

TUNNELS & CIVIL WORKS

From the TBM to operation: the tunnel that communicates.

Communications, monitoring, and safety for road and rail tunnels under construction. We satisfy both the regulations and the operation. No pauses to rewire from scratch.

Contents.

- 01** Tunnels & Civil Works — context
- 02** Six layers that keep the tunnel running during construction and in operation.
- 03** Four phases so the tunnel complies and operates.
- 04** What we've deployed in tunnels.
- 05** Next step
- 06** Contact

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At SATIC we integrate the layers that critical projects rarely deliver together. Twenty years deploying technology in sectors where availability and security leave no room to improvise. No shortcuts, no subcontracting what's critical, and a single point of contact.

This catalog lays out how we approach the sector: the layers that sustain the operation, the phases of a project, and the deployments that back the proposal. If something doesn't fit your case, we adapt it.

Six layers that keep the tunnel running during construction and in operation.

The six capabilities of any critical project, fitted to the regulations and the pace of civil works.

01

Communications on an active site

TBM, crews, shift supervisor, and offices connected with voice and data. Coverage coordinated with the advance of the face.

02

Occupancy and access control

Who comes in, who goes out, in which vehicle, and under what authorization. Real-time roster for any incident.

03

Video and perimeter monitoring

IP cameras at portals, service galleries, and technical rooms. Onboard analytics and unified operation.

04

Environmental Monitoring

Air quality, ventilation, and technical variables in every bay. Integration with SCADA and with the operation.

05

Optical and radio infrastructure

Our own backbone fiber, radiating cable in the gallery, wireless connectivity where the line doesn't reach.

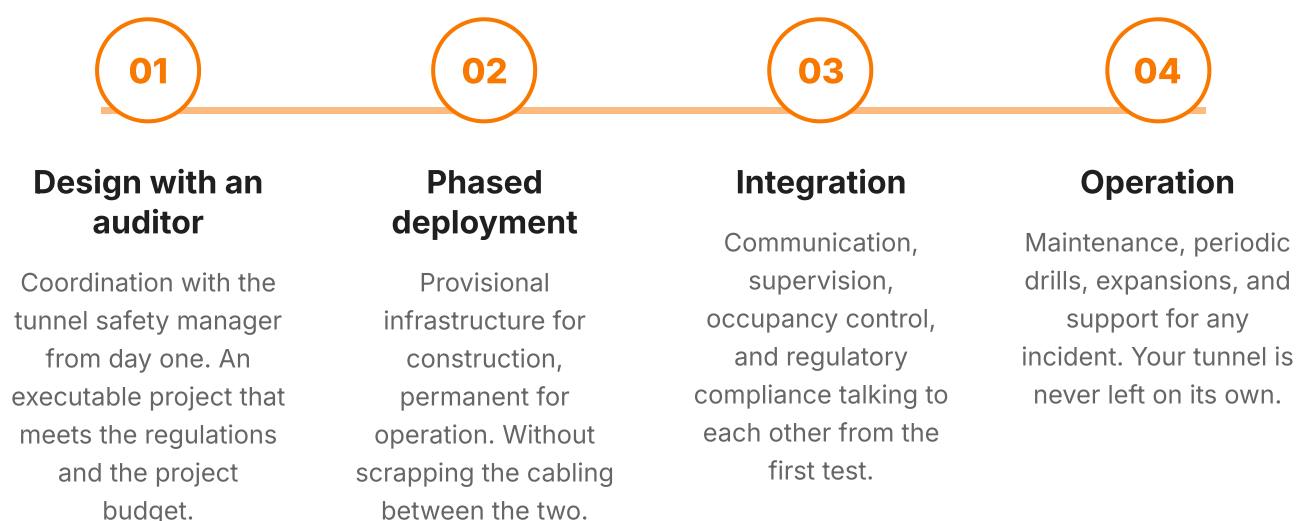
06

RD 635/2006 compliance

Communication with the control center, emergency public address, redundancy where the regulation requires.

Four phases so the tunnel complies and operates.

Designed to fit the pace of civil works and the rigor of regulatory compliance.



What we've deployed in tunnels.

Civil works, high speed, road and rail tunnels. Three contexts, the same technical demand.

01**High-speed rail lines**

Communications on an active site between the TBM, work faces, and offices. Our own backbone fiber for operational services.

02**Road tunnels**

Safety and monitoring equipment compliant with RD 635/2006. Cameras, public address, EBCI, and a 24/7 control center.

03**Rail tunnels**

Communication with signaling, video at portals, and monitoring integrated with rail operations.

05 · NEXT STEP

Does your tunnel meet what the regulations require and what your operation needs?

Tell us the length, traffic, and existing infrastructure. We'll visit and propose an architecture.

06 · CONTACT

Let's talk.

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satic.es/en/sectores/tuneles
Sector details online

Where the catalog falls short, we build it.