

CEO

Dr. Konstantinos
Antonakopoulos

FOUNDED
2021

ORGANISATION TYPE
Startup

PERSONNEL
Total: 5
Space: 5

TURNOVER (2021)
Total: N/A
Space: N/A

**R&D INTERNAL
INVESTMENTS (2020)**
N/A

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WEB SITE

www.bitrezus.com
www.astropledge.com

OTHER SITES

N/A

UPSTREAM

MIDSTREAM

DOWNSTREAM

CORE BUSINESS

Bitrezus is focusing on reducing the risk of cyberattacks against space assets, using a combination of embedded H/W and blockchain technology to create an extra level of security. We enable critical opcode consensus in real-time, among untrusted partners, for resilient and cyber-proof operation of both space and ground infrastructure.

Current satellite systems were not designed with security in mind. They have weak encryption and use legacy systems that are not easily patched or updated. Additionally, existing cybersecurity solutions rely on terrestrial stations becoming a single point of failure and performance bottleneck and are hardly scalable due to their centralized nature. Based on reports, a cyber-attack on the Global Positioning System alone could cost the U.S. \$1 billion a day.

Our solution, Astropledge, is targeted towards the satellite manufacturing segment (upstream) and the satellite services, including ground operations. Our focus is the EU, with the European space industry being the second largest in the world, estimated to be worth €53-62 billion. Approximately 1700 satellites will be launched every year until 2030, and in the next decade we will witness a trend in the increase of mega-constellations, largely composed of small-sats, with 60% of those in the Satcom industry.

Our vision is to be able to evolve Astropledge product to become a central component for intelligent diagnosis and self-healing of the software and firmware existing in the components and subsystems of the space asset and are vital for its operation. After 2026, our goal is to identify market opportunities in other industries internationally, such as manufacturing, maritime, energy, and others. We envisage a subscription-based model including hardware and software support and an SLA model for node maintenance, system and hardware level upgrades.

PRODUCTS AND SERVICES

- Astropledge software solution
- Astropledge embedded HW to be integrated in space objects

TECHNICAL MEANS

- Blockchain technology & governance
- Embedded HW for light-node operation
- Smart contracts

MAIN CUSTOMERS

- Satellite manufacturers (upstream) LEO, MEO, GEO
- Satellite and ICT Operators
- SMEs and Startup ecosystem
- Satellite-based Internet Services and Commercial Satellite Services Providers
- ESA, EUSPA
- Ground Segment Vendors

MAJOR PROJECTS

- N/A

STRATEGIC PRIORITIES

- Establish collaborative partnerships with satellite manufacturers and potential customers
- Develop and validate Astropledge software solution with existing COTS hardware

LOOKING FOR PARTNERSHIPS AND COLLABORATIONS

- To co-elicit and solidify Astropledge requirements for LEO, MEO, GEO
- To identify critical opcodes and customer expectations
- To co-develop and design the embedded HW
- To help validate Astropledge software solution with in-orbit or flight-qualified OBC/Cubesat
- Safety and Security vendors
- GOVSATCOM Operators

CAPACITIES RELATED TO THE NATIONAL STRATEGY

- Enhanced Cybersecurity and Governance Solution for involved parties (Strategies: Development of a national small sat, Ground infrastructure & 4. User alignment (Ministries))

MICROSATELLITES CAPACITIES

- Expertise in space assets tokenization including virtual shards for constellations of microsatellites

MARITIME CAPACITIES

- Expertise for sea/portable sat receivers' tokenization for better governance and enhanced cybersecurity

SERVICES THAT MAY BE OFFERED TO THE SPACE ECOSYSTEM

- Blockchain architecture and solution (from design to launch)
- Consulting on Cybersecurity/Penetration testing
- Consulting on Artificial Intelligence
- Consulting on Software development
- Consulting on Software testing



ASTROPLEDGE
SPACE LAYER