# Technical visits programmed Friday 13, morning.

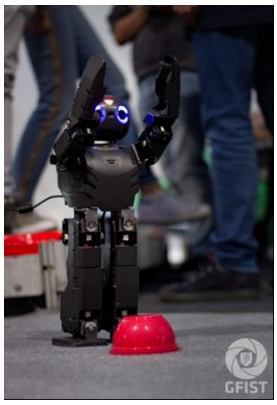
**Pre-registration online is obligatory.**

**Roundtrip bus transfer from Estoril Congress. Pick-up at 9:30 am**

PORTUGAL SPACE *These visits have been organized thanks to the support of our Sponsor The Portuguese Space Agency*

## Technical Visit #1: ISR – Institute for Systems and Robotics

*Maximum number of participants = 30*
*Duration of the visit = 1h*

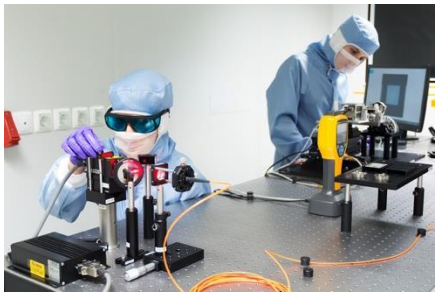



Instituto de Sistemas e Robótica | LISBOA

ISR-Lisboa is a Research, Development and Innovation (RD&I) focused Institution, affiliated with Instituto Superior Técnico (IST), in the fields of Robotic Systems and Information Processing. Focusing on three-fold activities - Research, Advanced Training and Outreach - dozens of researchers have concluded their Masters or Doctorate degree at ISR-Lisboa, since its foundation in 1992. With five different research groups it encompasses a holistic view of complex systems control and coordination, following approaches that fuse systems, control, and decision theories with AI; research in the field of evolutionary systems and biomedical engineering; dynamical systems theory and cooperative aerial & marine robots; computer and robot vision and large-scale signal processing. While visiting ISR-Lisboa, participants will be guided thorough a multidisciplinary preview of all these activities, including demos with working robots, for an overview of this field.

## Technical Visit #2: Lusospace

*Maximum number of participants = 12*
*Duration of the visit = 1h30*



Active in the Space sector since 2002, Lusospace is a high-tech engineering company working on highly critical systems. Their multidisciplinary engineering teams design, develop, integrate, and test the most advanced and innovative technologies and components. With magnetometers integrated in several missions, Lusospace is also developing an augmented reality tool that allows any user to include procedures and 3D models for increasing the efficiency, reliability and traceability of the AIT of systems.

## Technical Visit #3: ESTHER – European Shock-Tube for High Enthalpy Research

*Maximum number of participants = 40*
*Duration of the visit = 1h*

ESTHER is a research facility hosted in the premises of IPFN, inaugurated on the 24th of July 2019.
The ESTHER is a double-diaphragm combustion shock tube that will research high-speed shock flows, capable of reaching shock speeds above 10 km/s, and a large number of shots per day. This high-performance test facility, unparalleled in the EU, can reproduce the conditions of a spacecraft's entry into a planetary atmosphere at the ground level. This capability is crucial to support the design of the thermal protection system, which is essential for future planetary missions (simulating entries into the atmosphere of Venus, Mars and other planets) and for return missions to Earth.
The facility includes an extensive array of state-of-the-art optical diagnostics, including optical emission and absorption spectroscopy, laser spectroscopy, microwave interferometry and a small computing cluster.

## Technical Visit #4: ISQ

*Maximum number of participants = tbd*
*Duration of the visit = tdb*

The ISQ group is a private Portuguese entity, established in 1965, with permanent operations in 11 countries. ISQ is present in several markets including, since 2003, aerospace. ISQ has a testing facility and provides engineering services to clients such as Safran, Thales Alenia Space, Embraer, Lusospace, Omnidea, Tekever, the European Space Agency and through the GIE ESQS, also CNES and ArianeGroup. ISQ is aiming at provision of services all along the aerospace supply chain, from Research & Development and testing up to TRL6 of launchers and payloads; operations and engineering activities at the European Spaceport with a permanent team for more than ten years; development of B2B Earth Observation services.