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VACUUM UNIVERSE

FERRY VATT Group of Companies:

TURNKEY DIGITAL FACTORIES

Small Hi-Tech Company

INNOPOLIS

Sk Resident

NATIONAL CHAMPIONS

Association of Fast-Growing Technology Companies

Group of Companies

VACUUM UNIVERSE

Vacuum technic and technologies.
Head company.
2500 m² Production Facility

KAZAN since 1991

MANUFACTURING

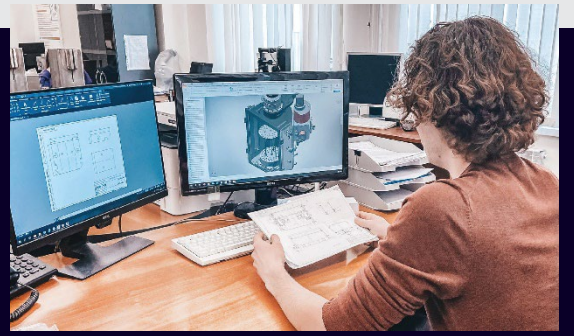
+7,500 m² production facility under construction (2026–2028)

SEZ INNOPOLIS since 2015

LABORATORY

R&D center and Eastern regional office

TOMSK (Siberia) since 1992



New business lines

VACUUM UNIVERSE

ARIKO Food-Tech

R&D of **freeze dried** food products

ZELENODOLSK Start-Up

MINEEV technology

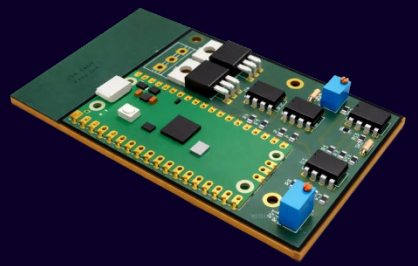
Machinery and robot Solutions

NAB. CHELNY since 2022

MIFTAHI vacuum

Vacuum electronics and components

KAZAN Start-Up



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We offer

VACUUM UNIVERSE

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+

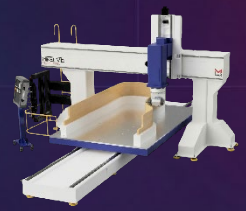
12+ countries where -our equipment is-used 12 countries where our equipment is used

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 Hight Level automatizated

Enterprise Resource Planning

EVERYDAY APLICATIONS

Smart glass

3D architectural structures

Thermal barrier coatings

Defrosting & Anti-Fog Coatings

Thermal barrier coatings

Sensors IoT smart home

Aerospace Composite materials

Reflective coatings

Wear-resistant coatings

Interior & exteriror decorative coatings

Optical coatings

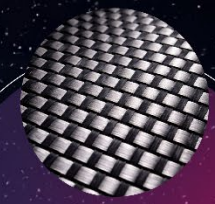
Microelectronics technologies

SPECIAL APLICATIONS

Aerospace materials and technologies

Protective coatings for nuclear power plants

Corrosion-protective coatings



Composite wind-blades

Solar panels technologies

Marine Composites

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Universal Coating Workshop

1. Warehouse for products ready for coating
2. Automated washing
3. Loading products into tooling
4. Tooling storage and maintenance area.
5. Quality Control (Incoming/Outgoing)
6. Warehouse (Incoming/Outgoing)
7. Unpacking before coating / packing of finished products
8. Repair area
9. Machine room and equipment maintenance zone
10. Vacuum equipment and spare parts warehouse
11. Clean zone and coating zone

PRODUCTION PARAMETERS

Area:
350 m²
Ceiling height: 4 м

Cleanliness class:
ISO 7
(200 m²)

Staff:
5 employees
(15 manual labor)

Productivity
(drill ⌀10):
up to **3000 units/day**

Operating mode:
24/7

ERP
full automation
of all processes

Robotics /
automation level::
up to **65%**

Hard-Coating Manufacturing Facility

VACUUM UNIVERSE

WOLDWIDE MARKETS

Cutting too;

$46B TAM

+7% CAGR

Industry 4.0

$131B TAM

+16% CAGR

Internal Combustion engines

$249B TAM

+6% CAGR

General Mechanical engineering

$670B TAM

+4% CAGR

Biotechnology

$1,45T TAM

+12% CAGR

TECHNOLOGY

- Magnetron Sputtering
- Plasma nitriding
- CVD
- Plasma cleaning
- Vacuum cleaning

Universal Coating Workshop

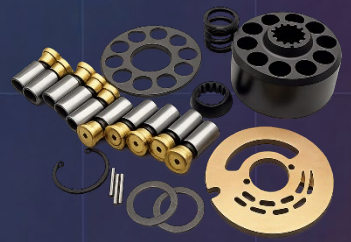
VACUUM UNIVERSE

PRODUCTS

Wear-resistant tool coatings

Tribological coatings for ICE (internal combustion engine) parts

Pump and valve components



Thermal barrier coatings for turbine blades

Corrosion-resistant coatings for protection against aggressive environments

Biocompatible coatings (bone and dental implants)

EXPERIENCE

Turbine blade thermal barrier coating system

Gate valve protective coating system

Fuel element cladding coating system. "Accident Tolerant Fuel"

Coating system for deposition of wear-resistant coatings on cutting tools and dies

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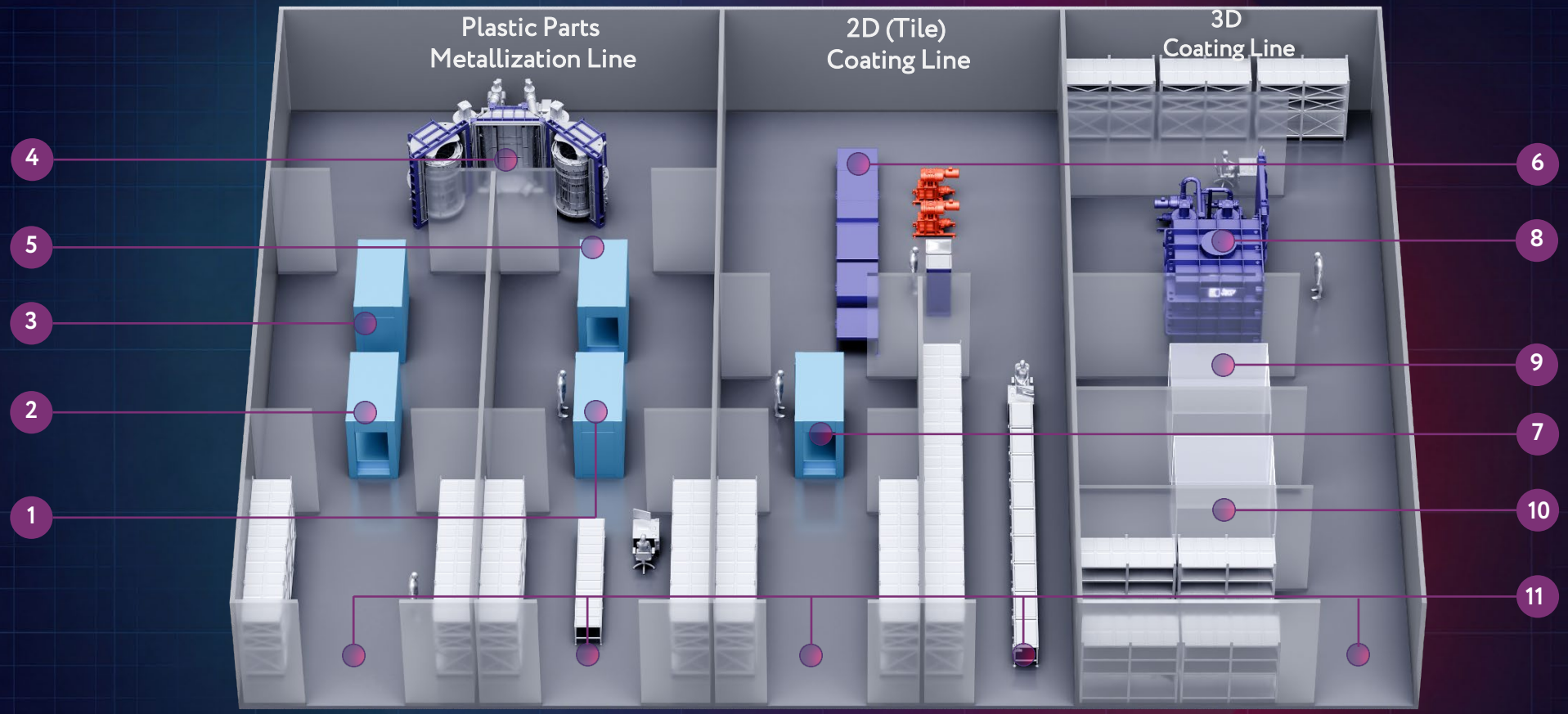
Decorative Coating Manufacturing Facility

VACUUM UNIVERSE



1. Drying chamber
2. Lacquer coating chamber
3. Drying chamber
4. Coating application system
5. Lacquer coating chamber
6. Coating application line
7. Degassing chamber
8. Coating application system
9. Drying chamber
10. Degassing chamber
11. Product receiving and inspection area

PRODUCTION PARAMETERS

Area:
up to **1000** m²
Ceiling height: 4 m

Cleanliness class:
ISO 8

Staffing:
8 employees
(18 manual labor)

Productivity
(Component ø 50 mm):
up to **30** units/day

Operating mode:
24/7

ERP
Full automation

Robotics/
automation level:
up to **60%**

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Decorative Coating Manufacturing Facility

VACUUM UNIVERSE

WOLDWIDE MARKETS

Automotive industry

$2.7T TAM

+3.5% CAGR

Luxuryfurniture

$31B TAM

+4.2% CAGR

Real Estate

$11T TAM

+5% CAGR

Energy-saving technologies

$150B TAM

+12% CAGR

Attributes

$5.5B TAM

+11.4% CAGR

TECHNOLOGY

- Thermal evaporation
- Plasma nitriding
- CVD
- Plasma cleaning
- Varnish spraying system

Decorative Coating Manufacturing Facility

VACUUM UNIVERSE

PRODUCTS

Automobile Interior & exterior decorative coatings

Attributes

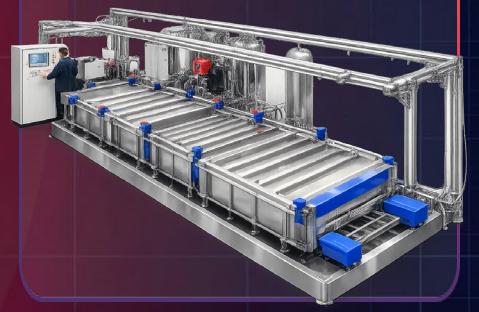
Tiles and furniture

Solar Heating Panels

EXPERIENSE

Solar Heating Panels coating system

Tile Coating system



Decorative coating system

Decorative coating system for Luxary transport

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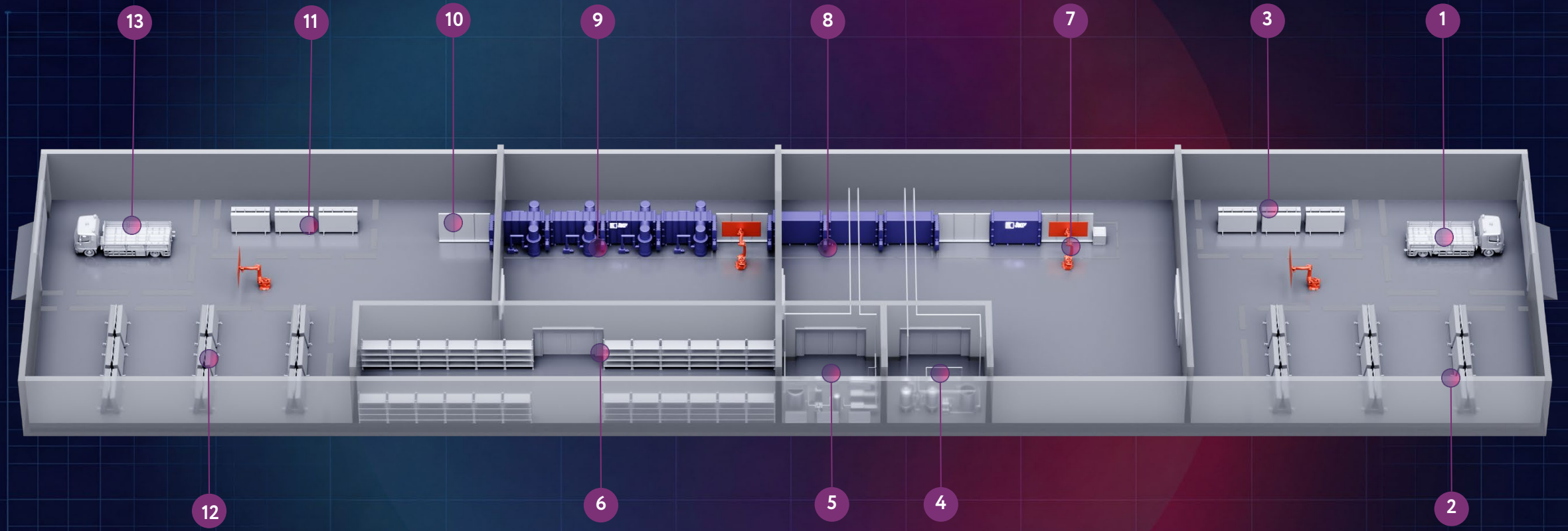
SMART-Glass Manufacturing Facility

VACUUM UNIVERSE



1. Unloading area
2. Warehouse
3. Input defect area
4. Water treatment area
5. Air treatment area
6. Spare parts warehouse
7. Input quality control line
8. Cleaning line
9. Coating line
10. Unloading area
11. Output defect area
11. Shipping area
12. Product loading area

PRODUCTION PARAMETERS

Total area:
from 2000 m²
Ceiling height: 8 m

Cleanliness class:
ISO 6

Staff:
5 employees
(15 manual labour)

Productivity (low-e glass):
up to 500 m²/day

Operating mode:
24/7

Robotics / automation level::
up to 60%

ERP
full automation of all processes

SMART-Glass Manufacturing Facility

VACUUM UNIVERSE

WOLDWIDE MARKETS

Architectural glass

$110B TAM

+5% CAGR

Glass Partitions / Office Interiors

$7B TAM

+4,6% CAGR

PRODUCTS

Electrically Heated Glass

Electrochromic & Photochromic Glass

Energy-Efficient Glass (Low-E coatings)

Decorative Tinted Glass

Specialty Filters

EXPERIENCE

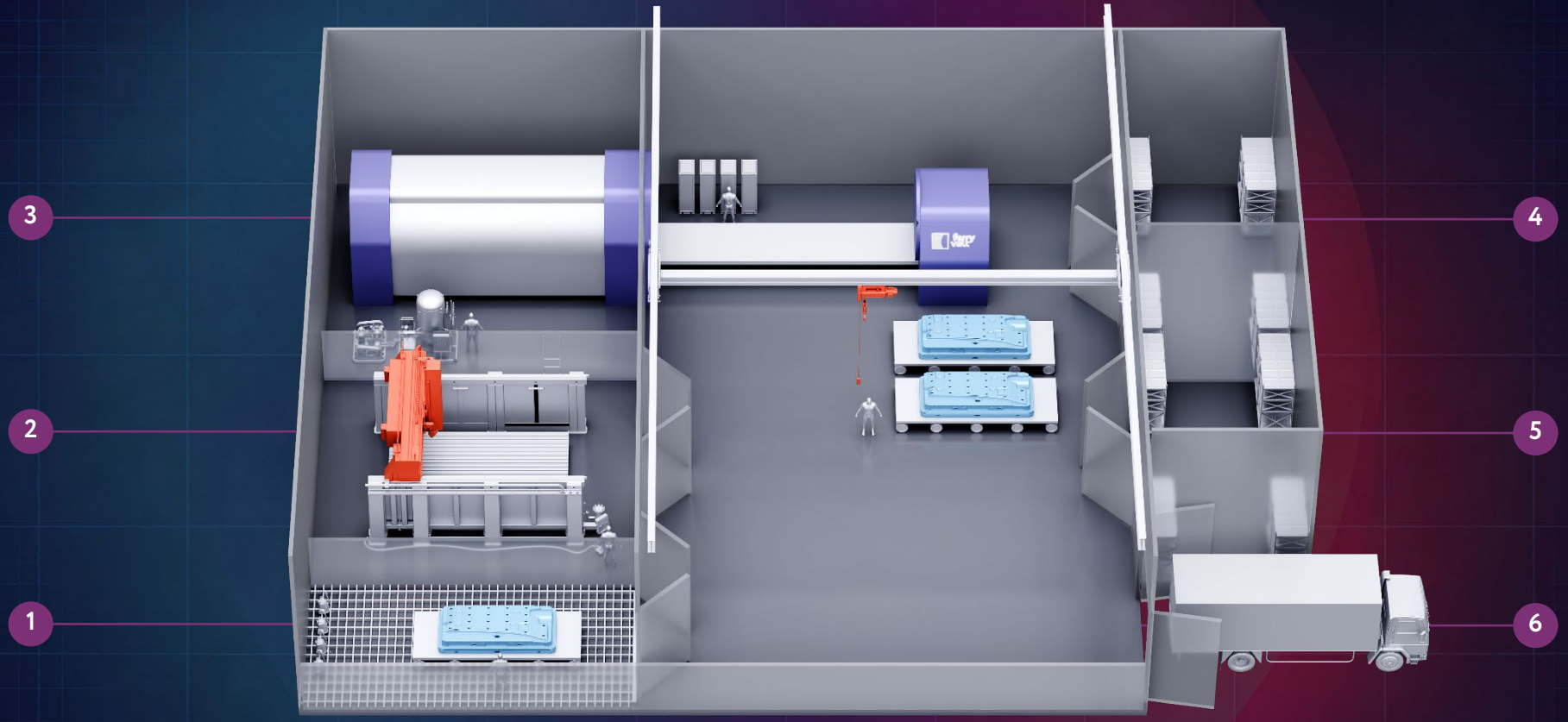
Coating system for energy-efficient (low-e) glass

Coating system for electrically heated glass

Coating system for large-format architectural glass

Stamp repair Manufacturing Facility

VACUUM UNIVERSE



1. Preparation area
2. CNC machining area
3. Nitriding area
4. Auxiliary room
5. Auxiliary room
6. Die receiving area

PRODUCTION PARAMETERS

Total area:
from 1000 m²
Ceiling height: 4 m

Технологии:
3+

Staffing:
4 employees
(8 manual labor)

Max product size:
up to 6 m

ERP
full automation of all processes

Robotics / automation level :
up to 50%

Stamp repair Manufacturing Facility

VACUUM UNIVERSE

WOLDWIDE MARKETS

Automotive industry

$2.7T TAM

+3.5% CAGR

Oil and gas industry

$6.1T TAM

+3.7% CAGR

General Mechanical engineering

$670B TAM

+4% CAGR

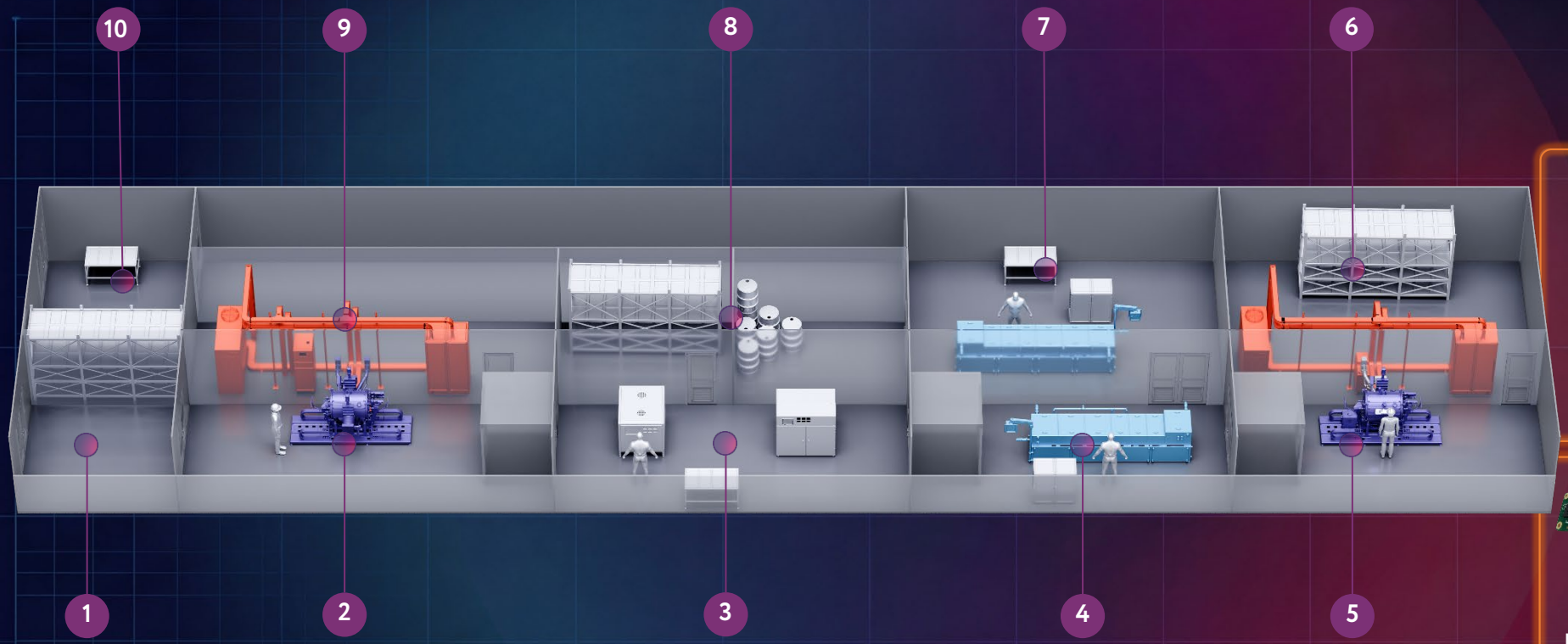
TECHNOLOGY

- Automated 3D scanning
- 5-axis CNC milling
- CNC grinding / polishing
- Arc / laser cladding
- Plasma nitriding

Plasma nitriding process

ferry vatt Universal Flexible Electronics Manufacturing Facility

VACUUM UNIVERSE



PRODUCTS

Flexible sensors

- Pressure sensors
- Temperature sensors
- Deformation (strain) sensors
- Gas analysis sensors

Flexible electronics interconnects

- Smartphones
- Laptops
- Cameras
- Printers
- Automative electronics

1. Warehouse
2. Coating deposition area
3. Lamination and exposure area
4. Photoresist development area
5. Etching area
6. Machining section
7. Photoresist stripping area
8. Warehouse
9. Machining section
10. Shipping area

PRODUCTION PARAMETERS

Total area:
from **500 м²**
Ceiling height: 4 m

High
product diversification

Staffing:
from **6** employees
6 + operators per shift

Process resolution (minimum line width):
up to **150 µm**

Cleanroom class:
ISO 5
(250 m²)

ERP
full automation

*Personnel directly involved in production per shift

ferry vatt Universal Flexible Electronics Manufacturing Facility

VACUUM UNIVERSE

WORLDWIDE MARKETS

Internet of Things
$2,6T TAM
+11.4% CAGR

Wearable devices
$1.3T TAM
+6% CAGR

Smart Home
$537B TAM
+27% CAGR

Hydrogen Energy
$295B TAM
+6% CAGR

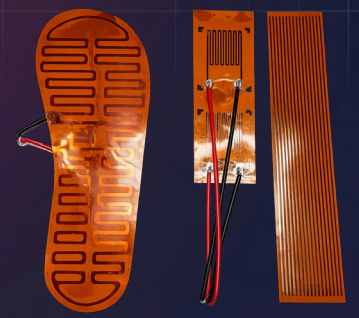
Sensors & Instrumentation
$439B TAM
+10% CAGR

TECHNOLOGY

- Magnetron Sputtering
- Plasma Etching
- Lamination
- Exposure (Photolithography)
- Photoresist Development and Stripping

EXPERIENCE

Validated laboratory-scale technology



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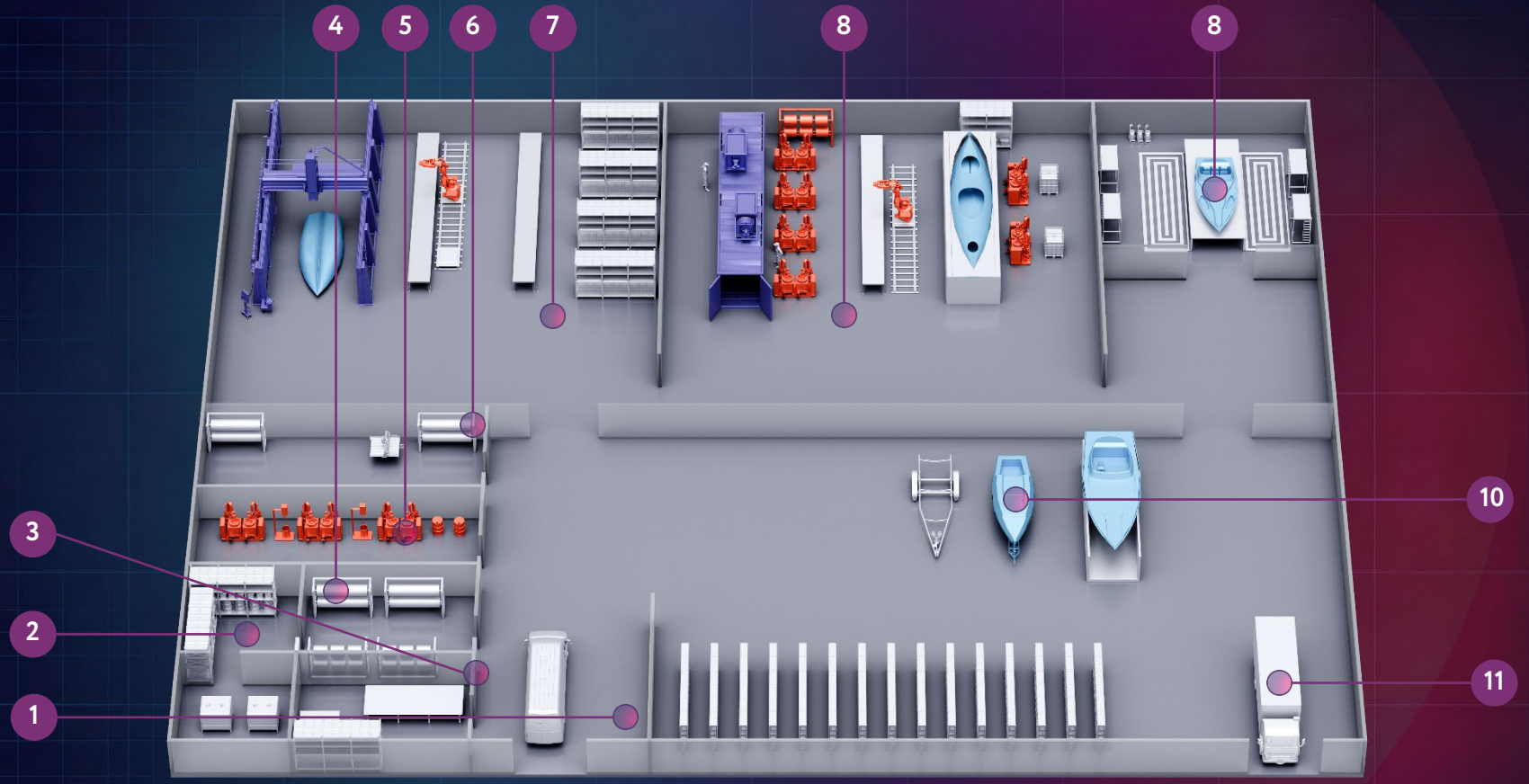
Composite Manufacturing Facility

VACUUM UNIVERSE



1. Raw materials receiving area
2. Mechanical workshop
3. Technical/utility room
4. Warehouse (Dry & Cold storage)
5. Resin preparation are
6. Fabric cutting area
7. Master model production area
8. Molding area
9. Washing/cleaning area
10. Assembly area
11. Finished goods shipping area

PRODUCTION PARAMETERS

Total area:
from 2000 m²
Ceiling height: 8 m

High
product diversification

Staffing:
15 employees

5+
composite technologies

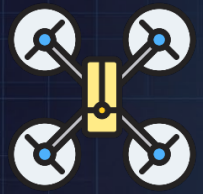
Max product size:
up to **12** m

ERP
full automation of all processes

Composite Manufacturing Facility

VACUUM UNIVERSE

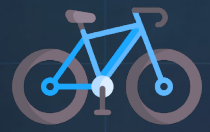
WOLDWIDE MARKETS



Drons

$26B TAM

+14% CAGR



Sports equipment

$578B TAM

+6.4% CAGR

Automobile

$2.7T TAM

+3.5% CAGR

Boats

$11B TAM

+7.2% CAGR

Composites In architecture

$98B TAM

+6.5% CAGR

TECHNOLOGY

- Contact molding
- injection moulding
- Light RTM/RTM
- Prepreg moulding
- Roving spraying
- AM forms printing
- Textile metalization
- Textile plasma adhesive activation

Composite Manufacturing Facility

VACUUM UNIVERSE

PRODUCTS

Aerospace

Boats

Sports equipment

Transport

3D **architectural constraction**

EXPERIENSE

Aircraft engine housing injection system

Aircraft wing injection system

Composite turbines injection system

Drones injection system

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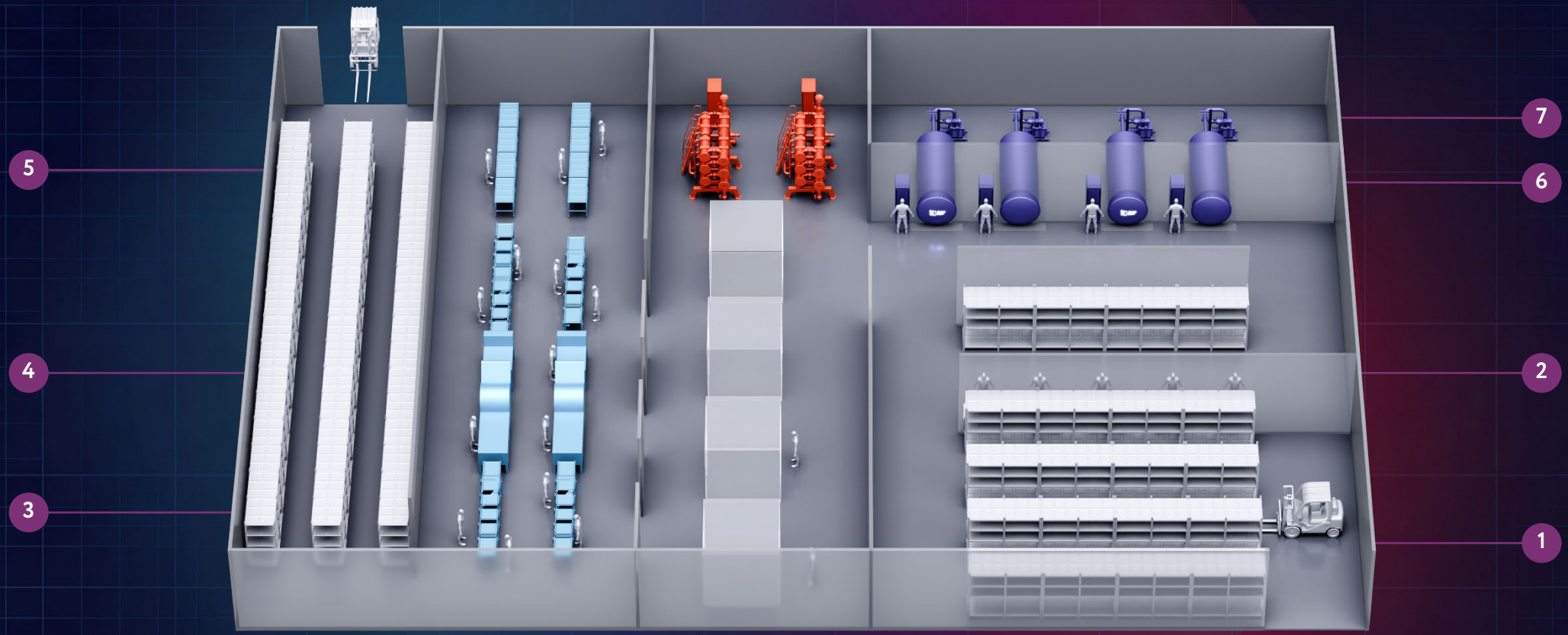
Universal food freeze-drying workshop

VACUUM UNIVERSE



1. Storage and shipping area
2. Blast freezing area
3. Sorting, washing and cutting line
4. Receiving and storage area
5. Continuous freeze-drying area
6. **Freeze-drying area**
7. **Pulsed vacuum drying area**

Площадь:
from **1300** m²
Ceiling height: 4 m

High
product diversification

Staffing:
15 employees

Productivity
(raw product):
up to **4** t/day

Operating mode:
24/7

ERP
full automation
of all processes

Universal food freeze-drying workshop

VACUUM UNIVERSE

WOLDWIDE MARKETS

Dietary s upplements

$192B TAM

+8.9% CAGR

Healthy food

$858B TAM

+9.4% CAGR

HORECA

$3T TAM

+3% CAGR

Healthy convenience food

$1.6B TAM

+7.2% CAGR

Outdoor tourism

$476B TAM

+13.9% CAGR

TECHNOLOGY

- Vacuum drying
- Vacuum freeze-drying
- Continuous freeze-drying

Universal food freeze-drying workshop

VACUUM UNIVERSE

PRODUCTS

Berries

Vegetables

Fruits

Meat / fish

Leafy greens

Pharmaceuticals and dietary supplements

Partnership

Who we are:

We position ourselves as a competence center for establishing high-tech production facilities based on our proprietary vacuum technologies and engineering solutions.

Why now:

Markets are rapidly evolving toward industrial expansion, economic diversification and adoption of advanced technologies (Vision 2030). This creates favorable conditions for localizing high-value manufacturing.

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 regional priorities**
- To create sustainable technology partnerships for the long term

Partnership

Why Our Technologies Matter for Saudi Arabia:

Saudi Vision 2030 prioritizes the creation of local high-value industries in aerospace, energy, mobility, defense and advanced materials.

Ferry Vatt provides enabling technologies for:
- Space & nuclear research
- Aviation & composite manufacturing
- Renewable energy & hydrogen ecosystem
- Automotive electrification
- IoT, sensors and smart fabrics

We offer full technology transfer and local production capability.

Localization & Technology Transfer

We deliver turnkey localization packages:
- Engineering documentation
- Process technology & industrialization
- Full equipment supply & commissioning
- Training of Saudi specialists
- Joint R&D and co-development programs
- Integration into national industrial clusters

Strategic Alignment with Vision 2030:

Our approach directly supports:
- National Industrial Strategy (NIS)
- Local Content Program (LCGPA)
- MOD Defense Localization (50% by 2030)
- Saudi Space Commission (SSC) technology roadmap
- Advanced Manufacturing and Materials Initiative
- NEOM & Red Sea industrial future technologies

Partnership

Proposed Areas of Cooperation

We propose cooperation formats fully aligned with KSA requirements:

- Local manufacturing of vacuum equipment
- Ready to establish Saudi-located manufacturing
- Joint development centers with Saudi universities
- Technology transfer for composite and coating systems
- Localization of flexible electronics for automotive & defense
- Space & high-energy technology development with SSC

Next Steps

We are ready to:

- Conduct a detailed feasibility study
- Prepare a localization roadmap
- Define JV / co-development structure
- Initiate pilot production and training

We welcome discussion with Vision 2030 stakeholders

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New Challenge?

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CUSTOMER

01 **Define the innovative product**

02 **Product requirements (drawings, dimensions, specifications)**

03 **Required production volume**

04 **Target unit price**

SUPPLIER

- R&D of a new solution (if required)
- Pilot batch production and testing
- Manufacturing concept
- Engineering design
- Manufacturing
- Delivery
- Commissioning and process validation
- Personnel training
- Process and service support

TRUSTED BY LEADERS

РОСАТОМ

РОСКОСМОС

Ростех

35+

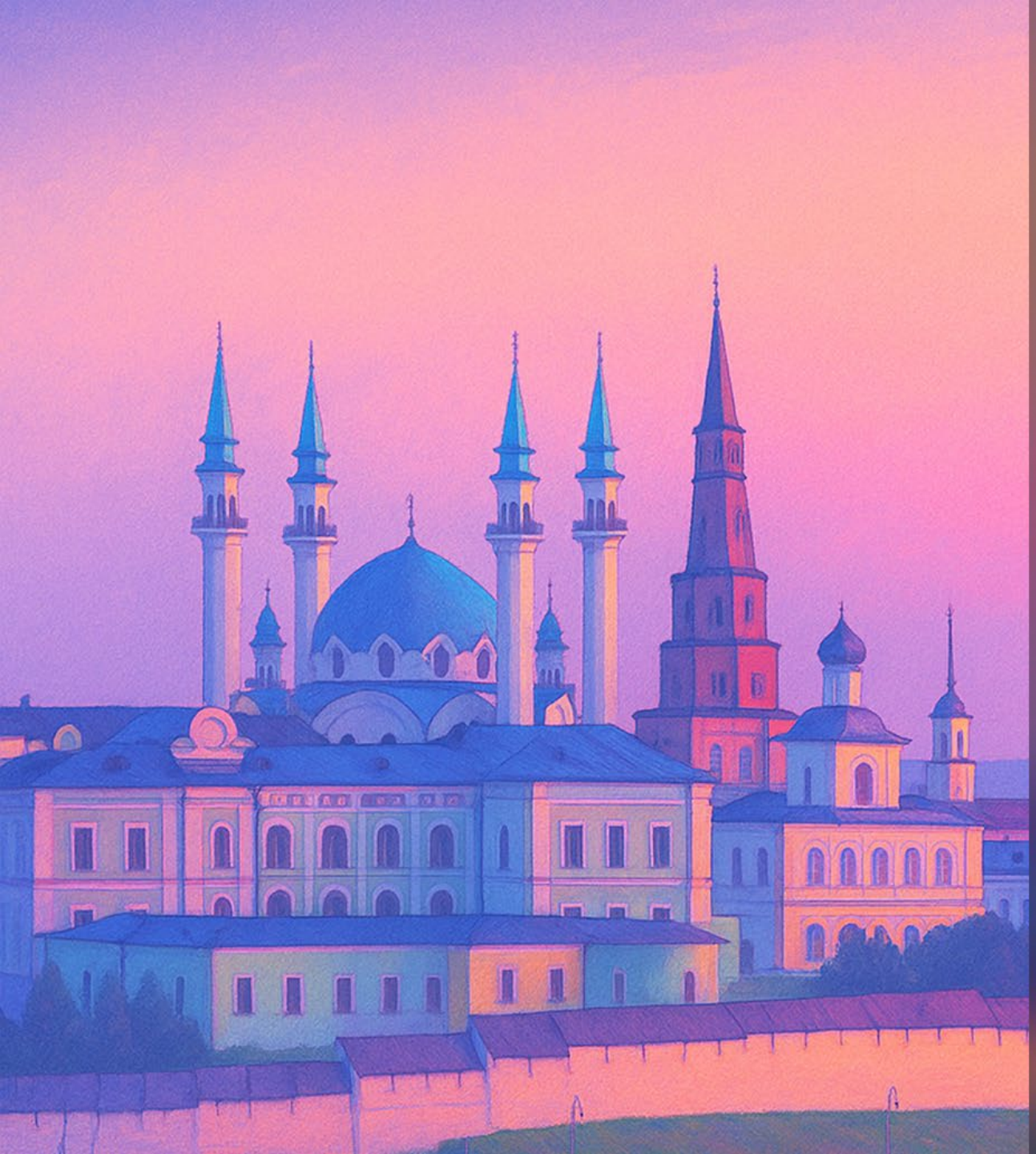
Over 30 years in the vacuum equipment manufacturing market

200+

Over 160 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



CONATACT US

FERRY VATT LLC
159 Adelya Kutuya St., Kazan
420087, Russia

+7 843 208-60-20
info@ferryvatt.ru

www.ferryvatt.ru