

## Main Objective

Improve fire safety design  
of structures in Europe

### Specific Objective 1

**Survey and data collection of  
existing structures**

#### ORIGINALITY

- recently developed high-rise buildings and large-scale bridges

### Specific Objective 2

**Evaluate and design fire resilient  
connections via finite element tools**

#### ORIGINALITY

- coupling of continuum and shell elements
- weld cohesive elements
- concrete cracking material model
- advanced surface-based contact interactions

### Specific Objective 3

**Fire tests  
of composite structural frames**

#### ORIGINALITY

- thermal imaging of deformations
- fiber optic sensors in concrete deck
- high-temperature strain gauges
- evaluation of axial force distribution between the concrete deck and steel frame

### Specific Objective 4 / Outcomes

Seminars, conference presentations and  
structural engineering curriculum