

GREEN TECHNOLOGIES

- ❖ GREEN TECH IS CONSTANTLY DEVELOPING NEW PRODUCTS AND SOLUTIONS
- ❖ WE CONTRIBUTES TO CREATE A MORE SUSTAINABLE ENVIRONMENT
- ❖ OUR PRODUCTS ARE CERTIFIED ACCORDING TO HIGH SAFETY AND QUALITY STANDARDS

Company Profile

For 20 years, SIA “Green Tech” has been developing and manufacturing metal-composite high pressure cylinders for various purposes. The advanced technical equipment production and testing base of the company allows it to obtain high-quality products with a high degree of reliability.

Green Tech’s products have a stable export demand (Iran, Armenia, Ukraine, Bulgaria, Tajikistan) and are supplied to large Russian consumers (KAMAZ, NEFAZ, Mosgortrans, Uraltransgaz). Together with OAO Avtovaz, R&D was projected an automobile cylinder for serial passenger cars, such as Lada-Priora.

Existing production capacities allow Green Tech to produce up to 55,000 cylinders per year. On individual orders, we produce mobile gas tankers (PAGZs), mobile filling modules, and various combined pressure accumulators.



Our history

1997

We successfully implemented the first pilot project in Russia for the mass production of screwdriver-driven vehicles of the Corporation "HYUNDAI".

1998

Due to the interests of agricultural producers in several regions of Russia, a large leasing project was implemented for the supply, operation and maintenance of a fleet of combine harvesters from the German company CLAAS with the simultaneous development of the production of a wide range of spare parts for them.

1999

Since 1999, we have partnered with the Italian company "Termowatt" to begin the mass production of stainless steel water heaters. These products were certified according to European standards and highly demanded in Russia and other parts of the world.



...Our history

2003

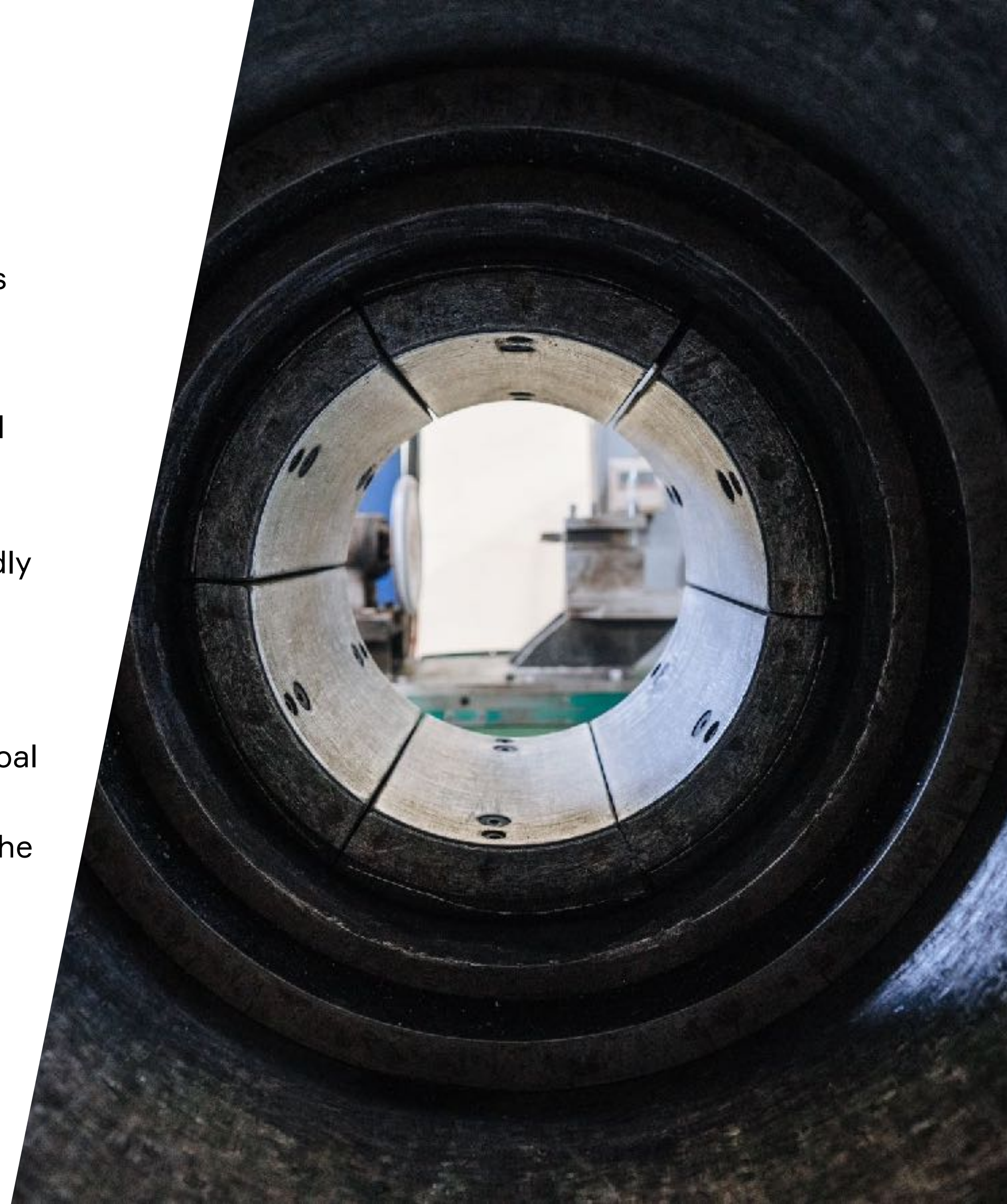
From 2003 we started the industrial production of light universal ultra-high pressure metal-composite cylinders for methane and for the transportation of liquefied petroleum gas petroleum gas and various technical gasses used in civil, military, ship facilities, as well as in fire extinguishing systems.

2004

By 2004, the industrial production of basalt fibres with special properties for reinforcing composite structural materials has been mastered. Thousands of tons of heat-insulating, fire-retardant and other materials based on environmentally friendly super-thin basalt fibre have been annually produced at the enterprise of the Green Tech "Basalt Fiber".

2021

In 2021, we created the European Company "Green Tech", to satisfy the increasing demand for our products abroad. The goal is to produce high tech products for the European market in compliance with all international certification standards with the best relationship between price and quality.



Gas cylinders

Green Tech produces light metal-composite cylinders for gases and their mixtures (type No. 3) that require working pressures of up to 400 atmospheres.

The cylinders are characteristically strong, have a good weight coefficient (0.6-0.75), are non-magnetic and heat-resistant, and are made of materials resistant to aggressive and marine environments.

The development and formalization of technical processes were completed under the conditions of the quality management system and certified according to the international standard ISO 9001:2000.



Products

Cylinders for vehicles CNG3

MetalComposite cylinders with a capacity of 47 to 210 liters are calculated on the working pressure of 20 MPa, installed on automobile vehicles and intended for transportation, storage and use as a motor fuel of compressed natural gas (methane). Used on passenger cars, buses, freight cars, agricultural machinery.

Fire extinguishing cylinders

We manufacture cylinders for fire extinguishing systems made of aluminum alloy for working pressure of 4 MPa, 6 MPa and 15 MPa. Cylinders are built for storage of water, water solutions, carbon dioxide, sulfur hexafluoride, nitrogen and their mixtures, as well as freons and other gases and liquids.

Cylinders for compressed air, gases and liquids.

Metal-composite cylinders with a capacity of 50 to 185 liters are designed for operating pressures up to 40 MPa. Used for compressed air, gases and liquids. The cylinders can hold air, nitrogen, argon, carbon dioxide, oxygen, helium, fire-extinguishing agents, and natural gas.

Customised solutions

Within the “Arctic Project”, we have designed and we started to produce cylinders that can be used in extreme weather conditions down to -60 degrees C.



Applications

- ❖ Transportation and storage of compressed natural gas used as motor fuel in passenger cars, buses, trucks, and agricultural machinery.
- ❖ Equipping self-contained gas accumulator units, as well as gas-cylinder units for mobile gas tankers, mobile gas filling modules, and gas filling compressor stations.
- ❖ Transportation, storage, filling compressor stations using compressed gases and liquids (air, nitrogen, argon, carbon dioxide, helium) as a working medium at pressures up to 39.2 MPa.



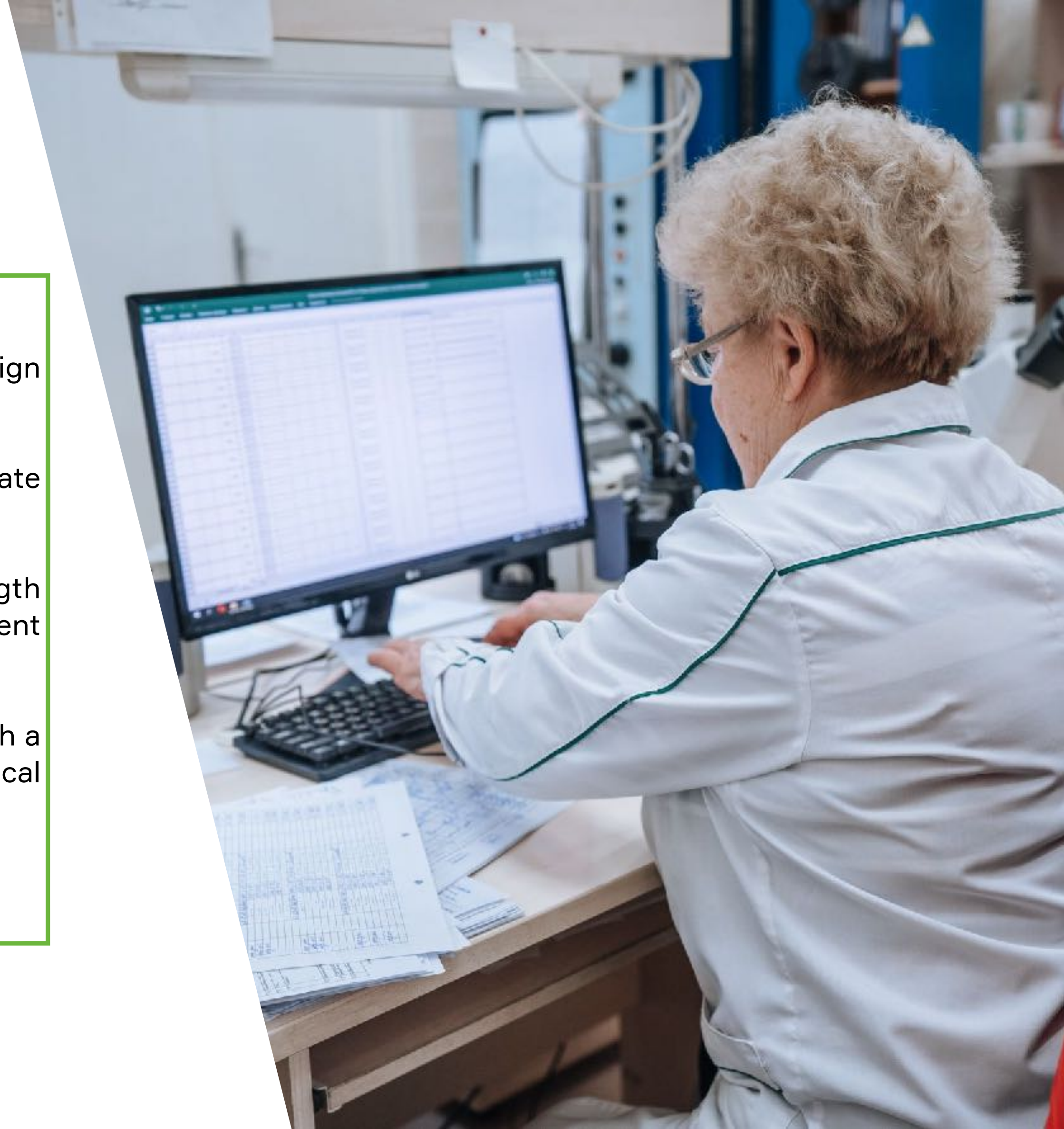
High Security Standards

Green Tech implements state-of-the-art technologies to design safe and reliable gas cylinders.

The design and manufacturing technologies used to create cylinders are exclusive and protected by a range of patents.

Using a special reinforced basalt thread, unique strength characteristics are achieved with an optimal weight coefficient and resistance.

During the production, step-by-step control is carried out with a mark of the quality of each operation in a special technological passport for absolutely every cylinder.



Quality control

- ❖ Flame exposure: The surface of the cylinder is loaded to working pressure then heated to 590°C while the gas is vented through a safety device.
- ❖ Resistance test to defects of the cylinder's composite shell: Defects are applied to the shell at a certain depth and length. The cylinder must withstand at least 3000 cycles at pressure loading 1.3 P.
- ❖ Prolonged exposure to loads: A cylinder with a pressure of 1.3 P is maintained at temperatures of $65+^{\circ}\text{C}$ for 1000 hours. In the subsequent burst test, the balloon must withstand pressure no less than the calculated one.
- ❖ Impact resistance: The cylinder is dropped three times onto a concrete surface from a height of 1.8 meters in different positions, after which it must withstand at least 3000 cycles of pressure loading 1.3 R.





At **Green Tech** we develop products that combines technologies, safety and scientific approach, respecting nature and environmental sustainability.

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