Open Signaling.
Built to evolve.

A future-proof approach to rail and metro signaling.

THE PROBLEM

Locked in for 25–40 years.

Signaling systems are often delivered as closed systems with maintenance contracts that tie the owner to one supplier for decades. After that, the systems frequently have to be replaced in full, at high cost and with long service interruptions.

It wasn’t always this way.

THEN: RELAYS

Off-the-shelf parts. Any signaling engineer could replace or modify the system.

NOW: OPEN SIGNALING

That same freedom, with the power of computer-based systems and upgrades through software.

Three key principles

Open interfaces

Standards such as OPC UA, MQTT and EULYNX/RaSTA let suppliers' parts work together.

Loosely coupled

Hardware and signaling logic kept apart, so each can be upgraded on its own.

COTS hardware

Commercial off-the-shelf safety platforms cut cost and vendor dependency.

One interlocking, three layers. Each one sourced on its own.

CONFIGURATION DATA	Route and interlocking tables in open formats such as railML
APPLICATION LOGIC	Safety logic generated from a formal specification, platform-agnostic and formally verified
PLATFORM	COTS PLCs and safety computers, for example from HIMA, Pilz, Schneider Electric or NEAT

Reduce lock-in. Strengthen control.

01

The owner stays in control

No vendor lock-in. Buy support on the open market.

02

Simpler safety assessment

Changes stay inside modules, behind stable interfaces.

03

Lower project risk

Step-by-step modernization. No big-bang projects.

04

Built to last

Swap obsolete parts in a controlled way, indefinitely.

An open ecosystem

Every role is chosen independently, so suppliers compete over the whole life cycle.

Hardware platform supplier

Application software supplier

System integrator

Independent safety assessor

PARTNERS IN THE INITIATIVE

Amey · Cactus Rail · JMD Railtech · NEAT · Pilz · Prover · Schneider Electric · Sibek · Universal Signalling

Improve, don’t replace.

Evolution rather than revolution.

Join the open signaling ecosystem.

Become a partner, or bring your next project.

opensignaling.org

