

# FUTURE SPACE TRANSPORTATION FLPP AUTUMN SESSION 2025



INSPOC-3

## HULD CZECH



**Location:** Czech Republic

**Founded:** 2015

**Employees:** 20

**Mission:** We navigate smoothly between the physical and digital worlds, offering an internationally unique combination of human-centred software and product design expertise

## ESA INSPOC-3 ACTIVITY

**Project name:** InSPoC-3 – On-Board and Shared Intelligence for Autonomous Space Logistics

**Objective:** Study the technologies and architectures needed to support intelligent, autonomous cooperation and fleet-level coordination for future in-space logistics.

### Applications

Space:

- Cooperative fleet behaviour for space tugs
- Autonomous navigation and relative positioning
- Collision avoidance and rendezvous
- Constellation deployment and refilling use cases

## GET IN TOUCH

**Website and Socials:** [www.huld.io](http://www.huld.io) | [www.linkedin.com/company/huld](https://www.linkedin.com/company/huld)

## TECHNOLOGY AND INNOVATION

**What we developed:** A modular, layered mission control architecture integrating digital twins, AI-driven decision engines, and resilient communication networks for real-time coordination of autonomous space assets.

**Unique features:** A hybrid ground + in-orbit architecture combining physical spacecraft with real-time synchronised digital agents, supporting testing of coordination, autonomy, and decision-making in realistic operational conditions.

### Key Activities:

- Defined use cases for constellation deployment and orbital refilling
- Outlined autonomy requirements for navigation, communication, and collision-avoidance phases
- Developed the structure for fleet-level task allocation and coordination
- Described the hybrid demonstration approach pairing physical tugs with digital twins

## NEXT STEPS & MARKET READINESS

The study contributes to shaping the in-orbit demonstration concept for InSPoC-3, including:

- phased testing of navigation, communication, and collision-avoidance capabilities
- integration of fleet-level coordination through the Mission Planning and Control System (MPCS)
- continued development of digital twin-supported decision-making and autonomy