China achieves key breakthrough in multiple launch vehicles

China is working on reusable launch vehicles and has achieved progress in some key areas, a carrier rocket official said Thursday.

The processes under development include parachute-landing and propulsion-landing, said Lu Yu, director of Science and Technology Committee of the China Academy of Launch Vehicle Technology (CALT) at the Global Space Exploration Conference (GLEX 2017).

Reusable lift-body launchers will be developed in three stages – rocket-engine partial reusable vehicle, rocket-engine full reusable vehicle and combined cycle-engine reusable vehicle, said Lu.

The Long March carrier rockets still have room for improvement, Lu said, adding that the CALT is developing a heavy-lift launch vehicle with a payload of 140 tonnes to low Earth orbit and 50 tonnes to lunar transfer orbit.

The heavy-lift carrier rocket is currently called the Long March-9, and it should be sent into space by 2030, he said.

According to Lu, a low-cost commercial medium launch vehicle, the Long March-8. is under development, and based on the Long March-8, a new high-orbit medium launch vehicle should be designed to improve the Long March series and enhance competitiveness.

Since China's space transportation system started in 1960s, a total of 17 types of launch vehicles have been developed. As of May 2017, Long March series carrier rockets have conducted 246 flights with a success rate of 96 percent, fulfilling missions including the launch of manned spacecraft, a moon rover and the BeiDou Navigation Satellite System.

Lu said that China has carried out international space transportation cooperation through piggyback- and commercial-satellite launches and in-orbit delivery.

As of present, the Long March series have finished 55 international launches, sending 64 payloads into orbit for more than 20 countries and regions.

China will also enhance cooperation by renting foreign launch sites to improve launch flexibility, building international launch sites at equatorial regions, and developing sea-based launch platforms with other countries, he said.

China punishes 122 officials over substandard subway cables

China’s State Council has vowed to strictly punish those responsible for problematic subway cables in Xi’an, capital of northwest China’s Shaanxi Province.

Earlier this year, a story posted online claimed subway Line 3 in Xi’an used substandard cables and posed safety risks.

An investigation team has found that the company involved in the case has severely violated the law by producing and selling substandard products, while some individuals and institutions were found to have colluded in the purchase and use of those cables, according to an official statement.

Related local government departments have been found to be at fault for a lack of supervision and negligence of duty, and some officials have violated the discipline on integrity, the statement said.

Eight suspects from the cable manufacturer will be arrested, while 122 government officials responsible will be held accountable, according to the statement.

All authentication certificates of the cable manufacturer will be revoked. The company’s business license and production permit will also be rescinded.

Projects involved should be checked thoroughly for risks while all substandard cables should be removed and replaced as soon as possible, the statement said.

In the meantime, the Shaanxi Provincial government should prepare a written statement reflecting on the issue to the State Council.

Officials should learn from the lesson and strengthen supervision on product quality, the statement said.

China to open space station to scientists worldwide

China will open its space station to scientists worldwide after the station is completed around 2022, according to a Chinese space expert.

Wei Chuanfeng, a researcher at the Institute of Manned Space System Engineering under the China Academy of Space Technology, said the China

Manned Space Engineering Office has drafted a strategic framework with United Nations Office for Outer Space Affairs to offer opportunities on the application of Chinese space station to members of United Nations.

Wei made the remarks on Thursday at the 2017 Global Space Exploration Conference, which was held in Beijing.

Under the framework, China will open its experimental resources on the Chinese space station to serve payloads from other countries. UN members, especially developing countries, could conduct scientific and technological experiment on Chinese space station, Wei said.

China's first astronaut Yang Liwei, who is also deputy director of China Manned Space Engineering Office, said the nation would launch the first core module of the space station in 2019, followed by two experiment modules. The space station will enable astronauts to stay in space for up to six months.

At the conference, the designers behind the Chinese space station proposed possible technical approaches that could help scientists from other countries utilize and perform experiments on the space station. China will also help astronauts and payloads specialists from developing countries to enter into space, Wei said.

The Chinese space station will be composed of three modules, including a core module and two experiment modules. The space station will have three docking sites, enabling the dock and berth of the "Shenzhou" manned spacecraft, the "Tianzhou" cargo spacecraft and other vehicles, according to Wei.

Elderly panda dies in SW China

The oldest female giant panda in a breeding base in southwest China's Sichuan Province has died at the age of 34, the base announced Thursday.

Su Su passed away on Friday from multiple organ failure after a drop in activity and appetite since late May, according to staff with the Chengdu Research Base of Giant Panda Breeding.

Her age at death was equivalent to about 100 human years. A group of five of her descendants living in a Japanese zoo is the largest panda family outside of China.

The panda had developed old-age ailments in recent years, including high blood pressure, declining liver function and heart failure. Doctors had been treating her to alleviate her symptoms.

She was found to be missing an eye when she was rescued from the wild in 1986. In the following year, she went into shock for a day due to an

anaesthesia-related incident during a physical check-up.

The average lifespan of wild pandas is normally 20 years, but those in captivity usually live longer.

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6 Chinese technologies win ‘Climate Solver’ titles

The World Wide Fund for Nature (WWF) in China has announced the six winners of this year’s Climate Solver Award on June 7 to recognize the country’s innovative solutions in tackling the ever-complicated issue of climate change.

WWF’s displays climate solutions at the eighth Clean Energy Ministerial (CEM8). [Photo/China.org.cn]

The six award-winners, unveiled at a sideline event during the ongoing eighth Clean Energy Ministerial (CEM8), are involved in solar energy, bio-fuel, motor systems, construction materials and seawater desalination.

Two special prizes were awarded to MetaSpace Corp for its low-carbon air dome technology and bike-sharing company MoBike for its low-carbon transportation model.

If the award-winning technologies can reach their expected market share by

2026, they are expected to cut annual carbon emissions by more than 206 million tons.

“China is the world’s largest energy consumer and greenhouse gas emitter, and its actions will significantly affect the global response to climate change,” said Chen Xin, WWF’s director for climate and energy projects.

“The exciting new technologies we see this year are successful examples of low-carbon technologies, and we believe that they will be able to help the world move from a fossil energy era to a more sustainable future,” she said.

The WWF Climate Solver program works in four regions in Northern Europe, China, India and South Africa, focusing on carbon innovation for small and medium-sized enterprises and helping them solve problems, barriers and challenges they face in the promotional process, as well as making them suitable for the market, explained Stefan Henningsson, senior adviser for WWF’s Global Climate and Energy Initiative.

Our goal is to promote low-carbon innovation technology to achieve business models sooner and wider, attempting to achieve a more low-carbon future, he said.

The WWF Climate Solver Project was launched by the WWF Swedish office in 2008 and officially landed in China in 2011. As of 2017, a total of 25 Chinese low-carbon innovative technologies have obtained the title of climate solvers in total.