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SECTOR GROUP AEROSPACE & DEFENCE PROFILES

AS&D Catalogue

EU-based institutions excelling in the field of aeronautics, space, security and defence looking for business and technology partners, or to undertake a new R&D Project under a EU-funded scheme. If you are interested in any of the profiles, please contact your local EEN-partner.

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Aeronautics

Collaboration on high TRL Unmanned Aerial Innovative services

Type of profile: Technology Offer / Commercial collaboration

Summary: Innovative Italian company operating in the Unmanned Aerial Technologies and Unmanned Traffic Management (UTM) domain searches local partners for collaboration in the same market or in alternative markets. The company provides solutions for authenticated tracking services (i.e. traceability with legal value) of data generated by a fleet of drones.

Advantages and Innovations:

- The provided technology is already available on the market alone
- Possibility of tailoring the solution for other markets
- Possibility to offer the solution in bundle with partner's complementary technology, in other application domains .

Type of partner sought: partner offering complementary technology (i.e. UTM platforms, Fleet Management Software,...) to propose together the solution in local or third country markets.

Expected role of the partner: Technology provider, Business partner

EEN: Simone Sparano, Italy – Campania

Additive manufacturing of certified aircraft components: production and technology partners sought (TODE20231018015)

Type of profile: Technology Offer

Summary: A German startup, certified by the European Union Aviation Safety Agency (EASA) for the 3D-printing of aircraft components and focused on polymer cabin interiors, seeks companies who would like to be licensed as production partners. Company can deliver EASA certification and/or machinery. Also, partners are sought for the further development of the technology & hardware, especially regarding metals and composites. Commercial and R&D agreements are sought.

Advantages and Innovations:

- cost-efficient, fast and flexible production of small series on-site
- EASA certification / licence can be sold to production partners

Type of partner sought: MROs (maintenance, repair, and overhaul companies), equipment manufacturers (OEMs) and aviation suppliers that want to acquire an EASA certification and use additive manufacturing for the aviation industry, also R&D Partners (see summary)

Expected role of the partner: integration of the technology and use for their own clients

Link to the profile: https://een.ec.europa.eu/partnering-opportunities/additive-manufacturing-certified-aircraft-components-production-and

Contact EEN: Johannes Böhmer, EEN Germany – North Rhine-Westphalia

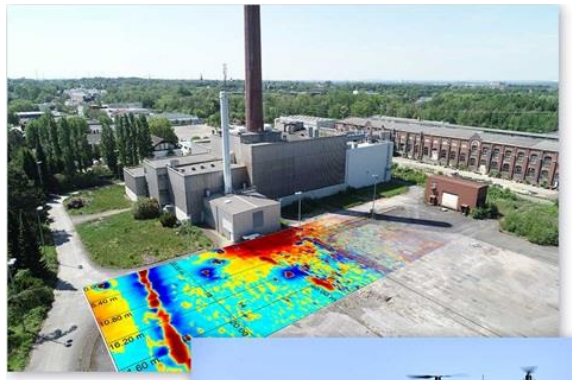
Geomagnetic drone-surveying of ferrous contaminated soils (TODE20221108030)

Type of profile: Technology Offer

Summary: A German start-up has developed a geomagnetic drone-surveying technology allowing for quick and precise exploration of surfaces and sub-surfaces. Ferrous materials, such as pipelines, explosive ordnance, powerlines or relics in the underground, can be detected in impassable terrains by overflight without causing any destruction. Commercial agreements with technical assistance are sought, especially in the areas of underground construction, infrastructures and the oil & gas industry.

Advantages and Innovations:

- Time saving: Large and inaccessible areas can be surveyed 10x faster through automated processes
- Cost saving: 50% less expensive compared to conventional methods, no preparatory work on the surface required
- Safety, no destruction, Precision: Automated data evaluation through software with AI integration



Type of partner sought: private or public partners from the aforementioned industries

Expected role of the partner: integration of the technology into surveying activities

Link to the profile: https://een.ec.europa.eu/partnering-opportunities/geomagnetic-drone-surveying-ferrous-contaminated-soils

Contact EEN: Johannes Böhmer, EEN Germany – North Rhine-Westphalia

Drone tethering- (linking) systems for a permanent (24/7) drone deployment (TODE20221004009)

Type of profile: Technology Offer

Summary: A German full service provider in the sector of unmanned aerial systems offers several innovative systems including a drone tethering system that links drones with the power supply. Cable length up to 120 metres. The company is looking for sales and service partners on the base of in form of commercial agreements with technical assistance

Advantages and Innovations:

- Solution enables permanent flight altitudes up to 120 metres (increase in height or a much larger radius of movement)
- high bandwidths for upstream and downstream can be provided for the first time. Up to 200 Mbit can pass through the line in both directions, so that real-time analyses in video format are no longer a problem.
- cable supplies the copter with uninterrupted power, so that flight times of 24 hours a day

Type of partner sought: drone service providers (maintenance of drones), providers of drone flights (safety, security, damage and condition control, rescue) or dealers of drones

Expected role of the partner: The partner should have an interest in using or trading the tethering system and in taking up, advising and supporting the technical requirements of the customers.

Link to the profile: https://een.ec.europa.eu/partnering-opportunities/german-full-service-provider-sector-unmanned-aerial-systems-offers-drone

EEN: Jörg Büsel, EEN Germany – Lower Saxony (Niedersachsen)

Flexible and modular industrial drones using AI

Type of profile: Business Offer / Technology Offer

Summary: Beyond Vision is an industrial drones manufacturer. Its class 3 full electric hexacopter and VTOL hybrid aircraft are particularly interesting due to its flexibility and modularity which enables easy adaptations to new scenarios of operation, including AI-based procedures. Wide telecommunications portfolio enables long-range and wide availability.

Advantages and Innovations:

- AI capabilities on-board
- Wide communications portfolio
- Mechanical and electrical modular so to enable easy adaptation to new scenarios of operation

Type of partner sought: Partner capable of creating/adapting new scenarios for operation with drones, widening the portfolio that our drones have already shown good performance

Expected role of the partner: To work in the development of these new scenarios

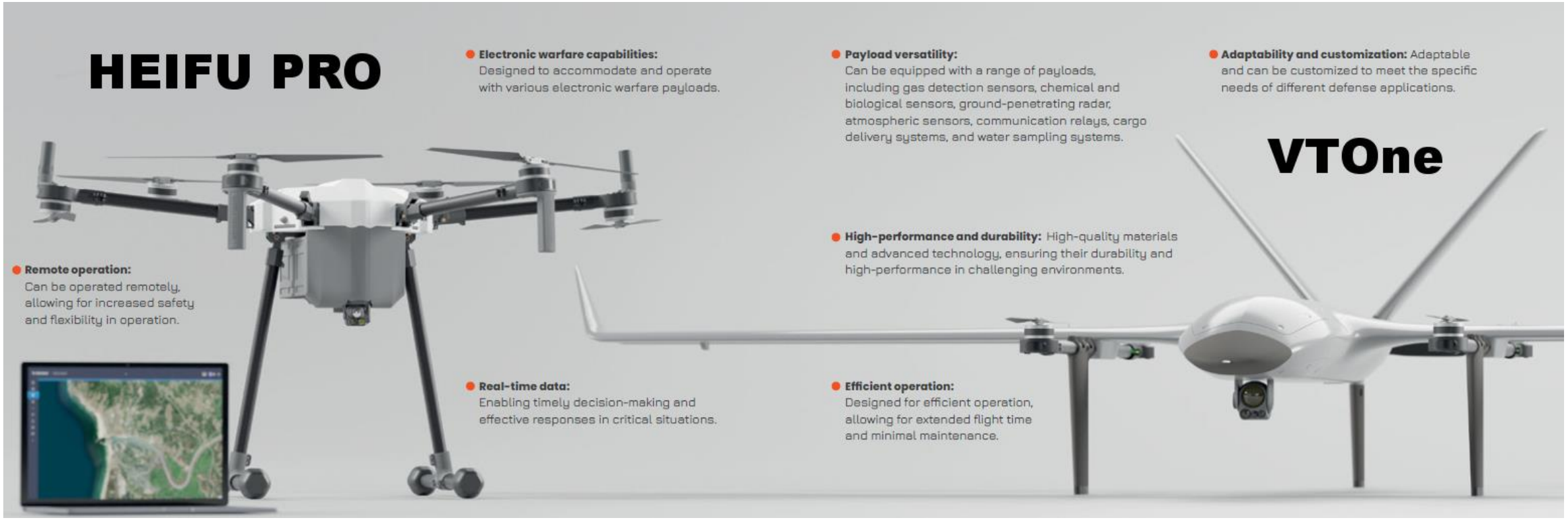
Link to the profile:

- https://beyond-vision.com/

Additional information, pictures, etc: on next slide

Contact EEN: Jorge Duque, PORTUGAL

Drones pictures



A Spanish company offers their ionic wind devices for cooling electronic components

Type of profile: Technology offer

Summary: A Spanish company has specialized in the development of cooling solutions for electronic components, designed to meet the Size, Weight, and Power (SWaP) requirements of the aeronautics sector. With half the weight, half the volume, and half the energy, they address aerospace, commercial, and defense applications that demand high performance in compact, lightweight, and power-efficient forms.

Advantages and Innovations: Fan and fan-assisted heat sinks are heavy, have a difficult geometry adaptation and produce a lot of noise. The company's ionic wind devices are totally silent and much lighter, being able to adapt to any geometry. How do they work? When high voltage is applied to 2 electrodes, electrons are stripped from neutral particles in the air, generating ions. These ions are accelerated in an electric field generating an air current. Their technology has 2 patents.

They are also looking for consortium partners to take part in 2 EDF calls for proposals (deadline 05/11/2024):

- EDF-2024-RA-AIR-UCCAS-STEP: Unmanned collaborative combat aircraft (U CCA) systems
- EDF-2024-DA-GROUND-AIFV: Next generation armoured infantry fighting vehicle

Type of partner sought: OEM, Tier 1 and Tier 2

Expected role of the partner: System designer and avionics manufacturer.

Contact EEN:
Rosalía Vicente Alfonso
EEN-Madrid (Spain)

A Spanish company offers high-performance electronic computing systems

Type of profile: Business Offer

Summary: A Spanish SME founded in 2013, offers its innovative high-performance electronic computing systems for the acceleration of intelligent software applications.

Advantages and Innovations:

- Expertise: embedded electronic systems development (HW & SW, including firmware, kernel SW and embedded application SW), Soft IP development for FPGA, Artificial Intelligence inference, Big Data systems, cybersecurity, agile development, rapid prototyping, DevOps and continuous integration.
- They cover the entire life cycle of its products in Spain: research, requirements, system definition, hardware and software design, manufacturing, qualification and certification.
- The have a flagship producto (a Series of Flight and Mission Computers), which is a line of robust and versatile systems that have achieved remarkable success in the market (A400M, C295, Eurofighter, Tiger MK3, EuroDrone, Sirtap, FCAS...).

Type of partner sought: OEMs and end customers.

Expected role of the partner: Partners are expected to provide system requirements, enabling us to deliver tailored solutions that meet the specific needs of end customers. Our expertise covers areas such as edge computing, predictive maintenance and tactical systems, ensuring advanced customized solutions.

Additional information, pictures, etc: the company is continuously developing the product family and new high-performance systems that offer up to 100 times the computational capabilities of current on-board systems, as well as advancing research in hardware and software for explainable artificial intelligence.

Contact EEN:
Rosalía Vicente Alfonso
EEN-Madrid (Spain)
rosalia.vicente@madrimasd.org

A Spanish company offers its advanced structural engineering solutions for the aerospace sector

Type of profile: Business Offer

Summary: The Madrid-based company seeks partners to become distributors or advisors for its Advanced Aerospace Structural Engineering Software to reach potential clients (Tier-1, Tier-2, aerospace engineering companies).

Advantages and Innovations:

- Next level Suite for Structural Analysis developed to improve processes and save huge time in projects. The suite incorporates tools for automation, optimization and easy connection to AI not existing in the market. The majority of users are Airbus TIER-1 and consulting companies, that really increase their efficiency and profitability in highly intensive environments.

Type of partner sought: partners, distributors or advisors

Expected role of the partner:

- Distributors: SMEs with experience in Finite Element structural analysis that would like to sell an excellent disruptive solution to their current or new customers.
- Advisors: individual engineers that have relevant experience and excellent reputation, that can refer it to their contacts.

Contact EEN:
Rosalía Vicente Alfonso
EEN-Madrid (Spain)

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Space

A Spanish company specialized in spacecraft thermal control offers its thermo-mechanical engineering services and hardware solutions for satellites

Type of profile: Business Offer/Technology Offer

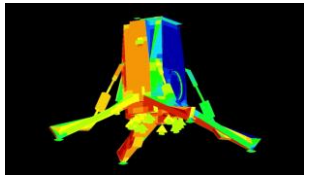
Summary: The Madrid-based company is focused on solving the most challenging thermal issues in the space sector, providing high quality engineering thermo-mechanical services and developing state of the art hardware solutions for the highly dissipative and extremely compact upcoming satellite generations.

Advantages and Innovations:

- Optimized structures made by additive manufacturing with embedded heat transport devices.
- Low mass
- Passive heat rejection

Type of partner sought: Spacecraft or aircraft integrators / TIER 1 electronic equipment suppliers, aiming for an improvement in heat dissipation to avoid malfunctions of their components.

Expected role of the partner: Customers



Contact EEN:
Rosalía Vicente Alfonso
EEN-Madrid (Spain)

A Spanish company offers its advanced technology for Surface Coating with Ultra-Pure Nanoparticles with extensive applications in the aerospace sector

Type of profile: Technology Offer

Summary: The Madrid-based company has developed a new methodology for synthesizing ultra-pure nanoparticles and surface coatings. This technology allows for a wide range of coatings in high value-added applications such as aerospace, electrodes, sensors or prostheses.

Advantages and innovations: The company's technology mitigates the limitations of traditional chemical methods of nanoparticle synthesis, such as the presence of impurities on the surface, poor homogeneity of coatings, and generation of toxic residues.

Type of partner sought: Device manufacturers who need to make coatings. Satellite, electrode, sensor, lens manufacturers, etc.

Expected role of the partner: as the company follows a B2B model, ideal partner should be able to market the devices enhanced with the surface coatings.

Contact EEN:
Rosalía Vicente Alfonso
EEN-Madrid (Spain)

German applied research institute for logistics is looking for aerospace engineering, - recycling or space debris partners to submit a proposal to the EIC Pathfinder – Space Challenge call (RDRDE20240515002)

Type of profile: Research & Development Request

Summary: A German applied research institute is looking to develop new methodologies and designs relevant for in-space logistics in the context of the EIC Pathfinder Space Challenge. The project will address three main areas of circular design principals for space components, piloting of a smart-waste-container and the set up of a decentralized verification system for secure documentation of components. Suitable partners are aerospace engineering and aerospace recycling companies or space debris experts.

Type of partner sought:

- Aerospace companies with in-depth knowledge of the engineering of space components and transport equipment
- Partner with expertise in additive manufacturing for aerospace / in-orbit manufacture
- Partner with expertise in space debris

Expected role of the partner: The German research institute seeks partners willing to work with them on developing this concept from a very fundamental level into a fully-fledge methodology which will serve to increase the resilience and sustainability of in-space infrastructure. They are ready to take on the project coordination but would also be open for other partners wishing to act as coordinator.

Deadline for applications is October 16th, 2024, therefore the EOI deadline is set for August 31, 2024.

Call: EIC Pathfinder Challenges - European Commission (europa.eu)

EEN: Johannes Böhmer / Cornelia Schwizer, EEN Germany, NRW

Link to the profile: https://een.ec.europa.eu/partnering-opportunities/german-logistics-applied-research-institute-looking-aerospace-engineering

Innovative Coatings for Aerospace applications

Type of profile: Technology & Business Offer

Summary: ATLA is a Centre of excellence for Special Processes on high tech components of turbomachines, such as superalloy blades and vanes, mastering know-how intensive technologies, heat treatments at very high temperatures and handling proprietary coating formulas. The company has an experience on commercial, military engine programs and is engaged in several research and innovation projects.

Advantages and Innovations:

- Develop advanced protective coatings for aero engines.
- Invest in new technologies and competitive solutions
- Improve engine efficiency to reduce fuel consumption and emissions, increasing safety.
- Enable hot engine components to operate at higher temperatures with extended lifespan.
- Reduce weight and production cost of complex engine parts.

Type of partner sought: Manufacturing partner (OEM)

Expected role of the partner: Manufacturer of propulsion systems, aircraft and aerospace engines

Links: https://www.atla.it/
https://it.linkedin.com/company/atlaturbine

EEN: Daniela Cena, Italy – ALPS EEN

Standard Interface for Robotic Manipulation (SIROM)

Type of profile: Technology Offer

Summary: A Spanish company has developed SIROM, a family product of modular plug-and-play interfaces for on-orbit satellite servicing. SIROM is a multifunctional interface combining in a single and integrated form:

- Mechanical interface for capture and hard docking
- Electrical interface for power transmission
- Data interfaces for high-rate data transfer
- Telemetry and telecommand control interface
- Optionally, a resupply interface for refueling or heat regulation

Advantages and Innovations: Customization of

- Data protocols and number of data lines
- Active-Passive (X), only Active (A) or Passive (P) versions
- Configurable power supply for X/A SIROMs of families E, F and G.
- Electrical power transfer (number of lines, electrical performances)
- Integrated or distributed electronics to control several SIROMs with a single and modular electronics module.
- Visual servoing system (Marker based)

Applications: On-orbit servicing, Refueling, resupply, In-orbit assembly, Assembly of large structures or antennas in space, Payload upgrade or replacement for satellites, Robot tool exchange, Active debris removal
Stage of development: Already on the market

Type of partner sought: big companies, startups, Space primes

Expected role of the partner: commercial agreement with/without technical assistance

Link to the profile: Robotic Manipulation Standard Interface for Space applications | Enterprise Europe Network (europa.eu)

EEN: Susana Larrea, Basque country / Spain

Materials for Extremes – Ceramic matrix Composites

Type of profile: Technology Offer

Summary: Dutch start-up that has developed ceramic matrix composite materials, where strength and fracture toughness are combined with ablation resistance and high working temperatures. These light-weight materials find their application in the extreme environments of nozzles, thermal protection systems and combustion chambers. They are looking for development partners.

Advantages and Innovations:

- Arceon carbon fibre-silicon carbide material: low density, high temperature resistance (stable up to at least 1600 C), low CTE and high flexural strength. Additionally, by using different fibres or additives, these properties can be tailored to applications.
- The material is ideal to replace the high-density metals currently used to make rocket engines. The resulting reduction of mass and removal of cooling systems leads to increased performance, decreased complexity, improved system efficiency and the promise of easy, fast, and sustainable reusability.

Type of partner sought: component manufacturer -> producers of rocket engines, research institutes to further develop material

Expected role of the partner: Collaborative: a (research) project will be started together to best apply the solution to the application

Link to the profile: not available yet

EEN: Niklaas van Hylckama Vlieg, NL/Zuid-Holland,

Autonomous system that maximizes onboard energy generation by orienting solar panels towards the Sun

Type of profile: Technology Offer

Summary: Dutch-Italian start-up that develop mechanisms and actuation systems for small satellites. Their first product is a cost-effective and autonomous system that maximizes onboard energy generation by orienting solar panels towards the Sun.

Advantages and Innovations:

- Doubling the operational time of payloads and the revenue of commercial satellite operators.
- Fail-safe system thanks to the patent pending SnapBack backup mechanism

Type of partner sought: Users (satellite integrators) and business partners (related components manufacturer)

Expected role of the partner: [...]

Link to the profile: not available yet

Contact EEN: Niklaas van Hylckama Vlieg, NL/Zuid-Holland

Enabling COTS for space radiation environment by optimized processes for characterization and testing (TODE20240521012)

Type of profile: Technology Offer

Summary: A German research institute has developed improved processes to perform radiation qualification of Commercial Off-The-Shelf (COTS) components for use in space. Advantages include a faster and more cost-effective testing and thus a higher reliability. Public or private partners are sought for research or technical cooperation agreements. Especially sought are producers and users of COTS components and partners with expertise in New Space, SmallSats and conventional satellite applications.

Advantages and Innovations:

- COTS components can be purchased faster and cheaper
- Higher Reliability of radiation results
- Can contribute to the faster and more cost-efficient development of space missions
- Availability of state-of-the-art testing facilities and measuring tools.

Type of partner sought: companies, research institutions or public entities having expertise in the above-mentioned technology field.

Expected role of the partner: Technological cooperation or R&D Projects

Link to the profile: https://een.ec.europa.eu/partnering-opportunities/enabling-cots-space-radiation-environment-optimized-processes-0

Contact EEN: Johannes Böhmer, EEN Germany – North Rhine-Westphalia

German SME seeks biopolymers that are suited for space application to be integrated into sustainable and lightweight cubesat structures

Type of profile: Technology Request

Summary: A German SME with background in high performance plastics has developed a prototype for sustainable cubesat structures using high performance polymers and "green" aluminum. Sought are suppliers of biopolymers, i.e. polymers that are produced from natural sources and are bio-degradable, that are suitable to be used in space. These shall replace the standard polymers used until now.

Advantages and Innovations:

- Less use of raw materials and reduction of C02 emittance
- Cost-efficiency
- Avoidance of space debris by using polymers instead of metal (burn faster and in a higher atmosphere)
- Burns up without residue when entering the atmosphere, avoidance of toxic gases that occur when metals burn up

Type of partner sought: companies, research institutions having expertise in the above-mentioned technology field. Also sought are manufacturers of cube-sats and satellite integrators to speed up market entry.

Expected role of the partner: Technological cooperation or R&D Projects

Link to the profile: not available yet

Contact EEN: Johannes Böhmer, EEN Germany – North Rhine-Westphalia

Greek SME offers an innovative, smart, patented personal radiation dosimeter with a platform allowing for instant measurement for persons working in radiation environment conditions such as in healthcare, space, nuclear industry (TOGR20220510013)

Type of profile: Technology Offer

Summary: A Greek SME has developed and offering a patented, innovative, smart, personal radiation dosimeter capable of measuring all key types of harmful radiation (X-rays, Gamma, Heavy ions, Beta and Neutrons), with higher sensitivity and accuracy, in real time. The company is looking for distribution agreements with medical or safety equipment providers. Or commercial agreements with technical assistance with end-users such as hospitals, aerospace agencies, nuclear industry facilities etc.

Advantages and Innovations:

- The offer dosimeter can help people to protect their health, at last, effectively from radiation. Compared to passive dosimeters, it has much higher sensitivity, it can detect the lower limit radiation that the passives simply cannot. It has also increased accuracy to pulsed radiation , the main source of radiation in healthcare. It can detect all types of harmful radiation. It can continuously record and transfer automatically the data. The dedicated platform used allows the process of data and to prepare reports. Healthcare organizations and Radiation Protection Authorities are able to comply with legislative requirements and make administration easy, fast, less costly and secure.
- As a piece of evidence, the product is used by 3 well-known aerospace agencies, a large aerospace company, an atomic federation and many hospitals globally. The company has also received the Seal of Excellence for the innovative design and significant impact of the dosimeter.

Type of partner sought: The Greek company is seeking for distributors of medical or security equipment. These partners should be able to connect to sectors such as healthcare, space, aviation, nuclear industry and other similar sectors, in which radiation poses a risk for health. The company is also open to conclude commercial agreements with technical assistance with end-users (such as hospitals, atomic or space federations) that wish to provide directly the dosimeters.. Excluded countries: Belgium, Netherlands, Luxemburg, Greece, Italy, Portugal and Brazil in which the company has distributing partners.

Link to the profile: https://een.ec.europa.eu/partnering-opportunities/greek-sme-offers-innovative-smart-patented-personal-radiation-dosimeter-0

Contact EEN: Achilleas Barlas, Greece

A French SpaceTech is looking for research laboratories or scientific partners or academics interested in flying their experiment/payload to Low Earth Orbit (BOFR20240227015)

Type of profile: Business Offer

Summary: The Company has developed a universal payload hosting solution enabling simple, reactive and sustainable access to orbit. Based on a "space USB"-like technology, it gives users a universal and modular framework to independently develop and operate in orbit their payload.

Advantages and Innovations:

Compared to dedicated satellite missions, this offer is :

- Simpler (drastically reduces the number of interlocutors and size of team)
- Quicker (flight opportunities are ready to fly and can lift-off with payloads in less than 6 months where traditional satellites need at least 18 months)
- More qualitative (Thanks to platform sharing, high-end subsystems are available to payloads and by booking ressources onboard partners can benefit from power peaks, telecom peaks, pointing accuracy or computing capacities that would have never been possible onboard a dedicated mission)
- More sustainable (reduced mass and number of satellites, maneuverability actively reduces the creation of orbital debris)

Type of partner sought: This solution is perfectly suited for research, science and academic players looking to launch their experiment without bothering with the space segment (platform & launch procurement, ground segment, low-level operation)

Expected role of the partner: The partner will : -Integrate its payload into the given containers OR Buy an existing payload -Operate its payload in orbit with a simple Linux interface – Use its data for scientific purposes (Astrophysics, Earth Science, fundamental science)

Link to the profile: https://een.ec.europa.eu/partnering-opportunities/french-spacetech-looking-research-laboratories-or-scientific-partners-or

Contact EEN: Clément Requier, EEN France – CCI Paris Île-de-France

Defence & Security

Anti-UAS mobile system – Swatter Company (TOPT20240314004)

Type of profile: Technology Offer

Summary: Portuguese start-up that develops deep tech equipment with dual use capability for the public security and defense sector. Currently, Swatter developed two working prototypes (SPG Vanguard System) that has been tested and demonstrated with military entities interested in the system's capability. The SPG Vanguard System targets the recent problem with unauthorize unmanned aerial systems (drones) that has increased over the years around the world.

Advantages and Innovations:

- hand-held counter unmanned aerial system with jamming & spoofing technology.
- intelligent jamming technology system so as not to interfere with other systems.

Type of partner sought: investment partners, not only bring financial resources but also offer strategic guidance and industry connections to propel Swatter's growth in the counter drone market.

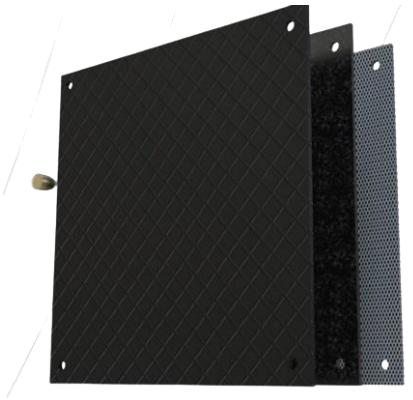
Expected role of the partner: A partner who will accompany Swatter and help to scale the development of Swatter 's projects, who has a good connection to the market and area in which Swatter develops its projects, and who may have the ability to enter the counter drone market.

Link to the profile: https://een.ec.europa.eu/partnering-opportunities/anti-uas-mobile-system

Contact EEN: Jorge Duque, EEN Portugal – Lisbon

CompactShield – Lightweight Ballistic Protection

Type of profile: Technology Offer



Summary: Introducing CompactShield, a cutting-edge ballistic decorative compact crafted with advanced composite materials leveraging nanotechnology, high-performance fibrous materials, and innovative high-energy absorption structures. This unique combination results in a sleek, lightweight, and thin compact that provides effective ballistic protection.

Advantages and Innovations:

From conception to production, entirely by one company; Utilizing cutting-edge technology for superior ballistic performance; Adaptable to diverse applications, showcasing its versatility in various fields; Exceptional strength with feather-light design combining resilience with lightweight efficiency ; Utilization of high-performance materials; Use of recyclable and sustainable materials.

Type of partner sought: Companies that need customizable Lightweight Ballistic Protection

Expected role of the partner: Project management, development, and oversight of customizations for ballistic protection.

Link to the profile:

Additional information, pictures, etc: capability to offer 800 m2 of ballistic protection per day.

Contact EEN: Jorge Duque, Portugal

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