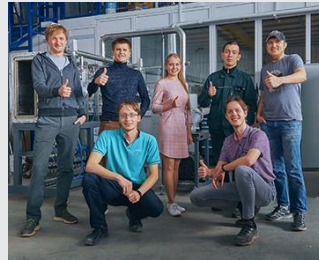
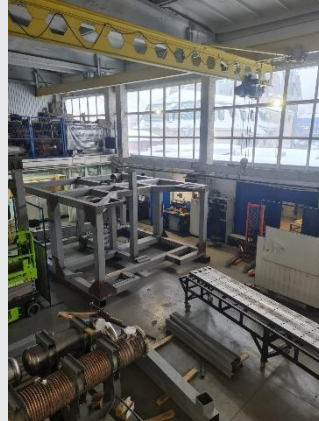


**ferry
vatt**

V A C U U M U N I V E R S E

Ferry Vatt Group of Companies

SOLUTIONS FOR INDIA



- Private company in Kazan
- Vacuum equipment and technologies for solving a wide range of problems of science and industry
- since 1991
- Own production, research center, design office
- 90 employees
- More than **175** projects implemented.

Areas of activity

- Coatings
- Plasma treatment
- Composite forming
- Vacuum thermal processes
- Vacuum testing
- Special technologies

We offer

R&D ADVANCED MATERIALS PROCESS TECHNOLOGIES

we develop advanced materials
and technologies

35+

Over 35 years in the vacuum
equipment manufacturing market

200+

Over 200 delivered projects in the
development and manufacture of
high-tech equipment

12+

12+ countries where
-our equipment is-used 12 countries
where our equipment is used

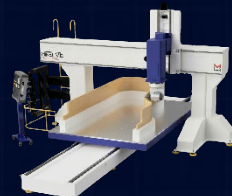
NEXT-GENERATION EQUIPMENT

we turn them into next-
generation equipment

- Thin-film coatings
- Plasma surface treatment
- Composite molding technologies
- Vacuum thermal processing
- Vacuum testing
- Specialized vacuum solutions



Vacuum
Process
Equipment



Machinery
Process
Equipment



Specialized
Process
Equipment

READY-TO-RUN BUSINESS

we turn them into next-
generation equipment



Processes
High Level
automatized



Enterprise
Resource
Planning



Group of Companies

V A C U U M U N I V E R S E



Kazan

since
1991

Holding company.
Existing production of
2000 m2.



FERRY VATT LLC.



MANUFACTURING

Innopolis,
Laishevsky
District, RT

since
2015

Subsidiary
company. Resident of SEZ
Innopolis.
Realizes (2024-2027) the
construction of a new
production facility of 7500
m2.



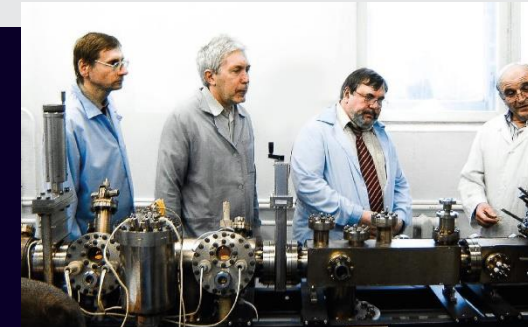
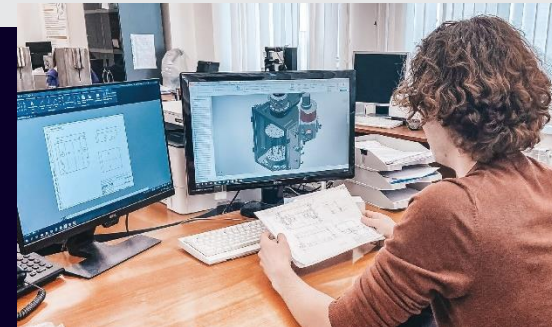
FERRY VATT
Manufacturing LLC.



Tomsk

since
1992

Subsidiary company. R&D
center. Eastern
representative office.



Laboratory 23 LLC .

Custom engineering proven at industrial scale

Three projects demonstrating FERRY VATT's capability to deliver non-standard vacuum systems for large and complex products.



1 Coating system for components up to 6 m long

A custom vacuum system engineered to coat industrial products up to six metres long.



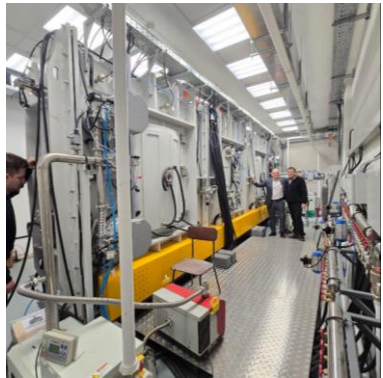
2 In-line coating system for electrically heated aircraft glazing

A production system for applying electrically conductive heating coatings to the glazing of the MS-21, Superjet and Tu-214 aircraft, providing anti-fogging and anti-icing functions.

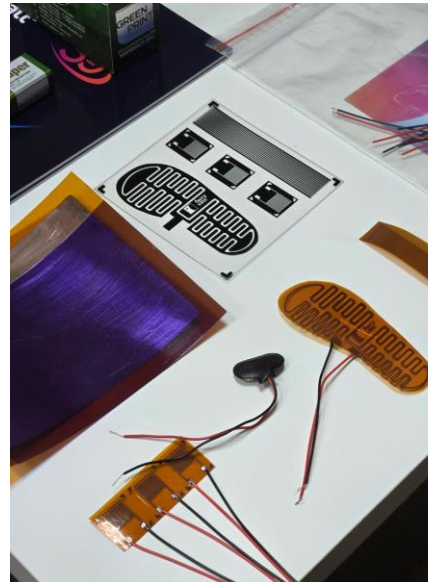


3 Vacuum infusion system for a composite wing

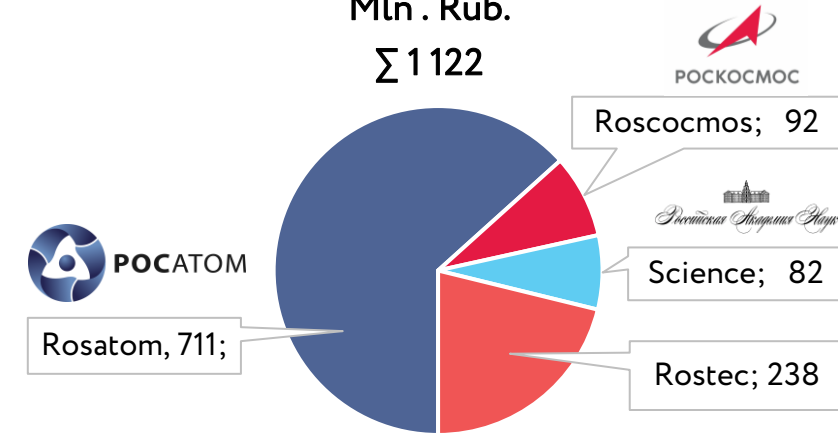
Integrated equipment for vacuum infusion of the load-bearing "black wing" structure of a civil aircraft.



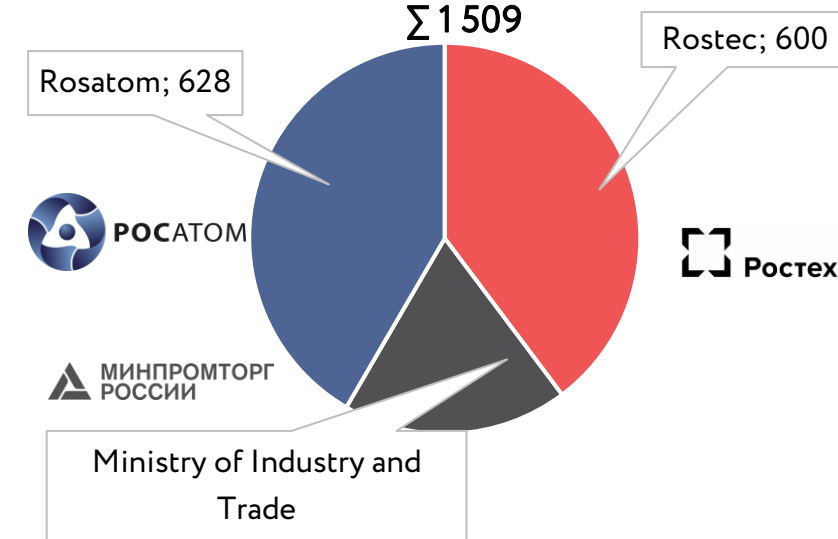
- Vacuum infusion of "black wing" of MS-21, composite parts of civil aviation engines (vacuum infusion)
- Application of electric heating coatings on glazing of MS-21, SSJ, Tu-214;
- Protective coatings on fuel element cladding. "Tolerant Fuel".
- Complex of equipment for production and testing of space nuclear power plant (NPP) products - more than 25 units.
- R&D to replace imported high-tech products with coatings for automotive industry (piston rings, liners, etc.).
- The first in the Russian Federation vacuum 3D printers of electron-beam methods of manufacturing high-strength parts - cladding and sintering of powders.
- Production line for manufacturing of microelectronics with 150 μm resolution on a flexible basis - loops, sensors (temperature, pressure, gas composition, ionizing radiation, etc.), SMART-textiles (heating, physiology monitoring), RFID tags, etc. Subsidy PP RF 2136. Ministry of Industry and Trade of the Russian Federation.



Completed contracts(2021- 2024 rr.),
Mln . Rub.

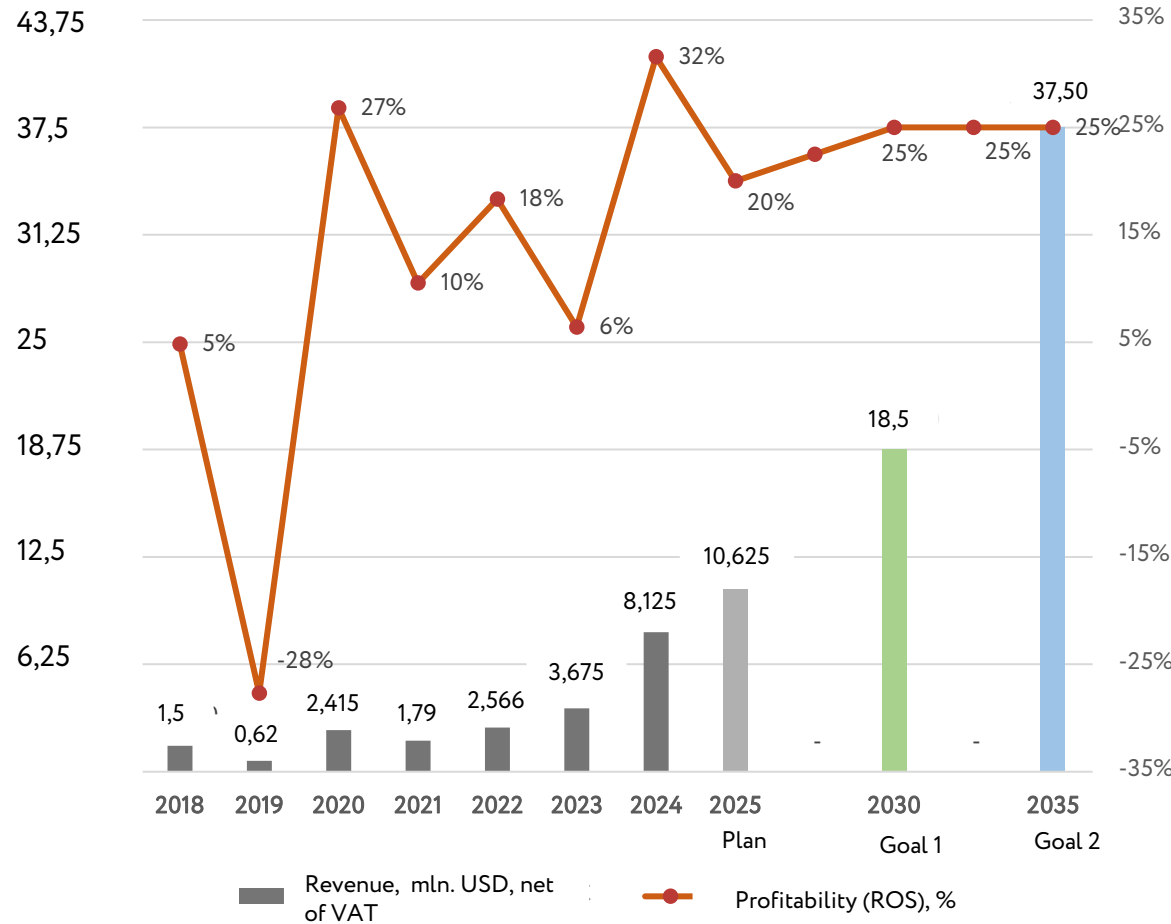


Contracts under execution,
Mln . Rub.

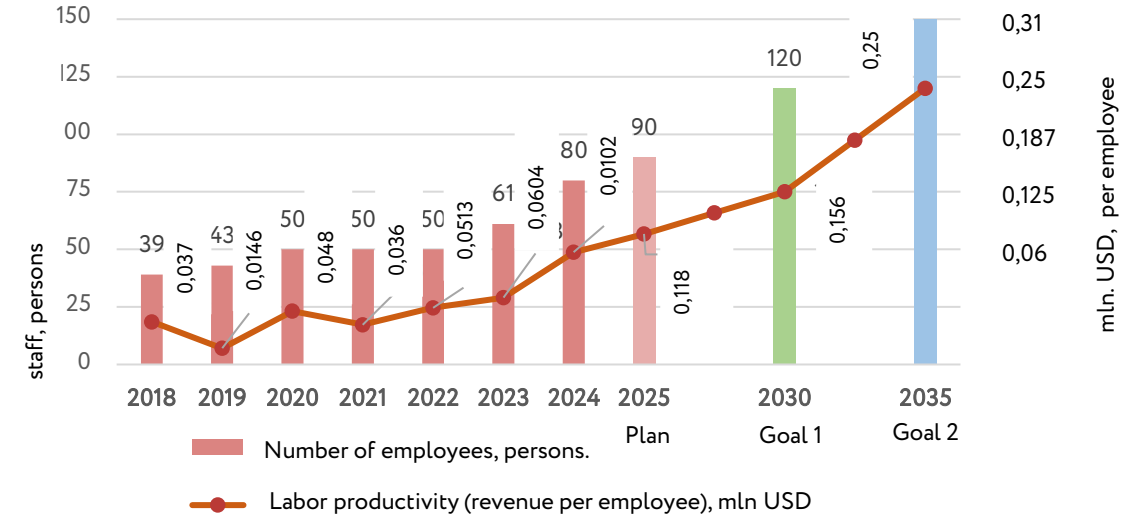


Current indicators and targets

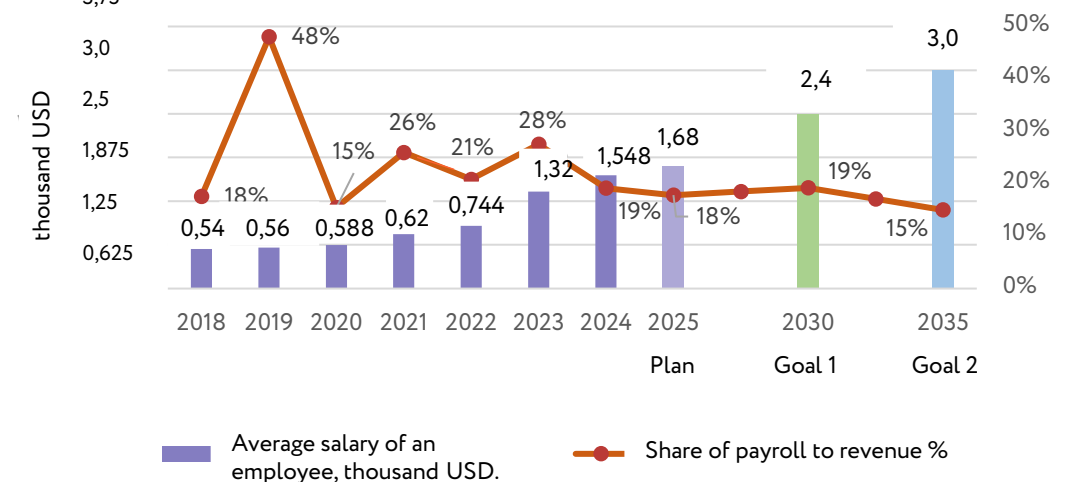
Profitability (ROS) and revenue



Staffing and labor productivity

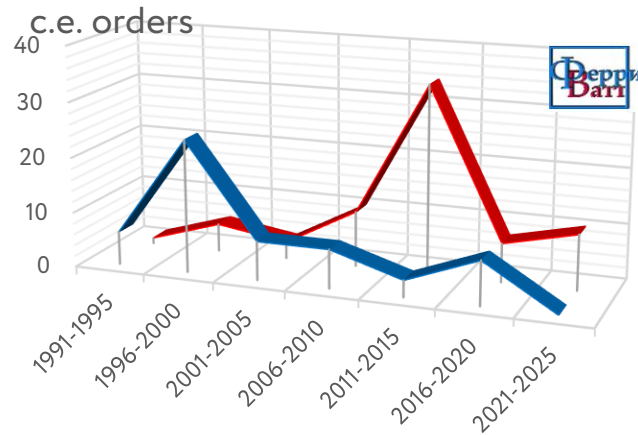


Average salary and share of FTP to revenue



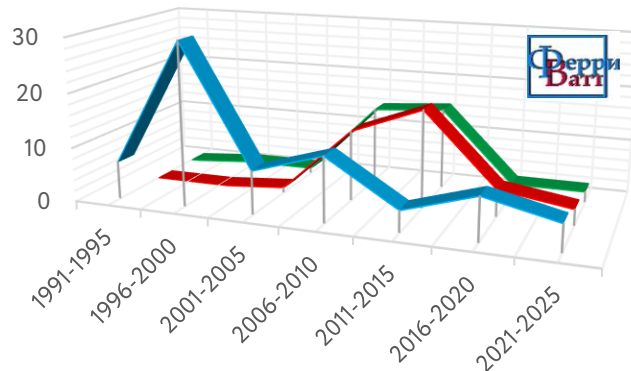
Peculiarities of the WTT market in the Russian Federation

Structure of the WTT market divided into private and public customer*



Structure of the HTT market with division of equipment by purpose into civilian, specialty and research and development equipment*

c.e. orders



Vacuum engineering and technology (VET) is basic, and in some industries - the only one, in the production of microelectronics products, widely used in mechanical engineering, automotive, aviation, energy, nuclear and space industries.



- Imports of vacuum equipment in 2021 amounted to 33 billion rubles, while the output of domestic equipment amounted to 3 billion rubles. [1]
- There are no high-tech mass-use products with a high share of VTT utilization in the Russian Federation.
- The RF market - since 1998 the market of R&D and piece unique developments, from 2020. - "window of opportunity" [3].
- The global WTT market is the main driver of economic growth [2].
- If the products of special and strategic purposes have some protection in the face of the state, domestic high-tech products of mass consumption can develop only under the condition of consolidation of manufacturers and state support. [3]

Goal 2030 “To build on what has been accomplished.”:

- Reduce the risk of dependence on R&D - serialization of current developments of equipment by areas;
- Increase productivity;
- Reduce costs and losses;
- Increase the quality of products to the world level;
- Increase production capacity (qualitatively and quantitatively).

Goal 2035 Candlesticks:

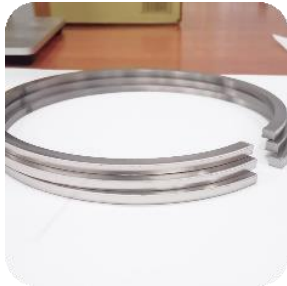
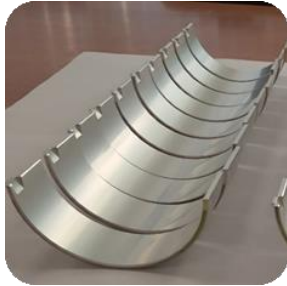
- Reduce the risks of reduced funding for state programs of scientific and technological development;
- Development and launch of promising marginal developments;
- Creation of a satellite group of companies of vertical (forward and backward) integration on the principle from “components -> equipment -> final products/services to the consumer”;
- Formation of financial and administrative leverage to enter IPO and international markets by 2040.

Goal	2024	Goal 2030	Goal 2035
Revenue from sales, thousand USD	8 125	18 000	36 000
Return on sales, %	20%*	25%	25%
Labor productivity, revenue, mln USD/employee	0,0984	0,156	0,25
Staff, persons	80	120	150



We are now focused on the following key areas:

- Technologies for surface hardening of machine and tool parts - equipment, technology and spraying centers;
- Technological solutions for ground and space nuclear power engineering;
- Production of flexible electronics using our own technology and equipment (sensors, SMART-Textiles)
- Serial production of equipment for composite molding;
- Vacuum solutions for additive manufacturing;
- Production of freeze-dried food products using our own unique technology.
- Launch of “4th generation” vacuum equipment production in Innopolis;
- Use of AI in the processes of developing new materials and thin-film coatings.



For what purpose:

Improved reliability and service life of equipment operating under abrasive wear, pressure and aggressive environments.

Where it applies:

- Elements of tubing and compression equipment
- Guideways, shafts, plain bearings
- Drilling and auxiliary equipment rubbing elements
- Parts for H₂S, CO₂, seawater applications.

What's the benefit:

- Extended overhaul intervals
- Corrosion, friction and thermal shock resistance
- Reduced failures and downtime
- Reduced service and parts replacement costs
- Stable operation under extreme conditions

What we offer:

- Application of coatings on your parts on a contract basis
- Individual selection of coating composition for the working environment
- R&D/ R&D for your tasks
- Design and delivery of turnkey equipment
- Audit of current solutions and feasibility study of the transition to coatings

For what purpose:

For compact, lightweight and reliable sensor and conductor solutions adapted to curved surfaces, vibration and limited installation space.

Where it applies:

- Pressure, temperature, strain and gas sensors
- Flexible cables for car electronics
- Heaters (steering wheels, mirrors, seats, HUD-glasses)
- Embedded electronics for interior and exterior

What's the benefit:

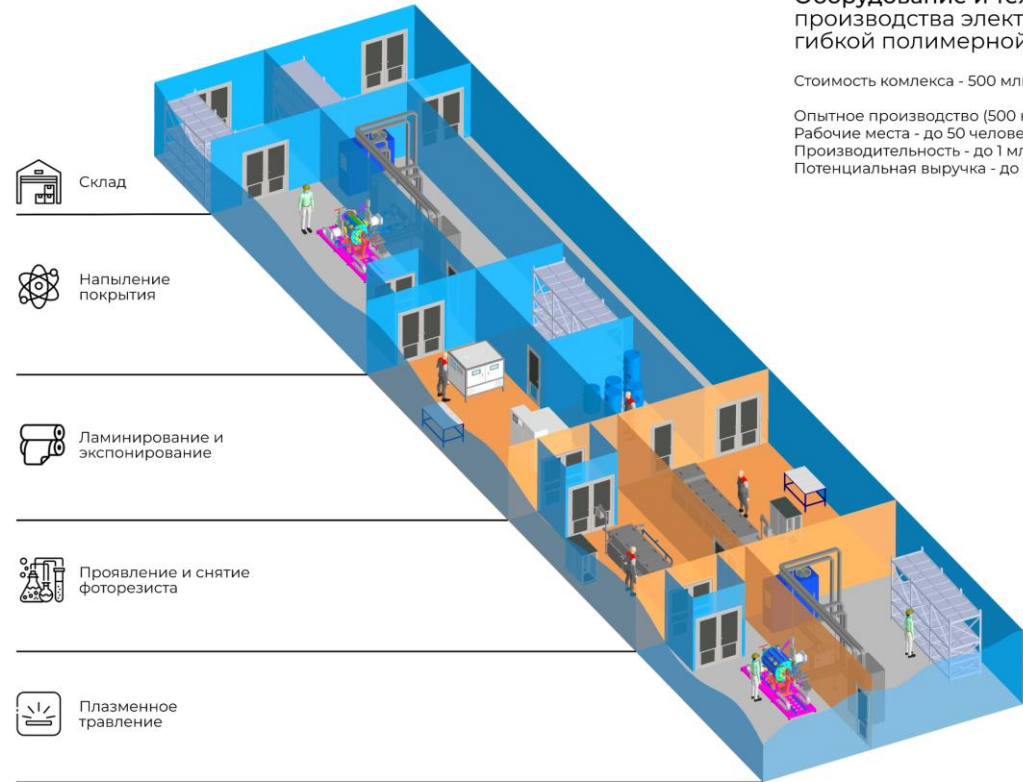
- Minimization of weight and dimensions
- Increased reliability due to absence of soldering and moving joints
- Stability to deformations and vibrations
- Integration of electronics into structural elements
- Possibility of rapid prototyping and small-scale production
- Possibility of rapid prototyping and small-scale production

«ГИБКАЯ ЭЛЕКТРОНИКА»

Оборудование и технологии производства электроники на гибкой полимерной основе

Стоимость комплекса - 500 млн. руб.

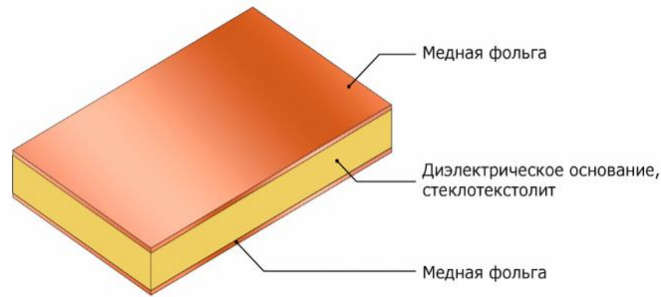
Опытное производство (500 кв. метров) до 2030 г.
Рабочие места - до 50 человек
Производительность - до 1 млн. сенсоров в день
Потенциальная выручка - до 500 млн. руб./год



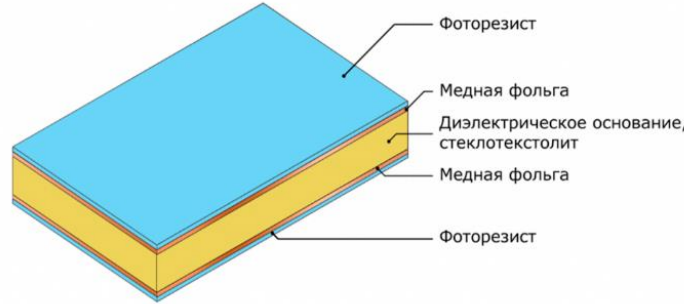
What we offer:

We own the technology of flexible electronics production and offer a set of equipment for the full cycle: from thin-film coating to finished products.

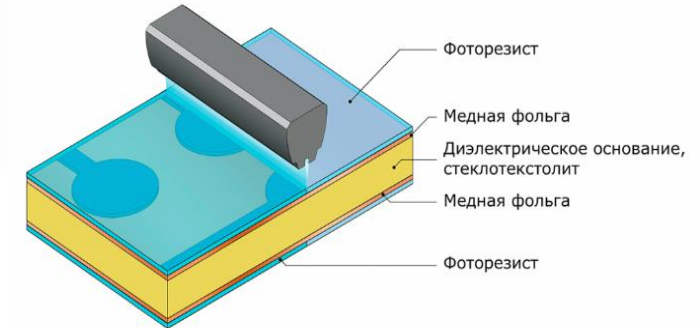
Our technology:



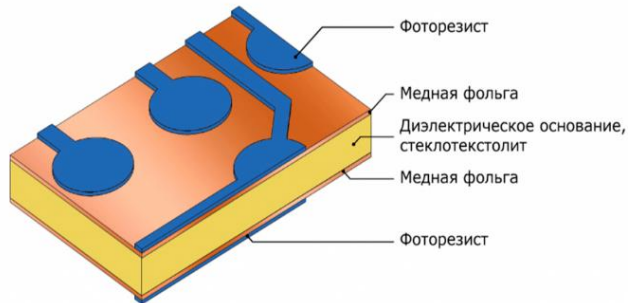
Application of the resistive layer



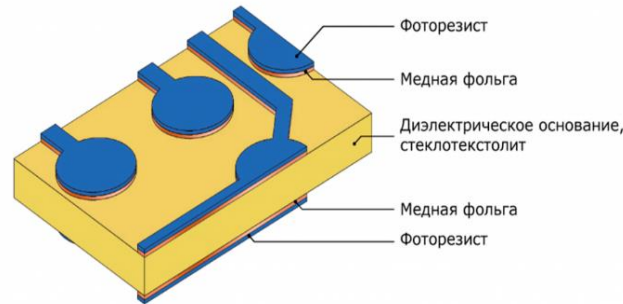
Photoresist lamination



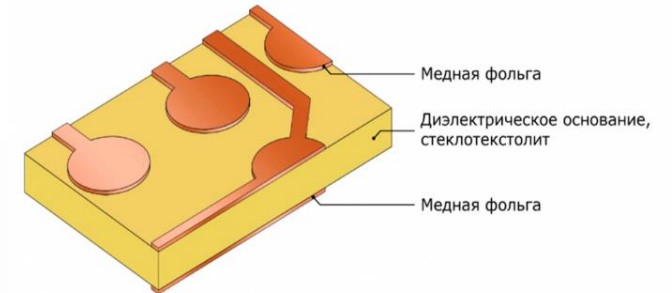
Photoresist exposure



Manifestation of photoresist



Copper etching



Removal of photoresist

What it is:

Vacuum surfacing is an additive process in which metal is applied layer by layer to worn or critical areas of a part. It is used to restore, reinforce and locally modify surface properties.

Where used in transportation and energy:

- Pressure, temperature, strain and gas sensors
- Flexible cables for car electronics
- Heaters (steering wheels, mirrors, seats, HUD-glasses)
- Embedded electronics for interior and exterior

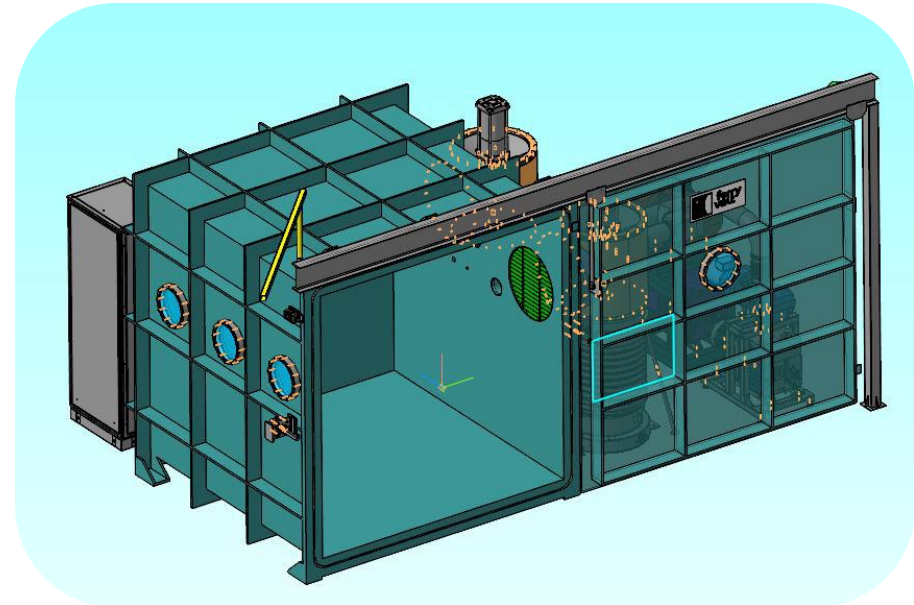
Why the vacuum is important:

- Elimination of oxidation during application
- Pure layer metallurgy
- Improved adhesion due to plasma preparation
- Minimal workpiece deformation due to local heating

Benefits:

- Reconditioning of expensive parts
- Increased service life
- Reduced need for expensive billets
- Ability to work with dissimilar metals

Experience:



For what purpose:

To create functional glazing with the possibility of electric heating, protection from solar radiation and reduction of heat loss in buildings, transport and special vehicles.

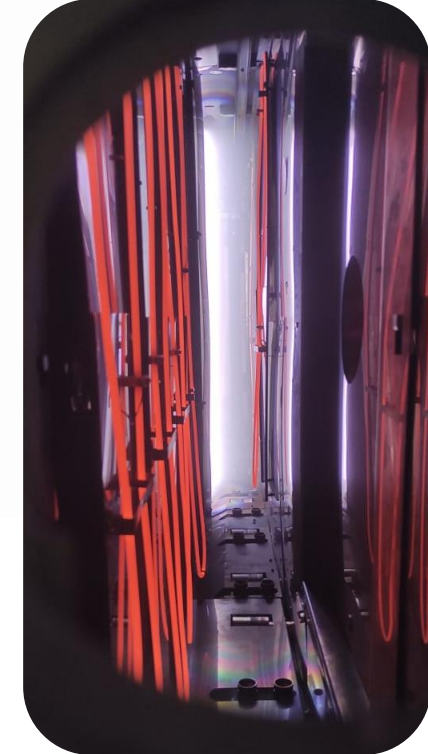
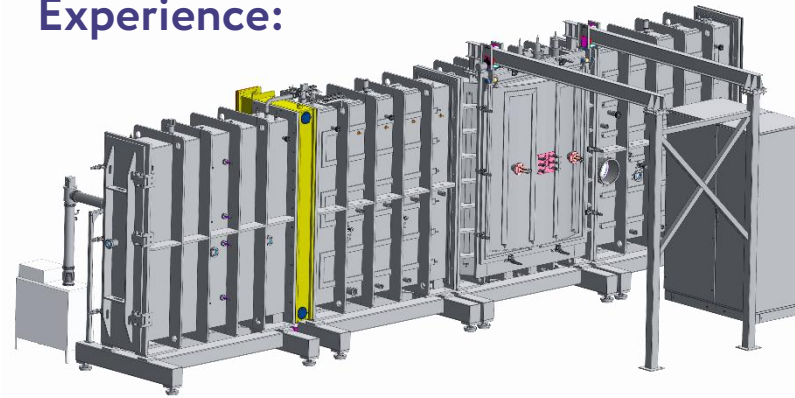
Benefits:

- Transparency in the presence of conductivity (ITO)
- Reduced energy costs for heating and air conditioning
- Increased operating comfort and visibility
- Aesthetics without visible heating elements

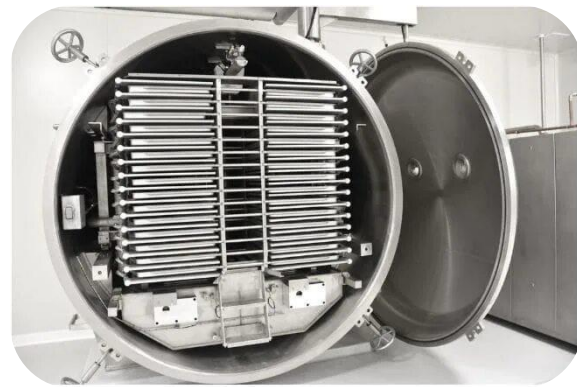
What we offer:

- Application of transparent conductive coatings (ITO and analogues)
- Development of solutions for specific climatic and project tasks
- Supply of equipment and start-up of coating line

Experience:



Experience:



What it is:

To propose freeze drying technology as a highly efficient solution for the production of long-life food products. To show how vacuum technology can preserve the flavor, structure and nutritional properties of products without the use of preservatives and cold storage.

Where it applies:

- Processing of vegetables, berries, fruits, mushrooms
- Drying of meat and fish products
- Space and military nutrition,
- IRP Long-term storage rations for EMERCOM and tourists

Benefits:

- Storage without refrigeration 1-3 years
- High water recovery rate
- Minimal weight and volume during transportation
- Possibility of packaging in hermetically sealed ICT/PPIs
- Reduced transportation costs

Relevance:

- Growing demand for chemical-free long-life storage products
- Import substitution in the emergency food segment
- Export potential to Asia and Middle East countries

Equipment for forming composite parts

What it is:

Creation of parts from polymer composites with high strength and low weight. The solutions are relevant for the transportation, aviation and energy industries, as well as for the production of special purpose equipment.

Where it applies:

- Aviation: panels, brackets, interior elements
- Automotive: body elements, fenders, hoods
- Power and mechanical engineering: covers, supports, shells

What we offer:

- Complex of equipment for composite molding (molds, pumps, heating, tooling)
- Heat treatment and curing chambers
- Automated process control systems
- Technological testing and personnel training

Experience:

- Proprietary line of infusion and RTM units
- Supply to aviation and defense companies
- Design and assembly of chambers from small to industrial scale

Vacuum infusion of the MS-21 Black Wing



Vacuum infusion of PD-35 housing



Who we are:

We position ourselves as a competence center for creating high-tech production facilities based on our own developments of vacuum equipment and technological solutions.

Why now:

Markets are actively transforming towards industrial development, economic diversification and introduction of advanced technologies . This creates unique conditions for the localization of high value-added industries.

What we offer:

- Joint development of turnkey projects
- Equipment supply and technology integration
- R&D and pilot production start-up
- Support in localization, personnel training and market introduction

We're open:

- To discuss various forms of cooperation
- To customize projects to meet the region's challenges
- To create sustainable technology partnerships for the long term



Our website



Our Telegram



Гальванике.нет

