Business profile: Development and production of instruments and equipment for nuclear measurements and radiation control

- ATOMTEX was established in 1995 as a subsidiary of Minsk Scientific and Research Instrument-Making Institute
- Structure: Scientific and engineering, manufacturing and supporting complexes
- Staff: 208 employees (50% of them aged under 40)
• License granting the right to work in nuclear power field
• The certificate for the right of foreign economic activity concerning specific goods, works and services
• Accreditation as a scientific organization
• ISO 9001-2015 certificate
• Listed as a permanent supplier of equipment to IAEA
• Status of European Nuclear Community Corporate Member

Trademark is registered in the Republic of Belarus, Russian Federation, USA, China, France, Italy, Kazakhstan, Ukraine, Hong Kong, Taiwan, Japan.
Products

- Personal electronic dosimeters
- Portable dosimeters
- Standard dosimeters
- Radiation monitors
- Stationary monitors
- Portable spectrometers (Radionuclide Identification Devices)
- Spectral radiation scanners
- Fixed spectrometers
- Whole body counters
- Radiation monitoring systems
- Spectral portal monitors
- Gamma, Neutron, X-ray and Beta calibration installations
- Dosimetric calibration benches
- Mobile radiation monitoring laboratories
- Smart probes
- Detection equipment for inspection systems
- Mathematical simulation
- Software
- Measurement procedures

Meets IEC, ISO standards
- Nuclear power industry
- Manufacturing industry
- Emergency situations
- Civil protection
- Customs and border control
- Radiation and chemical protection
- Special machines
- Nuclear medicine
- Radiology
- X-ray equipment control
- Geophysics
- Metrology
- Scientific research
- Radioecology
Equipment tests

- "Illicit Trafficking Radiation Assessment Program" ITRAP+10 (European Commission, JRC-Ispra)
- Joint field tests with IAEA and CTBTO
- "Replicative performance Assessment of Spectrometric Equipment" (RASE, IAEA)
- Tests at PTB scientific metrology centre (Germany)
- Tests in the frame of "Eurodos" program
- Tests at Department for Environment of Great Britain
- Tests at National Metrology Centres of Mexico, Brazil and China
- Tests at Russian Metrology Centres
- Tests at National Institute of Standards and Technology (NIST, USA)
Radiation control of personnel

Personal dosimeters

Whole body counters

Control of staff contamination
Quick assessment of surface contamination by alpha nuclides, in particular by polonium-210.
Portable Dosimeters, Radiation Monitors

Pocket-size Dose Rate Meters

Radiation survey

www.capesym.com | sales@capesym.com
Wide-range Dosimeters

AT2533, AT2533/1 Dosimeters

- Measurement range of ambient dose equivalent rate:
  
  1 µSv/h – 1000 Sv/h

- Burn up life:
  
  5000 Sv

- Immersion depth:
  
  ≤40 m
AT6103 Mobile Radiation Scanning System
Non-sampling radiation control of environmental objects

AT6101DR Spectrometer

AT6104DM Spectrometer
Monitoring of radionuclide content in water samples, foods, construction materials, and other products and objects of environment

AT1320
Gamma Activity Monitor

AT1329
Sample Counter

AT1315
Gamma-Beta Spectrometer

Laboratory control of radionuclide content in samples
Dosimetric and spectrometric systems for radiation monitoring, including systems for detecting the emergence of a self-sustaining chain reaction and a system for monitoring pulsed radiation from accelerators.
AT2341 Radiation Monitoring Station

Continuous radiation and weather control in the zone of influence of nuclear power plants and other radiation-hazardous facilities.

Combine Radiation Monitoring Stations into a single network (up to 256 units) and use dedicated software to build an automated radiation monitoring system.
Detection of radiation sources in a stream of people and vehicles crossing access control points

AT930 Pedestrian Radiation Monitor

Conformance to international standard IEC 62244:2006 «Radiation protection instrumentation – Installed radiation monitors for the detection of radioactive and special nuclear materials at national borders»
AT6110 Radiation Portal Monitor (rapid deployable)

Pedestrian and vehicle radiation monitors

Rapid deployable RPM designed to control vehicles, goods and pedestrians

Case with frames and accessories

www.capesym.com | sales@capesym.com
For use in systems and robot devices for land, aircraft and marine applications

Courtesy of CERN

Smart probes

www.capesym.com | sales@capesym.com
Radiation Control System

a) BDKG-11M dosimeter-spectrometer for "BAS" octocopter (Bulgaria)
b) BDKG-24 dosimetric detection units for small drones of glider type ("ZALA AERO GROUP", "Kalashnikov" group; SPA “Typhoon”, Roshydromet)
c) BDKG-24 for "ZALA AERO GROUP" octocopter.
Remote radiation monitoring from unmanned aircraft system

- Remote measurement of instrument spectra at flight level
- Identify gamma radiation dose rate value at 1-meter level from contaminated surface
- Identify area radiation contamination level in Bq/m² or Ci/km²
- Identification of radionuclides
Detection, location and dose rate estimation. Map of point source radiation levels at 1-meter altitude above ground according to scanning data at 200-meter altitude ("GARM" software)
Gamma radiation dose rate evaluation data at 1-meter altitude above ground according to scanning data at 100-meter altitude ("GARM" software)
Equipment for mobile radiation monitoring laboratories

AT1125 Radiation monitor

AT1320 Gamma activity monitor

AT1316 Whole body counter
Automated calibration facilities

- AT110/AT130 Gamma-Ray calibration facility
- AT140 Neutron calibration facility

• Instrument verification and calibration of measuring instruments in metrological laboratories

• Calibration procedures at developing, releasing and operation of radiation control measuring instruments
AT300 X-Ray calibration facility

For verification, calibration, graduation and tests of X-Ray dosimeters and spectrometers

### Operating voltage range

50 – 320 kV

### The range of air kerma reproduction

$3 \cdot 10^{-6} – 1 \cdot 10^{-2}$ Gy/s

### Intrinsic relative error

1.5 – 3% (For certification as a working standard of 1st category)
AT200 Calibration Facility

For transferring absorbed dose units to beta-radiation working standards and dosimeters from primary standard