

lunes, 20 de septiembre de 2021

Horizonte Europa - Cluster 4:"Espacio". Boletín Informativo 20 de septiembre

Os transmitimos la siguiente información que pudiera ser de interés: Se han publicado en el Portal electrónico de llamadas desde las instituciones europeas ("eTendering") las siguientes licitaciones:

1. Una licitación de la Agencia Europea de Defensa (EDA) para "**EU SatCom Market - Provision of Communication and Information System (CIS) Services for Headquarters and Deployed Forces**", más información en el siguiente [enlace](#).
2. El día 5 de Octubre de 14:00 a 17:00 hrs. CET tendrá lugar online el 3º Webinar de **EU SST: "Building the future of SST"**, organizado por EUSST. Este seminario web presentará cómo se está construyendo el futuro de la Vigilancia y el Seguimiento Espaciales en la UE a través de estudios de arquitectura, actividades de desarrollo de capacidades y actividades de I + D. El webinar también contará con la participación de la Comisión Europea y presentaciones de la industria espacial (Airbus Defence and Space, Fraunhofer FHR, GMV, Indra, OHB, SAFRAN y Share My Space). Podéis encontrar la agenda e inscribiros en el siguiente [enlace](#).
3. Hasta el 15 de Octubre estará disponible la **Partner Search Tool** desarrollada por 4 oficinas RTD de Burselas (CZELO, SLORD, NRDIO & PoISCA) para poner en contacto a las partes interesadas que tengan interés en los topics relacionados con **Copernicus del Destino 5 "Space"** del Programa de Trabajo del clúster de **Horizon Europe**. La **Partner Search Tool** está disponible en el siguiente [enlace](#).
4. La start-up estonia Skudo está haciendo una búsqueda de socios para los siguientes topics:
 - HORIZON-CL4-2021-SPACE-01-11: End-to-end satellite communication systems and associated services
 - HORIZON-CL4-2021-SPACE-01-12: Future space ecosystems: on-orbit operations, new system concepts
 - Actions delegated to ESA: GOVSATCOM Technology Development and implementation of system innovative features
 - HORIZON-CL4-SSA-SST-SD - SST Networking, Security & Data sharingPodéis encontrar más información sobre dicha compañía en el **Anexo 1**.
5. La compañía francesa Kinéis está haciendo una búsqueda de socios para los siguientes topics:
 - HORIZON-CL4-2021-SPACE-01-11: End-to-end satellite communication systems and associated servicesPodéis encontrar más información sobre dicha compañía en el **Anexo 2**.

IMPORTANTE: Para continuar recibiendo información recomendamos daros de alta en el canal RSS de espacio del nuevo portal de [Horizonte Europa](#).

Manifestation of interest in Horizon Europe CL3/CL4

SKUDO (www.skudo.tech) is a young and vibrant start-up based in Tallinn/Estonia. We work with hardware-based encryption solutions for space and drone applications and we are now seeking for the right partners in Europe for applying to selected Horizon Europe (CL3 and CL4) funding projects. Our core expertise lies in the combination of FPGA technology with specific space protocol implementations (e.g. CCSDS) and security architectures, for embedded applications.

At SKUDO we foresee a world where all data communication (especially those in the critical infrastructures, space, drones and government applications) are protected, encrypted and safe. We also strongly believe that at least within Europe we must use European-made cyber security technologies and especially encryption/authentication.

We have developed our own FPGA chip (implementing an HSM). We designed and implemented all the functions within the chip entirely in Verilog without the need for any extra layers of software (firmware) nor using third party ready module cores. This allows SKUDO to be able to port our HSM modules to any FPGA from any manufacturer, thus allowing to implement it in any space grade FPGA chip. On the research side we are also looking into PQC (Post Quantum Cryptography) and Quantum resistant algorithms to be added to our FPGA solution.

It is our mission to design, develop, build and assemble all our solutions entirely in Europe to ensure the absolute safety of our products and reduce the risks of backdoors.

We have recently (July 2021) successfully completed our first ESA contract. Within that, we designed and developed two new Extended Procedures which modify the CCSDS SDLS TM/TC standard by adding asymmetric cryptography, digital certificates (X.509), mutual authentication, and a PKI. Everything is integrated in the same solution, relying on our HSM/FPGA chip for all the crypto primitives and demoed via a VHF (144.8 MHz) data packet modem link. With our new upcoming ESA contract (Q3-2021), we agreed to expand on the above and get space validation by using the orbiting OPS-SAT satellite providing end2end hardware encrypted data link to the ESOC.

As part of our IPR, we have various Verilog cores. Symmetric encryption: Camellia, Camellia-CBC, Camellia-CTR, AES-GCM (fast version up to 1.4 Gbps and compact version), AES-CBC, AES-CTR. Asymmetric: Elliptic Curve25519 (ECDH), Ed25519 (signature and verification). Hashing: Skein, SHA3-512 (Keccak) and SHA512. True Random Number Generator (TRNG): FIGARO. Other cores are on the making (e.g. PQC). All crypto functions are embedded and running in our custom FPGA chip (without OS, bare-metal) without the use of third-party libraries and brand independent.

We are looking forward to cooperate with other European companies, research centers or Universities with the aim to build a consortium and bid on those Horizon Europe projects.

Additional links:

Article on ZDnet: <https://www.zdnet.com/article/from-encryption-to-iot-this-regions-startups-are-forging-new-frontiers-with-space-technology/>

Kryptor PCB on CrowdSupply: www.skudo.tech/kryptor



Global IoT connectivity provider






Kinéis Overview



What is Kineis?

Our mission is to make **space connectivity accessible**

About Kinéis

-  **Global IoT connectivity** provider
-  Service already **operational and commercially available**
-  **40+ year experience** in location and data collection
-  Satellite constellation **already fully financed**
-  **Simple integration** and **easy to use**

Key milestones

- 2023**
Full constellation deployed
- 2020**
100M€ fundraising
- 2018**
Kinéis creation
- Successive Argos generations** and satellites deployments
- 1978**
Design of the Argos system by the CNES/NASA

Kinéis key figures



Created mid-2018



7 M€ turnover in 2020
100 M€ raised in 2020



50 employees



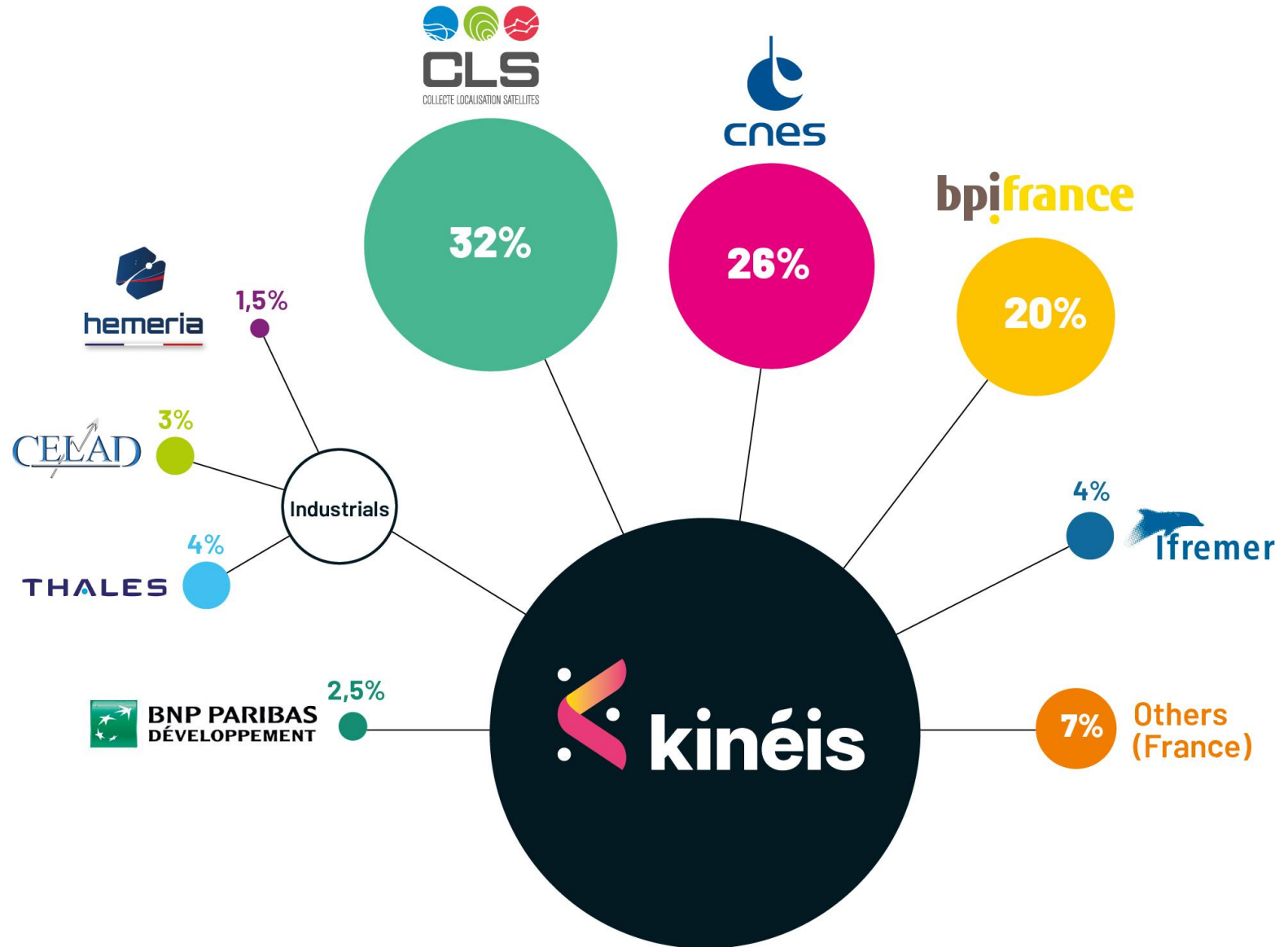
8 already operational payloads on satellites



20.000 active devices



2023 Launch of the 25 nanosats



Kinéis system

Our Offer

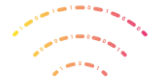
- **Global coverage** as of today
 - Current revisit time **1.5 hour**
 - Revisit time in 2023 < **15 min**
- **30-Byte** messages – **2 ways** communication –
- **Native location** via Doppler Effect

Our Technology

- **8 satellites** already in orbit
- **25 nanosats with launched in 2023**
- Licensed frequencies UHF (~400 MHz)
- 5 Payloads of AIS (Automatic Identification System) High Performance in **2023**
- Low transmission power (**100mW**)



Global



IoT dedicated



Low cost



Long lasting



Easy &
Reliable

Market positionning



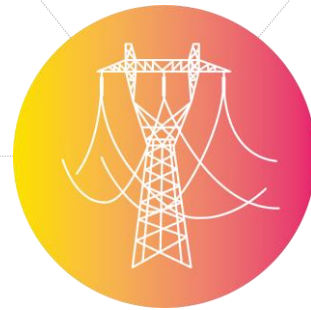
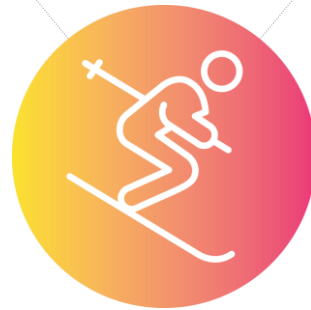
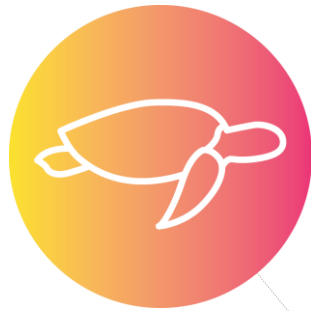
Market verticals

Sciences &
Environment

Humanitarian missions

Maritime

Smart agriculture



Outdoor activities

Networks &
Infrastructures

Transports & Logistics

Price scale

Worldwide Coverage

Old Space

- 100€ module
- 15€ connection
- High power consumption

Low price

- < 20€ modules
 - 1-10€ data plans
- ## Low power consumption
- 1W => 100mW

Terrestrial Connectivity

- 5€ module
- 1€ connection

Low Price

**Kinéis
Products
allow a
smooth
integration**



Product line

Chipsets



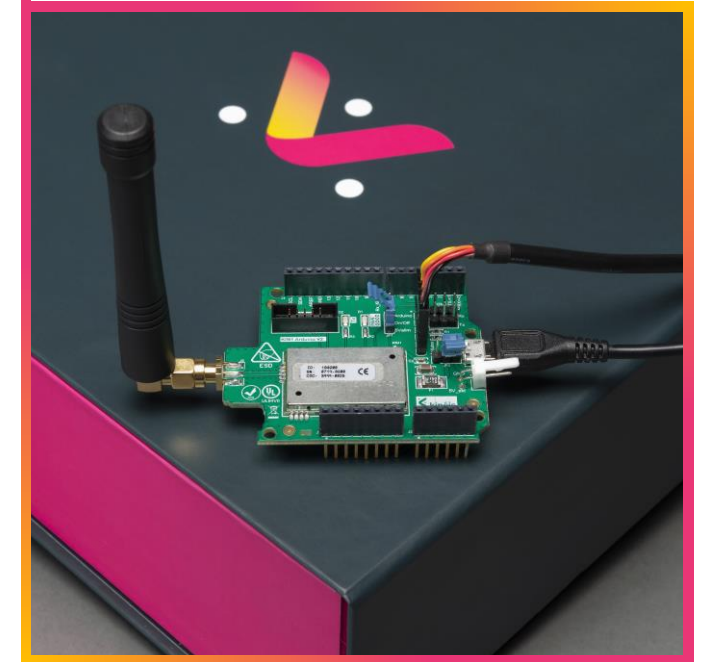
RF transceiver managing multiple modulations

Modules



Quick and easy integration

Evaluation boards



Test immediately and prototype

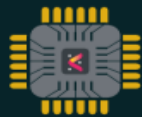
...and other off the shelf equipment

Space Priority Program

Test Kinéis IoT Connectivity With Privileged Access
Enter the Space Priority Program



Modules



A development kit



Privileged access to Kinéis IOT connectivity



Technical support at your disposal



Access to a personalised web platform to display your data



A complete analysis at the end of each project, with recommendations for the future

