



Company at a glance

Allovis Engineering Services is an engineering firm founded in 2015 by Ing. Paolo PETACCIA and Phd. Valerio NOVARESIO merging their previous working experiences (Paolo is a freelance consultant since 2010 while Valerio worked university research activities since 2011).

Mission

Allovis Engineering Services is focused on engineering best practices and innovation. We are focused on problem solving approach combining different solution methodology like numerical simulation, experimental testing, standards scouting, software development and so on. The main goal of the firm is the customer satisfaction and consultancy is provided in comprehensive way. Our customers consider us as trusted plus value partner for their R&D projects as we are not a "body rental" consultancy company.

Main customers

Allovis Engineering Services are specialized on following industrial sectors (customer):

- Design, simulation, testing and software development of HVAC systems for railway application;
- Design, simulation, testing and software development of production lines;
- Design, simulation and testing of complex energy devices and systems (Polytechnic of Turin);

According to our policy we usually collaborate only with one single customer for each industrial sector, in order maximize the feeling with our customer.

Main projects

During last years Allovis Engineering Services and its associates worked on following main project:

- Refrigerant gas concentration test in according to SAE 2772:2011;
- Methodology development of reliability evaluation of solder joints using explicit non-linear FEM code;
- Preliminary summer clima-comfort test (like UNI EN 14750 TL1) of Metro Honolulu (Hawaii) MLA vehicle;
- Development of multi-body software for specific production unit;
- Summer UNI EN 14750 TL1 passenger compartment's pretest for DB Regio 633 train in Pesa (Poland);
- Development of fluid network simulation software;
- Aerial parts characterization using massive CFD analysis;
- Experimental characterization of production lines' air consuming using dedicated air flow meter designed and provided by Allovis;
- Non-linear FEM analysis of pods' mould;
- Multi body and FEM analysis of turn & repitch unit for production lines;
- CFD development, prototype design and technical support for commissioning of new female care forming module;
- Development, prototype manufacturing and onboard test on new support for external temperature probes for regional train ATR220;
- Commissioning and testing of HVAC cabin unit for Vossloh 3000 UK loco in Valentia, Spain;
- Development and supply of testing equipment for climate-comfort application based on National Instruments technology;
- CAE analysis of fuel-cell devices;
- MB, FEM and fatigue analysis on rope planetary machine;
- Commissioning and official UNI EN 14750/14813 – TL1 winter test of HVAC system for Metro Genova, Italy;
- Support to official UNI EN 14750/14813 – TL1 winter test of HVAC system for Metro Copenhagen, Denmark;



- Support to official UNI EN 14750/14813 – TL1 summer and winter test of HVAC system for Pesa DB Regio project on RTA;
- CFD analysis and R&D general support for HVAC system development for Pesa DB region project.

Hardware and software for CAE activities

- Ansys® suite, OpenFOAM® for CFD analysis;
- Femap® with NX Nastran for FEM analysis;
- Recurdyn®, mbDyn® for multi bodies analysis;
- National Instruments development suite for instrument and development;
- Sandia DAKOTA® for optimization;
- Calculix® for nonlinear explicit analysis;
- SolidWorks® 3D CAD;
- In house developed tool for general design and optimization base on MS platform and Linux;

Instruments for testing activities

- National Instruments based device
 - Up to 60 temperature probes 1/10DIN;
 - Relative humidity probes;
 - Pressure probes for blower and railway cabin pressurization.
- Testo and Omega instruments
 - Velocity, airflow and turbulence probes;
 - Differential and absolute pressure probe;
 - Relative humidity and air temperature probe;
 - Temperature PT100 probe (reference probe);
 - Class 1 sound meter with FFT;
- Refrigerant gas concentration test instruments (according to SAE 2772)
 - several R1234yf gas concentration probes with different range;
 - mass flow controller;
 - piping and leak detector;
 - Articulated mannequins.
- Other
 - Oven for internal temperature probes calibration;
 - Latent and sensible electrical loads for railway cabin and compartment for EN 14813 and EN 14750 TL1 summer test (300 passenger, about 54kw);
 - Logistic device for shipping.

Certifications

ISO 9001:2015

The **Allovis Equipments s.a.s.** it is linked to the associated engineering study and has the task of providing complementary and high value-added goods and services related to the Allovis Engineering intellectual activities. It is specialized in:

- Supply of acquisition systems and related software;
- Measuring equipment rental;
- Turnkey systems design and assembly.

Visit us on www.allovis.com

