



Belarusian State University of  
Informatics and Radioelectronics

R&D Department

# Announcement

## International Fair of Western China

September 2020  
Chengdu, China

The Western China International Fair is a major international trade platform and access to the Western China market.

In 2018 over 6000 companies from 80 countries took part in the fair including companies from the USA, Germany, the Netherlands, Czech Republic, Russia, South Korea, Japan and others. The fair covered an area of 260000 square meters.

The scope of the fair covers such topics as mechanical engineering, agricultural, forest and food engineering, construction materials, innovation technologies and devices, healthcare and pharmacology, biomedicine, devices to prevent emergency situations and disasters, energy-saving and eco-friendly technologies, educational services, goods for children, financial and insurance services, etc.

**BSUIR will present the following innovations and technologies at the fair:**

- **Technologies, hardware and software complexes on electromagnetic compatibility of onboard and local ground-based groupings of radioelectronic devices (ADFTS, EMC-Analyzer, DNA EMC, GIS-RF, VTA)**

**Application area:** to analyze and support EMC in local onboard and ground-based radioelectronic systems, generate EMC specifications for onboard and ground-based radioelectronic systems, simulate radio reception in severe electromagnetic environments.

**Distinguishing features and advantages:**

- It is vastly superior to its analogues in the possibility to simulate nonlinear effects in radio receivers operating in severe electromagnetic environments;

- It enables conducting simultaneous joint analysis of a huge number of parasitic electromagnetic couplings of various nature;
  - It supports EMC analysis based on a system criterion that takes into account the combined effect of all parasitic electromagnetic couplings inside the onboard radioelectronic system;
  - It features high speed and practical efficiency, and guarantees significantly higher quality and lower costs of the design of complex objects (aircrafts, ships, etc.)
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- **UHF control and measuring devices (vector network analyzers, scalar network analyzers, power meters, signal generators, etc.)**

**Application area:** to repair and modernize countermeasures stations, to upgrade equipment in defense industry.

**Distinguishing features and advantages:**

It enables metrological support of the design and production of UHF devices, as well as remote calibration and customized modification to meet the production and metrological requirements.

➤ **Technologies and devices for information protection (Priboi, Detector, Locator)**

**Application area:** to protect speech information and prevent information leak through acoustic and vibrational channels out of the room (Priboi); to test computing equipment, PCs, servers and routers which process confidential information on the presence of hidden devices of unauthorized opportunities as well as to locate them inside the electronics (Detector); to detect devices of unauthorized data collection by the resonance phenomenon in antenna systems and supporting filter elements (Locator).

**Distinguishing features and advantages:**

Priboi creates masking signals in leak channels (i.e. 'white noise', 'speech-like signals', 'white noise' + 'speech-like signals'), thus the data leakage channels of speech information are being closed. The developers can prepare a customized allophonic data base in various languages.

Detector is based on a unique technology to determine hidden devices of unauthorized opportunities and specific signal processing algorithm.

Locator is able to localize shielded eavesdropping devices of a given frequency range in real time.

➤ **Ultrasonic technologies and devices (cavitation meters, generators)**

**Application area:** to measure and control cavitation activity in powerful ultrasonic fields.

**Distinguishing features and advantages:**

These developments are unique due to the fact that the spectral and acoustic principle of determining cavitation is used as the basic approach for the first time. Every device is equipped with a user interface to connect it to a PC, as well as with special software to process the measurement results. Any device can be produced at customer's request.

➤ Ion and plasma technologies and systems (ion sources, magnetron sputtering systems)

**Application area:** to form thin films of metals, semiconductors and dielectrics by ion-beam sputtering, reactive ion-beam and magnetron sputtering.

**Distinguishing features and advantages:**

Simple design and application procedure, resistance to pollution, which allows using these devices for research and in industry.

➤ Components of remote monitoring systems for mobile technogenic objects

**Application area:** to remotely monitor the parameters of various moving objects in real time.

**Distinguishing features and advantages:**

These technologies enable simultaneous monitoring of over 20 parameters in real time, as well as support automated detecting of emergency situations, immediate responding to stoppages and disorders, predicting and preventing of critical situations.

[More about developments](#)

[More about the WCIP exhibition](#)