

LEIDEN, NETHERLANDS - DECEMBER 2015

THE FUTURE OF ISS UTILIZATION: AN INDUSTRY PERSPECTIVE



**BLUE
ORIGIN**



#FUTUREISS

MS. MARY MURPHY

NANORACKS INTERNAL
PLATFORMS

#FUTUREISS

PANEL: INTERNAL INTERNATIONAL SPACE STATION PAYLOADS

- Moderated by Ms. Mary Murphy, NanoRacks Internal Payloads Manager
- Panelists
 - Mr. Dorin Prunariu, Cosmonaut and Member of the Board- Romanian Space Agency
 - Mr. Gary Stutte, President, Synerge LLC
 - Dr. Fengyuan Zhuang, Professor, Beijing Institute of Technology
 - Mr. Luca Briganti, Head of Life Science and Commercial Payloads, Airbus DS



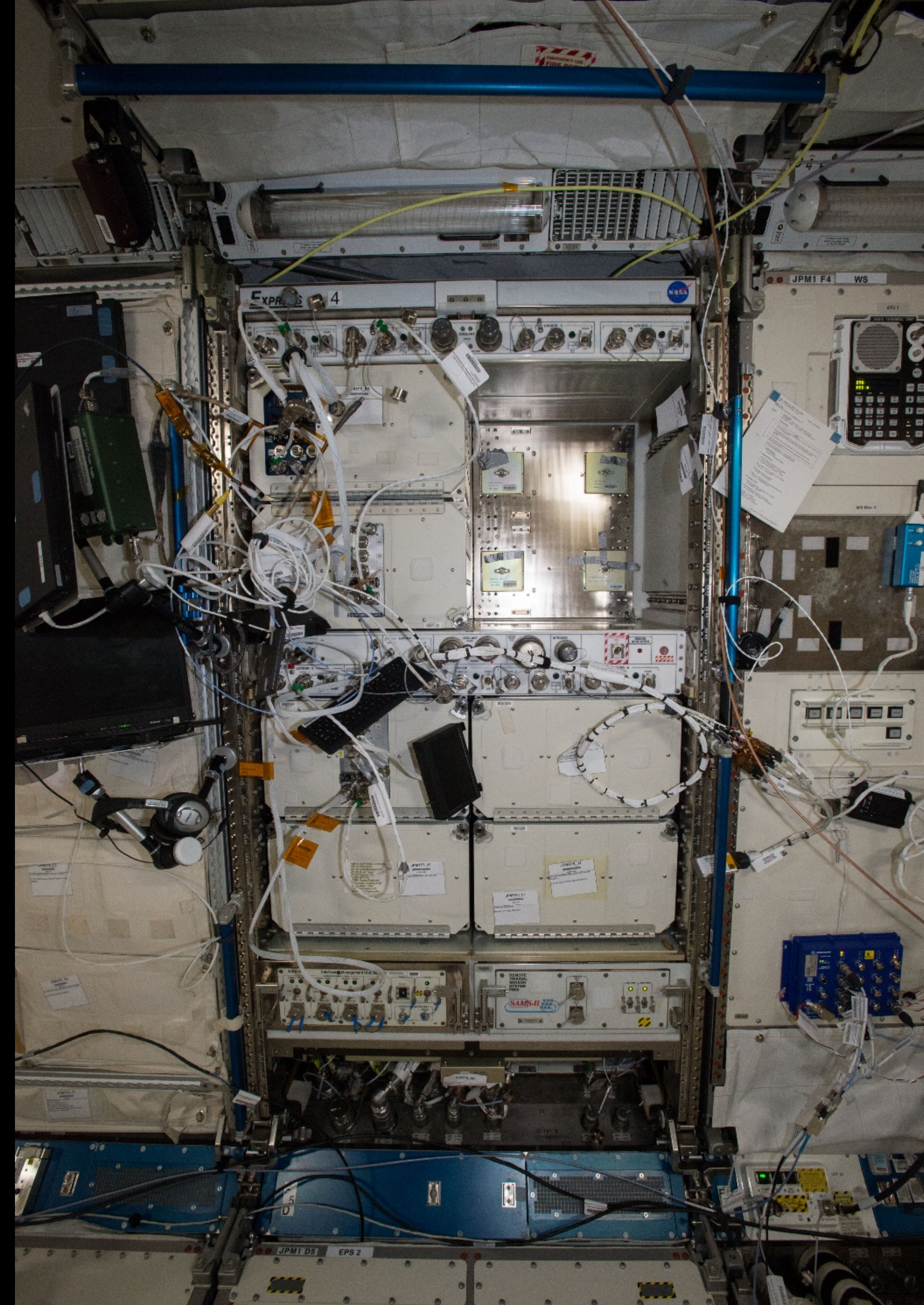
NANORACKS INTERNAL PAYLOADS HISTORY

- Began with first two research platforms, NR-1 and NR-2. Customers quickly followed!
- Added MixStix - great for educational and sophisticated biological projects with no power
- Plate reader, centrifuge
- Quickly we came to running a business offering quality research at a low-cost to private organizations, government agencies, high schools ,universities, and consumer goods!



CURRENT HARDWARE

- Frame 3
- Platforms 1A and 2A
- Plate Reader 2
- ASIMOV



The True Customer Experience

LAKWOOD HIGH SCHOOL: HYDROFUGE

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TIMELINE FOR INTERNAL PLATFORM SERVICES

Milestone

Contract signing, experiment name and general payload information

Submit initial manifest request

Detailed information for Safety and Ops

Phase 0/I/II SDP

Complete hardware testing

Submit procedures inputs and payload requirements

Phase III SDP submit

Phase III Safety Review Close Out and Final Approval

Order labels

Turn over to NR for final testing and prep

Turn over to NASA

Time from Launch

L-8 months to NLT L-6.5 months

NLT L-6 months

NLT L-6 months

L-5.5 months

L-5.5 to L-4 months

L-5.5 to NLT 3.5 months

NLT L-3.5 months

L-2 months to L-2.5 weeks

NLT L-3 months

L-45 days to NLT L-32 hours

L-30 days to NLT L-24 hours

THE PROCESS

- Contract signing
- Initial safety data call filled
- First Safety Review
- Feedback provided
- Final design information
- Final Safety Review Approval





TURNOVER



LAUNCH



DELIVERY



ON-ORBIT
OPERATIONS



RETURN



LANDING



RETRIEVAL



RECEIVE AT
NANORACKS

NANORACKS IS

READY FOR YOUR PAYLOAD



TYPE OF NANOLAB

PASSIVE



PLUG N PLAY

