

biography - Serge LEGONIDEC



Serge Le Gonidec was born in France, in 1964. He started its carrier in 1985 at the “Société Européenne de Propulsion” with a BTS CIRA (French acronym for Industrial Automatic Control).

In the support team “control, measurement and command system” on Ariane rocket engine test benches, he participated to the post-V18 return to flight.

Early in 1990, the Ariane 5 program gave him the opportunity to work on the test bench control engineering (flow control, tank pressurization, turbine speed, etc.). These new A5 test benches allowed introducing the digital control and its generalization for the engine or component tests under a high required safety.

At that time, he started the CNAM school and received the engineer certificate in 1997, with a specialization in “Industrial Control”. The topic of its memory was “System Identification in transient phases: Genetic Algorithm development and application”. In 1994, he rejoins the team of System department. Its activities are oriented modeling development and stability analysis for system developments or for the support for understanding the bad behaviors.

After 1997, he contributed to the engine design (e.g. Vinci) or evolution (e.g. Vulcain2) in introducing the Multi-variable Predicted Control. In the same time, in relation with ESA or CNES, he worked on each space engine control project. In Space Engine Division at Snecma, its activities are mainly oriented on the R&T roadmap dedicated to automatic application and the support on the engine development.

These R&T activities are focused on the preparation of the integration of the engine automatic control (system, engineering methodology, equipment, electrification, ...) and on the health monitoring system for the future launchers (reusable launchers, control and monitoring interaction / IVHM / AFTC, automatic support to the flight analysis, ...). He participated to the deployment of the first HIL test bench dedicated to the beginning of electric space engine demonstration.

During 5 years he managed the R&T project dedicated to monitoring for space engine application (7 countries) in the frame of ESA activities.

In parallel, the Snecma diversification activities brought him to work on the Fuel Cell control.

In these related thematic, he deployed the methodology for system stability analysis for the application of the anomaly investigation or for support to the design of the multi-physic systems.

Since 2008, he is referent expert « Expert Senior » on the « space systems control & monitoring » in the Safran group.

In the frame of the new company « Airbus Safran Launchers » entity, he is a member of the Audit team.

Currently, its preoccupations are concentrated on the electric and the control functions deployment on the space propulsion systems and the associated engineering system development methodology.

Up to now, he is the author of about 40 edited or in proceed filing patents.