



### OBJECTIVES

Understand the risks related to railway and guided transport and the requirements to mitigate them efficiently.

Master processes of engineering Safety Critical Systems - from the mitigation objectives to the building of the safety case – that are required to operate a rail transport system.

### TARGET AUDIENCE

Engineers and technicians with basic knowledge of railways and functional safety techniques (Preliminary Hazard Analysis, FMEA, Default Tree, etc.).

*Content can be adapted to the audience, focusing either on rapid transit or railways*

### CONTENT

#### DAY 1: Principles & Standards

- ⊙ Safety of a guided transport system
  - Principles
  - Dangerous events
  - Mitigation tools & equipment
- ⊙ Safety & management of railway circulation
  - Basic concepts
  - Risk – mitigation
  - Operation modes
- ⊙ Regulations & Standards
  - Legal references
  - Roles & documentation of the development process
  - CENELEC EN 50126, 50128 & 50129 Standards and related ones

#### DAY 2: Safety related systems

- ⊙ Control and command modules - hardware
  - Probabilistic safety and redundant architectures
  - Analysis and demonstration of safety features
- ⊙ Safety critical railway systems - software
  - Railways specifics
  - Formal languages and methods
  - Safety cases
- ⊙ Common safety method
- ⊙ Illustration provided from main lines or transit ones with particular regards to safety critical software systems

**Duration:** 2 days

**Dates & Locations:** March 30-31, 2020 + October 19-20, 2020 – Paris

**Cost:** 1395 € HT per trainee

**Registration & Information:** formation@nomadconsult.com – 04 92 94 94 27