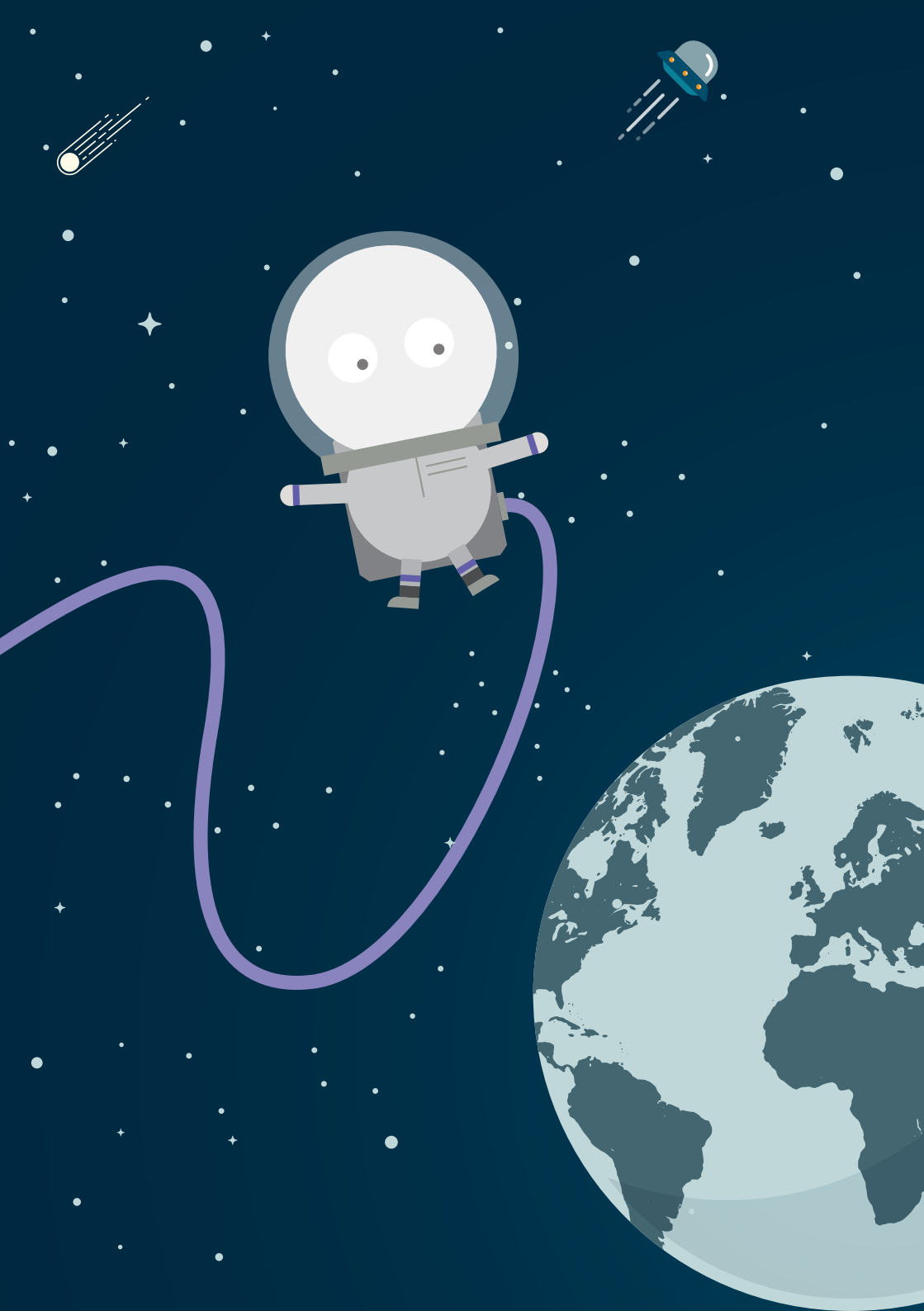


THE PORTUGUESE SPACE DOWNSTREAM ECOSYSTEM 2024 EDITION

ESA SPACE SOLUTIONS CENTRE
ENABLES PORTUGUESE COMPANIES
TO RECEIVE COMPREHENSIVE
BUSINESS, TECHNICAL AND
FINANCIAL SUPPORT TO SET UP,
AND BOOST THEIR BUSINESSES
USING SPACE TECHNOLOGY.



ESA SPACE SOLUTIONS CENTRE PORTUGAL

As we celebrate our 10th anniversary, it is time to look back and understand how the last decade has changed the way we look to the space sector.

2024 has been as a pivotal year, marked by the launch of Ariane 6, as Europe created a launcher competitive enough to face large private operators and it starts a new era as it brings new possibilities for research and technological development. This launch is the culmination of more than a decade of work, which involved 13 ESA member states and more than 600 companies from across Europe, with Portuguese contribution: Critical Software developed telemetry software and Evoleo was responsible for developing the power distribution and control unit and the video telemetry kit. Furthermore, Thales-Edisoft Portugal, which operates at the Santa Maria teleport in the Azores, contributed to establishing communications in one of the critical phases of the launch. In September, the Atlantic Spaceport Consortium (ASC) successfully accomplished the first launch of an atmospheric rocket from Santa Maria Island. This launch constitutes a significant milestone in the establishment of a commercially open spaceport in Portugal, and showcases the cluster of companies has gradually developed that can compete at a global scale. Names such as Active Space Technologies, Critical Software, Neurspace FHP, Geosat, LusoSpace or ISQ, are now full-fledged players in this market.

ESA Space Solutions Portugal fosters the adoption of space technology. As startups are at the heart of innovation, we open possibilities to exploiting space know-how, facilitating and inspiring its use in new applications and sharing this knowledge. We bring 'space back down to Earth', for the most diverse applications: from health to transport, sport or entertainment, and many more areas of our daily lives. At the heart of this is an agile and specialist transfer and incubation network, connecting and enabling businesses and entrepreneurs across Europe. Instituto Pedro Nunes (IPN) coordinates ESA Space Solutions, combining several ESA programmes to foster downstream technology transfer and business creation:

- Business Incubation Centre
- ESA Technology Broker
- ESA BA Ambassador Platform

ESA Business Incubation Centre in Portugal is supported by ESA, Portugal Space – Agência Espacial Portuguesa, ANACOM and Portugal Ventures. After 10 years we are proud to share the results of each programme, showcasing the synergies of their joint implementation.

JORGE PIMENTA

ESA Space Solutions Portugal Coordinator

BUSINESS INCUBATION CENTRE

29 BUSINESS INCUBATION CENTRES IN EUROPE MORE THAN 1.500 STARTUPS SUPPORTED

We support startups to implement their space-based innovative business ideas, from downstream to new space, with:

- A 2-year incubation programme
- Technical support from leading experts
- Networking access to your market
- Business coaching & workshops
- Fundraising guidance & opportunities
- €50.000 funding for product prototyping (opt A)
- Up to €125 K extended loan (opt B)*

Over the past nine years, ESA BIC Portugal has supported 58 startups using space technology to create new products and services.

In 2022 these startups generated a total revenue of around 4,3 million euros and an export rate of 49%.

More than 150 new jobs have been created by these companies, which highlights their impact in the Portuguese ecosystem.

space.ipn.pt

*With Portugal Ventures Partnership

2014 – 2024

Start-ups

62



Turnover (2023)

6.4

% of Exports (2023)

54%



Investment

> €3 M

ESA BUSINESS APPLICATIONS AMBASSADOR

7 AMBASSADORS IN 7 EUROPEAN COUNTRIES

The vision of ESA Business Applications is to improve the lives of people on earth via space. We make this possible by enabling and supporting businesses in the short-term commercialization and application of space data and technology for everyday services. As Ambassadors, IPN is the first point of contact in Portugal to multiply and reinforce positive messages about space, bridging between ESA, other member states and our industry.

Our activities include:

1. The non-space industries, actively engaging with communities in line with our national strategy;
2. Providing support to companies, from the initial stages of awareness to the different types of funding opportunities inside of ESA's Advanced Research in Telecommunications Systems (ARTES 4.0) programme; this support includes: providing information and advice, matching with potential partners (consortia building), validating business cases and supporting companies in the application process;
3. Organizing and participating in non-space events, (re)distributing social media messages, and informing companies on how ESA's Directorate of Telecommunications and Integrated Applications (TIA) can support industry;
4. Implementing ESA Spark Funding at national level, namely the Spark 4 Business calls, to stimulate the submission of realistic ideas for innovative uses of space services and technologies (Satellite Communication, Satellite Navigation, Earth Observation and Space technologies) within non-space markets, such as transport, energy, maritime, environment, health, among others.

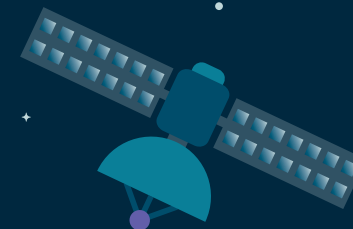
2014 – 2024

Small Business Applications Projects

33

Investment

€807.5 K



We enable and support businesses in the commercial application of space data & technology for everyday services!

space.ipn.pt/esa/baambassador-platform

ESA BROKERS

7 TECHNOLOGY BROKERS IN 7 EUROPEAN COUNTRIES

As ESA Technology Brokers we fuel industry's innovation and competitive growth, by fostering the transfer of space technology to non-space sectors. Our objectives are, on one hand, to solve industrial challenges using innovative and advanced space technology and, on the other hand, to support innovative companies to bring their terrestrial innovations into the space domain. IPN has been ESA's Technology Broker in Portugal since 2015, and offers a set of services to space and non-space companies, academic and research organizations.

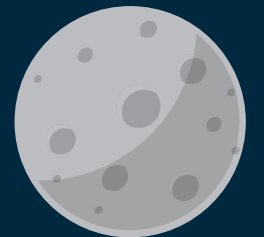
Our activities include:

1. Addressing innovation challenges and technology requests from the non-space-sectors;
2. Brokering introductions and facilitations with potential collaborators and clients;
3. Fostering commercial projects between non-space industry and space solutions providers and helping them succeed;
4. Implementing ESA Spark Funding at national level, namely the Spark 4 Tech calls, to promote the use of space technologies from ESA Member States and Associated States within non-space applications; Spark 4 Tech, available to the Portuguese industry, aims at funding technology transfer proof-of-concepts to prove the relevance of a technology/know-how for another technology field, reducing the technical risk and confirming the market opportunity.

2015 – 2024

SPARK4tech Projects

3



We aim at innovative technology transfer from space down to earth!

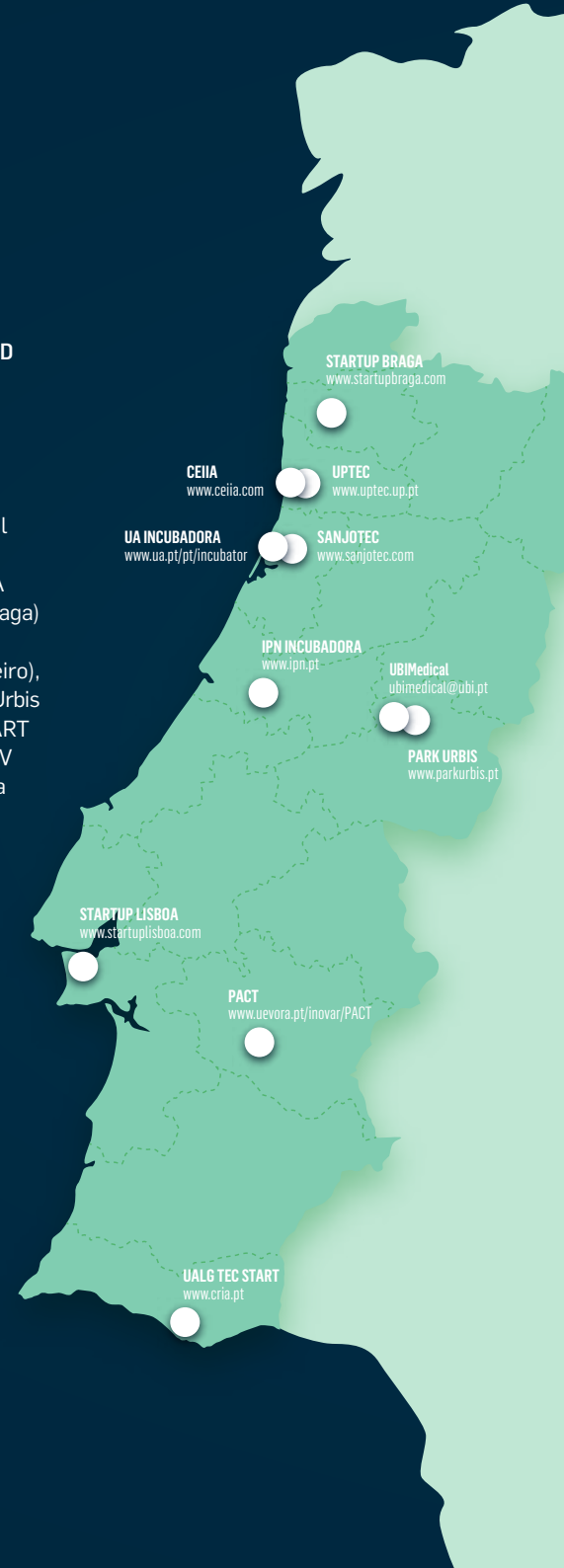
space.ipn.pt/esa/esatechnology-broker

ESA BUSINESS INCUBATION CENTRE

29 BUSINESS INCUBATION CENTRES IN EUROPE
MORE THAN 1.500 STARTUPS SUPPORTED

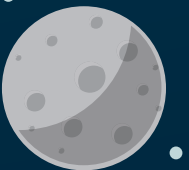
Startups incubated at ESA BIC Portugal can choose location from a wide network of incubators. ESA BIC Portugal is now comprised of 15 partner organizations, expanding its presence across all national territory, namely:
IPN Incubadora (Coimbra), UPTEC e CEiiA (Porto and Matosinhos), Startup Braga (Braga) Startup Lisboa (Lisboa), SANJOTEC (São João da Madeira), UA Incubator (Aveiro), Startup Madeira (Funchal, Madeira); PARKUrbis and UBIMedical (Covilhã); UALG TEC START (Faro); PACT (Évora), NONAGON, TERINOV and Incuba+ (S. Miguel, Santa Maria e Ilha Terceira, Açores).

space.ipn.pt/esa/esabusiness-incubation-centre



ESA BIC PORTUGAL

ALUMNI



ACTIVE AEROGELS

2015-2017

Produces and commercializes aerogels for space and non-space applications.

FOR

Pipeline insulation, aeronautics, building & construction; wastewater treatment.

ADVANTAGES

Low density, low thermal conductivity, hydrophobicity, flexibility and suitability for temperatures from -250°C to 350°C; may be supplied in blocks, blankets, foam or powder.

SPACE CONNECTION

Silica-based aerogel has been tested in several space systems and can be used in landers, rovers, launchers, cryogenic tanks, entry/re-entry capsules.

Filipe Castanheira

Parque Industrial de Taveiro, Lt. 8
3045-508 Coimbra | Portugal
www.activeaerogels.com
filipe.castanheira@activespacetech.com

AIRBORNE PROJECTS

2015-2017

Develops and integrates a system that automatically lands and docks a drone in a platform to perform battery switching.

FOR

Drone manufacturing companies; existing drone user companies to provide services (namely for precision agriculture).

ADVANTAGES

Drone battery switch which creates conditions to increase endurance and range of drone flights.

SPACE CONNECTION

Real Time Kinematics (RTK) relying on augmented GNSS.

Paulo Neves | Pedro Alves
IPN, Rua Pedro Nunes
3030-199 Coimbra | Portugal
T+351 918 585 450
www.airborneprojects.com
info@airborneprojects.com

**BLUECOVER**

2016-2018

Specialized in geo-location services, with focus on Space products exploitation for the global market: TRUESHOT, GPS WAYPOINTS and SWAIR. Commercializes the auto-tracking wristband and IT consultancy services.

FOR

IT, Sports, Aerospace, Surveying.

ADVANTAGES

Auto-tracking differentiation supported by automation, accuracy and autonomy: recognizes all golf swings, capture sensor data at very high sampling rates, improve location accuracy and optimize battery life for golfing.

SPACE CONNECTION

TRUESHOT wristband for golf sector uses GNSS processing techniques for acquiring golf shots details at the driving range and the golf course.

Nuno Duro dos Santos

DNA Cascais, Cruz de Popa
2645-449 Cascais | Portugal
T+351 932 526 378
www.bluecover.pt
info@bluecover.pt

BOLD ROBOTICS

2019-2021

Terrain mapping and advising on the best practices for biomass management. At latter stages, robotic vegetation cutting and collecting tasks making use of autonomous AGV's.

FOR

Landowners worldwide.

ADVANTAGES

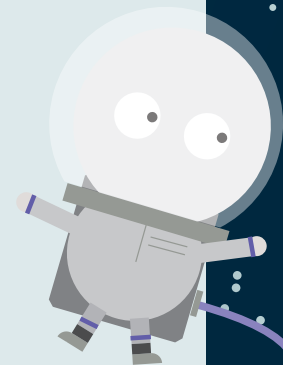
Sustainable biomass management for local legislation compliance, reduced fire risk exposure and increased profit from leftovers.

SPACE CONNECTION

Satellite imagery and data.

Carlos Viegas

IPN, Rua Pedro Nunes
3030-199 Coimbra | Portugal
T+351 916 293 241
boldrobotics.pt
info@boldrobotics.pt



CITYOO

2019-2020

SaaS that will allow monitoring, in near real-time, city environment evolution and its constructions without compromising a sustainable development of the territory.

FOR

Public entities, regulators, smart cities

ADVANTAGES

More assertive inspection and prevention actions, inspection resources optimization, decrease project's approval time

SPACE CONNECTION

Earth Observation, through Copernicus Sentinel 1 and 2

Rita Januário

IPN, Rua Pedro Nunes
3030-199 Coimbra | Portugal
T+351 934 567 850
www.cityoo.tech
mail@cityoo.tech

COASTAL-E SOLUTIONS

2017-2022

By combining concept design and in-house developed low-cost instrumentation, Coastal-e Solutions provides high-quality and fast access to reliable and relevant metocean information processes for different sectors of the blue economy.

FOR

The solutions are built on the specific needs of each customer for both daily operations (nowcasting) and coastal management/engineering projects.

ADVANTAGES

Low-cost and tailor-made real-time monitoring systems. By combining our design, based on the-shelf hardware and the latest IoT Technologies, with the development of innovative measuring systems we can reduce the costs of the implementation of instruments.

SPACE CONNECTION

Downstream type with the use of satellites as a tool for in-situ measurements, communication and data transmission, geo-location and earth observation.

Theo Moura | Ana Gonçalves

Rua da Prata 80
1100-420 Lisboa | Portugal
T+351 910 432 582
coastal-e.pt
contato@coastal-e.pt

CONNECT ROBOTICS

2016-2018

Drone delivery service with fully autonomous drones & UTM system.

FOR

Medicines distribution from pharmacies & between hospitals, medical samples from hospitals for clinical laboratories.

ADVANTAGES

3x faster deliveries at 50% of the cost.

SPACE CONNECTION

Use of Galileo GNSS to augment precision and reliability in navigation and landing.

Raphael Stanzani | Eduardo Mendes

UPTEC, Rua Alfredo Allen 455/461
4200-135 Porto | Portugal
T+351 22 030 1500
www.connect-robotics.com
contact@connect-robotics.com

COSMOS PICS

2019-2022

Cosmos Pics analyse satellite images to help you see the invisible and monitor infrastructure remotely. When satellite technology seems too complicated, we break it down and teach it in short educational videos.

ADVANTAGES

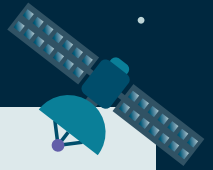
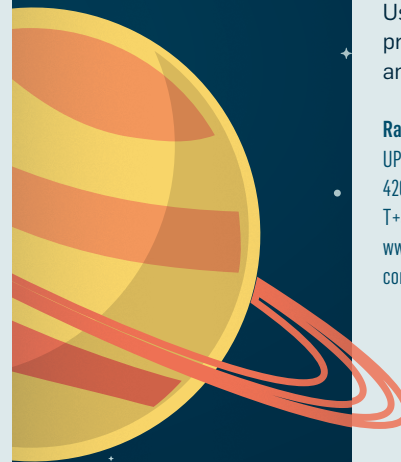
Global scalability.
Zero hardware.
Online platform.

SPACE CONNECTION

Satellite images. Copernicus and private data.

Katia Stambolieva

www.cosmos.pics
katia@cosmos.pics



CYBELE

2019-2021

Quick access to environmental crime and damage reports for law enforcement.

FOR

Law enforcement agencies, law firms, insurance companies, NGOs.

ADVANTAGES

Reports on crucial evidences of infringement in environmental crimes/damages. To improve the legal predictability of environmental cases and strengthen the client's environmental claims.

SPACE CONNECTION

Satellite imagery, notably Sentinel data.

Robin Bouvier

DNA Cascais, Cruz de Popa
2645-449 Cascais | Portugal
robin.bouvier@cybele.space

DALMA

2019-2020

Development and commercialization of an outdoor stock mapping robot which allows companies to map, scan and monitor outdoor stockpiling areas without human intervention.

FOR

Manufacturing industry; large warehouse operations.

ADVANTAGES

Time optimization in stock retrieval, resulting from real-time continuous stock mapping.

SPACE CONNECTION

GNSS-assisted localization for better outdoor autonomous navigation.

Liliana Baptista

IPN, Rua Pedro Nunes
3030-199 Coimbra | Portugal
T+351 239 191 271
www.dalmarobotics.com
info@dalmasys.com

DELOX

2018-2020

Bio-decontamination system for everyone, everywhere. It can be used to decontaminate whole robotic spacecrafts, or on Earth to provide a biosafe environment.

FOR

Planetary protection, environmental biosafety, deep space human missions.

ADVANTAGES

Lower costs; enables bio-decontamination in space.

SPACE CONNECTION

Bio-decontamination machines for room/facility decontamination that can be used either in space to decontaminate whole robotic spacecraft, or on Earth by companies that manufacture and assemble components to be sent to space.

Fahil Musa | Fernando Antunes

DNA Cascais, Cruz de Popa
2645-449 Cascais | Portugal
T+351 916 332 822
www.delox.pt
info@delox.pt

D-ORBIT PORTUGAL

2015-2017

Collect and sell GNSS radio occultation data, through the use of low cost cubesat platforms.

FOR

Weather forecasting, agriculture and transportation.

ADVANTAGES

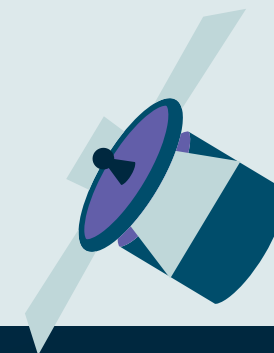
GNSS radio occultation data can significantly improve the accuracy and precision of ground weather predictions.

SPACE CONNECTION

Satellite decommissioning technology and know-how on nanosatellites production and nanotrusters.

Bruno Carvalho

Polo Tecnológico de Lisboa - Sala 2.07B
Rua Antonio Champalimaud, Lt 1,
1600-514 Lisboa | Portugal
T+351 913 779 471
www.dorbit.space
info.pt@deorbitaldevices.com



ENARTIN

2020-2022

Development of smart and autonomous equipment for the agricultural industry.

FOR

Democratization of robotics for small and medium agricultural producers. The use of the developed equipment is aimed at reducing operating costs and reducing chemical products used in agricultural businesses.

ADVANTAGES

Less dependence on human labor, less environmental degradation, healthier agrifood products. Higher efficiency of resources and lower operating costs.

SPACE CONNECTION

The space connection for ESA-BIC application is the connection with the Galileo GNSS. Features using Copernicus data are on the roadmap.

João Correia

UPTEC, Rua Alfredo Allen 455/461
4200-135 Porto | Portugal
T+351 221 155 335
enartin.com
info@enartin.com

EPTUNE ENGINEERING

2020-2022

Eptune Engineering is developing an innovative system, to allow the wind turbine blade repair in harsh meteorological conditions.

FOR

Energy, Environment, Industrial maintenance.

ADVANTAGES

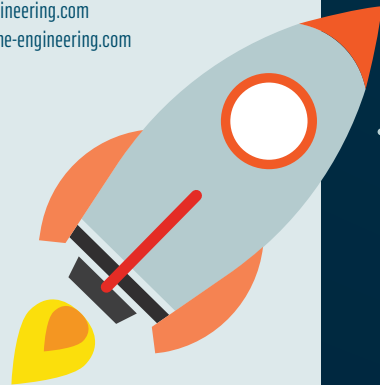
Increase two-fold the maintenance season duration, increase turbine availability while reducing maintenance costs.

SPACE CONNECTION

Inflatable structures technology transfer

João Pedro Loureiro

UPTEC Mar, Sala A4, Av Liberdade S/N
4450-718 Matosinhos | Portugal
T+351 220 301 586
eptune-engineering.com
info@eptune-engineering.com

**EYE2MAP**

2015-2017

Sells services with custom built UAVs and sensors for precision agriculture; flight services and image processing products.

FOR

Farmers, agricultural associations, forest parks, heritage, surveying.

ADVANTAGES

Specialized data to optimize agricultural outputs and forestry preservation, protection, maintenance and conservation.

SPACE CONNECTION

Real Time Kinematics (RTK) relying on GNSS.

Óscar Moutinho

UPTEC, Rua Alfredo Allen 455/461
4200-135 Porto | Portugal
T+351 916 099 562
weye2map.com
info@eye2map.com

EYECON

2023-2024

HABTRAIL is an application that predicts harmful algal blooms (HABs) and bivalve toxicity using daily satellite imagery and Artificial Intelligence. It comprises a dashboard and a mobile app in which the user can access toxicity predictions by species, and therefore sale interdiction, three days in advance.

ADVANTAGES

- > Less commercial risk in aquaculture
- > Better mitigation of public health threats
- > Monitoring of large or small areas
- > High predictive accuracy

CUSTOMERS

Aquaculture producers and distributors
National environmental agencies
Public health offices
Fisheries agencies
Research Institutes

Miguel Correia

TERINOV – Parque de Ciência e tecnologia da Ilha Terceira, 9700-702, Terra-Chã, Portugal
T+351 295 249 400
www.eyecon-group.com
mcorreia@eyecon-group.com



FIBERSAIL

2017-2019

Fibersail is a Big Data Analytics tool based on a real time shape sensing system that will help turbine blade manufacturers better understand and improve their products, and wind turbine operators improve performance and availability while preventing failures and reducing maintenance costs for their wind turbines.

FOR

Energy, Environment, Industrial maintenance.

ADVANTAGES

Better understanding and improvements of wind turbine operators – improve performance and availability while preventing failures and reducing maintenance costs for their wind turbines.

SPACE CONNECTION

Copernicus real-time, use of Sentinel 1 and Sentinel 3.

Pedro Pinto

UPTEC, Av. da Liberdade
4450-718 Leça da Palmeira | Portugal
T+351 937 260 586
www.fibersail.com
info@fibersail.com

FIELD

2020-2023

We're developing a device that can accurately track a player (indoor or outdoor), offering complete performance metrics.

FOR

Player tracking market, where the competition among the players is increasing as many sports organizations are realizing the importance of real-time player tracking solutions.

ADVANTAGES

This solution will be accessible to the average amateur sportsman, assuring quality, reliability and accuracy.

SPACE CONNECTION

By using GNSS signals, we'll efficiently offer a positioning solution + develop auxiliary inertial sensors.

Guilherme Fontes | Pedro Balas

IPN, Edifício C, Rua Pedro Nunes
3030-199 Coimbra | Portugal
T+351 215 891 580
field.pt
geral@field.pt

FINDSTER TECHNOLOGIES

2016-2017

Findster creates products to help you keep your loved ones safe and healthy.

FOR

Dog owners and parents with children from 2-9 years old.

ADVANTAGES

Compared to Findster, existing solutions are a way to react and not to prevent missing cases, have a 2x lower battery life and are up to 10x more expensive over 2 years due to the required monthly fees.

SPACE CONNECTION

Findster products use GNSS satellites and EGNOS antennas to give you a real-time and high-precision position of your loved one.

David Barroso | André Carvalheira

IPN, Rua Pedro Nunes
3030-199 Coimbra | Portugal
T+351 223 248 286
getfindster.com
info@getfindster.com

GASEXPRESS

2020-2022

GasExpress is a mobile app for Gas cylinders.

FOR

Open the market to all players and all customers.

ADVANTAGES

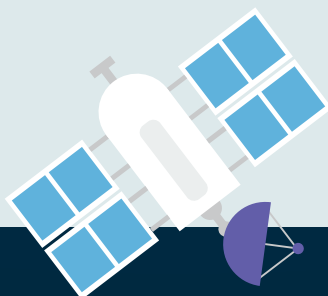
Create a digital marketplace, that joins and optimizes the supply and demand for Liquefied Petroleum Gas cylinders.

SPACE CONNECTION

Uses weather forecast system available from SENTINEL 3 and GNSS to anticipate/forecast stock levels in the right places as well as optimize route deliveries.

Maria João Santos | Hélder Ferreira

Rua da Graça, nº 3
3200-220 Lousã | Portugal
www.gasexpress.pt
info@gasexpress.pt



GREENFIKA

2018-2019

GreenFika uses information from the Copernicus Programme to identify environmental anomalies in sport areas.

FOR

Chlorophyll farming customers.

ADVANTAGES

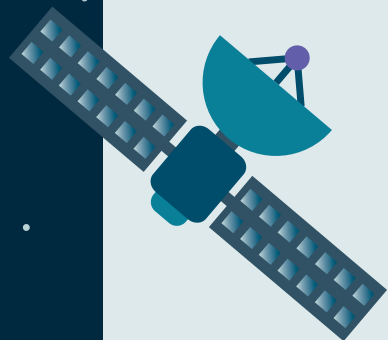
Develop environmental sustainability models for turf maintenance.

SPACE CONNECTION

EO data from Copernicus programme to identify environmental anomalies in sport areas.

Mário Luís

IPN, Rua Pedro Nunes
3030-199 Coimbra | Portugal
greenfika.com
info@greenfika.com

**HORIZONTAL CITIES**

2016-2018

Cycling navigation app for cycling in urban areas, embedding a mapping technology that allows its users to navigate along the most energy efficient routes, based on the personal profile of the end-user, and to monitor the energy consumption.

FOR

Sports; Transport; Tourism; Smart Cities.

ADVANTAGES

Highly detailed and reliable routes that are calculated using the grade changes of the paths. The algorithm used for finding these routes also considers other variables that make our solution unique in providing energy efficient routes.

SPACE CONNECTION

Data from ESA and 3rd parties (ERS, Envisat and Radarsat missions, Sentinel 1, ERS, Envisat and Radarsat missions, Sentinel 3, TerraSAR-X/ TanDEM-X Staring SpotLight, TERRA SAR X 3D models — WorldDEM DTM.

Kobe Vanhaeren

DNA Cascais, Cruz de Papa
2645-449 Cascais | Portugal
T+351 919 351 795
info@horizontalcities.com

INANOE

2015-2017

Consulting, designing and prototyping service of energy harvesting solutions for wearables; production of micro/nano-generators relying on piezoelectric/ thermoelectric materials.

FOR

1) smart textile, shoes & accessories;
2) portable consumer electronics;
3) low power consumption sensing and big data acquisition technology.

ADVANTAGES

Convert wasted mechanical and thermal energy into useful electrical energy.

SPACE CONNECTION

Piezoelectric/thermoelectric sensors, piezoelectric/thermoelectric power generation systems and smart structures for nanosatellites.

André Pereira | João Ventura

UPTEC, Rua Alfredo Allen 455/461,
4200-135 Porto | Portugal
T+351 22 030 1500
www.inanoe.com
team.inanoe@gmail.com

ITRACK SOLUTIONS

2018-2019

iTrack Solutions system allow us to detect any failure in LSA (Light Sport Aircrafts) and Experimental aircrafts that is imperceptible without the use of measuring equipment.

FOR

LSA pilots, iTrack Solutions uses a non-invasive system that integrates thrust meters, vibration sensors and relative compression test, allowing the detection of any failure that is imperceptible without the use of measuring equipment.

ADVANTAGES

Increase the safety of LSA and Experimental aircrafts.

SPACE CONNECTION

To develop this system we established a research license agreement for an ESA's patent. Using this patent it is essential to guarantee the levels of precision and innovation needed.

Filipa Brandão

IPN, Rua Pedro Nunes
3030-199 Coimbra | Portugal
T+351 239 155 572
www.itrack.solutions
info@itrack.solutions

KINETIKOS

2018-2020

Integrated SaaS solution enabling a continuous monitoring of People with Parkinson's Disease from their daily living activities for Neurologists to better support medical decisions.

FOR

Healthcare providers.

ADVANTAGES

Existing solutions only provide brief "snapshots" of patient's condition and disease progression – Kinetikos enables a continuous monitoring to better support medical decisions.

SPACE CONNECTION

GNSS satellites to provide high accuracy and continuous monitoring of positioning.

Ana Clemente

IPN, Rua Pedro Nunes
3030-199 Coimbra | Portugal
T+351 965 257 775
kinetikoshealth.com
info@kinetikos.io

LOCALISTA

2019-2021

SaaS solution that integrates seamlessly into real estate websites that provides an innovative toolkit for the house-seekers under the Localista own brand.

FOR

Real estate brokerage firms.

ADVANTAGES

Explore and compare how the location of listed properties fits their desired lifestyle. In turn, this creates value for Brokers because it improves customer service, customer engagement and customer conversion.

SPACE CONNECTION

Digital Elevation Models (DEMs) and seasonal Air Quality indicators, through Earth Observation data, combined with in situ techniques and new downscaling algorithms.

João Bigotte | Miguel Antunes

IPN, Rua Pedro Nunes
3030-199 Coimbra | Portugal
T+351 934 293 382
joao.bigotte@dreambig.pt

LS – ENGENHARIA GEOGRÁFICA

2020-2022

LS is a business company in the geomatics sector, specialized in acquiring and editing geospatial information and producing cartography for scientific purposes. We are experts in hidrography and in the supply of satellite-based cartographic products with emphasis on coastal bathymetry.

FOR

Engineering, environmental and sustainable development, maritime and nautical

ADVANTAGES

Near-zero-carbon technology with global coverage of large coastal areas and shallow waters, short revisit period and no mobilization of persons or equipments.

SPACE CONNECTION

Remote earth observation and GNSS

Cláudio Sousa

Campus de Gambelas, Pavilhão B1
8005-139 Faro | Portugal
T +351 917 509 017
lsengenharia.pt
info@lstopografia.com

MATEREO

2016-2018

Structural and Environmental Monitoring in subaquatic applications combined with FEA and CFD Tools.

FOR

Fisheries and Aquaculture. Offshore Renewables. Blue Growth.

ADVANTAGES

Real-time monitoring. Risk Alert. Minimized Human Involvement. Minimized Downtime

SPACE CONNECTION

Smart integration of local sensors, combined with Sentinels 1/2/3 with permanent and fault tolerant position determination via GNSS/EGNOS receiver.

Jorge Alexandre Vieira

IPN, Rua Pedro Nunes
3030-199 Coimbra | Portugal
T+351 964 452 398
materéo.com
materéo@materéo.com
jorgealexandre@materéo.com

MOBLEET

2020-2022

SaaS solution that uses artificial intelligence algorithms for route/ freight optimization

FOR

Small to medium-sized freight companies

ADVANTAGES

A user-friendly tool delivering optimized route plans based on artificial intelligence algorithms aggregating multiple sources of data – cutting time in planning and reducing driving time

SPACE CONNECTION

The tool relies on several datasets of information to feed the algorithms to carry out reliable forecasts – like GNSS and Earth Observation data related to meteorology (ECMWF)

Dário Fonseca | Paulo Costa

IPN, Rua Pedro Nunes
3030 - 199 Coimbra | Portugal
www.mobleet.pt
info@mobleet.pt

MOCEANSENSE

2018-2020

Services for broadcasters and official bodies of nautical sports, so that they will be able to transmit live performance metrics.

FOR

Aquatic equipment companies such as surfboards, sailing, vessels, kayaks, etc.

ADVANTAGES

Assemble in a single device the latest motion track technologies, with accurate motion analysis and effort relativization in the aquatic environment.

SPACE CONNECTION

Different integrated devices (GPS, IMU), which have important and wide use in the spatial context, together with GeoRef.

Márcio Borgonovo-Santos

UPTEC Polo do Mar, Av. Liberdade,
4450-718 Leça da Palmeira | Portugal
www.moceansense.com
hello@moceansense.com

NEURASPACE

2017-2022

Space Collision Avoidance with AI/ML: Neuraspace allows satellite operators to reduce operational manpower efforts, in particular for large constellations. The number of false alerts will be fewer, and the time between close approach and manoeuvre decision will be less. Thus saving fuel and time, while collisions and the menace of space debris are minimized.

FOR

Satellite Operators, Insurance companies, Space Agencies and Regulators

ADVANTAGES

- Reduce false alerts, therefore reduce unnecessary manoeuvres.
- Better manoeuvres powered by AI.
- AI powered tools reduce staff time on these operations.

SPACE CONNECTION

New Space

Carlos Cerqueira

T +351 239 700 346
IPN, Edifício C, Rua Pedro Nunes,
3030-199 Coimbra | Portugal
www.neuraspace.com
info@neuraspace.com

OUR WATCH LEADS

2020-2022

Our Watch Leads (OWL) is a startup that is transferring Space Technology to the Construction, Real Estate and Smartcities sectors. OWL focuses on democratizing the access to Satellite Earth Observation, providing up to date and quantifiable data, that is necessary to inform and promote the change that our cities and planet need.

FOR

Architects, Engineers, Builders, Real Estate Promoters, Municipalities, Smartcities App developers and Farmers.

ADVANTAGES

Faster, remote access and more concrete data about the Area of Interest.

SPACE CONNECTION

Satellite Earth Observation. Satellite Navigation

Pedro Resende | Eduardo Godinho

IPN, Edifício C, Rua Pedro Nunes,
3030-199 Coimbra | Portugal
T +351 915 619 977
www.ourwatchleads.com
info@ourwatchleads.com

PARQIST

2019-2020

Mobile app to share the location of our own parking spot to the ones looking for a parking spot and reserve it with "Parqs".

FOR

People that already use technology (typically young people) on a daily basis and have a driving license.

ADVANTAGES

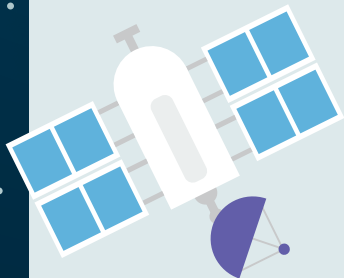
Ease the process of looking for a parking spot.

SPACE CONNECTION

GNSS for geographical position.

Fabricio Monteiro | Pedro Fraga

DNA Cascais, Cruz de Popa
2645-449 Cascais | Portugal
T+351 961 464 323
www.parqist.com
info@parqist.com

**PAVNEXT**

2018-2020

Pavnext sells technological devices to implement in road pavements to infrastructure managers, using a B2B business model. Our devices are able to promote road safety in a unique way, to produce clean electric energy, and to generate data regarding traffic and energy.

FOR

European Municipalities, road and motorway operators.

ADVANTAGES

Unique solution to reduce the vehicles' speed without any driver action, promoting road safety autonomously.

SPACE CONNECTION

P50, a technology developed by Amorim Cork Composites to guarantee the appropriate thermal insulation of space shuttles, presents the required features to properly isolate Pavnext technology from multiple factors as noise, water, dust and heat.

Francisco Duarte

IPN, Rua Pedro Nunes
3030-199 Coimbra | Portugal
www.pavnext.com
main@pavnext.com

SPACE ENGINEER

2020 -2022

Space Engineer is a company specialized in developing new customized impact absorption solutions for the aeronautic and aerospace sectors.

FOR

Birdstrike, debris and ballistic protection.

ADVANTAGES

Product with Superior impact protection, protecting from threatening impact of debris; flexible material that is easy to apply to any surface or material; comes from renewable sources and it burns when it enters in the atmosphere, not producing waste and helps to create a new secure and sustainable path for space technologies and for all humanity.

SPACE CONNECTION

SpacEngineer product, Impact2Space is a high-performance material, thinner, lighter and stronger than most shock materials currently in the market. Its features allow its use in a wide range of applications, like in aircraft and helicopters (or airplanes/ aircrafts) as a protection against impact loading of bird strikes and hostile climates.

Nelson Oliveira

IPN, Edifício C, Rua Pedro Nunes
3030-199 Coimbra | Portugal
T+351 239 700 300
www.spacengineer.com
nelson.oliveira@spacengineer.com

SPACELAYER TECHNOLOGIES

2015-2017

SpaceLayer provides spatial and temporal patterns of pollution in urban areas. SOUL is an open-source dynamical geographical information environmental platform that aggregates air quality data, creating risk analysis and analytics.

FOR

Insurance companies; Health providers; Civil Protection; City management; Municipalities; and end-users.

ADVANTAGES

SOUL relies on the Copernicus Atmosphere Monitoring Service and satellite imagery, like Sentinel 5P, for a global analysis. Spatial resolution is obtained using downscaling algorithms and sensors installed in moving vehicles and smart luminaires. Understanding the spatial and temporal patterns of pollution in urban areas can help to improve public health and lower costs, avoiding unnecessary hospitalizations and readmissions.

SPACE CONNECTION

Earth Observation pollutants mapping in near-real time.

Pedro Caridade

IPN, Rua Pedro Nunes,
3030-199 Coimbra | Portugal
T+351 239 715 336
spacelayertech.com
info@spacelayertech.com

SPACEWAY

2020-2022

A NewSpace organization pushing forward space education and technological innovation. The UNIoT solution enables affordable, secure and private IoT communications anywhere, anytime. Thus, allowing in-situ data to be easily accessible online.

FOR

IoT service providers who wish to expand to remote locations. Smart agriculture at rural areas, especially (but not only) viticulture and oliviculture.

ADVANTAGES

IoT connectivity at places with low or no access to the internet. High spatial resolution data through in-situ monitoring. Precise data about the plant's health and the soil's nutritional status over different depths. Easy integration with remote sensing and current APIs.

SPACE CONNECTION

Use of smallsat communication as the way to quickly transfer in-situ data to the user's cloud.

Jorge Monteiro | Paulo Antunes

IPN, Edifício C, Rua Pedro Nunes
3030-199 Coimbra | Portugal
T+351 915 753 364
www.wearespaceway.com
info@spaceway.pt

STARUPLO

2020-2022

Develops and manages the knowledge-as-a-service (KaaS) platform – Arya. Cloud-based and accessible through subscription, provides accurate data for smart city management.

FOR

Governmental entities, decision-makers.

ADVANTAGES

Proper planning based on precise and updated data; support for technical teams; might be applied and personalized according to the customer's needs.

SPACE CONNECTION

Analyzing and processing satellite imagery through artificial intelligence and machine learning techniques for accurate outputs.

Jonathan Torres

SANJOTEC – Parque de Ciência e Tecnologia
3700-121 São João da Madeira | Portugal
T+351 256 001 912
geral@staruplo.com

STRATIO AUTOMOTIVE

2017-2018

Technology provider for both manufacturers and customers in the automotive industry, enabling access to the complete health status of vehicles and vehicle systems, through the real-time analysis of sensor data information using artificial intelligence.

FOR

Manufacturers of medium and heavy-duty vehicles; manufacturers of systems for medium and heavy-duty vehicles; large fleets of commercial vehicles (trucks, buses and refuse trucks).

ADVANTAGES

Reduces off-road time, introducing predictability to the operation of commercial fleets. This leap forward also enables the reduction of maintenance and repair costs.

SPACE CONNECTION

Applying space and aviation technology to the road transport sector.

Ricardo Margalho | Rui Sales

IPN, Rua Pedro Nunes
3030-199 Coimbra | Portugal
T+351 239 700 300
stratioautomotive.com
business@stratioautomotive.com

TEROMOVIGO

2017-2023

TeroGrav is a software package to process raw gravity observations from relative spring gravimeters. It can also process gravity observations made with a drone using an IMU. The end result is a list of mean gravity values for each observed point. It consists out of a preprocessing and an analysis module.

FOR

Surveyors and Oil & Gas companies that perform terrestrial gravity campaigns

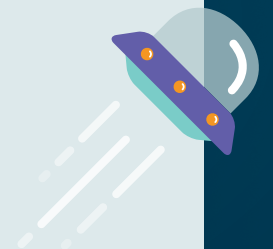
ADVANTAGES

Excellent tidal corrections and very flexible

SPACE CONNECTION

Terrestrial gravity observations can be combined with satellite gravity data from the GOCE & GRACE missions

teromovigo.com
sales@teromovigo.com





TESSELO

2017-2019

An engine to process and analyse satellite based Earth Observation data. Tesselo will make satellite based geospatial intelligence easy and accessible to all organizations through a self-service platform.

FOR

Smart cities, environment, urban planning.

ADVANTAGES

Creates new layers of information through artificial intelligence and brings innovative analysis capabilities to the user, by:

- i) automated image processing,
- ii) geospatial artificial intelligence and
- iii) an in-depth analysis tool.

SPACE CONNECTION

Earth Observation data, specifically by ESA's recent Sentinel 2 satellite system.

Remi Charpentier

DNA Cascais, Cruz de Popa
2645-449 Cascais | Portugal
T+351 961 222 791
remi@tesselo.com

THE LOOP CO.

2019-2020

SaaS (hardware and software) for HR security management.

FOR

Construction companies operating medium and large extensive construction sites.

ADVANTAGES

Management can have information and foster HR security in large extensive construction sites.

SPACE CONNECTION

GNSS and satellite imagery to give administration teams key information in terms of HR security and management.

João Bernardo Parreira

IPN, Rua Pedro Nunes
3030-199 Coimbra | Portugal
T+351 913 597 307
jb@jacob.business

THEIA

2017-2019

Provides remote detection of archaeological sites and features based on satellite imagery.

FOR

Land development, building & construction, heritage.

ADVANTAGES

Allows for fast and accurate archaeological assessments of very large areas.

SPACE CONNECTION

Earth Observation data from ESA and 3rd party missions (Sentinel, TerraSAR-X/TanDEM-X).

Martino Correia | Ricardo Cabral

IPN, Rua Pedro Nunes
3030-199 Coimbra | Portugal
theia.pt
hello@theia.pt

VIBO HEALTH

2020-2022

ViBo Health is building a medical device that enables health status tracking.

FOR

Everyone interested in health monitoring

ADVANTAGES

Quick and painless wrist scan that monitor our health. It is a non-invasive molecular spectroscopy (using advanced NMR) that customers can use daily, weekly, or whenever convenient.

SPACE CONNECTION

Uses satcom signal processing, and satellite phased-array antenna technology to target tissues within the body.

Gil Travish

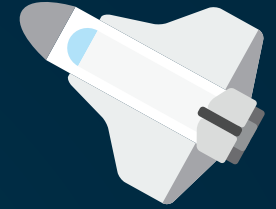
IPN, Edifício C, Rua Pedro Nunes
3030-199 Coimbra | Portugal
T +351 239 700 300
www.vibo.health
info@vibo.health





ESA BIC PORTUGAL

INCUBATEES



VIRTUACROP

2023-2024

VirtuaCrop is an app for sustainable precision farming that turns phones into data gathering and analysis tools. VirtuaCrop's mission is to provide an easy, intuitive, and affordable method for farmers to know their soils better.

FOR

Farmers, farmer advisors, land planners and certification organizations.

ADVANTAGES

There are no other apps that estimate soil properties in the market. The app has generated great media exposure and interest from potential customers, mostly farmers, associations and farmer advisors.

SPACE CONNECTION

The VirtuaCrop app calculates soil indicators using digital photographs taken by farmers combined with location services obtained from Global Navigation Satellite Systems (GNSS) such as the European Union's (EU) Galileo and other input data from satellite sources in the EU's Copernicus Service.

Tiago Morais

Startup Lisboa, Rua da Prata 80
1100-420 Lisboa
T+351 210 436 140
www.virtuacrop.com
virtuacrop@virtuacrop.com

WATERDOG MOBILE

2016-2018

SCRAMJET, by WATERDOG mobile, matches flight reservations and smartly identifies business travelers that will be located in the same airport at the same time. SCRAMJET gets flight booking fees for every flight booked in the platform and aims at establishing affiliate programmes with airlines, airports and airport businesses.

ADVANTAGES

SCRAMJET adds "business opportunities" as a new metric for flight planning and makes travel time and cost become better investments by allowing business travellers to take advantage of the time they spend in airports.

SPACE CONNECTION

GNSS signals for enhanced indoor positioning (especially the future Galileo with better indoor penetration) to guide people and Earth Observation images for the detection of changes on airports' buildings morphology.

Pedro Coutinho

UPTEC, Rua Alfredo Allen 455/461
4200-135 Porto | Portugal
T+351 914 514 153
waterdog.mobi
pedro.coutinho@waterdog.mobi



AQ ANALYTICS

2024-2025

AQ Analytics leverages advanced satellite technology to assess air pollution levels and their health impacts. By combining machine learning with the latest academic research, it builds a high-resolution data model to monitor and analyze pollution.

FOR

The goal of the project is to reduce the health risks associated with air pollution, particularly for people suffering from asthma and allergies, ultimately improving their quality of life on a global scale.

SPACE CONNECTION

Satellite technology plays a crucial role in providing the large-scale, real-time data necessary for accurate air pollution assessment. The integration of space-based observations ensures comprehensive coverage and precise environmental monitoring.

AQ ANALYTICS, LDA

Johannes Saalfeld

Rua da Tecnologia K-Épsilon 2

9560-421 Lagoa

T +351 926 700 251

www.aq-analytics.com

office@aq-analytics.com

ASC

2024-2026

The ASC is a spaceport operator that has developed a commercial spaceport concept aimed at providing end-to-end services for small launchers in the Atlantic Region. ASC offers essential spaceport services along with optional add-ons, such as TT&C ground stations, propulsion testing, and regulatory assistance.

FOR

The goal is to support small launcher operators with a comprehensive suite of services, streamlining the launch process and ensuring a successful and efficient launch from the Atlantic region.

SPACE CONNECTION

The spaceport integrates crucial space-based infrastructure, such as TT&C (Telemetry, Tracking, and Command) ground stations, enabling precise communication and control for launch operations. It also provides facilities for propulsion testing, essential for space vehicle readiness.

Miguel Morgado

INCUBA+, Rua de Ponta Delgada

9580-425 Vila do Porto

T +351 925 173 840

www.spaceport.pt

mmorgado@spaceport.pt

ATLAR

2024-2026

ATLAR Innovation focuses on precise satellite trajectory monitoring and intervention to prevent costly and environmentally damaging deviations. Their mobile real-time tracking and communication system utilizes advanced Software-Defined Radio (SDR) technology, providing superior performance and adaptability across different launch environments.

FOR

The goal is to ensure accurate satellite trajectories, minimizing risks of deviations that could result in financial losses or environmental damage, enhancing the safety and efficiency of satellite operations.

SPACE CONNECTION

The system integrates cutting-edge space-based technologies for real-time satellite tracking and communication, relying on satellite data and SDR technology to deliver high accuracy and adaptability in space environments.

Miguel Bergano

Canada de Belém

Parque de Ciências e Tecnologias Terinov

9700-702 Terra-Chã

T+351 934 913 525

<https://atlar.pt/>

miguel.bergano@atlar.pt

AZULFY

2023-2024

Azulfy helps local governments to monitor pollution with a SaaS that uses Earth Observation and in-situ data for its readings.

ADVANTAGES

- a) Azulfy leverages AI to cross analyze satellite data and in-situ readings in order to offer accurate reports
- b) Azulfy offers reports of pollution on water, earth and atmosphere in one service
- c) Azulfy can monitor both large territories and very small areas
- d) Azulfy insights are daily (instead of weekly- a common practice bound to the limitations of the technology generally in use today).

CUSTOMERS

Local Governments.

CONTACT FOR COMMERCIAL PURPOSES

info@azulfy.com

Fernando Bebiano Correia

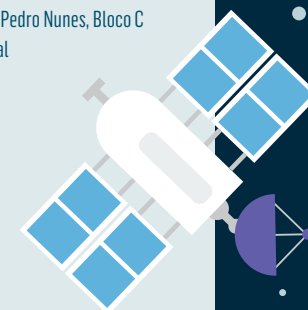
Instituto Pedro Nunes, Rua Pedro Nunes, Bloco C

3030-199, Coimbra, Portugal

T+351 239 700 900

www.azulfy.com

info@azulfy.com



BESTHEALTH4YOU

2023-2024

Bio2Skin Advanced is a platform for transdermal drug delivery that allows a continuum of treatment, preventing wounds from getting worse and promoting their healing.

FOR

For patients needing medical devices for continuous or critical usage in contact with the skin.

ADVANTAGES

Eased to produce, use biomaterials as raw material, and do not create medical related skin injuries.

SPACE CONNECTION

With the mission of landing a human on Mars as the new frontier, the task of providing medical care to an astronaut on the International Space Station (ISS) or shuttle becomes vital.

Sónia Ferreira

Startup Braga, Praça Conde de Agrolongo, nº 123
São João do Souto, Braga, Portugal
T+351 910 432 582
besthealth4u.pt
sonia.ferreira@besthealth4u.pt

BLUE Z

2024-2026

DESCRIPTION

The BlueZ C Institute focuses on the conservation and restoration of coastal ecosystems. Its initiatives include monitoring the environmental impact of recreational boating through advanced satellite imaging and artificial intelligence (AI) techniques. The institute's latest offerings—Nautical Carrying Capacity, Small Vessels Monitoring, and Carbon Footprint analysis—aim to improve global environmental management and sustainability.

FOR

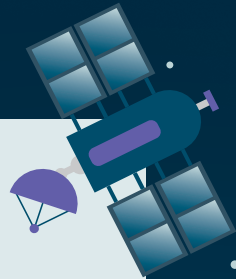
BlueZ C provides real-time monitoring solutions for coastal ecosystems.

SPACE CONNECTION

BlueZ C's products utilize satellite technology, combined with AI-based convolutional neural networks, to track and analyze the movements of small vessels, assess nautical capacity, and calculate carbon footprints.

Claudia Sil

Campus de Gambelas – CRIA G14
8005-139 Faro
T +351 960 099 925
contact@bluezc.org

**CONNECTED**

2023-2024

CONNECTED's vision is to affordably connect humankind, unleashing a new wave of IoT-based business models. To do this, we plan to establish a constellation of hosted payloads covering every point on Earth providing the world with a NB-IoT connectivity network. This project is an initial step towards CONNECTED's vision. It aims to perform feasibility studies for the whole network, as well as develop a prototype of the company's ONE product.

ADVANTAGES

ONE is targeted to be a revolutionary wearable safety companion offering emergency beacon, messaging, and tracking capabilities for users' everywhere.

CUSTOMERS

Explorers, Adventurers, Life-Seekers and Caregivers

Tiago Rebelo

Instituto Pedro Nunes, Rua Pedro Nunes, Bloco C
3030-199 Coimbra, Portugal
T +933 850 567
connected.space
tiago.rebelo@connected.space

FIBERLOOP

2023-2024

FiberLoop is an innovative optical fiber sensor that provides temperature and humidity data with a precision of 1 meter, covering a range of over 25 kilometers.

FOR

FiberLoop is a purpose-built solution designed to effectively identify water leaks in critical applications like public distribution networks and agriculture.

ADVANTAGES

Real-time monitoring of temperature and humidity in the water distribution channels to make the system more efficient in maintenance and safety.

SPACE CONNECTION

FiberLoop utilizes satellite data, incorporating global navigation satellite systems to precisely locate each fiber section. It also integrates weather forecasts, groundwater mapping, and water indices to prevent false leak detections caused by environmental humidity variations.

Tiago Neves

Instituto Pedro Nunes, Rua Pedro Nunes, Bloco C
3030-199, Coimbra, Portugal
T+351 918 824 315
www.fiberloop.pt
tiago.neves@fibersight.pt



GEOTERRA360

2023-2024

WaterSphere360 is an online monthly water resource monitoring service providing quantitative intelligence utilizing Earth Observation technology, independent of in-situ measurement support.

FOR

The platform is used by water resource managers and water use stakeholders.

ADVANTAGES

The competitive advantage over peers in that many of our solutions have been stress tested in a variety of environments and are meticulously designed to take advantage of the best that space generate.

SPACE CONNECTION

WaterSphere360 is a satellite-only data driven information service. The various information components provided by the service are generated from data acquired by a range of operational, open-source satellite data sources, operated primarily by the European Space Agency (Copernicus – Sentinel satellites) and NASA.

Lorraine Raby

PACT – Parque do Alentejo de Ciência e Tecnologia
Herdade da Barba Rala, R. Luís Adelino Fonseca lote 1A
7005-345 Évora
T+351 924 396 890
www.geotera360.pt | www.watersphere360.pt
info@watersphere360.com

GREENDATA LDA.

2023-2024

Greendata helps agricultural insurance organizations in harnessing geospatial data, specializing in underwriting and claims validation. Our services feature a quantitative risk analysis platform for crop insurance, spanning various risk categories, geographies, and policy durations. We offer global portfolio monitoring, digital claims validation, and facilitate informed decision-making, ensuring adaptability in the agricultural insurance sector to climate change risk.

ADVANTAGES

Supports the creation of new insurance products, policies and market expansion with efficient underwriting. Ability to monitor assets globally, validate claims digitally, and ensure business adaptability.

CUSTOMERS

Organizations involved in agricultural risk mitigation

André Tavares

Universidade do Algarve, Campus de Gambelas
Pavilhão BIG15, S/N, Faro, Portugal
T+351 289 800 100
greendata.pt
info@greendata.pt

GREENSPACE

2023-2024

Green Space is developing and intends to build and put into the market an innovative liquid-propellant rocket engine that uses non-toxic fuel components.

FOR

The engine is an essential element of any orbit transportation system, crucial to place spacecraft into orbit, perform orbital manoeuvres, including the atmosphere re-entry.

ADVANTAGES

As opposed to most of the existing propulsion solutions, the engine under the development is non-toxic, while maintaining a high specific impulse and enabling the enhanced agility.

SPACE CONNECTION

The existing solution is self-preparing for reuse during its flight - its lines are washed with fuel components, which are good solvents and do not pollute the fuel line. The engine is designed for the intensive use in-orbit, enhancing the efficiency of servicing and operation of satellite constellations in the Low Earth Orbit.

Gene Rokytzkyi

Universidade do Algarve, Campus de Gambelas
Pavilhão BIG15, S/N, Faro, Portugal
T+351 289 800 100
greenspacesys.com
ceo@orin.technology

JSIO

2023-2025

FireDat provides a solution with Real-Time Information about the Location and Well-Being of Firefighters with several layers of information collected from local and remote sensors, resulting in Individual, Geo-Spatial and Environmental data.

FOR

Fire Departments, Civil Protection, Private Forestry Companies.

ADVANTAGES

FireData provides to decision makers a Real Time Sensing Layer and Territory-Specific Geo-Spatial Information, incorporates sensors, loggers, and antennas to communicate using a secure protocol, and combines a web application, based on a geographic information system, that gathers all information, enabling the user to have a quick view, macro scenario, or a detailed view of a small group or an individual.

SPACE CONNECTION

Earth Observation Satellites System, Galileo GNSS system, Satellite Communication.

Ricardo Cardoso

Instituto Pedro Nunes, Rua Pedro Nunes, Bloco C
3030-199 Coimbra, Portugal
T+351 914 656 455
www.firedat.jsio.pt
info@jsio.pt

N10 GLED

2024-2025

N10GLED is focused on developing secure communication systems using Quantum Key Distribution (QKD), ensuring encryption keys that cannot be derived or broken by any mathematical or computational means. Their project, Hekate, involves deploying a satellite payload to enable this technology.

FOR

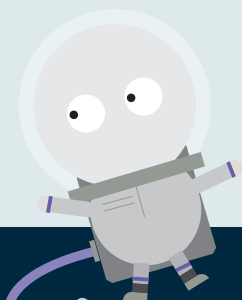
The goal is to create an unbreakable encryption system, enhancing the security of critical communications globally by leveraging the fundamental principles of quantum physics.

SPACE CONNECTION

N10GLED's Hekate project relies on deploying a space-based asset (satellite payload) to facilitate Quantum Key Distribution, utilizing the unique properties of space for secure, global communication.

Rui Semide

PACT, Rua Luís Adelino Fonseca, lote 1A
7005-345 Évora
T +351 919 755 030
www.entangled-space.com



SPACE0

2024-2026

Space0 aims to address the growing issue of space debris by developing a lightweight, compact de-orbiting system. This system uses advanced technical textiles and is designed for independent activation, rapid de-orbiting, and potential rigidization, making it both effective and cost competitive.

FOR

The goal is to provide a practical and efficient solution for the removal of space debris, ensuring compliance with new regulations and contributing to a cleaner and safer space environment.

SPACE CONNECTION

The de-orbiting system leverages advanced space-based technologies and materials to actively remove debris from orbit, directly tackling one of the major challenges in maintaining sustainable use of outer space.

João Pedro Loureiro

PTEC Mar, Sala A11
Av Liberdade S/N, 4450-718 Matosinhos
www.space0.pt
pedro.loureiro@space0.pt
T +351 220 731 388

THOTHX

2024-2026

ThothX repurposes large radio telescopes to provide unclassified radar data on space assets in geostationary and geosynchronous orbits (GEO). This service offers real-time, high-precision ranging and characterization of these assets, making it the only commercial provider of such data.

FOR

The goal is to enhance space safety and sustainability by offering accurate tracking and analysis of space assets, helping prevent collisions and ensuring the long-term usability of critical orbital regions.

SPACE CONNECTION

ThothX's system leverages space-based radar technology and large radio telescopes to monitor assets in GEO, providing essential data for managing and protecting space infrastructure.

Francisco Wallenstein

Rua Dr. Aristides Moreira da Mota 56
9500-054 Ponta Delgada
T +351 966 423 135
www.thothx.com
francisco@thothx.com

VIRIDIUS TECHNOLOGY

2023-2024

Viridius Technology specializes in autonomous robotic fresh raspberry picking, leveraging advanced edge-cloud computing systems for real-time efficiency and performance enhancements.

FOR

Viridius' products and services are intended for agriculture enterprises aiming to optimize their harvesting operations with autonomous and intelligent robotic solutions.

ADVANTAGES

An autonomous system capable of harvesting raspberry for the fresh market without causing damage to the fruit.

SPACE CONNECTION

The space connection of Viridius' services is manifested in the incorporation of 5G and low-orbit satellite connectivity, and GNSS positioning for robust, seamless data transmission and real-time control, fostering remote agricultural operations.

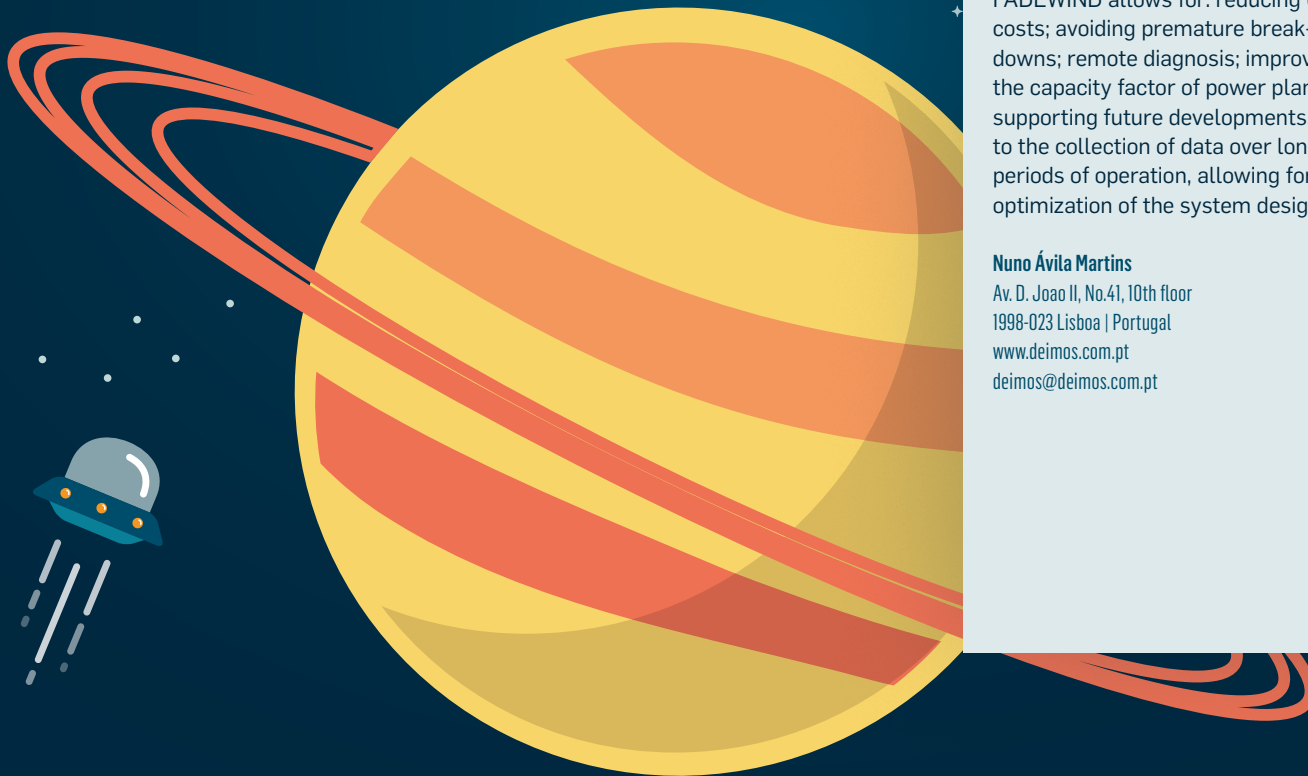
Afonso Santos

HIESE – Habitat de Inovação Empresarial
nos Sectores Estratégicos, Quinta Vale do Espinhal
EM558 1, 3230-343 Penela
T+351 239 700 770
www.viridius.tech
afonso.santos@viridius.tech



ESA BUSINESS APPLICATIONS AMBASSADOR PLATFORM

SPARK4BUSINESS & SPARK4TECH



SPARK4BUSINESS

FADEWIND

By DEIMOS Engenharia, 2015

FADEWIND aims to provide a Condition Monitoring and Control System (CMCS) and service for dynamic systems, that can take advantage of state-of-the-art Fault Detection and Isolation (FDI) and Fault Tolerant Control (FTC) technologies, providing early warnings and self-adapting under the presence of deviations from nominal operation, and that have been intensively used in aero-space applications. FADEWIND is an off-the-shelf solution, without any stringent requirements in terms of infrastructure or human resources. FADEWIND allows for: reducing O&M costs; avoiding premature breakdowns; remote diagnosis; improving the capacity factor of power plants; supporting future developments, due to the collection of data over long periods of operation, allowing for the optimization of the system design.

Nuno Ávila Martins

Av. D. Joao II, No.41, 10th floor
1998-023 Lisboa | Portugal
www.deimos.com.pt
deimos@deimos.com.pt

RCTMS

By VisionSpace Technologies, 2015

The Resilient Control and Telemetry Messaging System (RCTMS) is a resilient communication platform that ensures the transmission of critical systems telemetry. RCTMS leverages SatCom, M2M communications and 3G to guarantee 24/7 service level to its customers. During the execution of the Small ARTES Apps programme, VisionSpace Technologies concluded that RCTMS would be a valuable project to pursue. The feasibility study proved that the market was looking for a solution such as RCTMS, specially the water distribution market segment.

Tiago Carvalho

Rua Eng. Ferreira Dias, 884 – 3º AH
4100-246 Porto | Portugal
T+351 917 196 247
www.visionspace.com
www.rctms.visiontechlab.com

SWAIR

By Present Technologies, 2015

SWAIR aims to develop and market a product that provides early warning, forecast service and performance assessment services of GNSS signals, typically at airports, for the Air Navigation sector. The SWAIR product aims increase confidence of air operators on using EGNOS signals, by monitoring the LPV approaches using advanced receivers and avionics type of equipment. It addresses the problem of the peripheral boundary of EGNOS (such as the Lisbon airport) and GNSS landing without SBAS coverage (e.g. Madeira/Azores). The product addresses interferences and Space Weather issues which can influence the performance and reliability of a variety of positioning systems. The SWAIR product also intends to assess for sources of GNSS signal vulnerability in order to develop future mitigations (techniques, backup procedures). The Air Navigation users are our main product driver and the airline industry will be an observer as they are the main beneficiaries of GNSS based operations.

Paulo Martins

IPN, Rua Pedro Nunes
3030-199 Coimbra | Portugal
T +351 239 781 834
www.present-technologies.com
pmartins@present-technologies.com

BE COTTON

By INDRA, 2016

BE-COTTON objective is to develop a production monitoring and risk management system for cotton crops based on space assets. BE-COTTON will improve the cotton management, allowing cotton production concessionaries to estimate the crop cultivated area; to detect Crop growth anomalies; to perform Damage assessment (floods, fires and droughts); to regularly review the Production plan; and to give precision farming data-based advisory for increased productivity for small producers. An overall improvement of 29% in terms of increased risk awareness against environmental disruption, and 5% in yield increase, are set to bring together a substantial benefit to service users, subject to their adoption roadmap for BE-COTTON, with a long-term economic benefit expected to reach a nominal cumulative value of over € 280M by 2045 in the analysis' base case. When compared with similar current solutions, BE-COTTON the use of space assets will allow a 50% reduction in operator costs.

Diogo Santos

Alfrapark – Edifício C – Piso 2
Estrada do Seminário
42610-171 Amadora | Portugal
www.indracompany.com
dsantos@indracompany.com

GLOBAL VISION WITH SATCOM

By ISA Sensing, 2016

With the lack of Mobile Virtual Networks Operators (MVNO) coverage in remote areas and the “sunset” of several of these networks, the Oil&Gas companies will no longer benefit from these solutions. The iLogger Satcom (G-VSC) will be an evolution of ISA's remote monitoring solution – iLogger – where communications will be done through satellite technology. The iLogger Satcom gateway acts as a hub collecting data from nearby RTUs or c.Log500 devices, keeping a logbook and transmitting it periodical but it is also able to react to level change events, issuing immediate alarm notifications.

Diamantino Costa

IPN, Rua Pedro Nunes
3030-199 Coimbra | Portugal
T+351 239 791 090
isasensing.com
innovation@isasensing.com

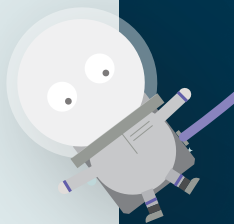
SAGRES

By ISQ, 2016

SAGRES – Space Assets for Geological pRospection at Seabed – is an innovative and disruptive approach that is being developed by ISQ to support prospection & exploration activities for deep sea mining. SAGRES mission is to foster end users decision-making ability by providing them an integrated support to plan deep sea mining activities. This support is based in the development of a new algorithm that integrates several sources and types of data, including satellite information, by the use of machine learning techniques. The output of SAGRES can be used as approximation vectors towards mineralization by bringing forward credible, useful prior-information for smarter exploration campaigns, and to pinpoint at a multiscale area coverage (global to local) favorable prospective areas and exploration targets for location of deep sea mineral resources.

Paulo Chaves

Av. Prof. Dr. Cavaco Silva, nº 33
2740-120 Porto Salvo | Portugal
T+351 214 228 100
www.isq.pt
info@isq.pt
PACHaves@isq.pt



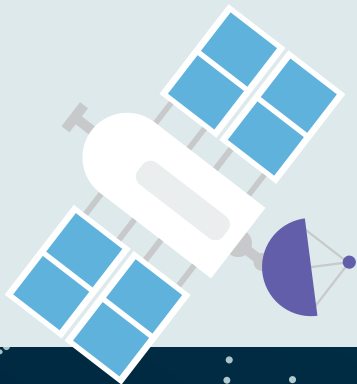
FIND CARESIGHT

By Findster Technologies, 2017

The WHO recognizes dementia as a public health priority. There are 10 million new cases of these chronic symptoms annually, motivating the development of new technologies to improve quality of life and democratize access to better care. Findster believes the answer is a combination of a cost-efficient location system based on space technologies (GNSS) and Findster's RF protocol (MAZE), and a wearable accessory. Findster has developed an innovative system which allows the user's location and daily life patterns to be monitored remotely, using a device with the appearance of a wearable watch. Caregivers can remotely track sensors and detect any changes in daily routines. Findster CareSight puts space technology to use in people's daily life, assuring the 4 fundamental attributes of an assistive technology: reliability, responsiveness, practicality and affordability.

André Carvalheira

IPN, Rua Pedro Nunes
3030-199 Coimbra | Portugal
T+351 239 700 300
getfindster.com
infogetfindster.com



AQUACHANGE

By Hidromod, 2018

AquaCHANGE is being built with existing tools on data science, satellite data interpretation and hydrological modelling to develop a fully automated water monitoring, integrated with an information delivery system for clients. AQUACHANGE is operationally getting EO data, getting in situ data and running models. EO data and In situ data is being obtained from both Portugal and Spain. Based on requirements, two forecast models have been setup: One for a Portuguese reservoir relevant for EDIA, and another model for Douro watershed in Spain, that is relevant for EDP. Both models have a 7-day forecast of water flow.

Pedro Chambel Leitão

Rua Rui Teles Palhinha, nº 4, 1ª
2740-278 Porto Salvo | Portugal
T+351 966 957 067
aquachange.hidromod.com
pedrochambelleitao@hidromod.com

FLIGHT COM SYSTEM

By TIS Systems, 2018

Flight Com System aims to increase safety levels in light aviation. If an unexpected event takes place during a flight, it is possible to activate a panic button that will send the position, the altitude and the acceleration to a pre-set number or person responsible allowing an efficient and effective intervention. We develop this kind of product as a safeguard based on the statistics stating that there is a number of accidents that are man-made and, of course, a wider number of communication systems that can be improved. Its user-friendly characteristics, the data it sends together with the fact that it is a stand-alone equipment, not much bigger than any phone that we carry around, make it unique on the market.

Filipa Brandão

Ladeira da Paula, nº 10
3040-574 Coimbra | Portugal
T+351 239 155 572
tisystems.pt
info@tisystems.pt



GOSAFE

By SpaceLayer Technologies, 2018

GOSAFE Outdoor Experience creates a fully integrated software/hardware solution Adventure and radical tourism in less explored ecosystem that increases the security of outdoor rails, reduce operational costs and improves consumer satisfaction. Based on a developed dynamical GIS platform, georeferenced rails are created by the promoter together with nonuniform geofence areas according to the topography of the field. It has also the possibility of include interest points such as sight-seeing, shelters and other facilities. The quality and security of such rails is analysed by remote sensing with Earth Observation data coming from satellite imagery and associated products. Being two way SatCom the promoter and/or emergency teams may give instructions to expedite rescue or creating alerts for events that may jeopardize the user, such as forest fires, avalanches ou landslides.

Pedro Caridade

Instituto Pedro Nunes, Ed. C
3030-199 Coimbra | Portugal
T+351 239 715 336
spacelayertech.com
info@spacelayertech.com

WEBGS

By D-Orbit Portugal, 2018

Responding to market trends of a substantial increase in the number of small-satellite missions to be launched in the upcoming years, most of which as part of constellations, D-Orbit wishes to develop an innovative solution for mission control and space applications that reduces time-to-market, supports scalability and reusability of satellites in orbit, streamlining communications with the ground. WebGS will be a cloud-based ecosystem for all satellite operation activities, where the user can select the modules based on their particular needs. The solution will be independent from type of mission, satellite architecture or protocol used and will be commercialized as a service where the user will pay a monthly or annual fee based for his particular configurations – adapting to different mission needs and purposes. The Small ARTES WebGS project is implemented as a partnership between D-Orbit PT and Waterdog. Both companies have been incubated at the Portuguese ESA BIC Portugal.

Bruno Carvalho

Rua António Champalimaud, Lote 1, 207B
1600-514 Lisboa | Portugal
T+351 913 779 471
www.dorbit.space
info.pt@deorbitaldevices.com

EXTENSIVE ROAD MONITORING AND EARLY-WARNING SYSTEM

By THEIA, 2019

ERMES is a project created by THEIA with the objective to explore the potential of remote sensing through satellite data for large-scale monitoring and surveillance of highways and road networks. With this project we intend to present a solution based on Earth Observation satellites and Synthetic Aperture Radar (SAR) data as an effective tool for highway management. Analysing this data we intend to measure soil subsidence and monitor slope stability that may jeopardize the network's integrity and safety. This solution will have an integrated early-warning system (where automation will play a big role, to keep operational costs as low as possible). This early-warning system will allow for a timely detection of these destructive events and failures, in order to minimize or avoid them by taking preventive geotechnical measures. A pilot project for an early application of this solution is being prepared with Brisa, Portugal's largest highway concessionaire.

Martino Correia | Ricardo Cabral

IPN, Rua Pedro Nunes
3030-199 Coimbra | Portugal
theia.pt
hello@theia.pt

SPACE ASSETS & ARTIFICIAL INTELLIGENCE FOR ENHANCED AND PREDICTIVE CROP MANAGEMENT

By ISQ, 2019

InteliCROP aims to provide technological capabilities and services to support decision for sustainable agriculture, helping to elaborate preventive actions against phytosanitary issues, mostly. This is performed by supplying reliable information and forecasts concerning crop production and health with adequate lead time to facilitate appropriate responses and contingency planning. The InteliCROP decision support framework is developed by integrating the capacities of earth observation methods and data with advanced predictive modelling from artificial intelligence methods, to search patterns and correlations in specific agroclimatic variables for agriculture occurrences mapping and optimal decision. Because of the growing impact in the agricultural sector, InteliCROP case study focus the prediction of the occurrence of *Xylella fastidiosa* in olive groves.

João Ribau

Av. Prof. Dr. Cavaco Silva, nº 33
2740-120 Porto Salvo | Portugal
T+351 214 228 100
www.isq.pt

MOBSAT

By Bluecover Technologies, 2019

The Bluecover's IoT solution permits adapting and connecting existing vehicles from mobility providers to allow remote control and operation services. The solution, that is available for electric scooters and soon for cars, enables service providers to manage their fleets and provide pay&use renting services to final customers. The solution uses its own GNSS location, gets the vehicle data (such as mileage, battery/fuel level, speed, ignition) from the vehicle controller, and supports control functions to change vehicle state from Available to Trip or Maintenance. The MOBSAT project aims to identify potential differentiation mechanisms coming from Space, to improve the product and scale globally. The improvement mechanisms to be evaluated include indoor location via Bluetooth or GSM, better GNSS position accuracy to explore new billing models and the usage evaluation of Satcom communications to cover remote areas without GSM coverage.

Nuno Duro dos Santos

DNA Cascais, Cruz de Popa
2645-449 Cascais | Portugal
T+351 932 526 378
www.bluecover.pt
info@bluecover.pt

QUASAR

By Crossing Answers, 2019

QuaSAR is a large-scale monitoring system for quarries and open pit mines through satellite data that will work through a digital platform where radar data acquired from Earth Observation (EO) satellites could be integrated, processed and then delivered to the client. This monitoring system can be used to detect changes in the perimeter of the mining operation, keep track of ongoing mining activities, assess ground stability, monitor ground motion and slope stability. The purpose of this solution is to increase safety of mining and quarrying operations and to optimize mining operations to increase their cost effectiveness and productivity. It will also be used to set up an early-warning system, alerting and preventing the occurrence of potential catastrophic events by allowing a timely response and the implementation of appropriate preventive geotechnical measures.

Franco Vingadas Almeida

Rua Miguel Torga, 25, cv
3030-165 Coimbra | Portugal
T+351 913 158 326
crossing.pt
francovingadas@crossinganswers.pt

SROAD

By PrimeLayer, 2019

SROAD is a software service that using artificial intelligence algorithms provides an index for quality of the asphalt based on satellite imagery, in-situ acquired polarized images and satellite navigation.

Road-infrastructure monitoring is one of the three components of the monitoring-planning-maintenance cycles that encompasses hardware, software, human resources and raw materials. User satisfaction and maintain quality and security of asphalt is very relevant both for the public and private sectors, as the concessionaires of highways. Traditionally, monitoring is carried out by visual inspections and semi-automated surveys, with high-costs and random quality analysis.

SROAD will reduce the costs of road analysis by 50% of the price reported for laser technology, increases the number of scanners per sector and reduces the time of data analysis to a maximum of 30 days.

Paulo Caridade

IPN, Rua Pedro Nunes
3030-199 Coimbra | Portugal
T+351 964 469 206
primelayer.pt
paulocaridade@primelayer.pt

DRONEMED

By Connect Robotics, 2020

DroneMed is a drone delivery service that use GNSS for accurate location. This service is performed without human interaction and is suitable for urgent deliveries.

Raphael Stanzani | Eduardo Mendes

UPTec, Rua Alfredo Allen 455/461
4200-135 Porto | Portugal
T+351 220 301 500
www.connect-robotics.com
contact@connect-robotics.com

GEP CONTROLLER

By Airbone Projects, 2020

The GEP Smart Controller brings a reliable tool for gliding competitions, presenting an electric motor controller with state-of-the-art technology to allow assisted takeoff aircrafts like paragliders and powered paragliders.

www.airborneprojects.com
info@airborneprojects.com

IMS BRIDGE

By MATEREO, 2020

IMS is an Intelligent Bridge Monitoring System for bridge safety and maintenance optimization. This solution enabling early damage detection through the assessment of possible pre-failure bridge deformation.

Jorge Vieira

matereo.com
 jorgealexandre@matereo.com
 jorgealexandre@undersee.io

TRANSNOTES

By Mythical Technologies, 2020

TransNotes aims to enable the full digitalization of the supply chain in the cross-border transportation of goods, paving Europe's way towards efficient and sustainable paperless transport.

mythicaltechnologies.com
 contact@mythicaltechnologies.com

VMS

By Forging Lab, 2020

VMS uses high optical and spectral resolution data to provide valuable information and diagnose the surroundings of utilities companies' assets and complied with regulations to prevent natural disaster as wildfires.

Rui Lopes | Rui Maia

www.forginglab.com
 rui@ forginglab.com
 ruimaia@ forginglab.com

ARGIS

By Allbesmart, 2021

ARGIS is an Augmented Reality Application for Geographical Information Systems that enables water utility workers to see through the ground, identifying underground assets, via Augmented Reality capable devices. ARGIS technology is powered by high-precision Galileo GNSS and Digital Elevation Models from Copernicus. The ARGIS+ project aims to enhance the ARGIS positioning precision by connecting an external Galileo GNSS RTK (Real Time Kinematic) receiver to the AR device. RTK increased accuracy is critical to ARGIS+ being certified as a sub-dm accuracy capable application. Moreover, this brings added value for our customers and opens new markets (e.g., gas utilities where sub-dm precision is critical).

Paulo Marques | Hugo Marques

T+351 933 221 493
 argis.allbesmart.pt
 pmarques@allbesmart.pt
 hmarques@allbesmart.pt

ATSSENSOR PROJECT

By Ativepoint, 2021

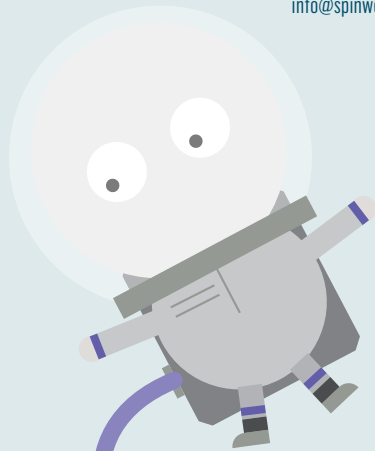
ATSensor project is a State-of-the-art sensor to measure soil moisture level in real time, allowing farmers to increase the water use efficiency. In the ATSensor project, Sentinel 1 and Sentinel 2 and GSM data are used for a constant and bi-directional flow of information and data.

António Saldanha

T+351 916 213 504

www.ativepoint.com

info@ativepoint.com



SCOUT

By Spin.Works, 2021

The SCOUT project is aimed at assessing the feasibility of applying Sentinel 2 imagery enhanced to 2.5m/pixel to continuously monitor permanent crops such as vineyards and olive groves so that the users can detect & locate potential problems and dynamically define zones for variable input application and selective harvesting.

Francisco Câmara

T+351 210 128 452

www.spinworks.pt

info@spinworks.pt

YOUSHIP CONCIERGE

By ShipNow Technologies, 2021

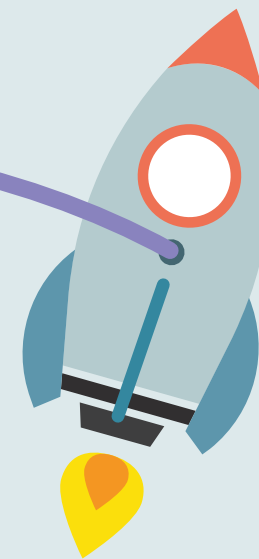
YouShip Concierge is an autonomous delivery robot for last-mile delivery that cuts delivery costs up to 60% using a zero-emission solution. The navigation system based on GNSS location takes advantage of the high-precision positioning of Galileo, particularly in urban areas.

Leonel Simão

T+351 933 407 057

www.you-ship.com

info@you-ship.com



GEODROUT

By TeroMovigo – Earth Innovation Lda., 2022

Radioactive wastes from uranium mines are sealed by a protective plastic layer and soil. Currently, periodic monitoring of the sealing is carried out by visual inspection. The objective of this project is to use for this task drones that use GNSS for their position, which is cheaper, faster and safer.

Machiel Bos

T+351 239 098 176

www.teromovigo.com

machiel.bos@teromovigo.com

SAT.SECURE "FUTURE-PROOF SAFETY: SATELLITE IMAGES IN SERVICE OF SECURITY SOLUTIONS"

By Strong Charon – Soluções
de Segurança, S.A., 2022

This is a R&D project developed by STRONG CHARON that aims to develop a disruptive solution for Private Security, through the use of satellite images, allowing the complement of critical facilities protection with extensive perimeter areas.

Vasco Silva

T+351 210 420 800
www.strongcharon.pt
vasco.silva@strongcharon.pt

C-ITS

By Allbesmart, Lda, 2023

Allbesmart provides a C-ITS Platform that allows road operators to easily configure C-ITS use cases such as the broadcast of Road Accident Warning messages. Allbesmart will test GNSS RTK positioning and EGNOS to improve the accuracy of vehicle location. Moreover, the C-ITS Platform will integrate data from the Copernicus Emergency service to enable the automatic broadcast of emergency messages, such as wildfires and floods, to vehicles approaching areas affected by such disasters.

Paulo Marques

T+351 933 221 493
www.allbesmart.pt
pmarques@allbesmart.pt

GOOD2LIVE AND GOOD2BUILD FOR SUSTAINABLE URBAN DEVELOPMENT

By Our Watch Leads – OWL, Lda, 2023

Good2Live and Good2build use geospatial data and AI to locate the best properties to invest in and the best sites to build on, respectively. Using satellite Earth observation data from the European Union's space program, OWL will be the number one company for location data.

Pedro Resende

T+351 915 619 977
www.ourwatchleads.com
info@ourwatchleads.com

ORBITPAY

By 234 Technologies, 2023

OrbitPay utilizes space-based satellite connectivity to provide a transformative payment solution, ensuring financial access in areas with limited ground cell coverage. A platform that empowers users to conduct secure and efficient digital transactions, bridging the gap in underserved regions.

Ricardo Patrício

T+351 936 740 857
www.p-ay.carrd.co
234technologies@gmail.com

SUNSAT

By Connected, 2023

The proposed service (SUNSAT) is the continuous monitoring of solar photovoltaic (PV) systems, even in remote areas, using affordable, standard satellite communication. SUNSAT aims to ensure optimal performance and minimise maintenance. They plan to do this by using standard ground terminals installed on each CPV and Inverter that communicate with a local network aggregator (called CONNECTED SHARING) which further analyses, processes and transmits outlier or out of threshold data via available Non-Terrestrial Networks (NTN).

Tiago Rebelo | Raquel Magalhães
 tiago.rebelo@connected.space
 raquel.magalhaes@connected.space
 T+351 220 731 314
 www.connected.space

HOTSPA

By TeroMovigo, 2024

Land Surface Temperature (LST) is a crucial geophysical parameter that significantly influences the surface energy and water balance of the land atmosphere system. The significance of LST in agriculture has been increasingly recognised, as it impacts crop growth phases and yields. However, the current satellite spatial resolutions are insufficient to monitor the small agricultural parcels common in Portugal with the necessary detail. This limitation will be addressed with the launch of the new Constellar LST satellite in 2024, which will provide a spatial resolution of 30 metres and a repeat time of 2 days. The objective of the HOTSPA project is to implement the LST images in the web portal and mobile application that TeroMovigo is developing.

Machiel Bos
 T+351 239 098 176
 teromovigo.com
 machiel.bos@teromovigo.com

LIGHTSPIN

By FHP-Frezite High Performance, 2021

LightSpin project intends to develop an advanced solution for metal tooling sector, providing special tools for high throughput machining by using filament winding technology (widely used for structural components like a deployable reflector structure for space applications) with lightweight materials (Carbon Fiber Reinforced Plastic).

Miguel Santos
 T+351 932 530 000
 www.frezitehp.com
 miguel.santos@frezitehp.com

ARTIACKER COSMO

By Ethiack, 2022

Artiacker Cosmo is an artificial hacker for the NewSpace industry. Cosmo will be able to automatically identify vulnerabilities in exposed digital systems, such as data providers platforms or operation and control systems for ground segments and satellites.

Jorge Monteiro
 T+351 239 700 300
 www.ethiack.com
 jorge@ethiack.com

IMPACT2SPACE – RADIATION

By SpacEngineer, 2023

Satellites play a crucial role in modern society, providing essential services across various sectors, with a significant emphasis on innovations in Low Earth Orbit (LEO). However, LEO is increasingly vulnerable to overcrowding, potential collisions between satellites, and debris. Despite the high stakes, satellite manufacturers often prioritise cost-saving measures, compromising on satellite protection and shielding. With collision probabilities reaching 95% over a 10-year period, safeguarding against debris collisions is imperative. Spacengineer aims to address this challenge with the development of Impact2Space, a novel shield combining space-proven materials like cork and Kevlar with proprietary shear-thickening materials. While validated during ESA BIC, Impact2Space also requires certification for radiation under LEO conditions, a task that Spacengineer will undertake using Spark 4 Tech funding, focusing primarily on UV radiation validation.

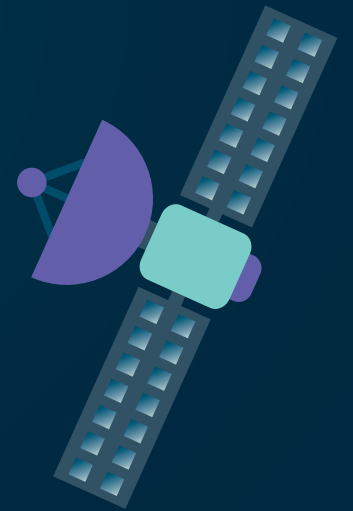
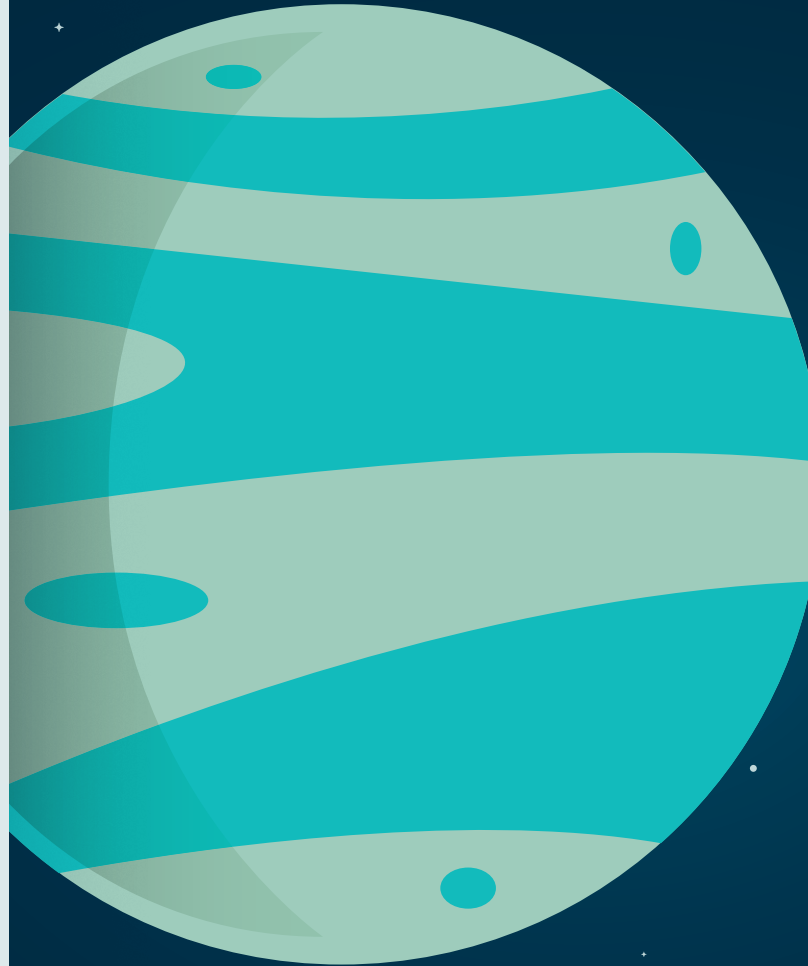
Nelson Oliveira

nelson.oliveira@spacengineer.com

spacengineer.com

www.spaceport.pt

mmorgado@spaceport.pt



INSTITUTO PEDRO NUNES (IPN)

Created in 1991 through a University of Coimbra initiative, Instituto Pedro Nunes (IPN) is a private non-profit organization which promotes innovation and the transfer of technology, establishing the connection between the scientific and technological environment and the production sector.

Its mission is to leverage a strong university-enterprise relationship by acting in three complementary areas:

- Research and technological development;
- Incubation and acceleration of businesses and ideas;
- Highly specialized training and promotion of science and technology.

ESA Space Solutions Portugal

IPN, Rua Pedro Nunes
3030-199 Coimbra | Portugal
T+351 239 700 922
space@ipn.pt
space.ipn.pt



