

COLLABORATION AGREEMENT

BETWEEN

Sardinia AeroSpace District – DASS Scarl

and

National Academy of Sciences of Belarus

The Sardinia AeroSpace District (DASS Scarl) and the National Academy of Sciences of Belarus (hereinafter jointly referred to as “the Parties”)

WHEREAS

- the aerospace industrial sector, in all its productive and commercial joints, constitutes a priority area for both Republic of Belarus and Autonomous of Region Sardinia;
- the aerospace sector represents a real opportunity for developing industry and research system in Belarus and Sardinia territories;

The Parties intends to promote and support an effective cooperation aimed at implementing investment projects in research and development in the aerospace field.

Object of the agreement

The scope of this Agreement is cooperation between the Parties in the field of aerospace technologies in accordance with their Statute and laws of the Republic of Belarus and the Italian Republic.

The Parties specially plan to collaborate in the following fields:

- Simulation, design and optimization of novel technologies for deep space exploration in the framework of the NASA paradigms ISRU (In Situ Resources Utilization) and ISFR (In Situ Fabrication and Repair);
- Management for space applications;

- Estimation of atmospheric water vapor content from GNSS (Global Navigation Satellite Systems) observations;
- Reliability of photonic devices;
- Satellite systems for smart cities;
- Effect of cosmic rays on the human immunological defence system;
- Space law;
- Polymeric materials;
- Regulation of mycotoxins biosynthetic pathways under microgravity conditions;
- Simulation of chemical-hydrodynamic processes under microgravity conditions;
- Thin ceramic protective layers for high temperature applications;
- Aerial Survey (e.g. photogrammetry, environmental monitoring, inspection of infrastructures and other sites) with Remotely Piloted Aircrafts;
- Integration, management and distribution of geographical data using GIS web based software;
- Analysis of revolutionary air and space craft, capable of moving autonomously and at speeds eight times greater than traditional airliners;
- Availability of Aerospace Structures Impact Lab (LISA);
- Design and build advanced electronic systems for defense and civil applications;
- Manufacturing of UHTC (Ultra High Temperature Ceramic) materials using a combination of SHS (Selfpropagating High-temperature Synthesis), BM (Ball Milling) and SPS (Spark Plasma Sintering) technologies;
- Direct CFD, where CAD models go directly to CFD without time-consuming meshing or tedious manual set-up;
- Manufacturing of HYDRA, an unmanned surface vessel;
- GIS platforms;
- Design and implementation of remote sensing missions through the use of unmanned aerial systems, choice of suitable sensors and data analysis optimization;
- Supplier of photonic materials manufacturing and supplying synthetic optical and laser crystals such as rare-earth doped YAG, Alexandrite, mixed garnets, scintillators like LuYAP, medical LDs, solid-state laser rods and optical components (lenses, windows, cavity-mirrors, Samarium filters, flow tubes, and cavities), and ophthalmic optics;
- Design and manufacturing of measurement systems based on optoelectronic technologies;
- Design and development of software for data capture related to the Sardinian Radio Telescope;
- Design, build and operate ground segments, launch bases and teleports while ensuring the highest standards of quality, safety and reliability thanks to superb integrated logistics support;
- Develop satellite communication networks and advanced dual space-based applications, such as localisation and navigation, earth observation, monitoring of the territory, meteorological services, search and rescue;
- Development of infotelematic platforms designed for speed, efficiency, and security in one mode of transport and in an intermodal scenario include the Intelligent Transport Information System;




- Provide telecommunications' support services, such as EM coverage and interference studies, design, installation and integration of radio links, wireless systems, satellite systems, and fibre optic and copper networks.

Terms of the agreement

This Agreement in itself does not impose any financial obligation on the Parties.

All Information provided by the Parties is deemed to be CONFIDENTIAL INFORMATION unless the disclosing Party explicitly declares otherwise.

To achieve the aims of the present Agreement, the Parties declare themselves available for regular meetings in order to check the status of their collaboration, the initiatives undertaken and in progress and possible areas for further collaboration.

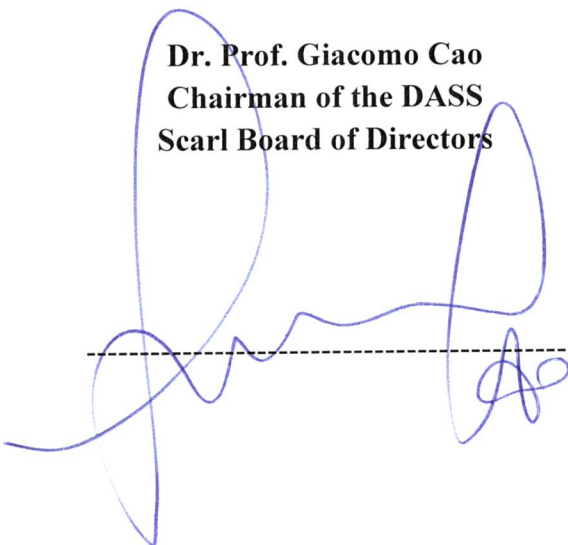
This Protocol is valid for the period of two years from the moment of its signing.

The Parties reserve the right, during the validity period, to modify, integrate or extend the application time in the same way as for signing.

Cagliari, 6 October 2016

**For Distretto Aerospaziale della Sardegna
(DASSScarl)**

**Dr. Prof. Giacomo Cao
Chairman of the DASS
Scarl Board of Directors**



For the National Academy of Sciences of Belarus

**Prof. Alexander V. Kilchevsky
Chief Scientific Secretary
of NASB Presidium**

