



SOVTEST
YOUR PARTNER IN QUALITY

Sovtest ATE, Co Ltd.
Kursk, Russia
Product range

2019

«Sovtest ATE» (Kursk) – keeping up with the times



1991–1994
Russian–British
joint venture
Sovtest LTD

»



1994
Registered Russian
trade mark
Sovtest ATE



2005
Launch of own
production



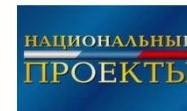
2009
Transfer to
innovation–based
development



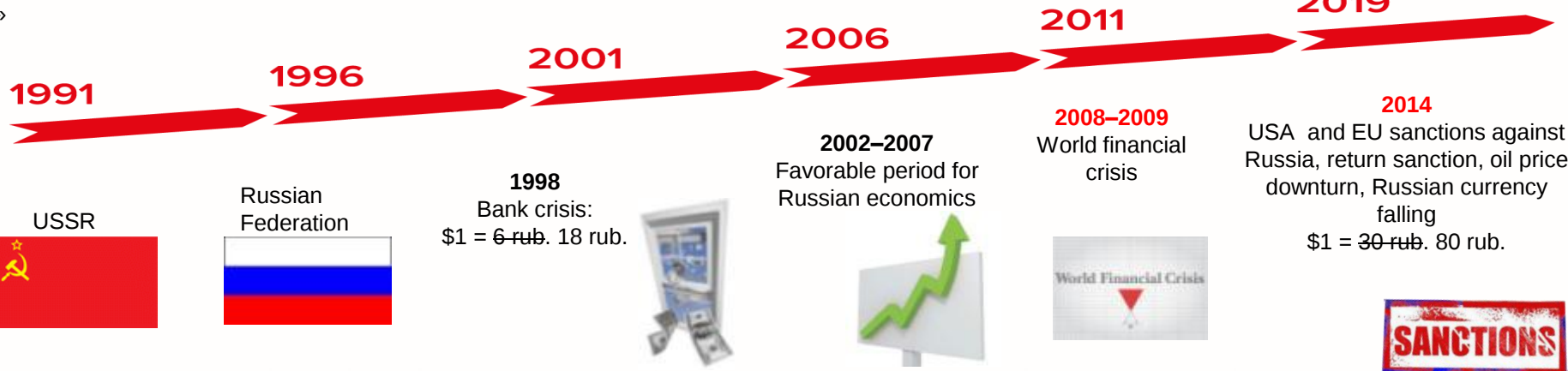
2011
Start
of FT–17HF
production



2017
Sovtest ATE
innovative plant within
the frameworks of
Industry 4.0 (on DKE
standards basis)



2019
Participation in
National projects



2019 – Sovtest ATE: 28 years of success!

- **№1** in design, production and delivery of test equipment in Russia and the CIS.
- Broad range of the proposed solutions for **12 industry areas**.
- Experience of in-house production organization (**5** proprietary products, **7** engineering development).
- **Awards from the Russian Government** and local government authorities, particularly “Conscientious supplier of the year”, “Development of Russian Land”, “Leader of small business in Kursk region”, etc.
- **Awards** from the leading foreign suppliers for high achievements in work.
- **Resource pool** insuring high quality and efficiency of the carried out works including highly qualified staff, well-functioning network of international suppliers, service support, intensive approach in solving the customers’ production tasks, usage of innovative technologies.



New plant Sovtest ATE

(135, K. Marks street, Kursk. Start of construction in 2015)



Total area: >8800 m²

Production area >5800 m²

Office space >3000 m²

Generating capacity: 900 kW

Autonomous gas and water supply

Green energy: using of solar power engineering

Site №1

2016
Mechanical
machines;
SDB assembly;
Wire harness
assembly

Site №2

2016
SMT area;
Test equipment

Site №3

2019
Microelectronics
production

Site №4

2017–2018
Metal sheet workpieces
production;
Metal processing

Site №5

2017–2018
Powder coating

Site №6

2017
NDT Center;
Service;
Demo rooms

Site №7

2017
Warehouse;
Dining room;
Conference hall

Sovtest ATE staff

- 2015–2018 company staff has been increased by 25%
- 25% employees have been working in Sovtest ATE for more than 10 years
- 35% have been working for more than 5 years
- average age – 35 years
- all employees have higher and special education
- 70% employees annually undergo trainings such as additional professional education, refresher courses and participate in training seminars



6 workers

200 workers

1991

1996

2001

2006

2011

2016

2017

Quality control 2018

- Successfully passed the recertification audit of QMS for compliance the requirements of GOST R ISO 9001–2015 (ISO 9001:2015);
- Received a certificate of conformity to requirements of GOST ISO 13485–2017 "Medical devices. Quality management system. Requirements for regulatory purposes", in relation to the design, development, production, maintenance and repair of diagnostic equipment used for medical purposes.

Plans for 2019

- Internal audits of the company's processes;
- Passing inspection audits for compliance with GOST R ISO 9001–2015 (ISO 9001:2015) and GOST ISO 13485–2017;
- Obtaining the certificate of conformity of QMS to the international standard IATF16949:2016 "quality management System of the automotive industry"



Sovtest ATE in Russia and Eurasian economic Union

KURSK–MOSCOW = 500 km

Kursk–Minsk (Belarus) = 800 km

Kursk–Nur–Sultan (Kazakhstan) = 3000 km



Offices:

- Sovtest–Micro, Co Ltd – Zelenograd (Moscow region)
- Technical center of Sovtest ATE (based on AvtoVAZ) – Tolyatti

2011 – customs Union between Russia, Belarus and Kazakhstan



More than 570 cities where engineering projects were implemented

- Common customs space
- Common pricing policy

Sovtest ATE – export-oriented company



Fault locator SFL



Sovtest Dry
Storage Cabinet



Semiconductor tester
FT-17HF



Participation in foreign activities

Our customers

- South Africa
- Turkey
- Singapore
- Germany
- UK
- Canada
- USA
- France
- Belarus
- Kazakhstan
- China
- Israel
- India
- Malaysia



New Delhi, India



Istanbul, Turkey

European 3D TSV Summit
On the road towards Manufacturing
January 22-23, 2013 Grenoble (France)

Grenoble, France



Munich, Germany



SENSOR + TEST

Nurnberg, Germany



Center of economical
cooperation and
development

Sovtest ATE – Import substitution program



Serial product range



Fault locator SFL



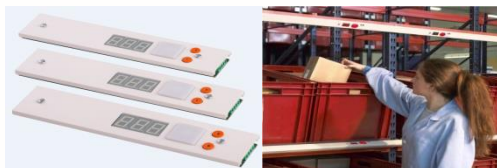
Pneumatic shock testers



Safety cabinets for flammables



Carrousel automatic storage systems



Automatic systems for components
selection



Sovtest Dry Storage Systems SDB



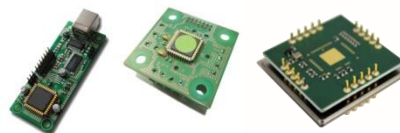
Local clean zone SCB



Air cleaning systems



Mobile electrocardiogram monitor
HOLTERLIVE



MEMS sensors
(accelerometer, inclinometer, gyros)



Monitoring of power lines, bridges, buildings
and constructions

Fault localization and repairing

Fault locator SFL1500/3500

- Localization of faults, using ASA method (Analog Signature Analysis), at the component level without applying power supply to DUT (Device under Test);
- Quick testing of multi-output components – ICs and electronics with connectors using a SFL3500 multiplexer;
- Detection of faulty capacitors, transistors, triacs and ICs without its desoldering from repaired electronic modules;
- Programming using the golden (reference) electronics module in the self-learning mode;
- RLC function – for types of SMD components on the boards recognition and its denominations clarification.



Fault locator SFL3500



Fault locator SFL1500

Pneumatic shock testers

Purpose: testing of products for impact strength – testing the ability of the product to withstand the damaging effects of mechanical shocks of repeated action and retain their parameters after their action within the set values and impact resistance – testing the ability of the product to perform its functions under the action of mechanical shocks of repeated exposure.

Features:

- Built-in seismic mass. No special Foundation is required.
- Compact construction. schemes through the regional connector using a multiplexer
- Number of strokes: up to 60 shoks per minute with clear repeatability and automatic maintenance of the set acceleration.
- Very low operating costs.
- No oil required. Pneumatic impact stand.
- Automatic control of the specified tolerance zone;
- Automatic searching of the peak.
- Ability to set the sequence of amplitudes in the test.
- Recognition of the types of SMD components on the circuit Board, and determining their denominations
- Closed loop control and monitoring



- *Payload up to 200 kg*
- *Peak acceleration up to 600 g*
- *Duration up to 30 ms*

Safety cabinets for flammables and gas tanks



ШБХ 850



ШБХ 850ГБ



ШБХ 140

Distinctive feature:

- Double frame.
- Cylindrical, mortise lock
- Ground loop
- Thermal insulation panel between the walls
- Protecting thermal expanding sealant around the perimeter of the door
- Fuse for automatic blocking of the ventilation system
- The drip tray to collect liquid
- Carbon filter as standard

Additional options:

- Pull-out shelves
- Active filtering module
- Gas discharge ramp
- Left or right side of opening



Product range of safety cabinets for flammables per storage volume: 120, 240, 290, 360, 570, 840 l.

Product range of safety cabinets for gas tanks per storage volume: 570, 950 l.

Automatic systems for components selection



The ability to communicate with the information management environment of the enterprise by connecting to the system of identification, traceability, management and quality control MES Atlas (developed by Sovtest ATE).

- Compact modern design
- Different configuration (single led, seven-segment display, large luminous confirmation button, beep)
- Possibility of integration with modules from other manufacturers
- Offline memory
- Ability to connect via WiFi



System capability

- Computer control
- Formation of sets on the order sheet
- Full integration into ERP system
- Minimizing the human factor



Carrousel automatic storage systems



Main functions:

- Storage of documents
- Storage of hardware
- Storage of components
- Storing document files



The ability to communicate with the information management environment of the enterprise by connecting to the system of identification, traceability, management and quality control MES Atlas (developed by Sovtest ATE).



Automated system "Incontrol» for storage of tools and other goods and materials



- Full control of access, movement, residues of goods and materials in the warehouse / production
- Electronic digital locks
- Control from PC
- Traceability of each employee's operations with tools and materials
- Protection against theft
- Intuitive operation that does not require long training
- Easy operation, doesn't need any additional equipment

The ability to communicate with the information management environment of the enterprise by connecting to the system of identification, traceability, management and quality control MES Atlas (developed by Sovtest ATE).



Automated system for SMD storage Vestium

Capabilities:

- Address storage of SMD reels.
- Automatic sector highlighting
- Control of placement and sampling.
- Data exchange with WMS and ERP systems
- The control of residues

The ability to communicate with the information management environment of the enterprise by connecting to the system of identification, traceability, management and quality control MES Atlas (developed by Sovtest ATE).



Dry Storage cabinets SDB series



Main features:

- Addressable storage system of coils with the use of barcode scanner and labeling of cells
- Adapters for connection to the local network via ETHERNET up to 250 cabinets software for remote access to Cabinets
- Equipping volatile memory for gathering and statistics accumulation (volume accumulation data – 30 days)
- Nitrogen supply and temperature maintenance inside the Cabinet up to 40° C
- Protection class IP 65
- Digital control of relative humidity from 1–50%
- Antistatic design
- EAC marking
- Warranty period of dry storage Cabinets 24 months from the date of commissioning
- The presence of a service center for maintenance
- Address storage with light prompts

Dry Storage cabinets Sovtest Dry Box	Volume, m ³	Payload volume, m ³
SDB151NM	262 m ³	235 m ³
SDB302NM	505 m ³	470 m ³
SDB702NM	743 m ³	708 m ³
SDB1106NM	1509 m ³	1350 m ³



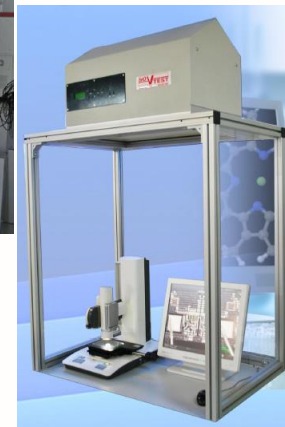
Air cleaning systems and local clean zones

Capabilities:

- The system is a stand-alone column
- Thanks to its modular design, the system can be easily moved to another room
- Additional module creates a pressure drop in the room to compensate for leaks in the room or air outlet
- Air flow control via integrated control panel
- Ventilation grilles can be adapted individually to the geometry of the room, depending on the amount and direction of air
- Pre-filter working area of 18 m2 for long-term replacement

Capabilities:

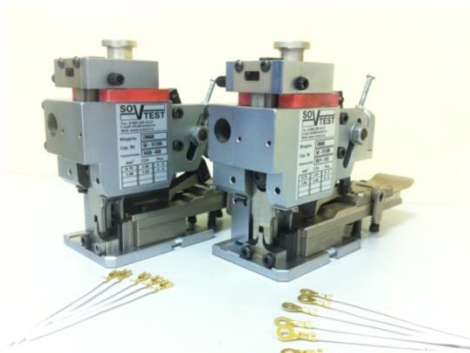
- Create a clean zone above a work space
- Possibility of placement of equipment and working tools of the operator.
- Can be installed both inside a clean room, creating a higher class of cleanliness in its working area, and in a normal production room (with an additional pre-filter).
- Filter module with class H14 filter, which ensures the purity of ISO 5.
- Individual performance.
- Laminar clean air flow can be directed horizontally or vertically.
- Ability to adjust the air flow rate.
- Options: light and ozonization of air.



Development and production of equipment for cable processing



▪ Crimping press SP200



▪ Applicator with mechanical feeder
CM500/CM600



▪ Cable Test Table STS-1000

Perspective products in R&D stage



Fire-proof file cabinets



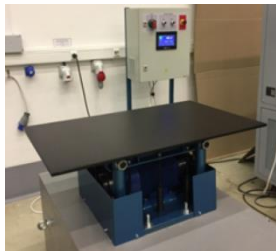
Mobile racks with mechanical and electric drive



Warehouse racks



Drawer on telescopic rails



Electromechanical shakers



Laboratory and industrial furniture

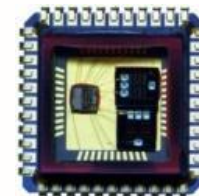
Development and production of MEMS sensors and systems

Microelectronics production (using System-in-Package technology)

- Double-axis precision inclinometer (gravitation angle-data transmitter) of general purpose
- Double-axis MEMS-accelerometer with acceleration range $\pm 30g$ (in perspective – development $\pm 60g$)

Advantages

- Minimal mass-size characteristics
- High accuracy and reliability
- Resistance to disturbing factors (shocks, vibration, sudden acceleration, etc.)
- Wide range of measured accelerations



Innovative projects of Sovtest ATE in the context of Federal laws and state programs



Sensors and systems (within the frameworks of Federal Law № 384-ФЗ «Technical guideline for buildings and structures safety», Dec, 30th 2009 N 384-ФЗ)

- High-precision dual-axis inclinometer (tilt sensor);
- Dual-axis accelerometer ± 30 g with resolution 2 mg;
- High-precision dual-axis accelerometer ± 60 g;
- High-precision MEMS gyroscope (DOS) $\pm 499^\circ/\text{s}$

Monitoring systems for buildings, bridges, power lines.

Pilot batch production of high-precision MEMS sensors and devices on their basis.



Medical equipment (in terms of telemedicine development in Russia)

Mobile ECG monitor HolterLive. Heart rate and blood pressure control .

Automation controllers (in terms of improving of labor efficiency in Russia, production automation and Industry 4.0)

Versatile devices for automation with open source based on Linux.

Application:

- Industrial automation
- Monitoring: sensors and counters scanning
- "Smart House", "Smart manufacturing" systems
- Data collection and transfer

Reliability:

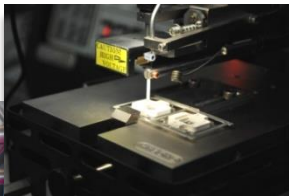
- Ports protection against surge voltage
- "Watchdog" timer
- Reliable single-board Linux computers



Innovative projects of Sovtest ATE

**Technologies for LEDs and LED-lamps production, methods for LED-devices testing and equipment for them
(in terms of Federal Law № 261 Nov., 23rd 2009 «About energy saving and improving of energy efficiency»)**

- We have manufactured preproduction batch of LEDs with 1 W and 10 W power capacity. A number of materials and components have been tested. Joint production of phosphors for high-brightness LEDs is active.
- A number of LED tests were carried out in German laboratory RoodMicrotec. Test procedure has been worked out and optimal equipment kit for test laboratories has been chosen.
- We have designed a form factor of the office lamps “Armstrong” and lamps for office and street lighting.
- High efficiency supply units were designed and are under production now.
- Ergonomic and thin cases for LED-lamps have been designed.
- Sovtest ATE office space is all-equipped with LED-lamps. It confirms a successful application of innovative methods of the company in its work. Also the company switched on using solar energy.



Sovtest NDT Center

X-Ray & CT of microelectronics and AM products

Sovtest NDT Center provides available service for non-destructive control of different samples. The key instrument of the Center is unique X-Ray & CT system Nikon XT H 320 PentaSource. There are only 3 such systems and one of the is in Kursk.

Computed tomography (CT) is essential tool for new materials and products development and as well in additive manufacturing (AM).

Services:

- control and measurements,
- reverse engineering,
- contract tests,
- single operations and outsource works

Sovtest NDT Center methods allow detecting various production problems in different industries.

We cooperate with universities and engage young professionals.

Sovtest NDT Center partners



**Industrial X-Ray & CT system XT H 320
(the only in Russia)**



High-qualified specialists

Our patents



Patent № 58235
Fault locator SFL 2500



Patent № 78950
Circuit tester FT-17HF



Patent № 78951
Circuit tester FT-17DT



Patent № 94104
Dry storage cabinets



Patent № 78952
Wire harness and PCB tester STC-1000

Sovtest ATE

Design department (27 persons)

- Chief designer (1 person)
- Deputy chief designer (2 persons)
- Quality engineer (1 person)
- R&D engineer (12 persons)
- Manufacturing technician (1 person)
- SMD specialist (3 persons)
- Construction electrician (3 persons)
- Mill operator (1 person)
- Software engineer (3 persons)

Sovtest Micro (6 persons) (co-design of electronics)

- General director (1 person)
- Chief designer (1 person)
- Lead R&D engineer (1 person)
- First category R&D engineer (1 person)
- Lead software engineer (1 person)
- Lead electronics engineer (1 person)

**Cooperation with foreign specialists from
Germany, Italy, Belgium**

First phase of SOVTEST ATE plant

(start-up in 2016)

Site №1

- Mechanical machines
- SDB assembly
- Wire harness assembly



Second phase of SOVTEST ATE plant (started-up in 2018)

Site №4

- Complete cycle of metal processing



1. Laser cutting of metal sheets: steel up to 16mm, stainless steel and aluminum up to 12mm, copper/brass up to 6mm, maximum speed up to 85m/min/ up to 40km/shift, maximum sheet size 3000*1500mm, positioning accuracy 0.1 mm;
2. Flexible panels and housings one-time bending for a length of up to 3.0 meters, integrated multistage monitoring system of the bending angle, bending press force 100 t
3. Assembly of products – Body welding (MIG/MAG/TIG, spot, condenser); – Riveting and pressing

Site №5

- Powder painting

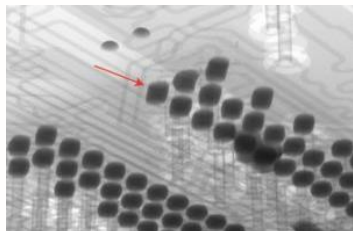


1. Powder coating line: painting details dimensions up to 3000*1500*950mm (up to 300kg), capacity up to 100m2/hour, this five-step automatic system for surface preparation for painting);
2. Liquid painting area;
3. Blasting area

Second and third phases of SOVTEST ATE plant (started-up in 2017)

Site №3

Microelectronics production
MEMS sensors and systems production



- Clean area 570 m²
- Clean class ISO 8 (can be changed to ISO 7)
- Changing room, переодевания, warehouse and recirculization
- Automatic temperature regulation system with accuracy $\pm 1^{\circ}\text{C}$
- Compressed air, vacuum, DI water, specialty gas
- HEPA filtering systems
- Manufacturing risks record

Site №6

NDT Center
Service department



- Available NDT service
- X-Ray & CT
- AM products control and measurements
- Laminography
- Microscopy
- Quantity analyze, in-situ
- Contact tests
- Reverse engineering

SOVTEST ATE

Your reliable partner in quality



Thank you for your attention!

More information at sovtest-ate.com

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