

ITALIAN SPACE INDUSTRY

Products - Services - Applications - Technologies
Edition 2021-2022

Italian Space Industry

This directory collects the company profiles of Italian enterprises operating in the Space Sector, with their products, services, applications and technologies. The initiative is jointly edited by ASI and ITA - Italian Trade Agency, in collaboration with the National Industrial Associations AIAD, AIPAS, and ASAS. The information in this publication is provided directly by the companies under their responsibility. This initiative complements the Italian Space Industry Online Catalogue available online @ <https://italianspaceindustry.it/> as well as the ASI tool D.V. (Distretto Virtuale web 2.0 interactive portal).

Digmat

Company profile

Digmat is an Innovative SME, founded in the year 2001 in Matera. The transformation, in 2018, into a public limited company has allowed a greater expansion and led to more prestige. Innovation and research are fundamental elements of the company, our skills focus on several areas of ICT: Software Engineering, IoT, Virtual and Augmented Reality, Cloud Services, Downstream Services, Precision Farming and Industry 4.0.

Our highly specialized team provides customers with scientific methods, practical experience and communication with research centers. Managing the company: Donvito Angelo - Chairman and Manager of SW Dev and R&D, Acito Andrea - Managing Director and Head of IT, Pentasuglia Giuseppe - Director and Manager of the Quality Management System. Two business units: Software Development and Research & Development and IT Services and Consulting. The first develops Software for SMEs, large companies, public bodies and research institutes. The research laboratory has knowledge, expertise, professionalism and equipment to study and develop SW systems oriented to the management of geo-located data for indoor and outdoor environmental monitoring. Digmat is partner with TIM, Fastweb and Huawei in the MISE call for 5G technologies, on experimentation activities in the Matera/Bari area (Smart Building, agriculture/environment, Tourism). Digmat, cooperated with Ericsson, Fastweb and CNR-IBAM on the project #Roma5G at Diocletian Baths, consisting of high-speed connection networks that offer powerful new solutions to virtual reality and augmented reality.

Within the field of Aerospace, Digmat has developed technological and know-how skills thanks to the numerous research projects carried out. These collaborations have also been formalized through participation in networks such as operational consortia in the field of Earth Observation and Environmental Monitoring: TeRN (recognised by the Basilicata Region and the Ministry of Scientific Research as the Basilicata Technology District for Environmental Monitoring and Earth Observation), Createc and IRIS (with Digmat being one of the founding members), EXO, CETMA. Digmat is involved as partner of Telespazio in the SPACE-ECONOMY-Mirror GovSatCom Program and in several research projects in Precision Farming, recently including also the UAE (agriculture and food security).

Products | Services | Applications | Technologies

Matera Space Center is dedicated to Earth observation activities and also provides operational services for the Space Geodesy Centre. Digmat developed the ASMC (Antenna Station Monitoring and Control) supplying the following features:

Monitoring of the acquisition devices, aimed at the acquisition and display of status and parameters of the antenna system components;

Control of the components of the antenna systems, in order to set the various components with the parameters necessary to allow the acquisition of satellite data, according to the acquisition schedules;

Resource Conflict Manager, to analyze and solve conflicts in the use of resources

Monitor & Control system for Supervision and Remote Control of the CSG Ground Segment functional plants located at the Matera Space Centre. The system includes hardware and software components to manage: the air conditioning system; the UPS power generation system No-Break; CEDE air conditioning system.

ACQ: Digmat is involved in the COSMO-SkyMed (CSK/CSG) space project together with Telespazio and TASI in the analysis, design and development of Ground Segment, and image processing on satellite data and its applications.

Digmat developed the ScansAR data processor and the CCSDS payload data formatter. It worked with Thales Alenia Space on the KOMPSAT 5 project and has developed the geocoding and orthorectification processor for all SAR data and the validation system.

CUT-3G: Development of a multi-mission system that allows provisioning of remote sensed data for commercial users.

General objectives:

- Provide services to organizations: Allow them to access the multi-mission catalogues and service requests, Provide image products in the requested timelines, Manage user profiles;
- Define and elaborate requests for new acquisitions: multi-mission feasibility analysis, conflict management (within CUT-3G), programming request lists compilation for all missions;
- Receive payload data from satellites of managed missions constellation and process auxiliary data necessary for data processing and image geo-location;
- Perform production management in terms of generation of image products,
- Catalogue and archive products and raw data,



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- Distribute products;

The system will remotely manage multiple acquisition stations and processing stations allowing organizations to share resources in order to optimize products supply times.

eMAGE is the e-GEOS distributed framework for data analysis and processing. Currently used in e-GEOS for operational services dedicated to SAR and Optical data management, viewing and processing. Digimat is currently developing a new version of eMAGE server from scratch, featuring many enhancements including authentication, subtask execution, frontend/backend modules, enhanced logging.

Research and development projects to create innovative services based on interoperable downstream services and use of Earth Observation technologies (both satellite and on-site sensors).

The Web-GIS for precision agriculture provides two operating management services of variable rates fertilization and management of irrigation resources. Both products allow to monitor vegetation health and

plan appropriate variable irrigation and fertilization rates. Objective: optimize the use of water resources and to reduce the environmental impact of nitrogen fertilization improving the yield;

SPOT is a web-based platform for land safety and energy sustainability. SPOT displays products from sensors platform data and satellite imagery. The platform provides services for the monitoring of thermal anomalies (fire risk), wind maps and wind forecasting (for the design and management of wind farms); infrastructure control.

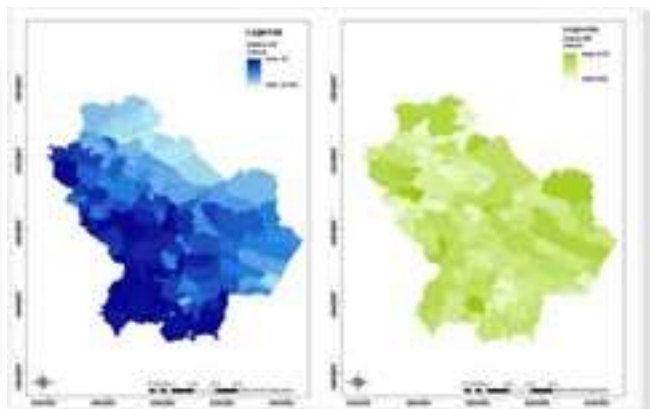
Monitoring and security for the Colosseum's Archaeological Park Area.

Space to Tree S23 (in progress). Digimat with CNR-ISPC and CNR-IMAA, ESA ESTEC call: IARTES Integrated Application Promotion (IAP) Programme: applications integrating space asset and 5G networks. Aim of the project: monitor the health of trees in public parks of historical and cultural interest. Monitoring system based on a multiscale and multisensor data analysis. Images from remote sensing (UAV and satellite platforms) and data from proximal

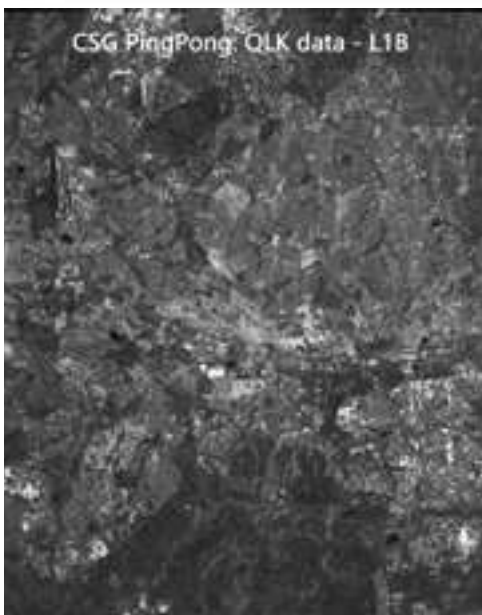
sensing (in situ sensors network) will be acquired and stored. Dedicated IoT platform: storage layer, service layer and application layer will be displayed in the web-gis. Main product: alert map highlighting trees at falling risk, consultable by park operators.

I-FASENET (in progress). MISE Call SPACE-ECONOMY, Mirror GovSatCom. Digimat will develop a hybrid sw infrastructure, operating in crisis situations on the territory, such as those arising from environmental disaster (eg earthquakes, landslides, floods etc..) it provides services through integrated technologies that make use of IoT networks, 5G, and satellite telecommunication systems. The project is in a pre-startup phase.

Colosseum Archaeological Park Monitoring



CSG PingPong: QLK data - L1B



CSK ScanSAR: QLK data - Level 1B

