

Satellite & The Cloud Virtual Conference

**Opening New Avenues
For Secure Data - Satellite infrastructure and
Blockchain**

**Presented By: Cliff Beek
15 February 2024**



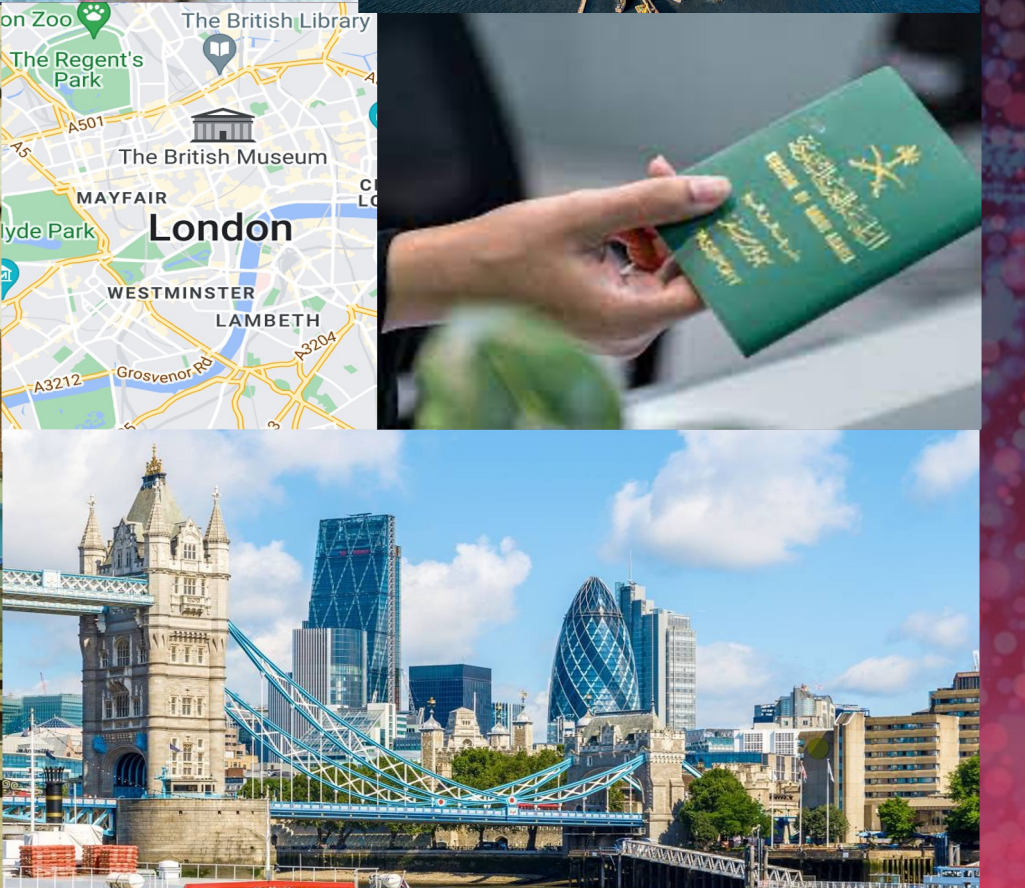
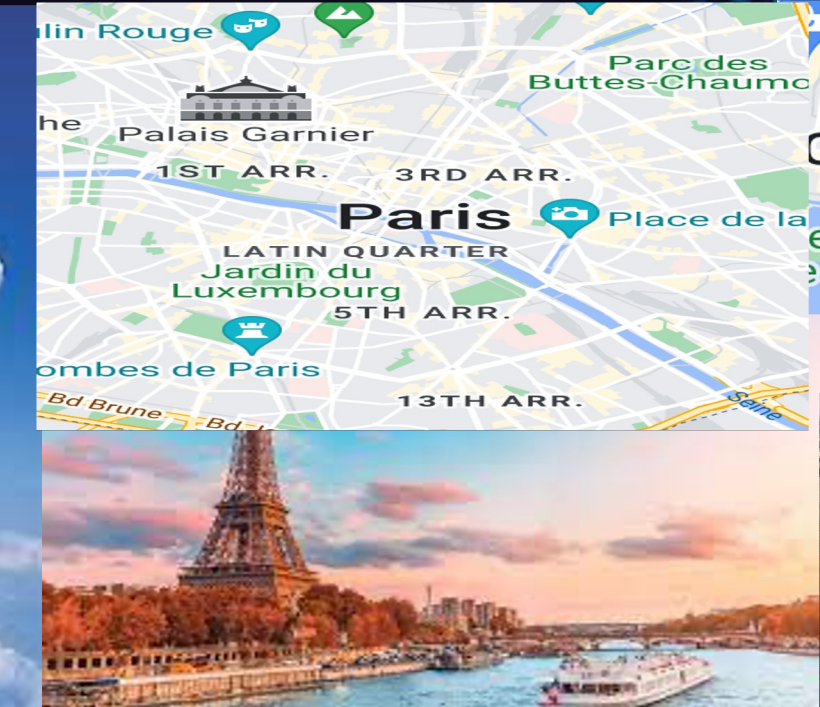
Problem Definition:

Increased engagement in cross - border transactions, a pressing challenge emerges in safeguarding the sovereignty of sensitive data

Avoid Ground Infrastructure

Public terrestrial communications infrastructure:

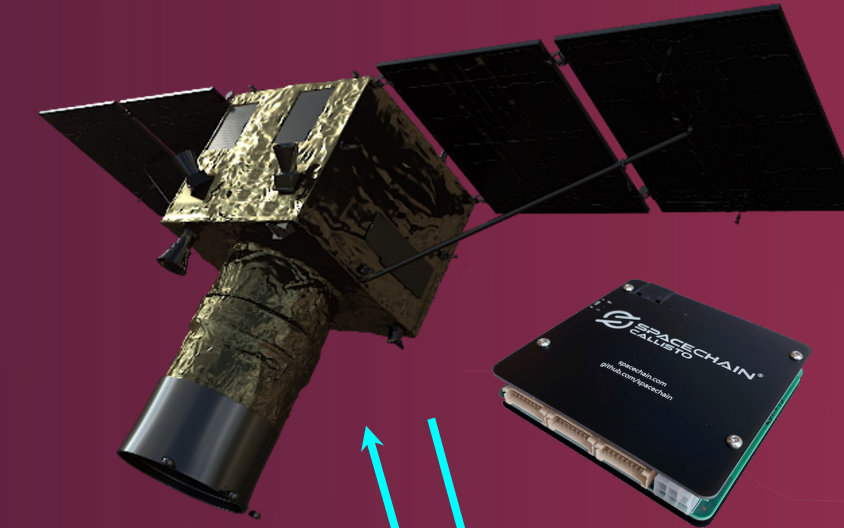
- International peering networks susceptible to vulnerabilities
- Infrastructure outages damaged by natural disasters, or deliberate actions.
- Man-in-the-middle Attacks between two parties without their knowledge
- Interception of Communications that can compromise privacy



The Digital Constellation

Block Chain nodes has enabled

- Satellite communications supporting **fintech transactions**
- Direct satellite **data acquisition**
- Direct **tasking** of a Satellite



**Satellite with
BlockChain
hardware/software**

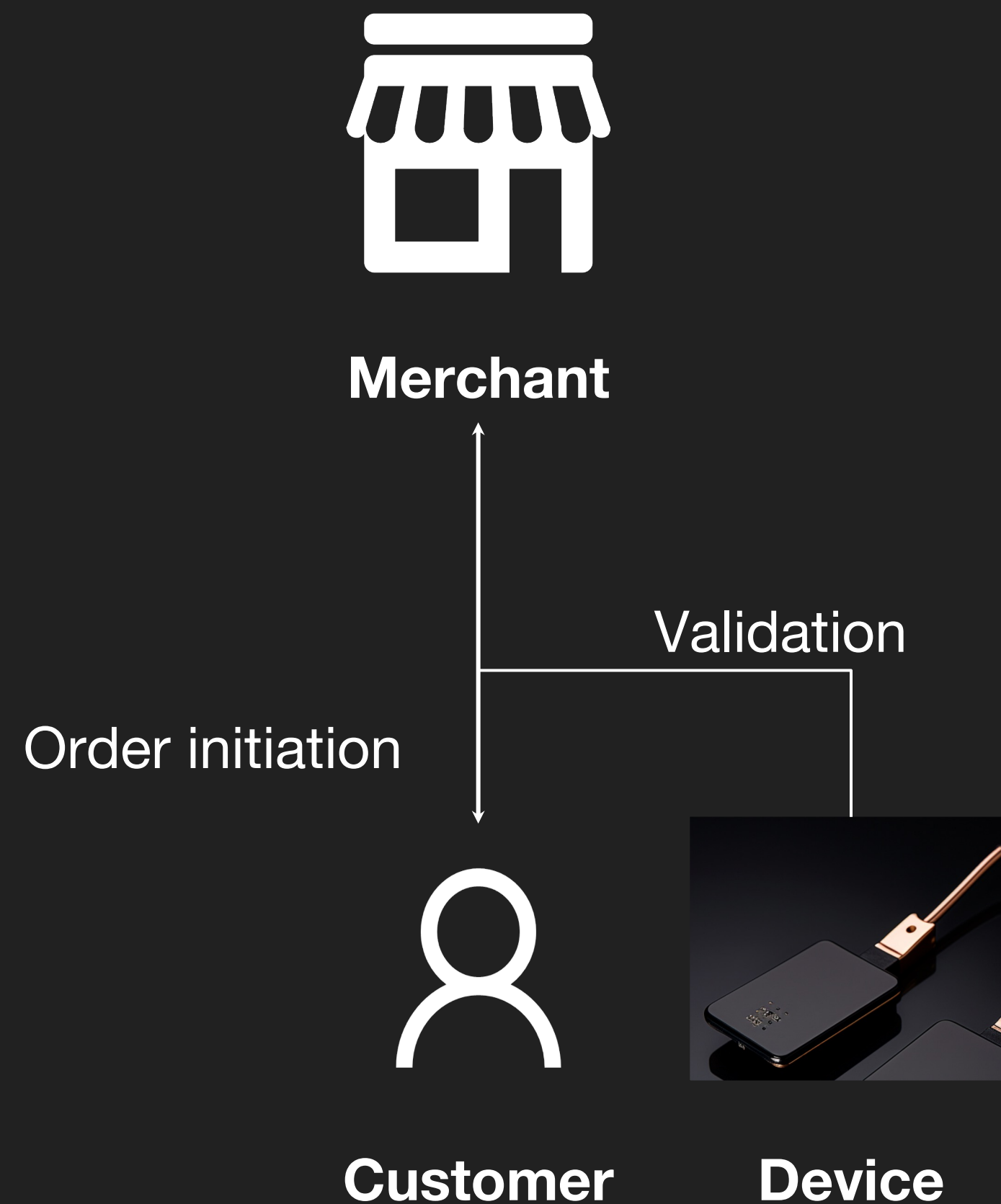
**Direct user
interaction**



Solution Overview

Data Security and Intelligence

CASE OF TRANSACTION



SEPARATION OF INITIATION & VALIDATION

- Validation is achieved via a completely
- independent secure communication channel



Achievements

The 7 Launches

2018: Initiation

First & second space node for fintech

2019 - 2021: Growth with European Space Agency and ISS



First & second fintech and cybersecurity node on the ISS

2022: Leading space solutions for fintech and cybersecurity

Integration with edge computation and cloud infrastructure



Credits



NASA Cybersecurity



Inception Partner



Google Space & Cloud



Value-added developer

The Intelligence Digital Accessibility to Space Products

to-Business: **Commercial contracts**

to-Consumer: Significant user **growth**

Collaboration with major EO providers



SINERGISE



MAXAR



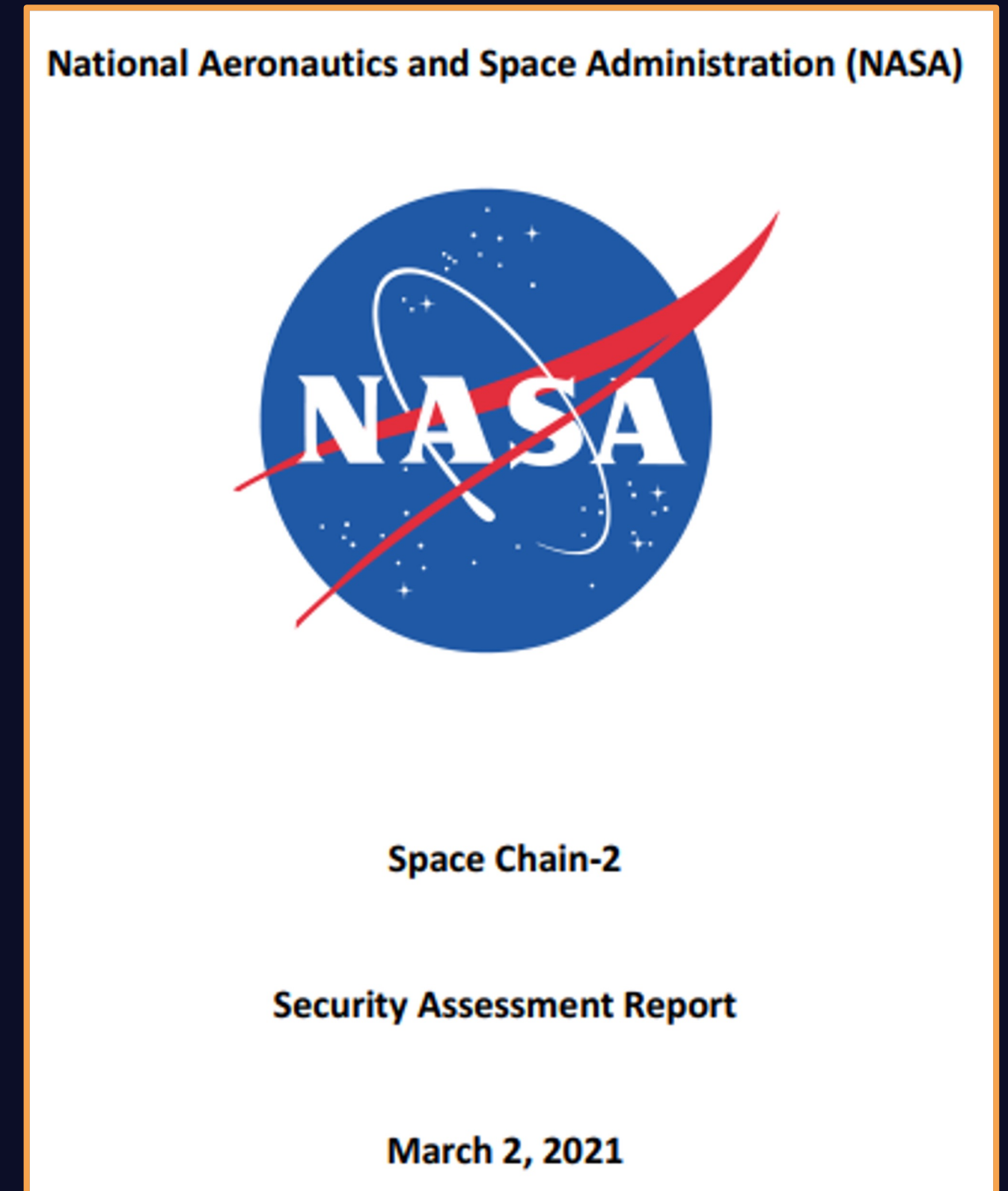
History and Growth with the ISS

3 digital transactional service built by SpaceChain
have been launched aboard various Falcon9 rockets &
installed on the International Space Station (ISS)

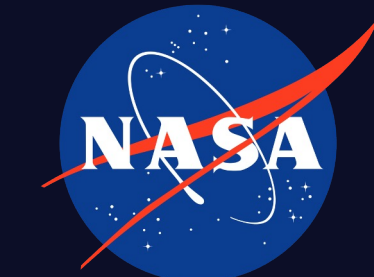
June 2021

Dec 2019

Nov 2022



NASA astronaut Jessica Meir installing our fintech
hardware on the ISS.



Main Product and Services

 **iridium**® Iridium value-added developer



Secure global communication service

Secure access to space services and space intelligence from anywhere at anytime



Edge computation payload launch

Financial grade-security cyber-chip
Edge computation in space



Mission Accomplished



User experience and user interface



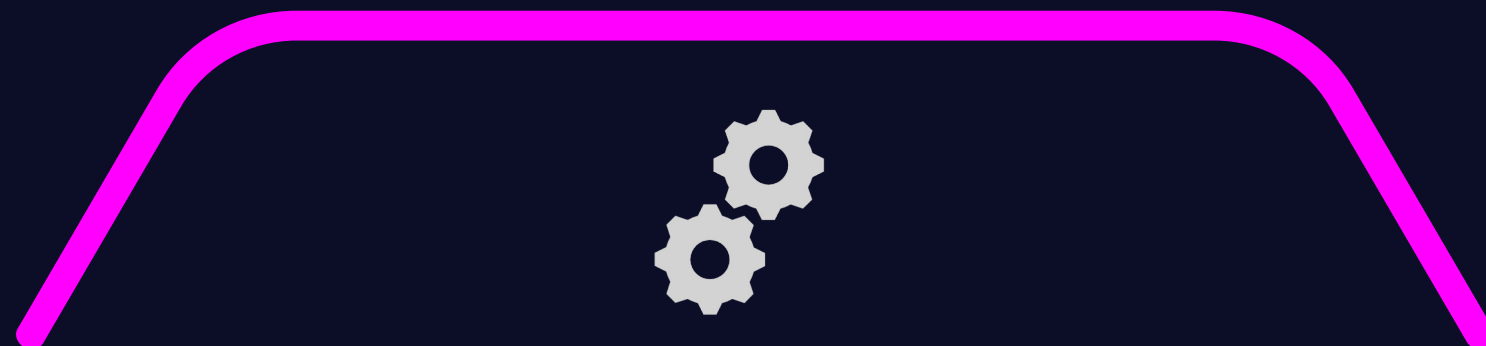
Open-source and open integration

Open environment allowing integration from third party developers, open SDKs and open repositories.



Applications

Earth observation with integrated processing; space assets accessibility for data storage.



Analytics and decentralized data access

DLT infrastructure for direct data access, and machine learning for direct space data usage.



Physical and hardware

Secure space-enabled hardware and communications infrastructure.
Supported by 7 LEO/LSS satellite launches and Callisto FPGA secure payload.

Analytics and Decentralized Access



Functionality:

- Democratize access to Earth Observation and space services
- Raw image processing technique
- Deep learning techniques
 - Land classification
 - Object detection on EO

Training outcome - pathway to career development



Skills

Hardware & Software
Advanced scientific research
Space mission planning
Space industry intelligence



Connections and personal growth

Develop space business insights
Strengthen advanced
technology awareness



Long term collaboration

Offer to work in SpaceChain
Saudi
Develop local space and high-
tech industry

**Students'
contribution to Space
Program**



The Disruptor in Space



spacechain.com



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