

# Off the shelf interlockings

**NETHERLANDS** ProRail and Movares have introduced a cost-effective SIL4 interlocking which uses programmable logic controllers originally developed for the chemical industry.

Pressure on infrastructure managers to reduce costs remains intense, and some railways are investigating how they could share technology developed for other safety-critical industries to lower their capital outlay. Dutch infrastructure manager ProRail has embraced this philosophy by introducing Eurolocking, a SIL4-compliant PLC interlocking developed in co-operation with Movares over the past six years.

There is a clear separation in Dutch signalling principles between the control layer which manages train operations and the interlocking layer. This has allowed the technology for the two layers to evolve independently. At present 80% of the Dutch rail network is equipped with conventional relay interlockings, but ProRail anticipates that 15% of all interlockings will have to be replaced over the next decade.

The first Eurolocking installation at Santpoort Nord freight yard has been in commercial service since July last year. In December, ProRail authorised its use across the Dutch network, and a second interlocking is currently being installed at Beverwijk. Now Movares is keen to exploit the concept for international applications.

Programme Manager Jean Paul van Hengstum said the ProRail approval marked 'a breakthrough in train protection', allowing an off-the-shelf programmable logic controller from the industrial process automation sector to support a commercially-available

SIL4 interlocking. Combining 'proven industrial hardware' with rail-specific software offers a 'highly cost-efficient and flexible product'.

The Eurolocking at Santpoort Nord uses the Hima Safety Contoller to provide one out of two voting. HSC was developed by Hima in Germany for the chemical industry, but Movares says the concept is not tied to any one hardware supplier, as the overall Eurolocking design is based on 'open architecture' principles. Standard Ethernet/IP/OPC communications infrastructure is used. The platform is intended to be extremely scalable, enabling it to be used on main lines, in yards or on urban rail networks, as well as for local control of level crossings. It is also compatible with ERTMS.

Movares estimates that Eurolocking could reduce the life-cycle cost of a signalling project by up to 30%, making it likely to be of particular interest to railways in emerging markets where cost-effective train control investment is a priority. 

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