


# Investments in the future

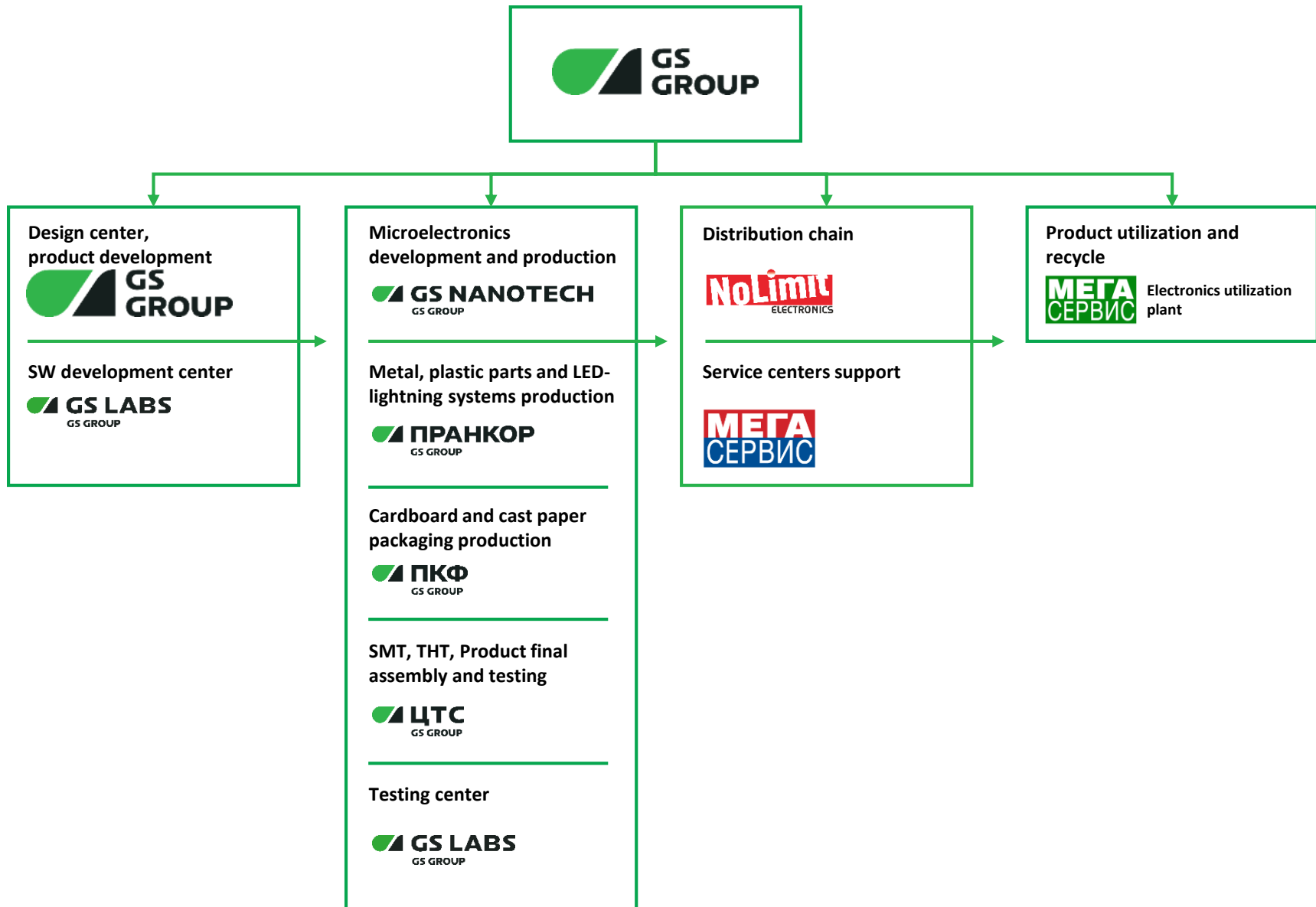
“Technopolis GS” is your contract manufacturer

Saint Petersburg

2021

A decorative graphic in the bottom right corner consisting of a complex network of white lines and dots on a dark grey background, resembling a molecular or digital network structure.

# “GS Group” holding organization chart



# Center for innovative production



Microelectronics Development and Production Center



Manufacture of plastic and metal products, LED lamps



Production of cardboard packaging and molded paper containers



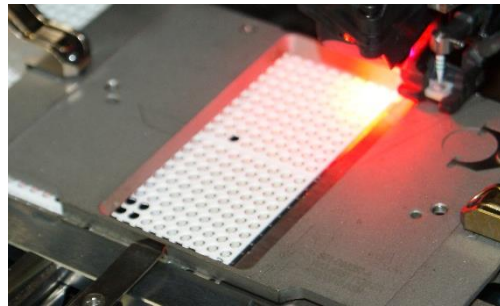
Manufacturing of industrial and consumer electronics



Unique manufacturer of nanostructured carbon materials with a current activation

One of the leading companies in Europe for the development, packaging and testing of microelectronic products.

The only company in the Russian Federation engaged in mass packaging of microcircuits for the consumer electronics market.

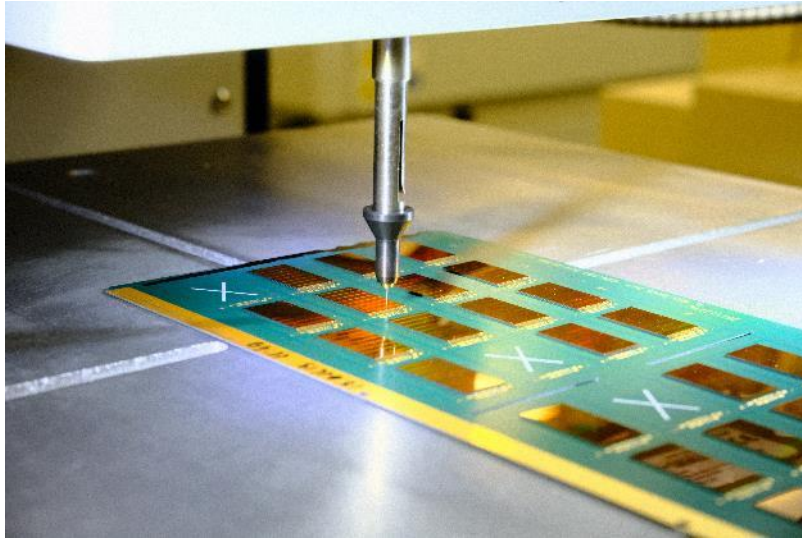


- Design of Multi-Chip Modules (MCUs) and Systems-in-a-Package (SiPs)
- Development and packaging of microcircuits in plastic. Technologies:

Wire Bond  
Flip-Chip  
Stack Die  
System-in-Package

Chip-on-Board  
Package-on-Package  
2,5D integration

- LED casing
- Development and mass production of the first Russian **SSD drives**
- Storage solutions
- Production capacity - up to 20 million microprocessors per year, up to 1 million SSDs per year
- ISO 9001: 2015 Certification
- Premises area (class 7): 700 m<sup>2</sup> expandable up to 1400 m<sup>2</sup>



## Design

- Multi-chip module (MCU) and System-in-a-Package (SiP)
- Development of electronic devices

## Testing

- Automatic testing according to JEDEC standards

## Microcircuit packaging

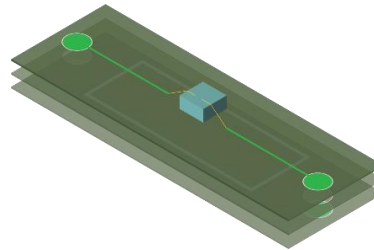
### Technologies:

- Wire Bond
- Flip-Chip
- Stack Die
- System-in-Package
- Chip-on-Board
- Package-on-Package
- 2.5D integration

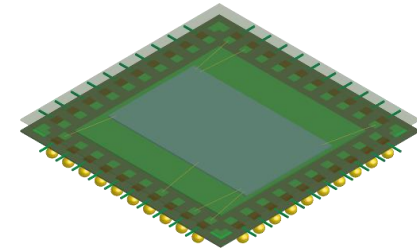
## Contract development of chips and Systems-in-a-Package for consumer and industrial electronics



**NAND Flash memory** modules that use multiple memory dies arranged in a stack (up to 4 MLC / 3D MLC / 3D TLC dice)



**RFID tag encapsulation** for industrial electronics manufacturer



**Single-chip microcontroller** with support of cryptographic algorithms, contact and contactless interfaces in LGA 40 package 6 \* 6 mm



# “Digital TV Systems” (DTVS)

“DTVS”, a resident company of the «Technopolis GS», is an innovative cluster and one of the largest production facilities in Europe for any type of electronics contract manufacturing:

consumer, industrial and automotive electronics, telecom systems, security and measurement systems, IoT and «smart home» devices.



## “DTVS” in numbers:

- Manufacturing capacity - 20 million of finished products per year
- Work orders: from 500 pcs to mass-production series
- Production area – 13 000 m<sup>2</sup>
- 1100 employees
- Certified Quality Management System in accordance with ISO 9001:2015
- Production areas are protected from static electricity in accordance with standards IEC 61340-5-1/2

# “DTVS”: production facilities



- Surface mounting (SMT)
- Through-hole mounting (THT)
- 6 lines of final assembly
- Lead-free technology
- Production premises are protected from static electricity in accordance with standards IEC 61340-5-1/2





## Surface mounting (SMT):



- BPM Micro 3800, an automatic and manual IC flash programming (EEPROM)
- Two-side mounting (Lead-free technology)
- Mounting of components from 01005 and odd components with accuracy of 30  $\mu\text{m}$
- 3 high-performance Fuji NXT-II lines with 14 modules in each,  
1 line Yamaha/Assembleon with total capacity over 1 million components per hour according to IPC standard
- Up to 400 different types of components per line
- Ersa HOTFLOW 3/20
- Double automatic optical control of solder paste application and automatic optical inspection (OMRON AOI VT-S730)
- Laser-engraving marking of PCBs for traceability in every stage of production

# «DTVS»: Technologies (2/2)

## Through-hole mounting (THT)

- 4 wave soldering lines
- Wave soldering lines (lead and lead-free) in accordance with RoHS European Directive
- High-performance automatic installers of DIP components AXIAL RADIAL THD (25,000 components per hour)
- 6 THT installation lines with a total capacity of 85,000 components per hour



## Final assembly

- 6 assembly lines
- Ability to assemble a wide range of products
- Control and monitoring of product release using the barcode system for components and finished products

## Quality control and testing

- Automatic in-circuit testing (ICT)
- Functional testing (FCT)
- Automatic Optical Inspection OMRON AOI VT-S730
- X-Ray control system
- Semi-automatic functional testing of finished products
- Equipment for vibration and temperature testing
- Production areas are protected from static electricity in accordance with standards IEC 61340-5-1/2
- Quality control on all production stages: Incoming quality control of materials, In-process quality control, Selective Outgoing quality control
- Certified Quality Management System in accordance with ISO 9001:2015



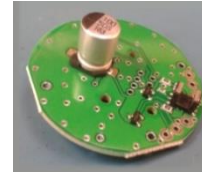
# “DTVS”: QMS certificate

**Certified Quality Management System in accordance with ISO 9001:2015 standard implemented and strictly followed.**

Certificate issued by SGS Group and valid till March 2023.



# “DTVS”: Portfolio of contract manufacturing



Server and client motherboards

Automotive electronic components



Smart meters



Electricity meters

# “DTVS”: Main Customers



# “Prancor” factory

Enterprise for the production of plastic and metal parts, modern energy efficient LED lighting.



The plant produces plastic products by injection molding and metal products by cold stamping.

“Prancor” also renders services in engineering, development and manufacture of tooling, liquid and powder painting of products, marking by means of pad printing and silk-screen printing, and performs assembly operations.

**Production capacity is 500 thousand items per month.**

# “Prancor”: Energy efficient LED lighting production

“Prancor” is the leader in the production of LED lighting in the Kaliningrad region.



- Road lighting of all categories
- Street lighting
- Architectural lighting of buildings, bridges, overpasses and monuments
- Lighting of industrial buildings
- Lighting of public and administrative buildings
- Lighting of retail chains and shopping centers
- Lighting for sports facilities

The products support automatic and remote control over wired and wireless networks and can be integrated into “smart city” systems.

The enterprise's capacities allow producing about **600 thousand** LED lighting per year.



# "First Cardboard Factory"

**The largest manufacturer of packaging material in the Kaliningrad region.**

European standards for product and service quality. A laboratory has been created at the production site that carries out multi-stage quality control at all stages of production.



**Specialization of the enterprise:**  
production of corrugated board,  
corrugated packaging and cast containers  
from paper pulp.

**Capacity:** 80 million / m<sup>2</sup> of corrugated board and corrugated  
packaging per year.

Modern line for the production of molded containers from  
paper pulp: up to 24 million items per year

 **FSSC 22000** FSSC 22000 (Food Safety System Certification)



Forest Stewardship Council®, FSC



## Localize in Russia

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