China Space Station Bridges the world

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Recent Update

Core Module Tianhe

The Core Module Tianhe was launched into low earth orbit by a Long March-5B on April 29, 2021

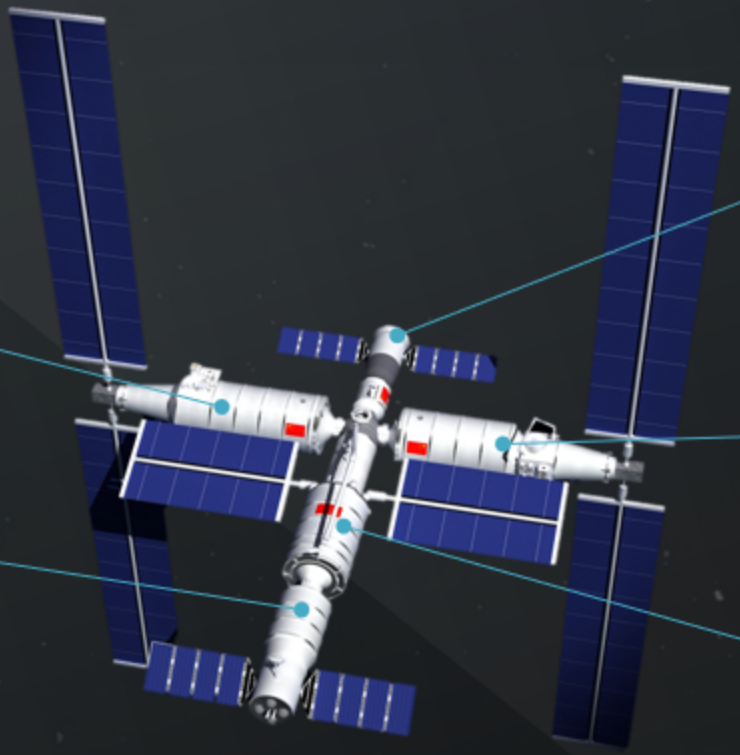
Tianzhou 2 cargo ship

A Long March 7 rocket, carrying the Tianzhou 2 cargo ship, blasts off from the Wenchang Space Launch Pad on May 29, 2021

Rendezvous and Docking

At 5:01 on May 30, Tianzhou 2 docked on the Tianhe Core Module in autonomous rapid rendezvous and docking mode.

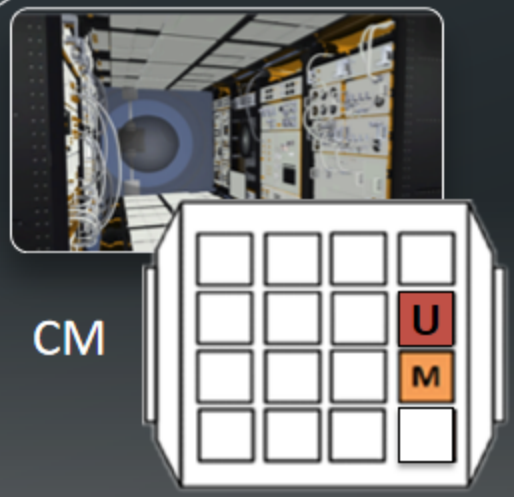
CSS facts

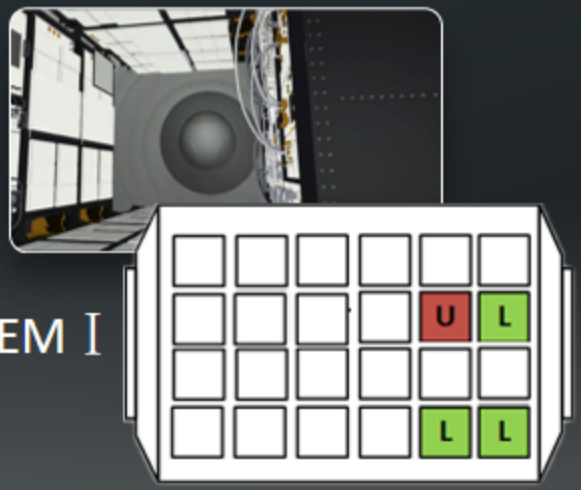


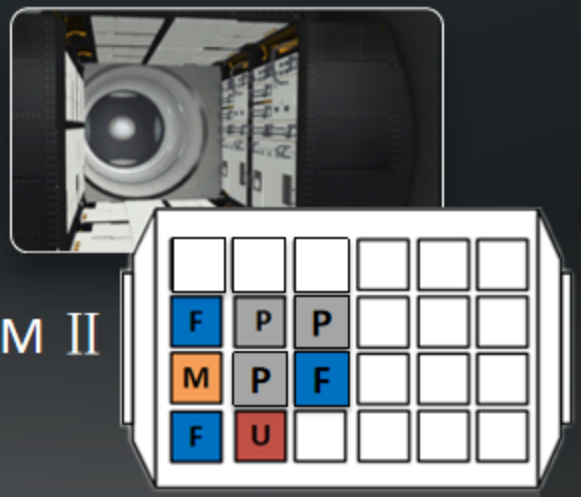
Experiment Rack	20+, in pressurized cabin	**Microgravity level**	10^{-3} on average, 10^{-7} can be achieved
Payload adaptor	67, exposed	**Payloads support**	17 tons , 12kW
Altitude	350-450km	**Crew on board**	3， 6 during rotation
Lifetime	≥10 years	**Cargo ship**	6t to orbit

Research Disciplines

Utilization Support Capability







Ecology Science Experiment Rack (ESER) (2022)
Biotechnology Experiment Rack (BER) (2022)
Science Glove-box and Refrigerator Rack (SGRR) (2022)

L *Space life sciences and biotechnology*

Fluids Physics Experiment Rack (FPER) (2022)
Two-phase System Experiment Rack (TSER) (2022)
Combustion Experiment Rack (CER) (2022)

F *Microgravity fluid physics & combustion*

Material Furnace Experiment Rack (MFER) (2022)
Container-less Material Experiment Rack (CMER) (2021)

M *Material science in space*

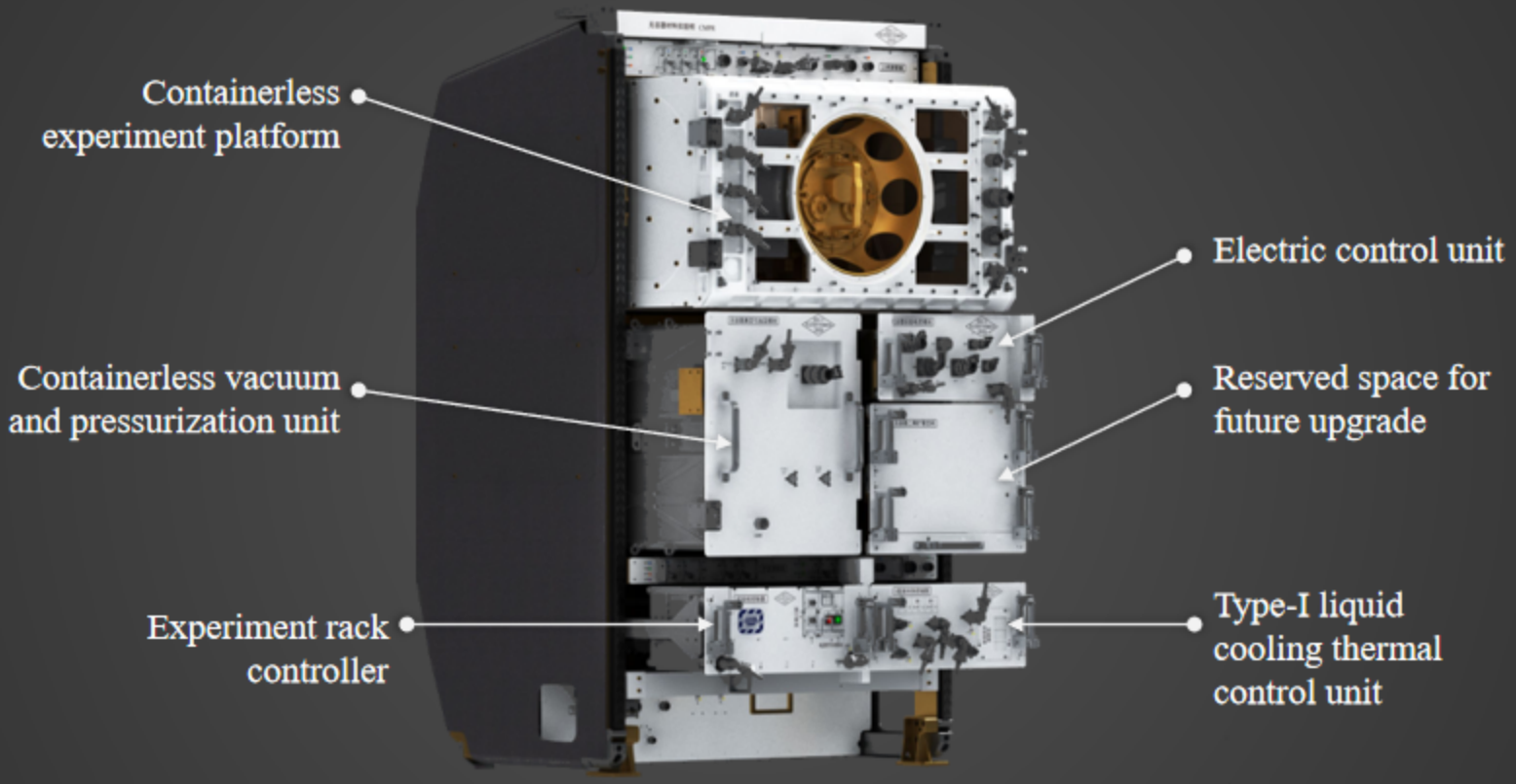
Cold Atom Experiment Rack (CAER) (2022)
High-precision Time-Frequency Rack Ⅰ (HTFR) (2022)
High-precision Time-Frequency Rack Ⅱ (HTFR) (2022)

P *Fundamental physics in microgravity*

Medical Sample Analysis and High Micro-gravity Level Rack (HMGR) (2021)
Varying-Gravity Experiment Rack (VGER) (2022)
Online Maintenance and adjustment Operation Rack (OMOR) (2022)

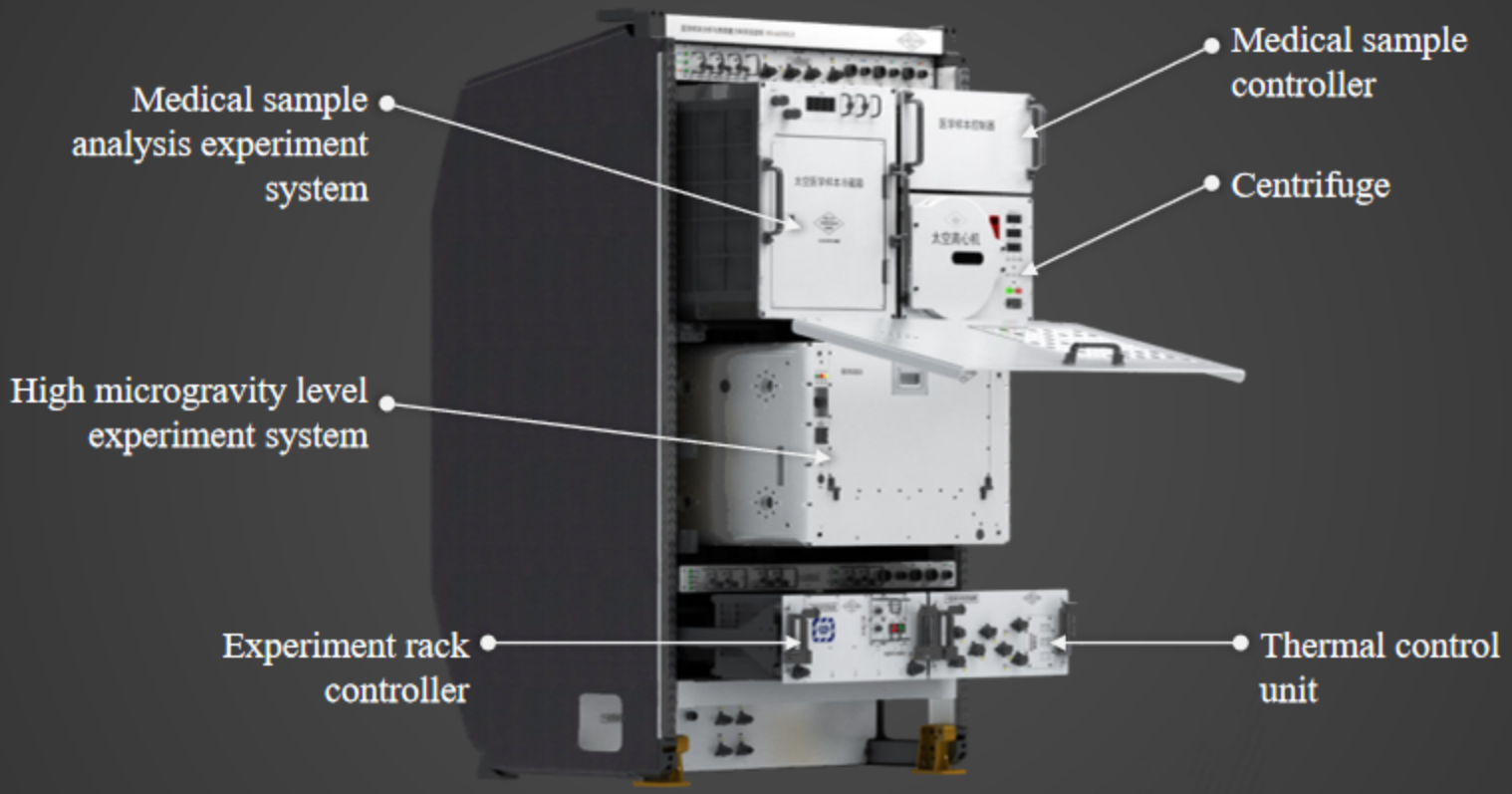
U *Multipurpose*

Containerless Material Experiment Rack



Realize a special experiment environment through electrostatic levitation technology, supporting research on metals and non-metals in a containerless condition in microgravity environment, explore related solidification mechanisms, and promote the development of new materials.

Medical Sample Analysis and High Microgravity Level Rack

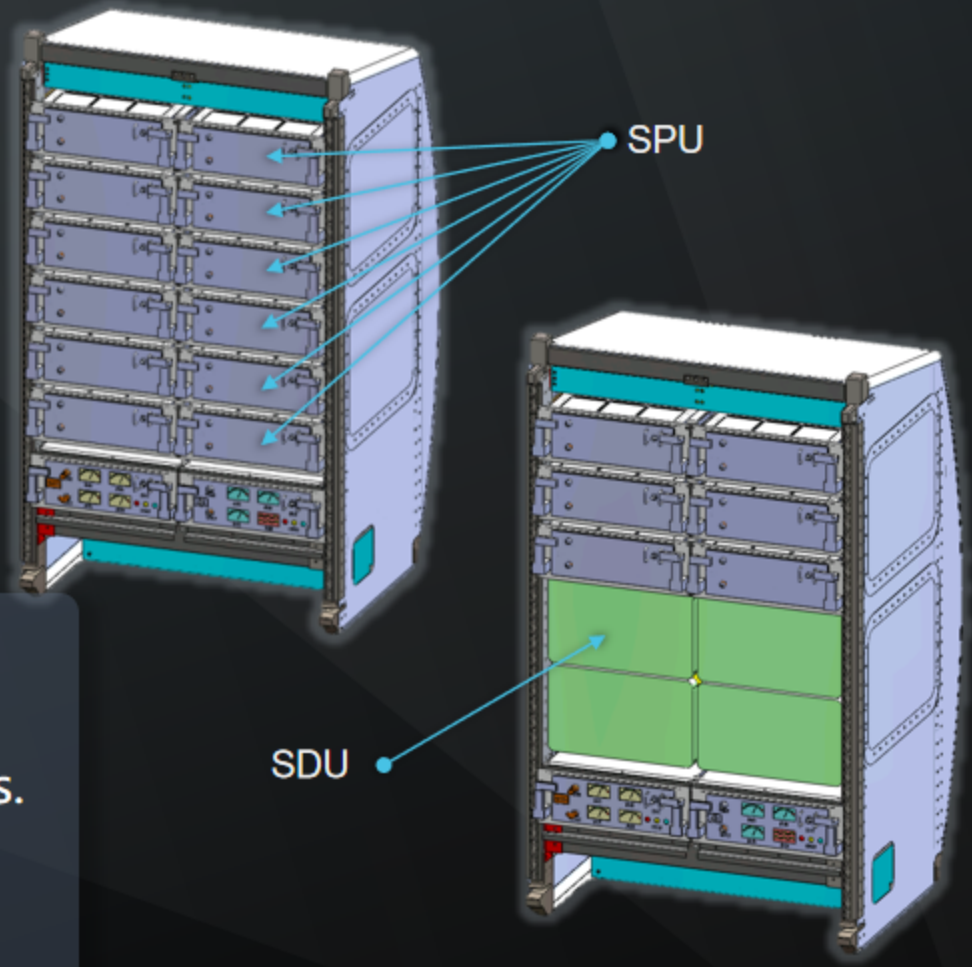


Through the combined technology of magnetic levitation and jet levitation, the disturbance on the CSS is isolated, forming a microgravity level 1 to 3 orders of magnitude higher than the CSS environment, providing an ideal microgravity environment for aerospace medical analysis, fundamental physics research, etc.

Experiment Racks

Modularized Exp. Rack (MER)

provides interfaces to support small size scientific payloads.

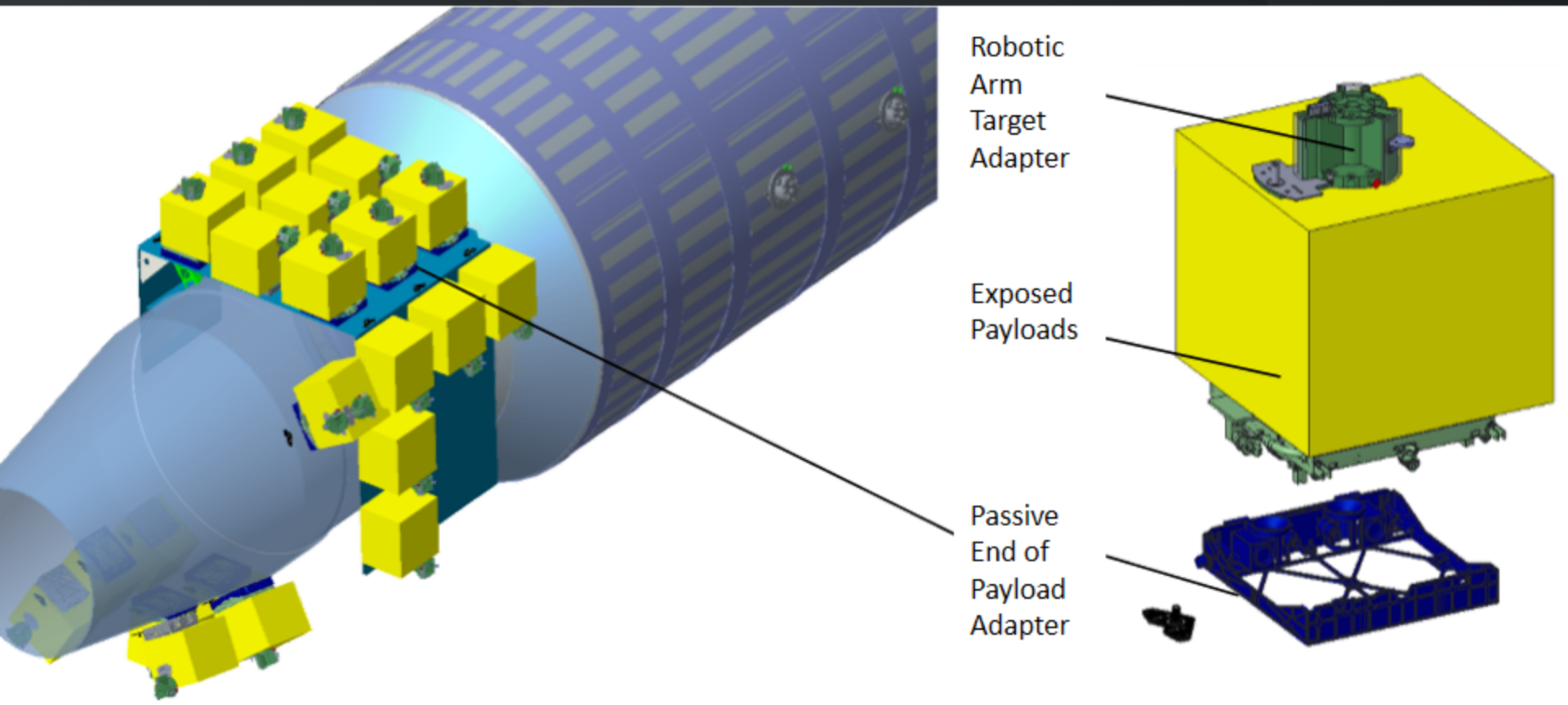


Focusing on:

- The SPU and SDU interface can be compatible with ISS payloads.
- The rack can be made up to different combinations.

Utilization Support Capability

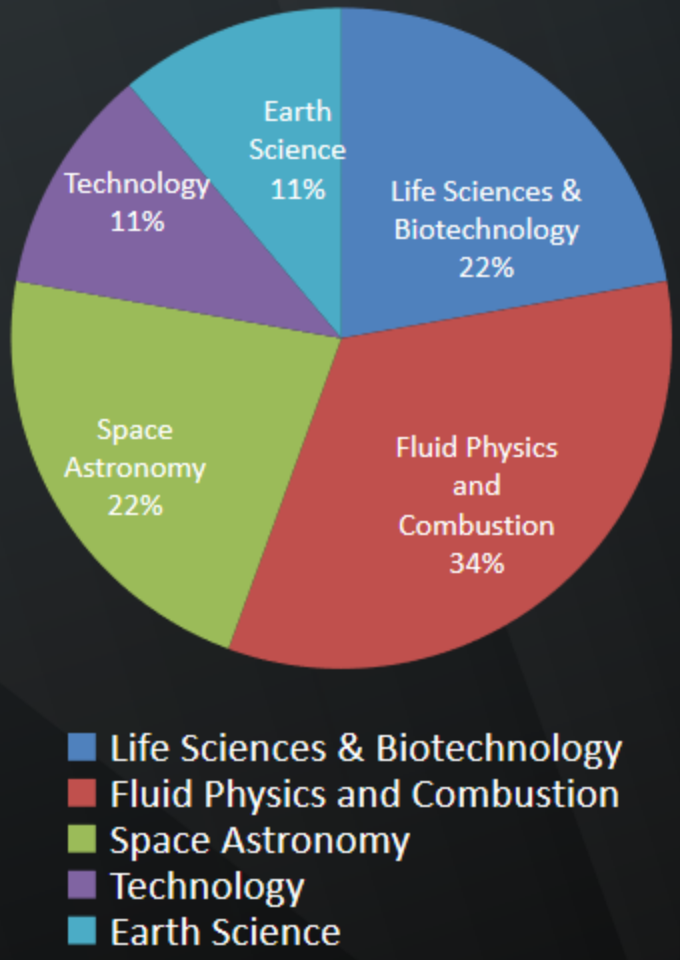
- Integrated exposed platforms are built on EM I and EM II, providing standard mechanical, power, information, and heat interfaces for exposed payloads.
- 3 large+67 standard hanging points.
- A robotic arm is equipped and can install/uninstall and operate the exposed payloads.



Cooperation with UNOOSA

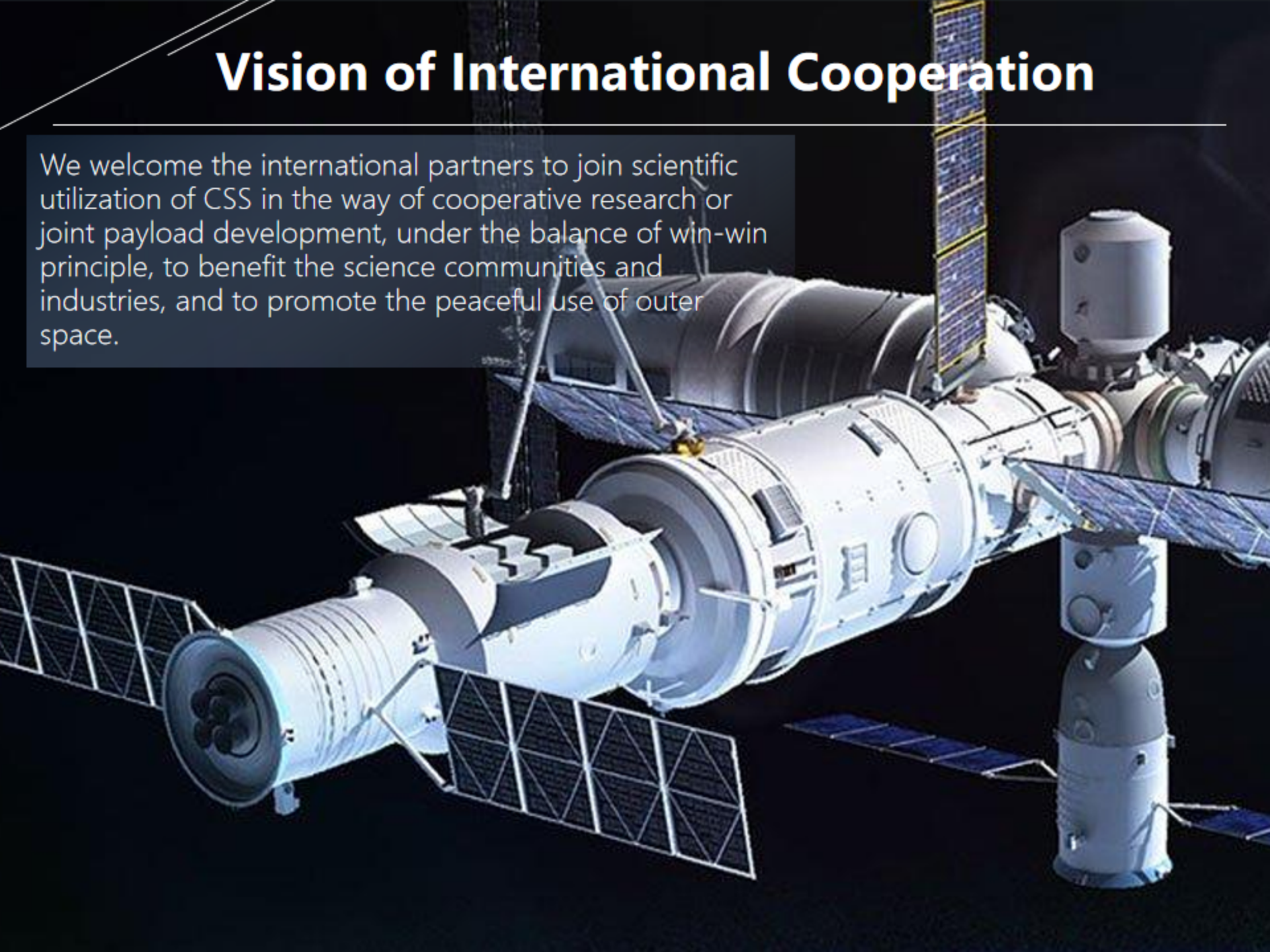
- 9 scientific projects have been approved to be implemented during the operation phase.
- The utilization mission of the CSS operation phase is under planning.

Project Name	Country
Effect of Microgravity on the Growth and Biofilm Production of Disease-causing Bacteria.	Peru, Spain
Flame Instabilities affected by Vortices and Acoustic Waves	China, Japan
Behavior of Partially Miscible Fluids in Microgravity	India ,Belgium
POLAR-2: Gamma-ray Burst Polarimetry on the CSS	Switzerland, China, Germany, Poland
Spectroscopic Investigation of Nebular Gas	India, Russia
Development of Multi-junction GaAs Solar Cells for Space Applications	Saudi Arabia
BARIDI SANA - High Performance Micro 2- Phase Cooling System for Space Applications	Italy, Kenya
Mid Infrared Platform for Earth Observation	Mexico
Tumors in Space	Norway, France, Netherland, Belgium



Vision of International Cooperation

We welcome the international partners to join scientific utilization of CSS in the way of cooperative research or joint payload development, under the balance of win-win principle, to benefit the science communities and industries, and to promote the peaceful use of outer space.



Thank you !

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