

NEWSPACE MARKET · COMPANY PROFILE



# Space Pioneer (Tianbing Technology)

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as of 20 August 2026



## Space Pioneer (Tianbing Technology)

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Space Pioneer, formally Beijing Tianbing Technology Co., Ltd., is a Chinese commercial launch company founded in 2019 by Kang Yonglai, the former chief technology officer of fellow Chinese launch startup LandSpace. Headquartered in Beijing's Fengtai District, with additional engineering and manufacturing centers in Xi'an, Zhengzhou, and Zhangjiagang, the company set out to develop low-cost, liquid-propellant orbital rockets at a time when most Chinese private launch firms were still flying solid-fueled vehicles. Space Pioneer's flagship product line is the Tianlong ("Sky Dragon") family of kerosene-liquid oxygen rockets, powered by the company's own Tianhuo series of engines. The Tianlong-2 became the company's first orbital vehicle, while the larger Tianlong-3 is designed as a partially reusable, Falcon 9-class launcher intended to dramatically lower the cost of access to orbit for Chinese commercial and government customers alike. On April 2, 2023, Space Pioneer made history when Tianlong-2 successfully placed a satellite into sun-synchronous orbit from the Jiuquan Satellite Launch Center, making it the first Chinese private company to reach orbit with a liquid-propellant rocket, and the first startup company anywhere in the world to reach orbit on its maiden launch attempt. The achievement was a landmark moment for China's burgeoning commercial space sector, which had previously relied on simpler solid-fueled boosters for its early orbital successes. Since that milestone, Space Pioneer has pressed ahead with development of the larger, reusable Tianlong-3, raising several hundred million dollars across multiple funding rounds to fund engine testing, launch infrastructure, and production scale-up. The company has weathered setbacks along the way, including an accide

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### SERVICES

## Services

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### **Tianlong-2 — Medium-Lift Dedicated Launch to LEO / SSO**

Space Pioneer offers dedicated launch services for satellites using its self-developed reusable liquid launch vehicles, including the TL-2 rocket.

# Product catalogue



SPACE PIONEER (TIANBING TECHNOLOGY)  
**TH-11**

The TH-11 is an oxygen-rich staged combustion high-performance engine, using liquid oxygen/kerosene propellant, suitable for the upper stage and first stage of medium-sized liquid

|                         |                                            |
|-------------------------|--------------------------------------------|
| Propellant              | Liquid Oxygen + Kerosene                   |
| Vacuum Thrust           | 30 t                                       |
| Vacuum Specific Impulse | 345 s                                      |
| Thrust-to-weight ratio  | 130                                        |
| Number of starts        | 2 times                                    |
| System                  | Oxygen-rich staged combustion closed cycle |
| Gimbaling method        | Pump-fed gimbaling                         |

price on request



SPACE PIONEER (TIANBING TECHNOLOGY)  
**TH-12**

The TH-12 is a hundred-ton class liquid oxygen/kerosene engine designed for reusable medium and large liquid launch vehicles.

|                            |                          |
|----------------------------|--------------------------|
| Propellant                 | Liquid Oxygen + Kerosene |
| Sea-level Thrust           | 95 t                     |
| Sea-level Specific Impulse | 285 s                    |
| Thrust-to-weight Ratio     | 163                      |
| Number of Starts           | 4 times                  |
| System                     | Gas Generator Cycle      |
| Gimbaling Method           | Post-pump Gimbaling      |

price on request



SPACE PIONEER (TIANBING TECHNOLOGY)  
**TH-12V**

The TH-12V is a hundred-ton class liquid oxygen/kerosene engine designed for reusable medium and large liquid launch vehicles.

|                         |                          |
|-------------------------|--------------------------|
| Propellant              | Liquid Oxygen + Kerosene |
| Sea-level Thrust        | 110 t                    |
| Vacuum Specific Impulse | 346 s                    |
| Thrust-to-weight ratio  | 115                      |
| Number of ignitions     | 2 times                  |
| System                  | Gas generator cycle      |
| Gimbaling method        | Pump-fed gimbal          |

price on request



SPACE PIONEER (TIANBING TECHNOLOGY)  
**TH-31**

The TH-31 is a space engine designed for spacecraft orbit changes and attitude control, utilizing room-temperature liquid propellants.

|                           |                                                    |
|---------------------------|----------------------------------------------------|
| Type                      | Bipropellant pressure-fed                          |
| Propellant                | Dinitrogen tetroxide/Monomethylhydrazine (NTO/MMH) |
| Vacuum Thrust             | 3000N + 8*150N                                     |
| System                    | Constant pressure extrusion system                 |
| Number of Thrust Chambers | 1 + 8/12                                           |
| Vacuum Specific Impulse   | 310s                                               |
| Number of Starts          | 2 times / 2000 times                               |

price on request



SPACE PIONEER (TIANBING TECHNOLOGY)  
**Tianlong-2**

Kerosene-liquid oxygen orbital rocket; first Chinese private liquid-propellant vehicle to reach orbit (April 2023).

|                       |                                    |
|-----------------------|------------------------------------|
| Propellant            | Kerosene / liquid oxygen (kerolox) |
| Height                | 32.8 m                             |
| Payload to LEO        | ~2,000 kg                          |
| Payload to 500 km SSO | ~1,500 kg                          |
| Maiden flight         | April 2, 2023 (success)            |
| Launch site           | Jiuquan Satellite Launch Center    |
| Reusability           | Expendable                         |

price on request



SPACE PIONEER (TIANBING TECHNOLOGY)  
**Tianlong-3**

Larger, partially reusable Falcon 9-class rocket in development, targeting ~17,000 kg to LEO.

|                       |                                                    |
|-----------------------|----------------------------------------------------|
| Propellant            | Kerosene / liquid oxygen (kerolox)                 |
| Configuration         | Two-stage, reusable first stage                    |
| Payload to LEO        | ~17,000 kg                                         |
| Payload to 500 km SSO | ~14,000 kg                                         |
| Class                 | Falcon 9-class                                     |
| Status                | In development; maiden flight attempted April 2026 |
| Launch site           | Jiuquan Satellite Launch Center                    |

price on request



SPACE PIONEER (TIANBING TECHNOLOGY)  
**TL-3H Carrier Rocket**

The TL-3H is a liquid-propellant launch vehicle from Space Pioneer's Tianlong series, featuring a universal core stage parallel bundling scheme and reusability for its first stage

|                              |        |
|------------------------------|--------|
| Rocket Diameter              | 3.8 m  |
| Rocket Length                | 85.2 m |
| Take-off Mass                | 1742 t |
| Take-off Thrust              | 2520 t |
| LEO Payload Capacity         | 68 t   |
| SSO Payload Capacity (500km) | 42 t   |
| Stages                       | 2.5    |

price on request



SPACE PIONEER (TIANBING TECHNOLOGY)  
**TL-3M**

The TL-3M is a liquid-fueled launch vehicle from Space Pioneer (Tianbing Technology), designed for crewed missions with a reusable first stage.

|                              |           |
|------------------------------|-----------|
| Crew capsule diameter        | 3.8 m     |
| Crew capsule length          | 11 m      |
| Body diameter                | 3.8 m     |
| Total length                 | 67 m      |
| LEO payload capacity         | 60 people |
| SSO payload capacity (500km) | 5 t       |
| Stages                       | 2         |

price on request

## Contact Space Pioneer (Tianbing Technology)

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