

Short presentation of *ResilTech* company

ResilTech born in September 2007, with a staff of 2 people. Currently it has 10 employees plus other people working as external collaborators. The location is Pontedera, near Pisa.

The company offers consultancies and support in:

- analysis, design, verification and validation (V&V) of critical systems
- capabilities for research and technological development (RTD) in the area of resilient computing
- high-quality professional training courses in the area of resilient computing

Business Model

Main ResilTech offer from the point of view of industrial consultancy services is related to Analysis, design, verification and validation of critical systems.

ResilTech can offer leading-edge consultancy and technical support for the analysis, design, verification and validation of critical systems, covering all the involved aspects: modelling, specification, validation and verification of critical system; Specifications and Hazard Analysis of critical systems; analysis of Mean Time Between Hazardous Events (MTBHE); Failure Mode and Effect Analysis (FMEA): System FMEA (SFMEA); planning and management of Safety Cases; Verification and Validation activities planning (V&V Plan); Software Quality verification.

All the above activities are performed in accordance with the most important International standards.

We did not registered any patent; we are currently working in the development of a framework supporting V&V processes (work partially supported by R&D funded projects).

Market Positioning

Reference market of ResilTech is the dependable systems one.

Industrial sectors of interest in this market are:

- Railway transportation, automotive, naval and airplane;
- energy, gas, water, oil, etc.;
- e-services (banks, hospitals, public administrations, assurances, etc.);
- automation and control;
- Telecommunications.

ResilTech proposes to work with the following classes of customers:

- Critical systems and/or infrastructures administrator
- Designers and/or manufacturer of critical systems and/or infrastructures
- The institutional certifiers of critical systems and/or infrastructure
- European Security and Safety Agencies.

The main market in which we are currently working is the railway transportation and signalling one.

Control Structure

ResilTech is a Private (limited) Company (in italian: Società a Responsabilità Limitata), with 6 shareholders.

ResilTech founders team is composed by engineers with PhD degree in ICT with leading-edge research and development skills in resilient computing, electronic engineers with long-standing expertise in the design, V&V of critical systems and senior engineers with more than 10 years experience in project management.

Portfolio Description

1. Analysis, design, verification and validation of critical systems

ResilTech offers leading-edge consultancy and technical support for the analysis, design, verification and validation of critical systems, covering all the involved aspects: modelling, specification, validation and verification of critical system:

- Specifications, Hazard Analysis of critical systems
- Analysis of Mean Time Between Hazardous Events (MTBHE)
- Failure Mode and Effect Analysis (FMEA) and System FMEA (SFMEA)
- Planning and management of Safety Cases
- Verification and Validation activities (V&V Plan and activities)
- Software Quality verification

All the above activities are performed in accordance with the most important International standards including: ISO/IEC 9126, and ISO/IEC JTC1/SC7 IS 14598-1.

2. Research and Technological Development (RTD) in resilient computing

ResilTech has a leading-edge expertise in both basic and applied ICT research and technological development, in particular in the field of the theory and practice of resilient systems.

The expertise is mainly in three macro areas:

- Architectures and Methodologies for Resilient Systems
- Dependability and Quality of Service (QoS) Quantitative Evaluation
- V&V processes supported by automated tools

3. Professional High Education and Continuing Learning in the area of resilient computing

ResilTech offers Professional High Quality Training Courses on several topics related to Resilient Computing including:

- Safety Critical Systems and Architectures
- V&V Processes
- Fundamentals of Dependability of Computing Systems
- Quantitative Evaluation of Resilient Computing Systems

List of references

- **Activities of V&V and Safety Analysis of on-board train subsystems (Fire Detection)**
- **Verification of interoperability properties of RBC (in High-speed lines context)**
- **Feasibility study and definition of the architecture of the system of Command and Control (SIL2)**
- **Definition of a standard of C++ software quality (SIL2)**
- **ATP: static and dynamic tests**
- **Activities of V&V and Safety Analysis of railway signaling system (in high speed lines and SCMT context)**
- **Activity of Safety Assessment**

Research & Development Projects

- **AMBER, Kind of project: CE FP7 ICT (Coordination Action) [IST-216295]**
- **SILFI, Kind of project: Regione Toscana - POR CREO, Attività 1.5**
- **ALARP, Kind of project: FP7 Project, contract 234088**