

**PROVIDING
WORLDWIDE CUSTOMERS
WITH FULL RANGE OF
SPACE TO GROUND SOLUTIONS**

Jinchen ZHAO
China Aerospace Science and Technology Corporation, CASC



ORGANIZATION



CAST: A Key Member of CASC

CALT

AASPT AALPT SCAIC CAAET...

CGWIC : Commercial Trading Company

ALIT : Defense Trading Company

CSCC: China's Sole Satellite Operator

**27000
Employees**

Space: *15000*

Average Age: *35*

**6.3
Billion USD
Revenue
In 2017**

CAST INDUSTRIAL FOOTPRINT

15 Subsidiaries in 7 Cities



BEIJING
19513 people

TIANJIN
1257 people

YANTAI
1403 people

INNER MONGOLIA
583 people

LANZHOU
1809 people

XI'AN
2773 people

SHENZHEN
145 people



CAST INDUSTRIAL FOOTPRINT

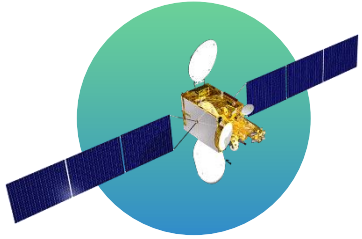
3 Representative Offices Abroad



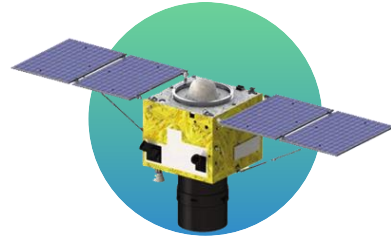
CORE BUSINESS

SPACE

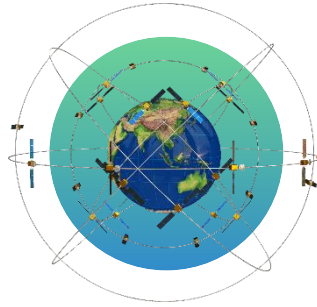
Telecommunications



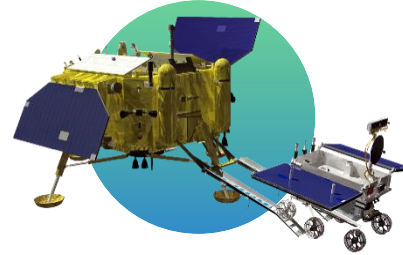
Remote Sensing



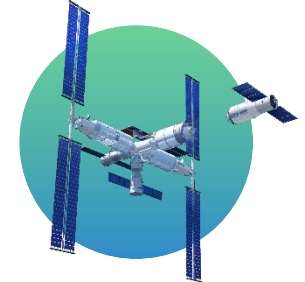
Navigation



Science Exploration



Manned Spaceflight



SPIN-OFF

Satellites Application



Industrial Intelligence Control



Energy-Saving & Environmental Protection



Space Biotechnology



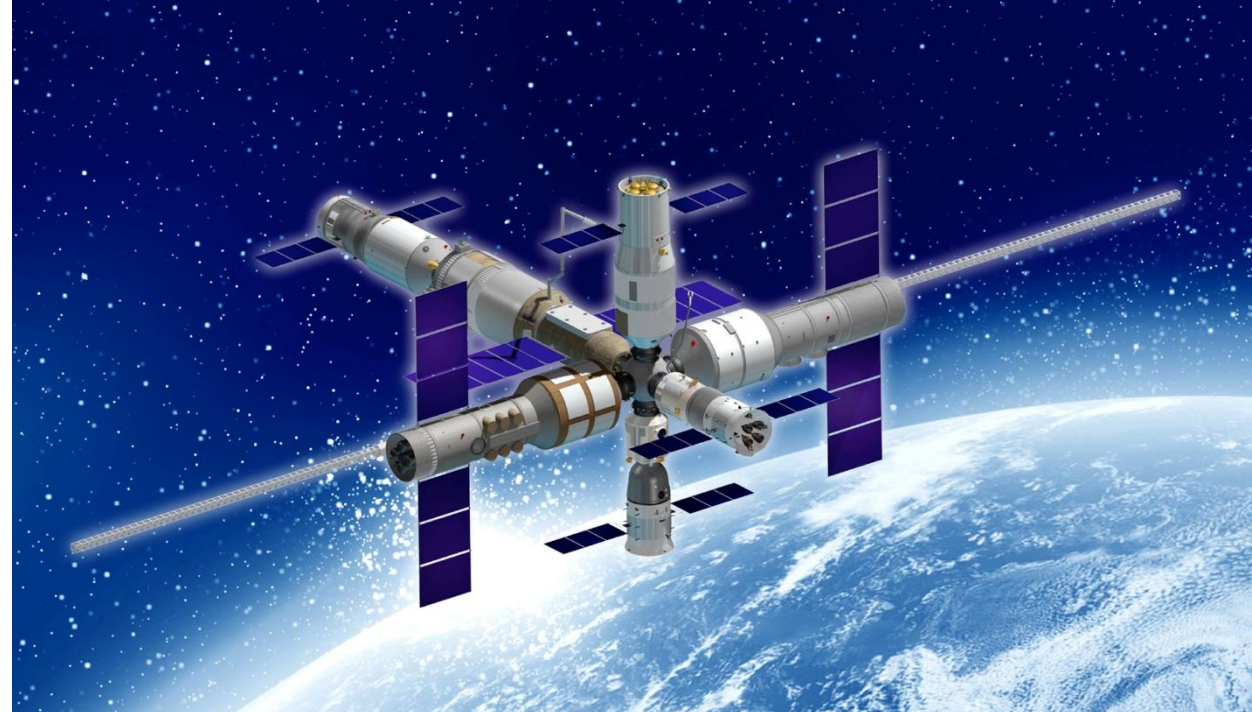
SPACE SEGMENTS

Providing worldwide customers with full range of space to ground solutions

**WE DESIGN, BUILD AND DELIVER
END-TO-END SPACE SYSTEMS:**

234 spacecrafts delivered

139 spacecrafts in orbit



TELECOMMUNICATIONS

Prime contractor for
over 40 telecommunications satellites

TURNKEY SOLUTIONS

- Consultation
- Orbit Frequency Coordination Support
- System Design & Integration
- Satellite Manufacture
- Launch and In-orbit Operation Support
- KHTT

 **Mature DFH Platform series for telecommunication, broadcast and customized missions**

 **Reliable and Customized payloads**



REMOTE SENSING

Core Player for
over **100** Remote Sensing Satellites

- **Space To Ground TURNKEY SOLUTIONS**
- **LEO/SSO/GEO Satellites & Constellations**
- **High Performance & Innovative Bus & Payloads**
- **Reliable Ground Application System**
- **Commercial EO Satellite Operation—Super View**



NAVIGATION

Prime Constructor of
China's **Beidou Navigation Satellite System**

THE 1ST GENERATION

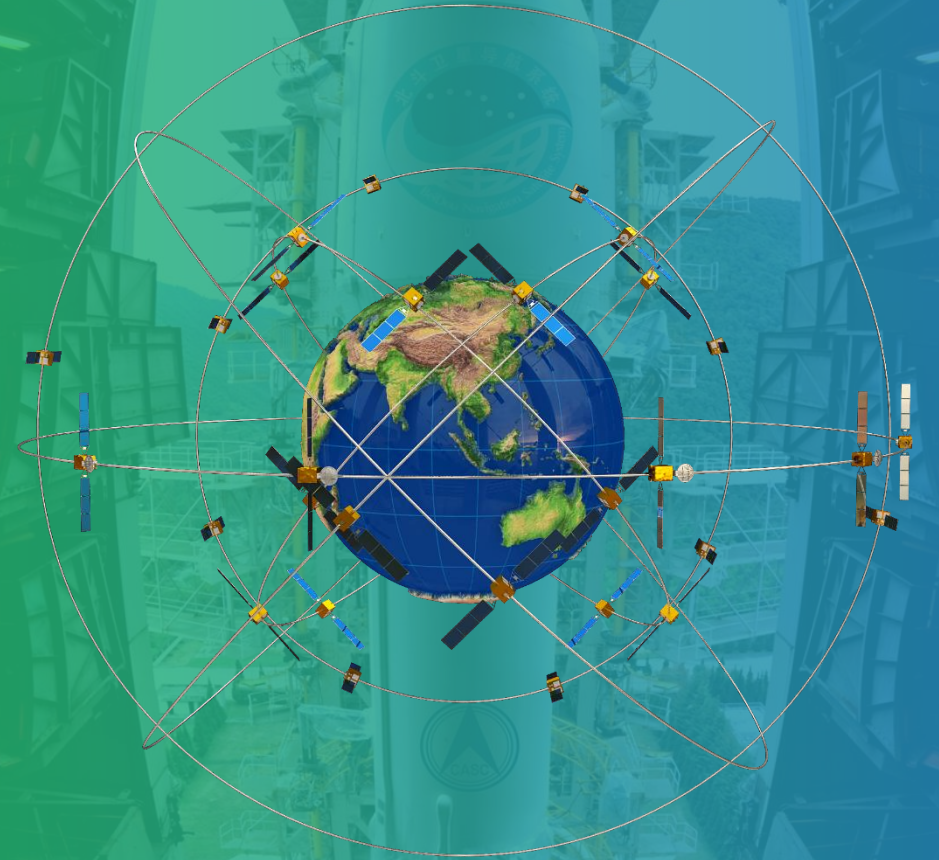
4 satellites

THE 2ND GENERATION

16 satellites offers regional services
for Asia-Pacific area by 2012

THE 3RD GENERATION

35 satellites will offer global
coverage by 2020



NAVIGATION

Beidou Navigation Satellite Applications



Emergency Command & Control

Intelligent Transportation

Precise Timing

Disaster Relief

National Security

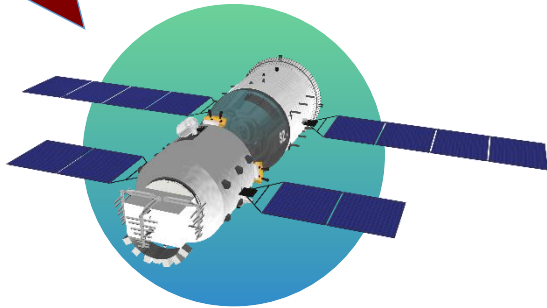
HUMAN SPACEFLIGHT

Founder of China's Manned Space Program

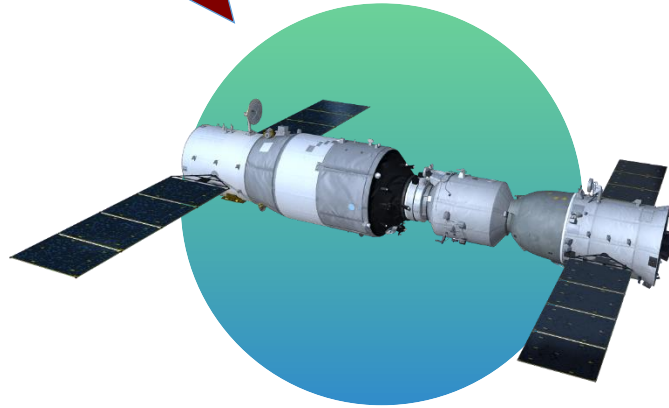
11 Shenzhou spaceships, 1 Tianzhou cargo spaceship, 2 Tiangong space labs
To build **China's Space Station**

**China's Manned Space Program
is implemented by three steps.**

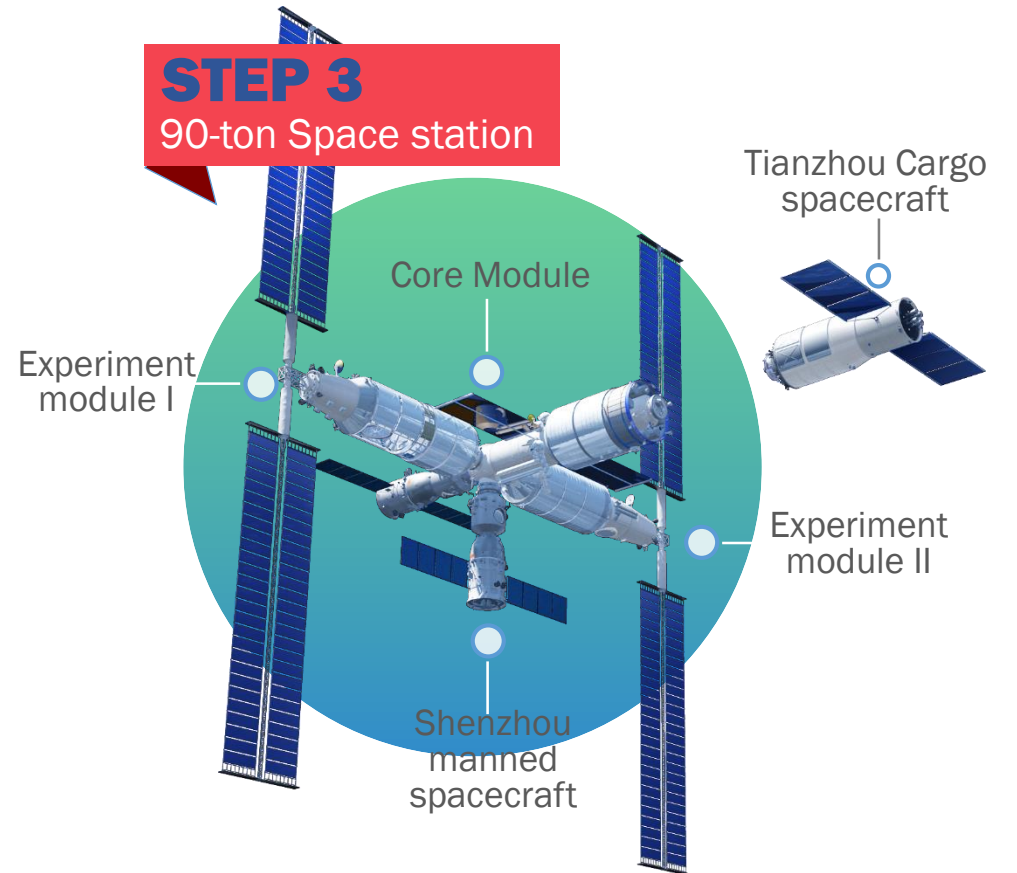
STEP 1
Manned Space Flight



STEP 2
EVA, Space Lab
Rendezvous & Docking



STEP 3
90-ton Space station



SPACE SCIENCE EXPLORATION

A prime role in China's Space Science & Exploration Missions
by delivering over 30 satellites

Contractor of **China's Lunar & Mars Exploration Programs**

CAST Carries Out Lunar Exploration By Three Steps

Orbiting - Chang'e 1&2

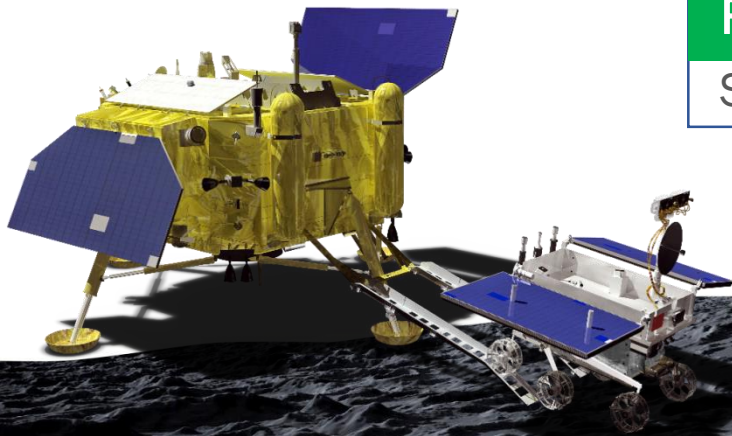
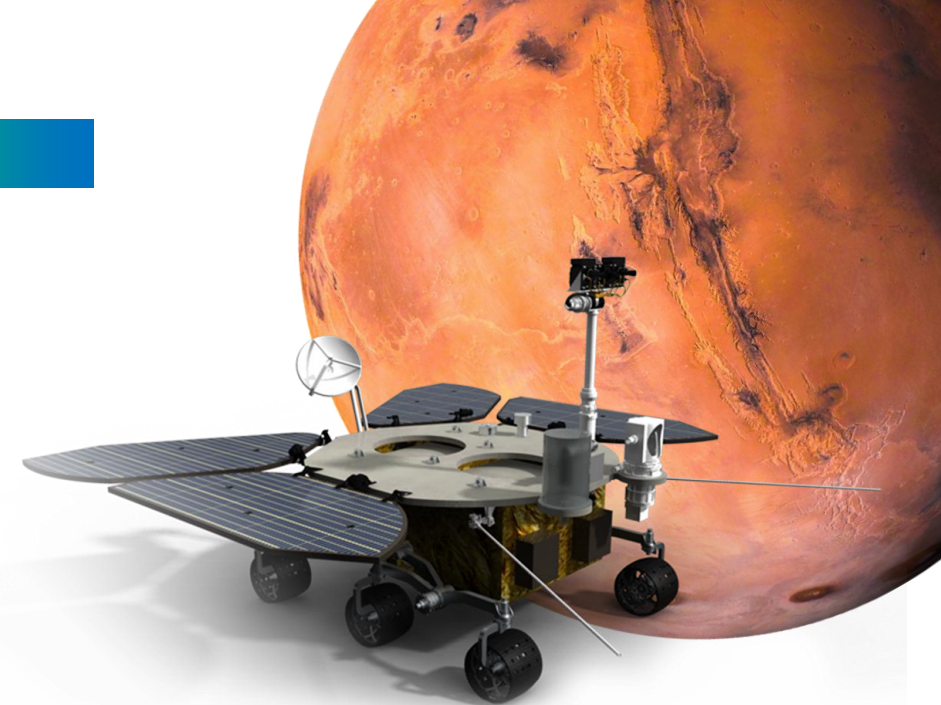
Orbiting around the moon

Landing - Chang'e 3 & Chang'e 4

Soft-landing on the moon surface

Returning - Chang'e 5

Sample collection and returning

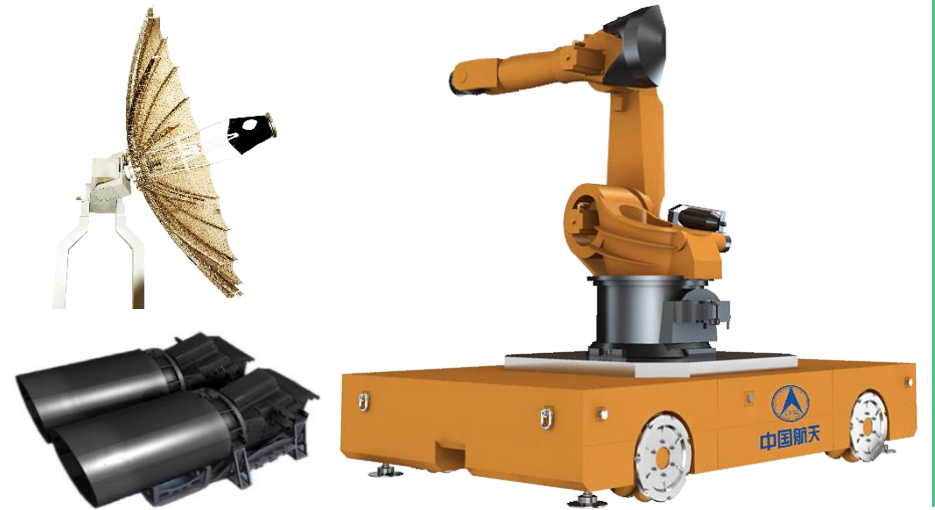


SPACECRAFT SUBSYSTEMS AND EQUIPMENT

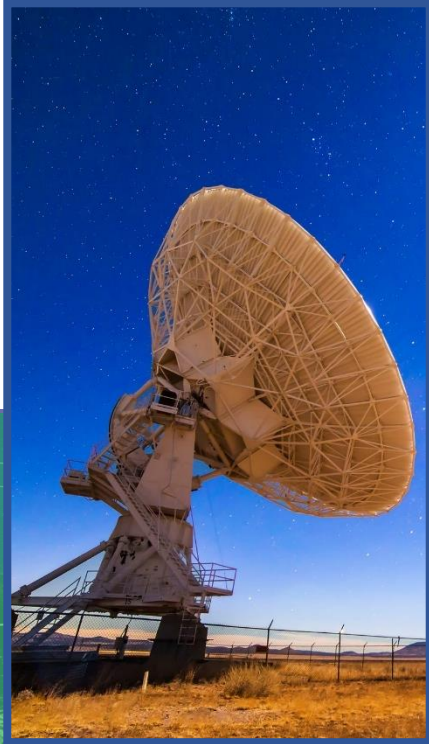
Reliable supplier of spacecraft subsystems and equipment.

100% subsystem and more than **90%** equipment design and manufactured by CAST.

- **High performance orbit control and propulsion subsystems**
- **More than 90% self-manufactured Optical Camera**
- **All types of Antennas**
- **Reliable Self-developed Robotic Arm**



SPACE TECHNOLOGY APPLICATIONS



**Satellite
Applications**



**Industrial
Intelligence Control**



**Energy-Saving &
Environmental
Protection**



**Space
Biotechnology**

Launches 2017/2018



2017 (13 in total)

Telecommunications (4 in total)

Chinasat-9A

Remote Sensing (3 in total)

VRSS-2

Navigation (2 in total)

Beidou-3

Science (1 in total)

Hard-X ray telescope

Human Spaceflight (1 in total)

Tianzhou-1,

Micro satellite (2 in total)

Pico -Nano-2

Expected in 2018 (49 in total)

Telecommunications (6 in total)

AP Star-6C

Remote Sensing (27 in total)

SuperView 3/4

HY-1C/HY-2B

PRSS-1

CFOSAT

SIES

Navigation (12 in total)

Beidou-3

Science (4 in total)

CE-4

GLOBAL PARTNERS OF CAST





LET'S WORK TOGETHER CREATING A BETTER FUTURE



China Academy of Space Technology