

**SEMICON<sup>®</sup>**  
**TAIWAN**

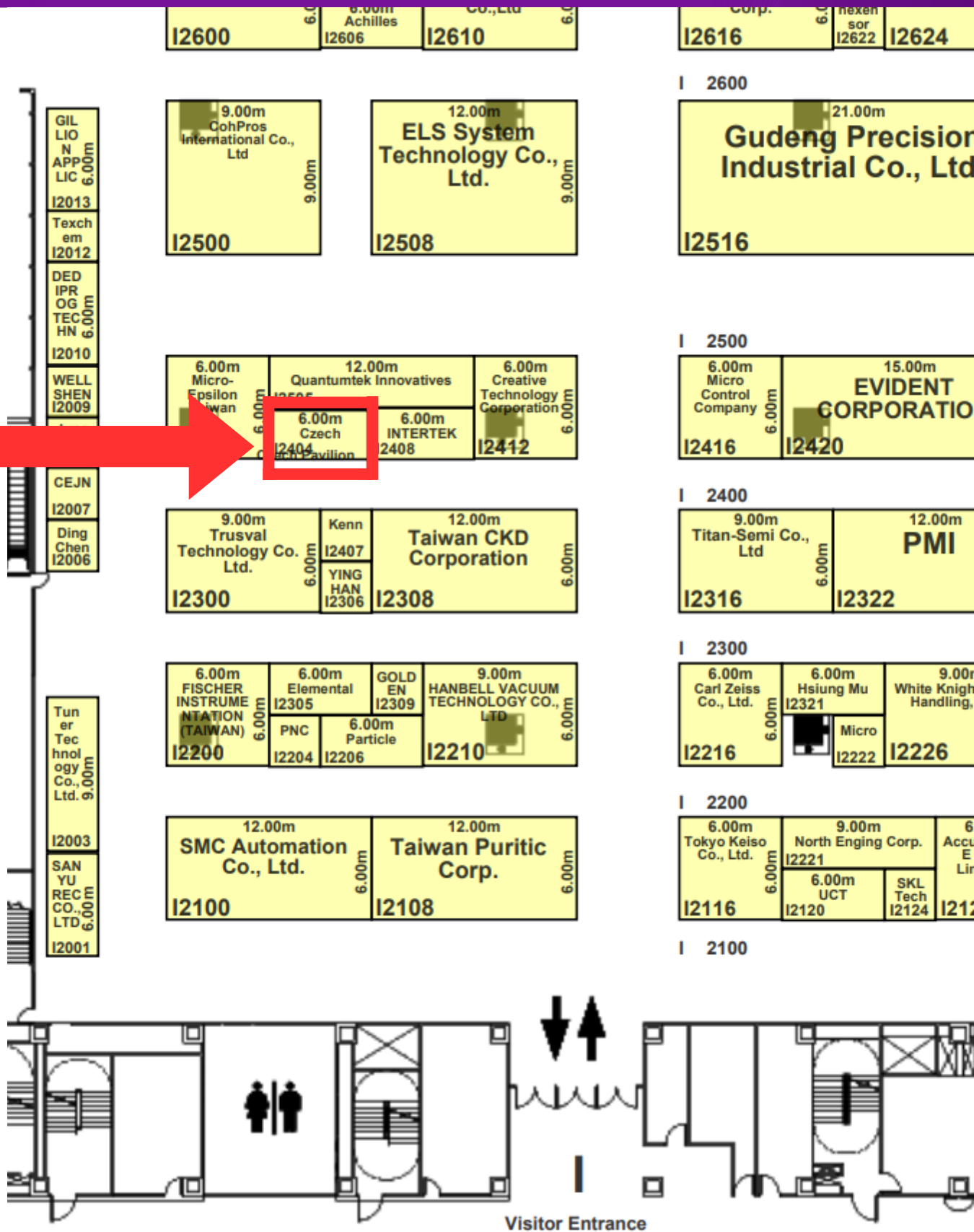


捷克經濟文化辦事處  
CZECH ECONOMIC AND CULTURAL OFFICE

# Catalogue

## Czech Pavilion

**Booth no. I2404, Taipei Nangang Exhibition Center, Hall 1**



You will find our Czech Pavilion here

# 1st Floor, Hall 1

## **List of Czech Exhibitors**

- 1. Brno University of Technology**
- 2. Crytur**
- 3. Inference Technologies**
- 4. Tropic Square**
- 5. UNITES Systems**
- 6. Vakuum Servis**

# Brno University of Technology

## Your partner for chip design & semiconductor technologies

Our high-skilled academics and researchers deal with design and verification of custom integrated circuits (analog, digital, mixed-mode) in recent design technologies including SiC. The largest academic clean rooms facility in Czechia is 24/7 available for students, academics, researchers and industry. We are also experienced in physics of semiconductors and materials beyond CMOS. We are a member of Czech National Semiconductor Cluster (CNSC) – [www.semicz.cz](http://www.semicz.cz)

The hub consists of several faculties with many research and development and education activities in the area of chip design, semiconductor technologies and important facilities. They are:

### Faculty of Electrical Engineering and Communication (FEEC)

- Design and verification of ASICs
- ASIC's packaging and interconnections
- Special space applications
- Cyber security systems
- Sensor applications and nanotechnology
- High-valued graduates in microelectronics

### Central European Institute of Technology (CEITEC)

- Largest academic clean rooms facility in Czechia
- Up-to-date semiconductor small series production line
- Top R&D center of excellence in EU

### Faculty of Information Technology (FIT)

- Digital circuits for high-performance and energy efficient computing
- RISC-V core design
- Image processing cores and object detection systems

## Contact

### Assoc. Prof. Jiri Haze

Executive University Coordinator on Chip Design & Semiconductor Materials

- [haze@vut.cz](mailto:haze@vut.cz)
- +420 777 987 834
- [Brno University of Technology \(vut.cz\)](http://Brno_University_of_Technology_(vut.cz))
- [Department of Microelectronics | Department of Microelectronics \(vut.cz\)](http://Department_of_Microelectronics_|_Department_of_Microelectronics_(vut.cz))

# CRYTUR

## Company Introduction

CRYTUR is an optoelectronic producer bringing specialized solutions to the global market. With only 400 employees, it is still the world's largest supplier of detectors in electron microscopy, the largest European manufacturer of laser rods, or, for example, the largest supplier of crystalline phosphors for LED/LD, or shaped sapphire profiles for Measurement&Control or semiconductor industry. Our highly integrated production includes optical material manufacturing, crystal growth, optical polishing and coating, clean room assembly, and an extensive high-precision CNC workshop. Teams of opticians, electricians, and mechanical engineers are ready to produce high-value-added complex products in the area of radiation detectors, X-ray cameras, laser technology, intensive light sources, imaging, and material studies for use in scientific instruments, semiconductors, medicine, or for example in defense. CRYTUR's strong R&D team is ready to capture our customers' ideas and transform them into tangible products manufactured by us, helping our customers achieve cutting-edge technologies. Excellent quality standards are verified and proven by our long-term presence, among others, in the semiconductor industry.

## Potential Products

- High-precision optomechanical assemblies for typical use, for example, in the semiconductor industry
- Laser elements and components for ultra-high powers
- Single-crystalline elements, optics, and coatings
- Compact high-power light sources
- Compact and efficient various X-Ray, electron, EUV, etc. detectors



## Location

CRYTUR has its headquarters in Turnov, the Czech Republic, and a small production facility in the USA (CRYTUR USA, Watertown (MA)).

## Contact

**Majerova Lenka**  
CRYTUR, spol. s r.o.  
Head of Sales  
[lenka.majerova@crytur.cz](mailto:lenka.majerova@crytur.cz)



# Inference Technologies

## AI Powered Semiconductor Manufacturing

### Company Profile

- Established in 2015, headquartered in the Czech Republic, with a representative office in Taiwan.
- Pushing the boundaries in the semiconductor manufacturing data landscape by delivering cutting-edge predictive systems and dynamic data analysis solutions.
- Committed to upholding the highest security standards.

### DeepFab Technology

- The technology consists of several predictive and analytics manufacturing systems that work together to leverage historical data, aiming to improve yield, cost and reliability.
- **inLab:** Advanced analytics platform for process and yield insights.
- **inProbe:** Predictive system for smart product routing.
- **inSure:** Latent defect screening for smart reliability control.

### Value Proposition

- Through our DeepFab technology, we empower semiconductor manufacturers to accurately forecast production outcomes and anticipate quality issues.
- Our advanced data analysis solutions provide real-time insights into manufacturing processes, enabling proactive decision-making, rapid troubleshooting, and continuous process improvement.
- We have implemented robust measures to ensure the confidentiality, integrity, and availability of our clients' sensitive information.

### Customer Base

- The tailored capabilities of DeepFab can adapt to the unique requirements of various customer types such as:
  - ✓ IDM
  - ✓ Foundry
  - ✓ Fabless

### Contact

- To explore the diverse range of solutions and understand how Inference Technologies can propel your business forward, please contact our team.

- [contact@inferencetech.com](mailto:contact@inferencetech.com)
- +420 702 066 383



# Tropic Square

## Company Introduction

Tropic Square is a fabless chip design company focused on solutions for secure electronics. Their pilot project is TROPIC01 - a secure element chip, which is designed especially for the security needs of IoT devices, crypto hardware wallets, M2M payments and hardware authenticators. The company's vision, approach and unique know-how has already attracted the attention of major players in the technology industry.

## TROPIC01

### Cryptographic Coprocessor and Secure Storage IC

TROPIC01 is a secure element that supplies and enhances the cryptography of your hardware's embedded system. The security design details are openly shared - without the need of a signed NDA - to allow for independent auditing and verification of the security claims.

TROPIC01 provides a more secure means of protecting your sensitive digital assets from both physical and logical attacks, even when the chip is powered off.

### Security Highlights

- Attacks resilience and countermeasures
  - Side Channel data extraction
  - Fault Injection
  - Physical
- Voltage Glitch detectors
- Temperature detectors
- Electromagnetic pulse detectors
- Laser detectors
- Active shield

### Cryptographic Accelerators

- Elliptic Curve Cryptography
  - Ed25519
  - P-256
  - X25519
- AES256-GCM
- Keccak
- ISAP

### Entropy Source

- Physically Unclonable Function
- True Random Number Generator
- Cryptographically Secure Random Number Generator

### Product availability

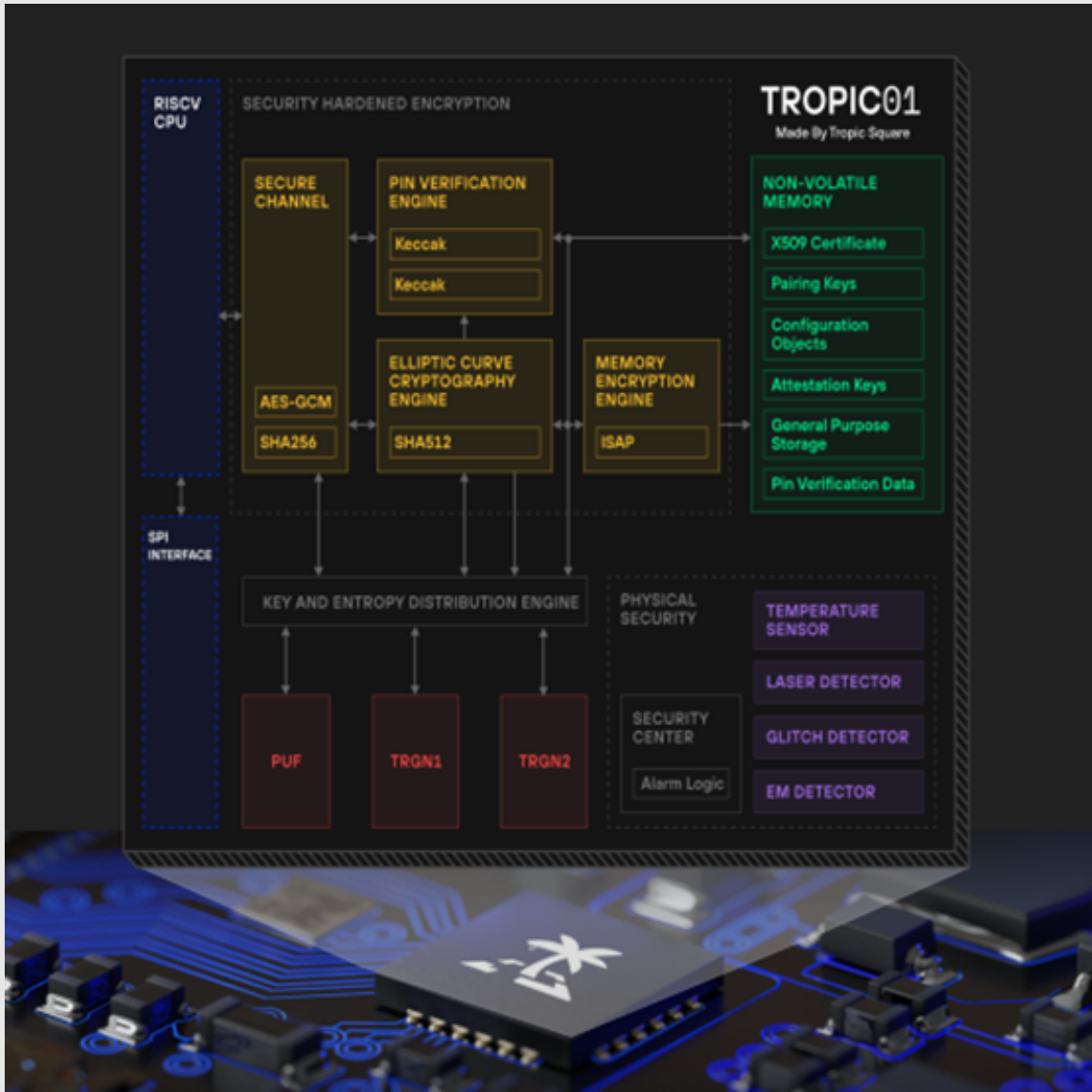
- Application development enablement - Virtual and FPGA based platforms
- Silicon samples for security evaluation (package QFN40 5x5)
- Wafers and packaged devices

### Miscellaneous

- SPI protocol over encrypted channel with forward secrecy
- Flash memory with PUF based on-the-fly encryption
- On-chip RISC-V IBEX core
- Customizable FW upon request

### Contact

**Pleskac Jan**  
Tropic Square  
CEO & Co-Founder  
[jan.pleskac@tropicsquare.com](mailto:jan.pleskac@tropicsquare.com)





# UNITES Systems

## General Description

UNITES Systems a.s. is a private company located in the Czech Republic with more than 30 years of experience in development and production of dedicated test and measurement systems – ATE solutions for semiconductor devices and FCT/ICT platform for assembled PCB testing (PCBA).



## Products & Services

- Mixed-signal laboratory testers for component qualification / incoming inspection
- Production testers for discrete semiconductors (MOSFETs, IGBTs, Diodes, Power Modules)
- Testers for new semiconductor technologies (GaN, SiC)

## Contact

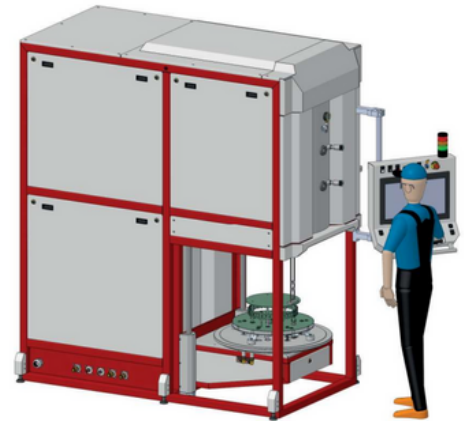
**Betak Ondrej**

UNITES Systems a.s.

Sales Director/Member of the Board

[obetak@unites.cz](mailto:obetak@unites.cz)

## UHV degassing furnace VSF450



- High quality UHV degassing system developed for Pfeiffer Vacuum Austria
- Ultra purity of your materials after degassing
- Suitable for heat treatment of different materials in UHV (degassing, vacuum soldering, annealing, etc.)
- Ultimate vacuum in heated chamber dia 450mm x 600mm 8e-8mbar
- Temperature up to 1300°C with Molybdenum heating designed by Plansee
- Temperature setpoint precision 4°C
- Configurable up to 3 heating zones
- Pfeiffer Vacuum pumping system
- Siemens Simatic control system with touch screen
- Fully configurable system

### About Vakuum servis s.r.o.

- Sales and service of vacuum components Pfeiffer Vacuum and VAT since 2009
- Design and construction of vacuum pumping stations, leak detection systems, various vacuum coating systems
- Refurbishment or upgrade of vacuum production units including implementation of progressive technologies
- Assembly of vacuum systems as key-turn customized solutions according to individual needs

### Contact

**Kuban Vojtech**  
Vakuum Servis s.r.o.  
Managing director  
[vojtech.kuban@vakuum-servis.cz](mailto:vojtech.kuban@vakuum-servis.cz)