

CASIS™

The Center for the Advancement of Science in Space

*Manager of the International Space
Station U.S. National Laboratory*

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6 June 2014

NATIONAL LAB: RESEARCH IN SPACE FOR LIFE ON EARTH



CASIS STRUCTURE

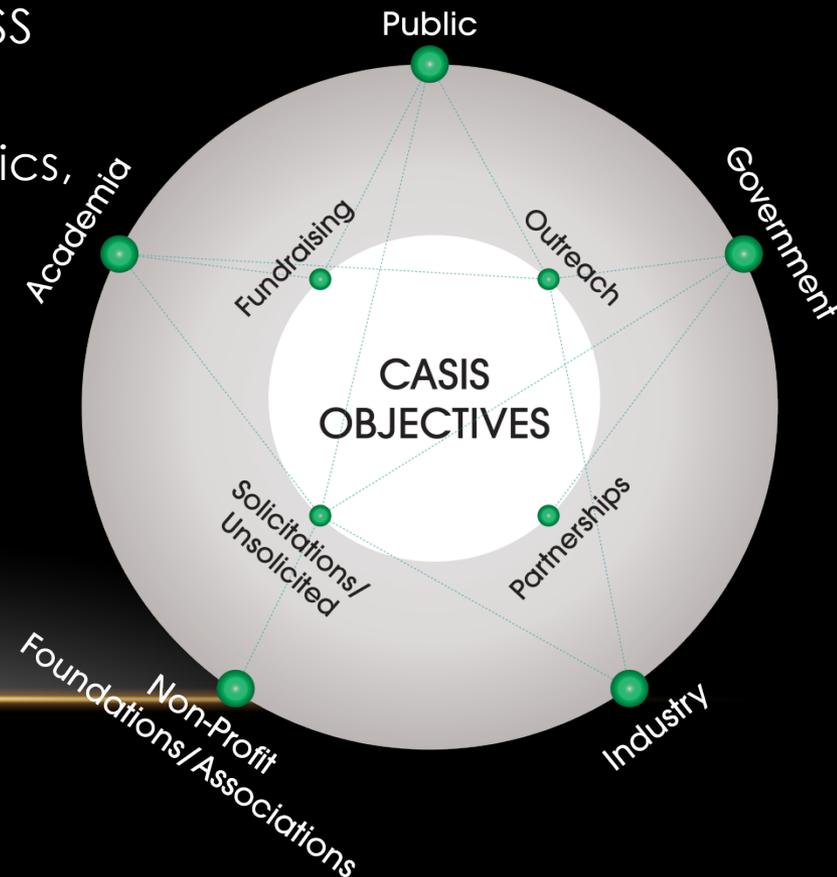


▲ NGO, non-profit:

- Develop & manage a diverse R&D portfolio based on National needs and ISS capabilities
- Communicate the value of the ISS
- Stimulate use by OGAs, academics, and **commercial entities**

▲ Seed initial research, support application, promote commercialization

▲ Collaborate with NASA on enabling technology



STRATEGIC APPROACH



WHERE WE ARE



- ▲ Grants issued against research portfolio
 - Life Science/Biomedical
 - Material & Physical Sciences
 - Earth Observations & Remote Sensing
- ▲ Awards along with Unsolicited research 2012
- ▲ Flight payload manifest late 2013
- ▲ Research return commenced early 2014

- ▲ Through 2016 – Demonstration of value of microgravity and LEO with respect to terrestrial need

- ▲ In parallel, establishment of long-term research initiatives
 - Stem cell, PCG, Omics, Phase change, Remote sensing
- ▲ Identification and development of H/W & technology needs

WHERE WE ARE GOING



- ▲ Replicating the ground-based gold standards for R&D
 - Established facilities, analytics, capabilities to enable high-throughput research
- ▲ Creating facilities with multi-user capability
 - Trading single PI requirements for plug & play interoperability
- ▲ Establishing models for commercial services
 - Analytical capabilities on orbit, Processing on ground
- ▲ Identifying transportation, volume, automation needs for commercial utilization
 - Informing the commercial launch market of supply & demand

ANTICIPATED NEEDS FROM THE COMMERCIAL SECTOR



- ▲ Cost competitive marketplace for integration services
- ▲ Commercially desirable process for accessing ISS NL
- ▲ State of the art H/W and analytical capabilities that mirror ground-based facilities
- ▲ Real-time access to data and research
- ▲ Transportation solutions:
 - Last-minute accessibility
 - Power up & down
 - Up & down

& more....



CASIS™

*Proving the Value of LEO today for a
successful tomorrow*
