

Subject: Advancing Space Communication: 22-bit Encrypted Visual Binary Infrastructure & Blockchain ROS

Dear International Space Station Team,

My name is Graeme Kilshaw, and I am currently developing a 22-bit visual binary telecommunications and network computing infrastructure designed specifically to enhance the capabilities of space exploration missions.

I am writing to share recent advancements and invite discussion regarding the integration of encrypted visual binary code and linguistics into astronautic and cosmonautic operations. This system is engineered to provide secure, efficient, and highly adaptable solutions for command, communication, and control (C3) in the unique and demanding environment of space.

## Advantages of 22-Bit Encrypted Visual Binary Code:

**Enhanced Clarity and Redundancy**: The visual binary format supports clear and intuitive recognition, even in low-bandwidth or signal-degraded conditions, enabling robust communication where traditional methods may fail.

**Multilingual Abstraction**: By abstracting commands into a universal visual binary layer, language barriers between international crews can be significantly reduced.

**Compact, High-Fidelity Data Transmission**: 22-bit visual binary code allows for concise yet rich information encoding, minimizing transmission costs while maximizing reliability.

## Blockchain Robot Operating System (BROS):

As part of this infrastructure, the Blockchain Robot Operating System (BROS) has been designed to provide a transparent, tamper-resistant foundation for autonomous systems in orbit and beyond. Its decentralized architecture ensures that mission-critical processes — from robotic task execution to inter-module coordination — are logged and verified securely, fostering trust and traceability across agencies.

## BROS offers:

**Distributed Reliability:** Proven blockchain mechanisms adapted for fault-tolerant robotic and network systems.

**Cybersecurity at the Core:** Native encryption and consensus protocols ensure data integrity during long-duration missions.

Interoperability with Existing ROS Standards: Seamless integration with current robotic systems used aboard ISS and upcoming missions.

These technologies are envisioned not only to support near-Earth operations but also to scale toward lunar, Martian, and deep space exploration missions where independence, precision, and security are paramount.

I would greatly appreciate the opportunity to share additional technical details and explore potential collaboration or testing opportunities within your communication and robotics frameworks.

Thank you for your dedication to pushing the boundaries of human knowledge and cooperation in space. I look forward to hearing from your team.

Warm regards,

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