CLEARSY develops its expertise in designing safety systems and software. We offer scalable independent or integrated solutions that meet the highest standards. We control for this purpose B formal method tools and safety intrinsic hardware know-how. Our range of safety systems for the rail industry combines both reliability and availability.

These systems can achieve levels of safety SIL2, SIL3 or SIL4 according to your needs and they are, in all cases, turnkey.

We design custom systems based on your specific needs.
**DETECTION OF A PERSON IN A GAP**
- **Between platform doors and train**: SIL - SIL2.
- **Track safety monitoring**

**TRAIN DETECTION AND LOCATION**
- **Hyper frequency technology**: DHM barrier
- **SIL4 Axle counter and wheel sensor**

**AUTOMATIC TRAIN STOP**
- **Over speed and zone crossing**: RFS
- **In operation in PARIS, VALENCE, LYON, NICE, SMALL CORSICA**
- **Pneumatic train, streetcar, people mover and monorail**: DMP

**SAFETY DISPLAY**
- **ETCS Baseline 3**: KL-VISION
- **Programmable platform in option**

**DATA LOGGER / MONITORING**
- **High-performance rail way Operation SCADA**
- **Data Logger Master Monitoring system**

**VITAL COMPUTER**
- **CLEARSY SAFETY PLATFORM**
- To design your own SIL4 system based on this already certified computer

**SIMULATION TOOLS AND TEST BENCHES**
- Various simulators and test bench environment to validate components, on board and tracks, for ETCS baseline 2 to 3

**INTERLOCKING**
- **Based on on the shelf PLCa and vital interface relays**

**SAFE TRAIN LOCATION**
- **Based on on the track magnetic loop and a SIL4 vital on board relays**

---

**REFERENCES**

**SIL4 NO CONTACTS**

**PLAT FORM SCREEN DOORS CONTROL**
- Device to open and close platform screen doors, safety critical SIL3 or SIL4 systems
- Based on a train track system COSTYL in operation in PARIS

**CONTROLER AND SAFETY I/O NETWORK**
- Safety remote controller and Mixed SIL3, SIL2, SIL4 I/O network: SATURN

**PLATFORM DETECTION**
- **Opening and closing gap filler authorization GAP**

**T RACK SAFETY MONIT ORING**
- **Based on on the shelf**: PLCa and vital interface relays

**REFERENCES**

**CLEARSY Safety Solutions Designer**

**Object manual creation**
- Objects, properties, etc...

**Track Editor**
- **(SVG)**
  - **Import**
  - **Save, export**
  - **Graphic view**
  - **RailML**

**SAFE TRAIN LOCATION**
- **Based on on the track magnetic loop and a SIL4 vital on board relays**

**INTERLOCKING**
- **Based on on the shelf**: PLCa and vital interface relays

**VITAL APPROACH FOR CRITICAL SYSTEMS**
- **Up to x unattended train operation UTC2, UTC3, B tool and B method**
  - **System analysis, property proved**
  - **Automatic production of safety critical code**