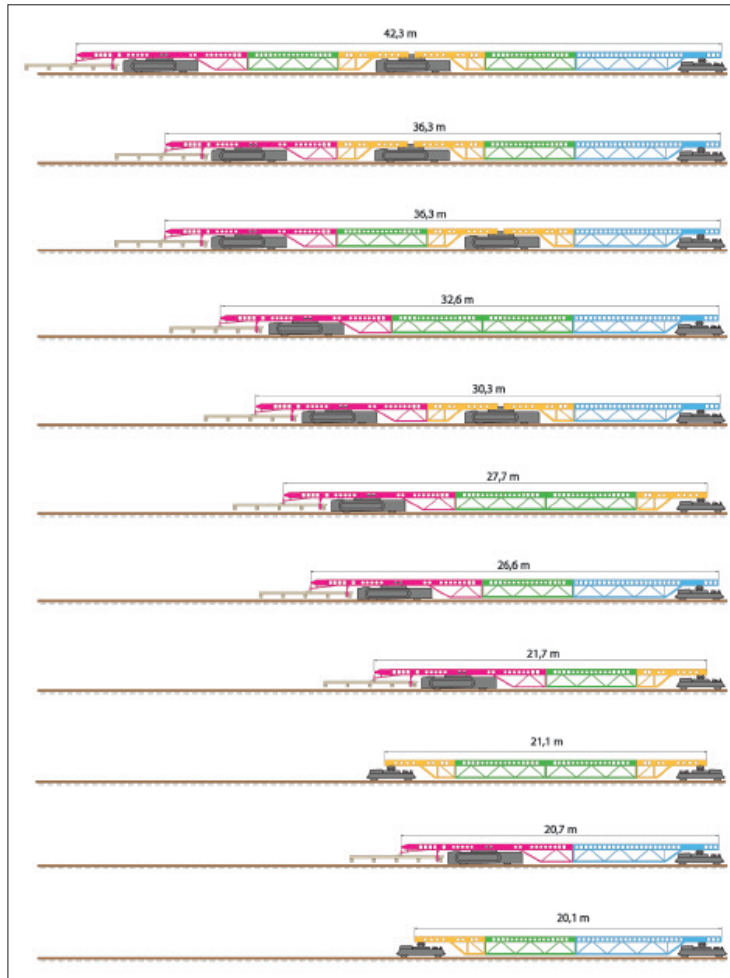
Since 2001 in the UK, Geismar has been providing a unique service using a fleet of mobile gantry cranes known as PEMs and remote-controlled trolleys known as LEMs. After almost 20 years in service, during which time these machines have completed close to 500 construction jobs, it is now time for them to gracefully retire from UK duty.

The story, however, does not end there. With Network Rail's continuing need to undertake replacement of trackwork and crossings throughout CP6 and beyond,



Geismar UK has invested in a fleet of brand new PEM and LEM machines, manufactured at

Load testing of the new Geismar LEM machines in Tuxford.



the Geismar facility near Marseille. Geismar UK has worked with its accreditation body to demonstrate compliance of the 18 PEM and 12 LEM machines to the latest issue of the applicable standards, undertaking extensive testing in the factory at Provence as well as at Network Rail's Research and Innovation Development Centre (RIDC) at Tuxford. Here, the machines were put through their paces on the 80 metre radius reverse curves, one in 25 gradient and 200mm canted track, prior to the issuing of Engineering Conformance Certificates and up issuing of the Product Acceptance Certificate by Network Rail.

### Features

The machines in the new fleet, which saw action for the first time in October 2019, are an improvement on the original design in as much as:

- Both the PEM and LEM machines are compliant to Issue 6 of RIS-1530-PLT.
- The PEM machines are now fully remote controlled, not requiring an operator to stand on the machine footplate.
- Diesel engines emissions comply with the latest standards.
- Controls on both sides of the machines assist with safe adjacent line working.
- The PEM machines can lift higher, having two hydraulic stages that can be individually or jointly activated.
- PEMs can be joined by link bars to allow lifting without a track panel in place.
- Automated deployment and stowage of rail clamps.
- Sensing equipment allowing the load to be detected and displayed (with a warning in case of overload).
- An improved drive design on the PEM machines allowing 'unlimited' travel to site.
- An improved PEM suspension system.
- Higher speed lifting and slewing operations.

The LMCs and P2PV beams can be arranged in 11 different configurations.

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**PEM machines undergoing testing at Network Rail's RIDC Tuxford.**

- Brighter, more reliable LED work lights and head/market lights.

**Further developments**

Having replaced its existing fleet of machines, Geismar UK has not stopped there. The company has invested in four motorised rail trolleys with lifting caterpillars for on and off-tracking (technically making them road/rail vehicles) known as LMCs as well as two sets of transport beams (P2PV) to allow switches and crossings up to 42 metres in length to be handled with ease.

The LMC machines are fully remote controlled and transport beams can be arranged in different configurations, to accommodate the specific requirements of each worksite. The caterpillar tracks on the LMC machines allow an operator to drive the machine straight off the end of a transition



panel into 'the hole', removing the need for temporary track. This improves safety and facilitates a highly efficient method of removing and replacing S&C track panels to allow the underlying formation to be maintained as well as track relaying that allows up to 200 metres of track to be laid per hour when using 36 metre plain line track panels.

These state-of-the-art machines have also been tested at RIDC Tuxford and are now undergoing the final stages of certification and product acceptance. They will be available for work by the end of May.

**Geismar's innovative LMC machine.**