WISHES FROM DEAN OF CAST SHENZHOU INSTITUTE

CAST ShenZhou Institute (CSI) was founded in 2005, which is the unique training and education center affiliated to China Academy of Space Technology(CAST). With the objectives of Promoting ShenZhou culture, cultivate exclusive space engineering talents equipped with a wide range of knowledge and hearty devotion, and make great contributions to space industry.CSI has become the cradle of cultivating Chinese and international spacecraft engineering talents. CSI has been constantly and actively engaged in CAST employees' training, graduates' education and CAST clients' training. Through these years' development, CSI has set up a scientific and creative training and education system covering lectures, materials, education disciplines as well as talents' cultivation.

President ofChina Academy of Space Technology,Dean of CAST Shenzhou Institute.

CSI has set up a scientific, standard and systematic staff training system which offers an strong talent intellectual support to the rapid development of CAST. Along with the rapid growth of international clients' training, CSI has cultivated a large number of qualified international space technology engineers for several countries, contributing positively to the exploration of CAST international satellite market. The graduate educational business which is in the process of achieving excellence with special and outstanding professional characteristics, has been an important channel of cultivating technical backbone and creative talents of space technology for CAST.

I hope CSI will continue to adhere to the strategy of "High qualified talents upgrading CAST development", put emphasis on education and training characteristics, take advantages of superior space resources, inherit excellent space culture, develop practical activities on space education and training in close connections with CAST R&D and production activities, further strengthen teaching management and standardize teaching activities,continuously improve teaching quality , so that CSI will make a proper contribution for the great-leap forward development of CAST.

With the support from CAST, with a global view and having talents from all areas, CSI is in the process of becoming a first-class enterprise university. Taking advantage of the platform of the state-level continuous educational base for professional and technical personnel and the platform of the educational center of space science and technology affiliated to the United Nations, CSI will enable the space education and training to serve not only CAST , but also the whole country and the world. It is the goal of CSI to create excellent educational environment both domestically and internationally and become an internationally influential enterprise university with the characteristics of Chinese space industry so as to cultivate more and better talents for the development ofnational space industry.

Zhang Hongtai

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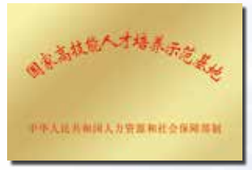
INTRODUCTION

Establishment of CSI

Established on December 28th, 2005, Shenzhou Institute has become an educational and training institution mainly focusing on cultivating both technical and management talents of spacecraft engineering. It undertakes the tasks of CAST staff training, CAST domestic and foreign clients as well as graduate's education.On the basis of strong space technology capabilities of CAST, CSI has set up an education and training expert committee consisted of CAST technical experts who offer consultancy, guidance and decision-making advice. Through the past years of development, CSI has owneda first-class faculty team, systematic of curriculum modules, rich teaching materials and advanced teaching facilities. It has cultivated a large number of space talents for CAST as well as a large number of qualified spacecraft engineers for Nigeria, Venezuela, Pakistan, Bolivia, Laos, Belarus, Algeria and other countries. CSI has also developed a wide range of deep cooperation with some well-known space organizations and universities of France, UK, Germany, etc. acting as a talent training base for CAST and a window of CAST international cooperation.

Setup of Graduate Student Education Department

With approval of relevant government authorities, CSI has successively applied to become state-level educational bases : " State-level Continuous Education Base for Professionals" , " Demonstration Base for Training National Highly Skilled technicians", " Education and Training Base of Asia-Pacific Center of Space Science and Technology Education (China), United Nations ", and " Business Foreign Language Test Center (BFT) for Abroad-going Training Candidates " appointed by State Administration of Foreign Experts Affairs .



After years of construction and development, CSI has accumulated rich experience and achieved great fruitful results. It has successively acquired National Excellent Center for Post-Doctoral Studies, Beijing Outstanding Contribution Award for Graduate Student Recruitment, Excellent Unit of CASC (China Aerospace Science and Technology Corporation) Degree and Education of Graduate Student and Beijing Municipal Excellent Unit of commemorating the 20th anniversary of graduate student recruitment reform , as well as gained such as One Of The Best Chinese Corporation University and Top One Hundred Chinese Corporation Unversity honorary title.

Missions

To cultivate high-quality space talents suitable to space technology development, to lead and promote professional qualities of spacecraft engineers.

Objectives

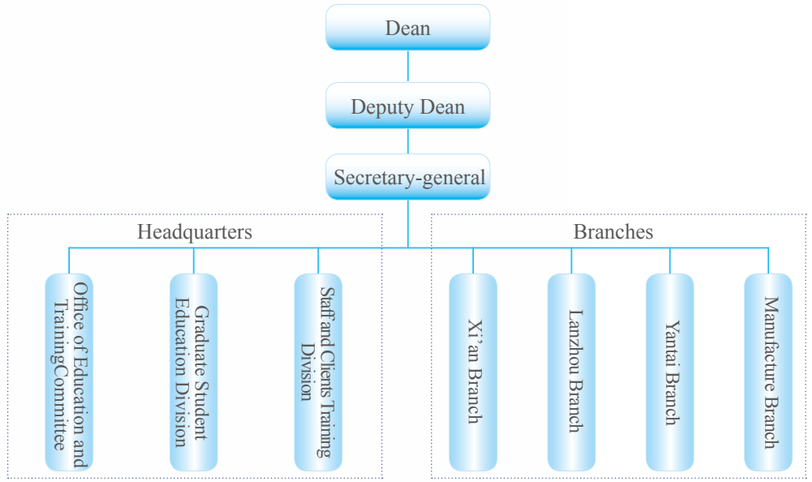
To achieve systematization of spacecraft disciplines, layering of curriculum arrangement, serialization of teaching materials , specializationof faculty and professionalization of training activities so as to build up an internationally influential certification institution for qualification of spacecraft engineers.

School Motto

To promote Shenzhou culture, cultivate exclusive space engineering talents equipped with a wide range of knowledge and hearty devotion, and make great contributions to space industry.

ORGANIZATIONAL STRUCTURE

CSI senior administration authorities is composed of Dean who is also the President of CAST, deputy Dean who is one of CAST Vice Presidentand Secretary General, etc. CSI has 3 administrative divisions and 4 branches.



Office of Education and TrainingCommittee: daily affairs division forEducation and Training Expert Committee , in charge of daily affairs management for the committee.

Graduate Student Education Division: administrative division for academic degrees evaluation committee, in charge of organizing and implementing graduate student programs and graduate student education for academic degrees related to spacecraft disciplines.

Staff and Clients Training Division :in charge of organizing and implementing concrete educational and training programs, developing and managing internal employees, domestic and international clients training programs.

Establishment of Xi'an Branch

Establishment of Lanzhou Branch

Xi'an Branch : established on December 21st, 2007, affiliated to Xi'an Space Radio Engineering Institute, focusing on cultivating space professional talents in the fields of telecommunications and information, electromagnetic field and microwave technology, etc.

Establishment of Yantai Branch

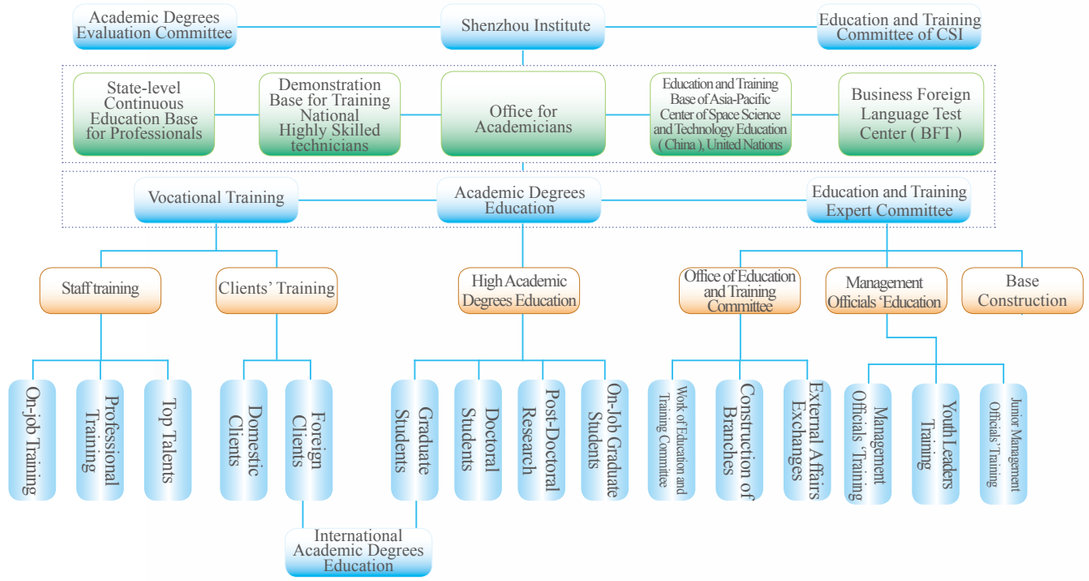
Establishment of Manufacturing Branch

Lanzhou Branch: established on October 18th, 2006, affiliated to Lanzhou Institute of Physics, focusing on cultivating space professional talents in the fields of vacuum technology, cryogenics technology, space microgravity, space electronics and space environment.

YanTai Branch : established on November 27th, 2008, affiliated to Shandong Institute of Aerospace Electronics, focusing on cultivating space professional talents in the fields of applications of space data system and space electronics technology.

Manufacturing Branch: established on July 17th, 2012, affiliated to Beijing Satellite Manufacturing Plant, focusing on cultivating spacecraft manufacturing professional and technical talents. It is a training and practice base of senior technicians and senior technical talents for CAST.

BUSINESS FUNCTIONS



FACULTY

CSI has set up a 1000-strong force of faculty , either full time or part time, equipped with an excellent sense of ideological ,political and professionally ethical integrity and with a high level of theoretical, practical experience and passion about educational and training work. This force of faculty has a number of well known experts in the space industry who are of high academic attainments with rich engineering and practical experience, including 7 Academicians of China Academy of Sciences and China Academy of Engineering — Min Guirong, Tu shancheng and other 7 academicians of International Academy of Astronautics as well as 137 doctoral tutors, all of whom are mainly engaged in educational research, discipline development and delivering lectures, etc.

Academician

Min Guirong, Academician of both Chinese Academy of Sciences and Chinese Academy of Engineering

Wang Xiji, Academician of Chinese Academy of Sciences

TuShancheng, Academician of Chinese Academy of Engineering

Qi Faren, Academician of Chinese Academy of Engineering

Ye Peijian, Academician of Chinese Academy of Sciences

Wu Hongxin, Academician of Chinese Academy of Sciences

Fan Benyao, Academician of Chinese Academy of Engineering

Professors

Li Ming

Vice President of CAST, Deputy DeanofCSI. Tenured Academician of International Academy of Astronautics. doctoral tutor, Leading expert of system design of earth observation satellite, chief expert in small satellite field,board memberof ChineseSociety of Astronautics, mainly engaged in preliminary satellite research and satellite development.

Zhang Bainan

Chief designer of manned spacecraft system, technical expert and leading expert of manned spacecraft technology, doctoral tutor, long-time engaged in manned spacecraft technical research and engineering practices, achieved breakthroughs in a number of core techniques for spacecraft rendezvous and dockings as well as somespace walkingtechnologies.

Xie Jun

Academician of Russian Academy of Cosmonaut Technology, Leadingexpert of “navigation satellite technology” in the innovation team for scientific and technological industries of national defense, long-time engaged in research and design of navigation satellite systems.

Zhu Beiyuan

Deputy head of reliability expert group of CASC, deputy director of Education and Training Committee of CAST, professor, graduate student tutor, long-time engaged in research and management of reliability and software engineering , lecturer on reliability and product assurance .

Fan Hanlin

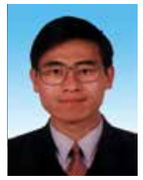
Director of Science and Technology Committee of Space System Department of CAST, member of Education and Training Expert Committee of CAST, professor, doctoral tutor, leading expert ofthe year 2010 of CASC“manned spacecraft man-machine and environmental engineering field” , lecturer on spacecraft thermal control technology.

Xiang Shuhong

Director of Science and Technology Committee of Center of Spacecraft Assembly Integration&Test of CAST, professor, doctoral tutor, leading expert of CASC “ environmental experiment and observation ”, lecturer on environment and test techniques of spacecraft dynamics.

Wang Xiaoming

Deputy leader of technique expert group of CASC, head of material and process assurance expert group of CAST, member of Education and Training Committee of CAST, Professor, long-time engaged in research of spacecraft manufacturing process techniques, lecturer on techniques of spacecraft product manufacturing and product assurance, etc.



Ma Wenpo

member of Education and Training Committee of CAST, professor, doctoral tutor, long-time engaged in research and design of space optical remote sensors , lecturer on general design of optical remote sensing system.

Liu Tianxiong

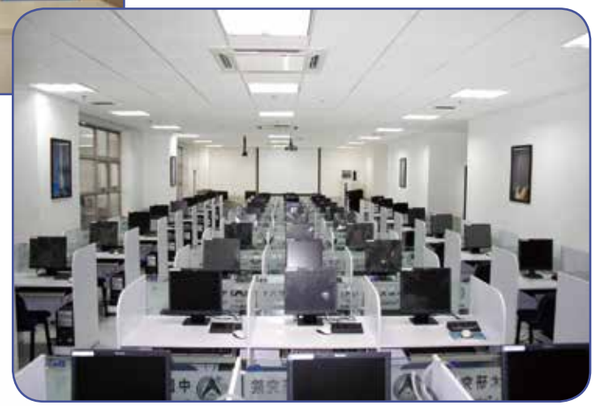
Professor, doctoral tutor, leading expert of CAST spacecraft comprehensive test technology,currently CSI part-time lecturer on structure and mechanisms of international clients training.

Yang Fang

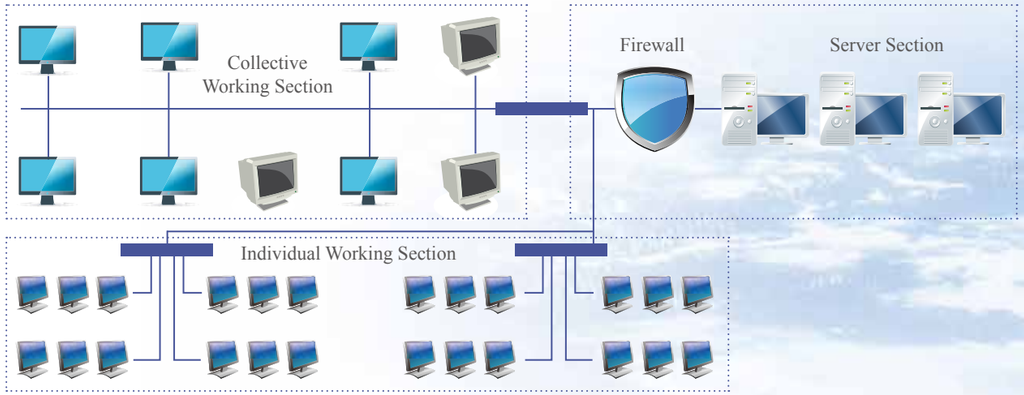
Professor, doctoral tutor, mainly engaged in satellite system design, satellite mission analysis and more, currently CSI part-time lecturer on space engineering of international clients training.

INFRASTRUCTURE

CSI (with 4 branches) is equipped with state of the arttraining facilitiescovering an area of 15000 m^2, including spacecraft virtual design training platform, multi-media classroom, meetingroom, and student lounge.



CSI makes full use of advanced information tools to actively construct coordinated educational platform of “sametime, different places”. After years of construction, Shenzhou Institute possesses multi-dimensional and remote educational capabilities, including special network of educational platforms, fiber-optic network, educational video systems and remote satellite communications network, covering both internal and external affiliated working units of over 20000 employees of CAST. All of its branches have their own network-linked multi-media classrooms. CSI is equipped with a complete information management system of educational and training.



Spacecraft virtual design training platform covers major sub-systems and specialities of communications and remote sensing satellite designs. The platform consists of individual working section, collective working section and system management section,installedwith over 40 kinds of licensed satellite design and analysis software including Matlab、AVIDM、Nastran、Pro/E、SVIDE、CATLA, etc. In addition, it has somepatents, self-developedsoftware copyrights and high-end educational facilities like 3D rapid shaping printer,etc. Thus a scientific and standard educational mode on satellite virtual design has taken shape , providing a practical platform for students to perform virtual satellite mission analysis, design and system simulation and other training exercises. This platform has been successfully used in training programs for international clients of satellites projects, playing an important role inpracticetraining of clients.

BUSINESS AREA

Business areas of CSI covers CAST staff training (includingbusinesses at bases), domestic and international clients' training and academic degree education for graduate students. CSI has maintained stable exchange and cooperative relationships with both domestic and international well-known space institutions and universities.

StaffTraining

With regard to CAST staff training, CSI has established certification system based on job qualifications in consideration of development requirement of CAST staff training characteristics, which constitutes the 3 specific training areas of spacecraft engineering and technologies, space management and space enterprise culture. Trainees range from new employees to satellite chief designers, from normal management personnel to satellite project managers and chief commanders. 5000 people participate in the training annually on average. This has provided powerful intellectual support to the rapid growth of talents and successful completion of satellite missions.

High-level Class on CAST President's Technical Orders

Training of Product Assurance Team

Training of Management Officials

Training of Quality Control Leaders

Training of Mid-level Leaders

New Employee Training

Training of Training Managers

High–level Seminar on "spacecraft system engineering "

Businesses for Bases

Along with the establishment and expansion of businesses for bases, CSI has developed various kinds of practical training activities on upgrading professional and technical knowledge for talents as well as improving skills for technicians.

Technical Exchanges by Technicians Association

Examination on Unified Practical Assessment for ProfessionalSkills

BFT Listening and Writing Examination Site

Funded Projects Review Meeting for National Continuous Training Bases of Professional and Technical Personnel

Client Training Business

In respect of client training, CSI possesses complete training resources and standardized training modes, which constitutes a series of systematic client training products and covers various areas of spacecraft design and applications, etc. Training plan can also be rapidly customized as per client's specific requirements to satisfy client's special needs. CSI has undertaken training courses for international clients includingAsia-Pacific Multilateral Cooperation Organization, Nigeria, Pakistan, Venezuela, Laos, Belarus, Algeria, etc.,and won high confirmation and appreciation from higher leadership and many government organizations of other countries. International client training has added values to the satellite contract negotiations and played an important role for China Space to explore the international space market. After years of development, a system of training products has been formed with the following courses at the core: the Fundamentals of Satellite, Specialized Course on Satellite, Virtual Satellite Design, AIT Inspections and Practices, Satellite In-Orbit Operations, Satellite Applications, etc.

Asia-Pacific Training Program Opening Ceremony

PresidentChavezof VenezuelaCordially Meets with Students

Training Classroom Discussion for Bolivian Communications Satellite Program

Graduation Ceremony of Trainees for Venezuela CommunicationsSatelliteProgram

Sum-up Conference on Pakistani KHTT Review Meeting

Inspection to the Production Line During Training for Nigerian Communications Satellite Program

Training Class for Nigerian CommunicationsSatellite

TrainingSite for Belarusian Communications Satellite Program

TrainingSite for Algerian Satellite Program

OpeningCeremony of Training for Laos Ground Broadcasting and Communication System Program

Visit to the Space City Exhibition Hall by the Trainees for the Venezuela Communications Satellite Program

Visit to the Exhibition Hall by the Trainees of APSTAR-9.

Visit to the Exhibition Hall by the Pakistani Trainees for KHTT Program

Graduate Student Business

Ever since the first enrolment of graduate students in 1978, CAST has experienced development stages of "preliminary exploration, stable development, consolidation and improvement, brand creation ". Particularly since 2001 when the department of graduate student was established, CAST has gradually grown and become a training base of backup talents, comprising multi-layers and multi-disciplines of cultivating graduate students, doctors and post-doctors who will be able to independently engage in scientific research and engineering technical research. CAST has set up an outstanding team of tutors and teachers and established an educational management system of academic degree and graduate student studies with research institute characteristics.

Post Doctoral Program
Mobile Station for Scientific Research
Control Science and Engineering
Electronic Science and Technology
Aeronautical and Astronautical Science and Technology

Post Doctoral Program
Work Station for Scientific Research
Xi'an Branch
513 Institute
Space Star, Inc
Satellite Manufacturing Plant

Ph D Program
Level one Studies
Control Science and Engineering
Electronic Science and Engineering

Ph D Program
Level Two Studies
Control Theory and Control Engineering
Spacecraft Design
Physical Electronics
Navigation, Guidance and Control
Detection Technology and Automation Devices
System Engineering
Pattern Recognition and Intelligence System
Circuit and System
Micro-electronics and Solid-State Electronics
ElectromagneticField and Microwave Technology

Master Degree Program
Level One Studies
Optical Engineering
Control Science and Engineering
Information and Communication Engineering
Aeronautical and Astronautical Science and Technology
Computer Science and Technology
Electronic Science and Technology
Instrument Science and Technology
Software Engineering

Master DegreeProgram
Level Two Studies
Spacecraft Design
Control Theory and Control Engineering
Detection Technology and Instrument Devices
Computer Application Technology
Communication and Information System
Physical Electronics
Electromagnetic and Microwave Technology
Refrigeration and Cryogenic Engineering
Navigation, Guidance and Control
Man-Machine and Environmental Engineering
Aeronautical and Astronautical Manufacturing Technology
Optical Engineering
Signal and Information Processing
System Engineering
Pattern Recognition and Intelligence Control
Aeronautic and Astronautic Propulsion Theory and Engineering
Circuit and System
Micro-electronics and Solid-state Electronics
Computer System Structure
Precision Instrument and Machinery
Measurement Technology and Instrument
Space Navigation Materials Engineering
Space Navigation Components Engineering
Space Information Network Structure and Transmission Technique

Photo at Graduation and Degree Conferring Ceremony

Tutors Conferring Degrees to Graduates

In adherence to the principle of " serving space industry, stressing characteristics, appropriate scope and ensuring quality ", CSI has enrolled 2092 graduate students for master degrees , 398 for PhD degrees, and 89 for post-doctoral programs up to the end of 2014. Master degree titles have been conferred on1746 graduates and Doctor degree titles on 218 graduates . 73 graduates have completed their post-doctoral programs. CSI has also cooperated with other domestic universities and cultivated a large number of outstanding space engineering talents. Many doctors and masters who graduated from the Institute are now holding key technical and leadership positions of different levels in different satellite project teams. They have become the technical backbone in Chinese space technical research.

Currently in the Institute there are 3 mobile stations for post-doctoral scientific research, 4 work stations for post-doctoral scientific research, 2 level-one disciplines and 10 level-two disciplines with doctor degree conferring authorizations, 8 level-one disciplines and 21 level-two disciplines with master degree conferring authorizations, and 3 more level-two disciplines for self-established master degree studies. The Institute possesses 137 doctor degree tutors and nearly 400 master degree tutors with a scope of annual enrolment of 30 PhD students and 100 master students.

Winner of Outstanding Contribution Award forBeijing GraduateStudent Recruitment

winner as the corporate-level excellent unit for educational work of graduate students

Meeting on Doctorate Dissertations

Doctoral Tutors

Tutor Guiding Graduate Students on Scientific Research

Graduate Students Visiting Space City Exhibition Hall

Conference of Academic Degree Evaluation Committee of CAST

Graduate Students at Military Training Site

EXTERNAL RELATIONS AND COOPERATION

CSI has successfully entered into strategic cooperation agreements with well-known universities includingTsinghua University, Peking University, Harbin Institute of Technology, Beijing University of Aeronautics and Astronautics, Nanjing University of Aeronautics and Astronautics, etc. In addition, the Institute has developed extensive and in-depth cooperation with internationally famous space institutions and universities including IAS, DLR, Bauman Moscow State technical University, International Space University, University of Surrey, University of Manchester, Delft University of Technology, etc. In recent years, along with the implementation of important projects of science and technology like manned spacecraft and lunar exploration, 300 professional experts have been dispatched abroad for further studies and 210 foreign experts have been brought in to deliver lectures. Through such multi-level, wide-range and all-dimensional participation in the international scientific exchanges and cooperation, professionals and technicians have widened their field of vision and method of thinking, thus achieving the goal of learning and tracking the front-end technological trends, absorbing advanced concepts and mastering the advanced technologies and skills.

Dean of CSI Mr. Zhang Hongtai Meets with Pakistani Students.

Deputy Dean of CSI Mr. Li Ming Visiting Aerospace Engineering Institute of University of Toronto.

CSISigns Agreement with Beijing University of Aeronautics and Astronautics

CSI in Exchanges and Cooperation withNanjing University of Aeronautics and Astronautics

FUTURE EXPECTATIONS

- *CSI will firmly strengthen its self—construction, continuously enhance the level and quality of the 3 business areas of staff training, graduate student education and client training, and gradually improve the professional structure in which its headquarters serves as the core while its branches act as its supports.*
- *Along with business areas further extending both domestically and internationally, CSI will expand its cooperation with well—known space organizations, universities and training institutions both domestically and internationally and establish both stable and long term cooperative relationships and conduct international schooling education and international short—term class.*
- *With the powerful scientific strength of CAST to rely on, CSI will strive to become an internationally influential qualification and certification institute for spacecraft engineers with a complete educational and training system and distinctive characteristics of space disciplines.*