



Made in Russia



Companies. Brands. Exporters. Machinery and equipment (manufacturers, suppliers, service)

CROCUS  
NANO  
ELECTRONICS

# Crocus Nano Electronics

Crocus Nano Electronics is the only company in Russia engaged in the development and BEOL production (implements the full cycle of technological operations at the final stage of production, back end of line) of electronic components on 300 mm silicon wafers with design standards of 90/55 nm. The company is also able to offer potential customers engineering and factory services for applying magnetic layers on the wafer, as well as products based on innovative types of non-volatile memory.

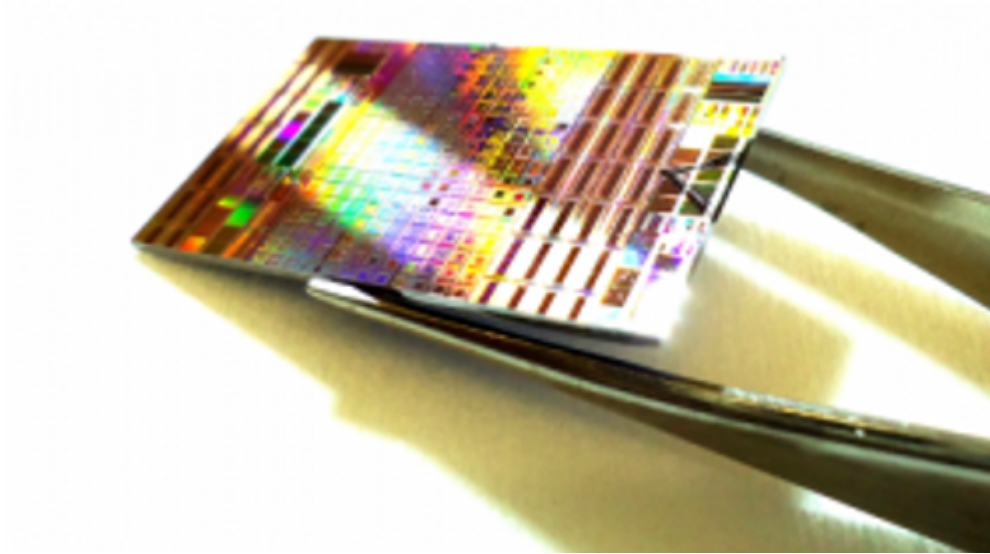




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The company is a technological leader in Russia in production and development of modern types of non-volatile memory using MRAM (Magnetoresistive Random Access Memory) and RRAM (Resistive Random Access Memory) technologies. The company's catalog includes RFID and microcontrollers, bioelectronic chips, MRAM and RRAM memory chips (embedded and free-standing memory), magnetic sensors for industrial electronics, equipment for communication, automotive and consumer electronics. The company with modern equipment, advanced technologies and capabilities also provides BEOL contract manufacturing services on 300 mm wafers and process development. The partners of the enterprise are such largest technological companies and manufacturers as: International Business Machines (USA), Semiconductor Manufacturing International Corporation (China), Tower Semiconductors (Israel, Japan), Shanghai Huali Microelectronics Corporation (China), Adesto Technologies (USA). Today the production capacity of the company is up to 4 thousand wafers per month. The total area of production facilities is 6,9 thousand square meters.



## Products and services

The production catalog of Crocus Nano Electronics includes MRAM and RRAM memory chips, magnetic sensors, silicon interposers, bioelectronic chips, communication equipment. Besides, the company provides services of contract production of integrated circuits on 300 mm wafers and development of technological processes.

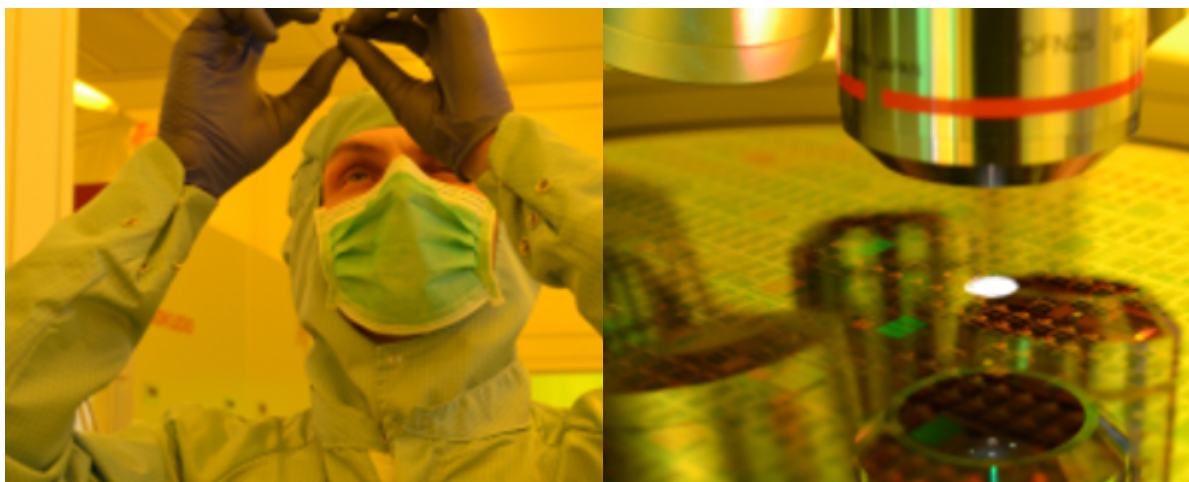
MRAM and RRAM are the next generations of non-volatile memory technology. The company develops and prepares for production of MRAM and RRAM chips. MRAM chips are developed by the company with recording density from 1 to 4 megabits, reading and writing speed of 35/90/120/150 nanoseconds. They have low power consumption and are suitable for logging data and programs, buffering and data caching. The technology is designed specifically for integration into microcontrollers, microprocessors and system-on-chip.

MRAM and RRAM chips can replace Flash, EEPROM and SRAM memory elements. In MRAM, data is recorded by magnetic polarization of memory elements, which ensures high performance, unlimited rewrite cycles and energy independence for 20 years. MRAM memory is optimal for devices with low energy consumption, designed for data logging, programs, buffering and data caching.

Integration of MRAM memory cells is performed at the end of the production process (back end of line). In this way, MRAM memory can

be used with any basic CMOS device. Among other things, the technology is easily scalable, universal for a wide range of applications and can replace alternative types of embedded memory. For non-standard solutions, Crocus Nano Electronics offers the development of specialized complex functional MRAM units (modules).

## Production

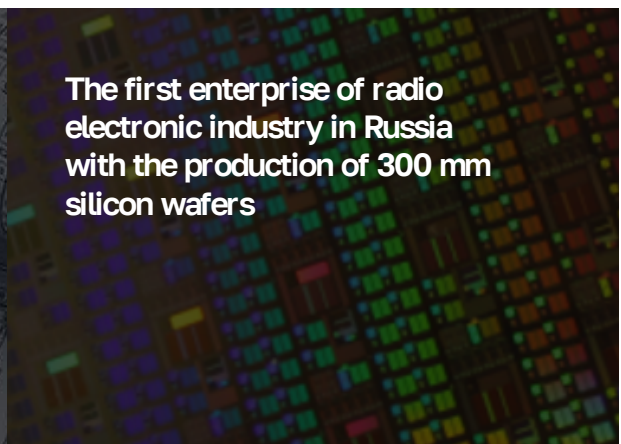




## The staff of international high-class specialists



The only manufacturers of non-volatile memory in Russia



The first enterprise of radio electronic industry in Russia with the production of 300 mm silicon wafers

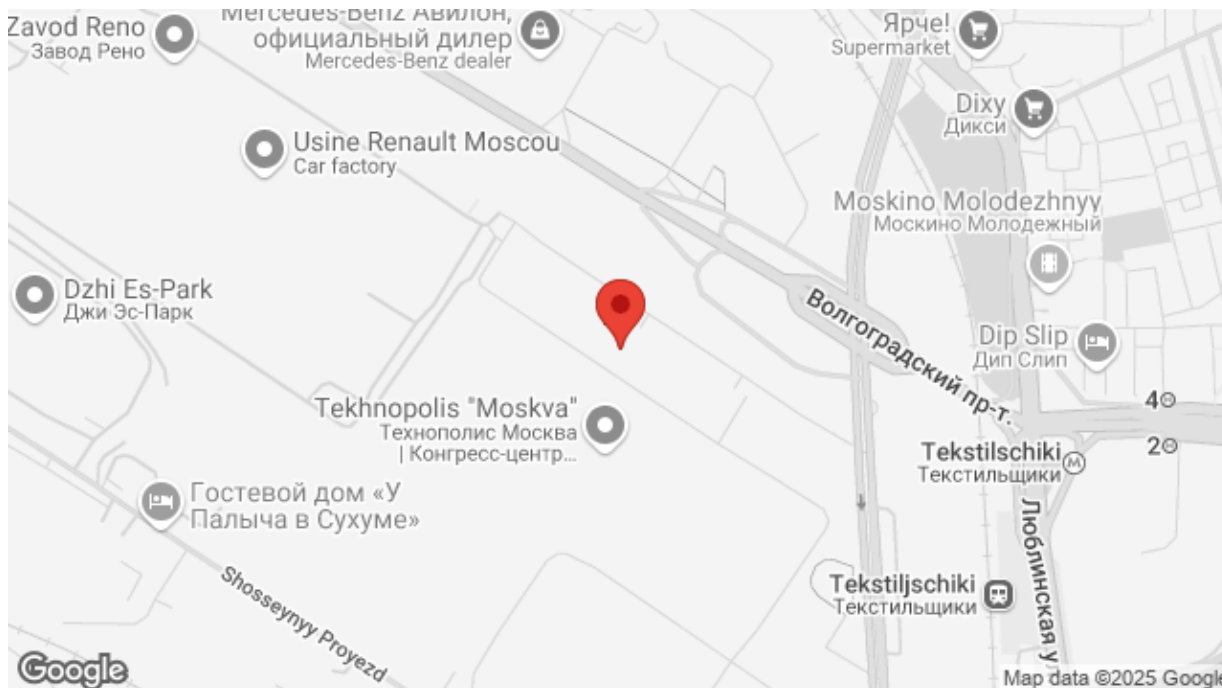
Exports over

# 90%

 of products

\*to the world market

# Contacts



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Brand page

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