2019 POLAND@ITER

Organizers:

WPT
WROCLAW TECHNOLOGY PARK

European Commission

Media patronage:

Energetyka 24

Big Science, big possibilities

BIG SCIENCE HUB

Join a venue where business meets science

www.big-science.pl

Hello, ITER!

Cooperation with Big Science has been the focus of Wroclaw Technology Park since its inception. We support collaboration of polish business with, among others, CERN, ITER or European XFEL. We integrate Polish business around Big Science market, and we are fully equipped to help polish companies to execute orders from its institutions.

To do so we run projects such as BIG SCIENCE HUB and organize economy missions dedicated to CERN and this year for the first time to ITER. I hope, that Poland@ITER 2019 will strengthen polish cooperation with ITER. I wish all its participants good business conversations and discovering new business opportunities.

Maciej Potocki
President of
Wroclaw Technology Park

We are pleased to present Polish companies that will take part in Poland@ITER 2019. I hope, that this first polish economic mission dedicated to ITER Organization will be a good opportunity to talk about collaboration between the Polish high-tech environment and ITER.

Poland@ITER 2019 starts on October 17th and will last for two days. I have no doubt that Polish business is getting stronger in Big Science. Our companies have discovered the potential offered by this market and want to benefit from it. Their technology and infrastructure enable them to compete with high-tech companies from all over the world. Portfolio of many of them can prove that. I hope that B2B meetings during Poland@ITER 2019 will show you their potential and Poland's collaboration with ITER will grow dynamically.

Sylwia Wójtowicz
ILO ITER

Organizers:

WPT WROCLAW TECHNOLOGY PARK

European Commission

Media patronage:

Energetyka 24

Poland@ITER 2019 - agenda

October 17th (Thursday)

8:30 – Transport from Best Western Plus HOTEL DE L'ARBOIS in Aix-en-Provence to ITER St. Paul-lez-Durance

9:30 – 10:00 – Registration, coffee/croissants

10:00 – 12:20 – Opening Session
(ITER Council Chamber - 72/5010)

- Opening welcome – Bernard Bigot, Director General (5 minutes)
- Opening speech – Paulina Styczeń, Principal Expert, Department of Strategy, Ministry of Science and Higher Education (5 minutes)
- Introductory speech – Massimo Garribba, Acting Deputy Director-General, Directorate-General for Energy, European Commission (10 minutes)
- Introductory speech – Stavros Chatzipanagiotou, Head of Communication, Fusion for Energy (10 minutes)
- Presentation of the ITER Project (30 min)
- Presentation of upcoming tenders at ITER – Christophe Dorschner, Head of Procurement & Contracts Division, ITER (20 min)
- Presentation of upcoming business opportunities – Victor Saez, Head of Market Analysis, F4E (20 min)
- Presentation of Polish Companies (40 minutes)

12:20 – 13:20 – Lunch break

13:20 – 15:20 – Breakout session with parallel meetings
(Room 72/4044)

- Individual meetings of Polish companies, procurement office representatives and engineers of particular ITER sections and French companies

15:20 – 15:50 – Coffee break

15:50 – 17:30 – Breakout session with parallel meetings
(Room 72/4044)

- Individual meetings of Polish companies, procurement office representatives and engineers of particular ITER sections and French companies

17:30 – Transport from ITER St. Paul-lez-Durance to Best Western Plus HOTEL DE L'ARBOIS in Aix-en-Provence

18:30 – 19:30 – Free time

19:30 – Transport from Best Western Plus HOTEL DE L'ARBOIS in Aix-en-Provence to Grand Hôtel Roi René Aix en Provence

20:00 – Cocktail, Networking (Grand Hôtel Roi René Aix en Provence)

23:00 – Transport back to Best Western Plus HOTEL DE L'ARBOIS in Aix-en-Provence

October 18th (Friday)

8:30 – Transport from Best Western Plus HOTEL DE L'ARBOIS in Aix-en-Provence to ITER St. Paul-lez-Durance

9:30 – 9:40 – Registration

9:40 – 9:50 – Preparation for worksite visit

9:50 – 11:30 – ITER worksite visit

11:30 – 12:00 – Coffee break

12:00 – 13:00 – Final Conclusions
(Room 72/4044)

- Activity proposals - discussion of next steps with participants of Poland@ITER 2019
- Summary of the mission, final conclusions

13:00 – 14:00 – Lunch break

14:00 – Transport from ITER St. Paul-lez-Durance to Best Western Plus HOTEL DE L'ARBOIS in Aix-en-Provence

Procurement codes

01	Civil engineering, building and technical services	06	Vacuum and low temperature	11	Transport, handling, vehicles and access equipment
02	Electrical engineering and magnets	07	Particle and photon detectors	12	Office supply, furniture, communication and training
03	Electronics and radio frequency	08	Optics and photonics		
04	Information technology	09	Gases, chemicals, waste collection and radiation equipment		
05	Mechanical Engineering and raw materials	10	Health, safety and environment		

Meet us at Poland@ITER 2019!

Below you can find a list of companies that will visit ITER on 17-18 October 2019 as part of Poland@ITER 2019. In this list you can find procurement codes assigned to them. On the following pages, we present in detail the companies that can become ITER suppliers. B2B meetings will be held in English.

We hope for successful meetings and conversations!

Click on the company logo to view its presentation.

ACS LABORATORY

- 07 Particle and photon detectors
- 08 Optics and photonics

ICS Industrial Control Systems

- 03 Electronics and radio frequency
- 04 Information technology

ISE

- 03 Electronics and radio frequency
- 04 Information technology
- 07 Particle and photon detectors

BEST SYSTEMY GRZEWCZE

- 01 Civil engineering, building and technical services
- 05 Mechanical Engineering and raw materials
- 06 Vacuum and low temperature

THE HENRYK NIEWODNICZAŃSKI INSTITUTE OF NUCLEAR PHYSICS POLISH ACADEMY OF SCIENCES

- 02 Electrical engineering and magnets
- 03 Electronics and radio frequency
- 06 Vacuum and low temperature
- 07 Particle and photon detectors

Sam Dong Europe

- 02 Electrical engineering and magnets
- 05 Mechanical Engineering and raw materials

creo TECH Instruments S.A.

- 02 Electrical engineering and magnets
- 03 Electronics and radio frequency

PHOTECH INNOVATION PHOTONICS TECHNOLOGY

- 08 Optics and photonics
- 10 Health, safety and environment

DMCS

- 02 Electrical engineering and magnets
- 03 Electronics and radio frequency
- 04 Information technology
- 07 Particle and photon detectors
- 08 Optics and photonics

FRAKO-TERM Sp. z o.o. Research & Implementation Company

- 02 Electrical engineering and magnets
- 05 Mechanical Engineering and raw materials
- 06 Vacuum and low temperature

ACS Laboratory

Industry sectors

R&D

About ACS Laboratory

The ACS laboratory was founded in 1998 by a group of former research workers of the Institute of Plasma Physics and Laser Microfusion (IPP&LM, Warsaw, POLAND).

Initially, our offer was directed only to laboratories dealing with the generation of dense, hot plasma by means of high-current discharge or of high-power lasers. Over time, the equipment developed by us has also been used in the defense systems studies. Recently, we started working with the research group dealing with EUV radiation measuring equipment in space.

Our skills and many years of experience have allowed us to carry out research and development activities in four main thematic groups, listed below:

- Electro-Optical High-Speed Imaging Systems (E-O HSIS) that are able to record a number of time-resolved, two-dimensional frames of the studied phenomenon, with high temporal (even down to a single nanosecond range) and spatial resolution (up to 4096x4096 pixels), in UV-VIS-NIR spectral ranges (220-1100 nm) as well as in EUV and soft X-ray spectral ranges (8 eV – 6 keV);
- Non gateable or gateable Ultra-Fast Scintillation Probes for recording hard X-ray and fusion neutron pulses. In these probes the conversion of the ionising radiation into the light occurs in the ultra-fast organic scintillator, that is optically coupled with the photocathode of the unconventional photomultiplier (MCP-PMT Chevron). The total pulse response of the probe provides its limiting temporal resolution not longer than 500 ps;
- Fast Detection Heads for recording radiation pulses in VIS-NIR-IR as well as EUV and soft X-ray spectral ranges. Radiation can be recorded by means of P-I-N photodiodes, GaAs MSM or InGaAs MSM photodetectors as well as miniature open MCP-based devices with pulse response not longer than 500 ps;
- Attendant Sub-systems/Equipment, including: Mobile Measuring Stands, HV Gate Pulse Generators, Delay Generators, Optically Triggered Pulsers, Laser Triggered Spark Gaps, etc.

All above mentioned systems/equipment are characterized by high immunity against strong electromagnetic interference and as such can be used in experiments conducted in harsh electromagnetic environment.

All the E-O HSISs can be remotely controlled (via Gigabit Ethernet).

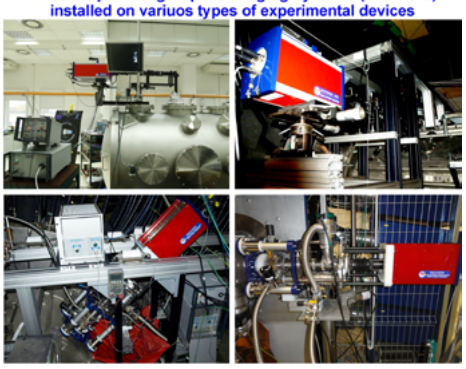
Procurement codes

07	Particle and photon detectors
08	Optics and photonics

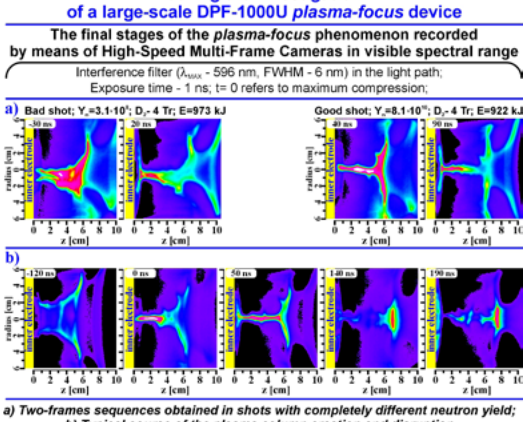
Meet us at Poland@ITER 2019

Krzysztof Tomaszewski, Laboratory Head
ktomaszewski@acs.com.pl

Electro-Optical High-Speed Imaging Systems (E-O HSIS) installed on variuos types of experimental devices



Exemplary results obtained by means of E-O HSIS during the investigation of a large-scale DPF-1000U *plasma-focus* device



a) Two-frames sequences obtained in shots with completely different neutron yield;
b) Typical course of the plasma column creation and disruption at average neutron yield $Y_n \sim 10^{10}$;

Company size

MICRO

Contact

23 Hery Street, 01-497 Warsaw
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ktomaszewski@acs.com.pl

Potential for cooperation with ITER

ACS Laboratory belongs to the MICRO class companies and as such does not have extensive infrastructure and technological facilities as well as a large investment fund. Hence, we can offer only the best we have – our flexibility, knowledge and decades of experience in diagnostic systems developing and introducing it to experimental practice.If any of our diagnostic systems or attendant equipment arouses potential interest, we will do our best to implement our projects to magnetically confined plasma research or other experiments in Big Science Market.

Experience in Big Science Projects

So far, the ACS Laboratory team has not participated in any project that could be counted in Big Science Market.

However, our current experimental experience results from the diagnostic systems/equipment development and it application to experimental studies carried out on:

- High-current plasma-focus and Z-pinch devices (including: large-scale DPF-1000U device and numerous of average/small--scale PF/Z-pinch devices);
- Installation dedicated for laser-matter interaction experiments (including: PALS and numerous of nanoseconds/picoseconds/ femtoseconds lasers with a broad range of power).

Usually our role is not only limited to delivery of the ordered diagnostic equipment.

ACS Laboratory team always takes part in the apparatus performance tests carried out on the target experimental device and at the same time, it also trains the customer staff to operate the delivered equipment.

Successes and awards

Unfortunately, we have got none prize so far.

On the other hand, the successes include more than 50 papers (in high impact factor scientific journals) published by our customers as well as at least five successful PhD thesis.

In these works, the experimental results obtained by means of the diagnostic equipment developed by the ACS Laboratory were the basis for conducting significant scientific considerations.

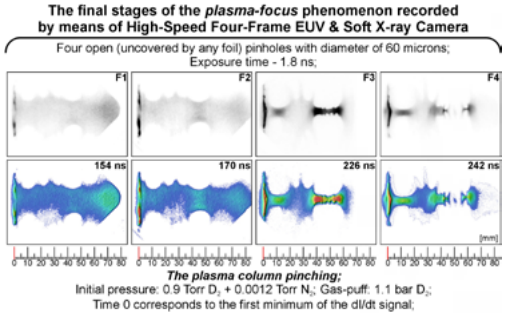
Below one may find list of our most important, scientific customers to whom we have provided diagnostic equipment.

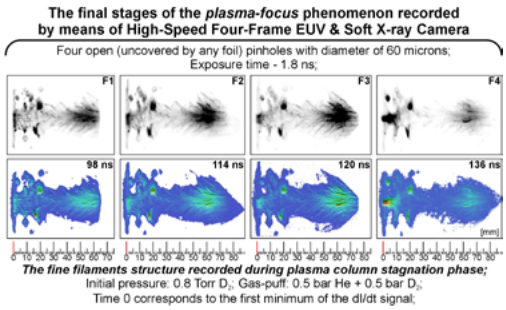
1. Institute of Plasma Physics & Laser Microfusion, Warsaw, POLAND;
2. National Centre for Nuclear Research, Swierk, POLAND;
3. Institute of Nuclear Physics, Polish Academy of Sciences, Krakow, POLAND;
4. Institute of Optoelectronics, Military University of Technology, Warsaw, POLAND;
5. Institute of Plasma Physics of the Czech Academy of Sciences, Prague, Czech Republic;
6. Tallinn University, Talllinn, ESTONIA.

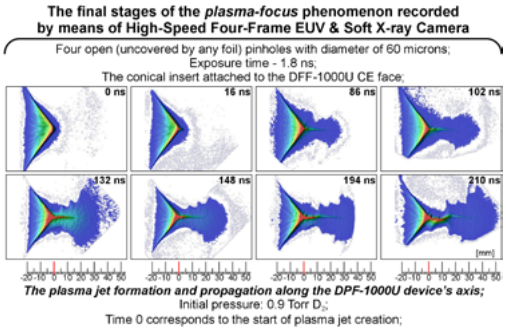
ACS Laboratory

Procurement codes

07	Particle and photon detectors
08	Optics and photonics







01 05 06

BEST SYSTEMY GRZEWCZE

Industry sectors

Power engineering, cryogenics, welding, laser technologies

About Best

BEST Systemy Grzewcze, established in 1989, is a traditional company with an innovative and development-oriented perspective. Across nearly 30 years we menaged to finish numbers of projects in power engineering, cryogenics and refigeration. Our company operates in 4 departaments: Engineering, Cryogenics, Science and Space.

We cooperate with many academic facalities from all over Poland including: Wroclaw University of Technology, Jagiellonian University, Warsaw University of Technology and Jan Wyzykowski University.

We menaged to successfully accomplish many development projects including cold heat exchanger and laser methane detecion.

Potential for cooperation with ITER

- industrial installations,
- cryogenic systems,
- refrigeration systems,
- heating systems,
- welding.

Experience in Big Science Projects

We look forward to start our cooperation with Big Science.

Successes and awards

INPRO 2017 AWARD: Innovative Product

BEST Systemy grzewcze

www.systemy-grzewcze.pl

Procurement codes

01	Civil engineering, building and technical services
05	Mechanical Engineering and raw materials
06	Vacuum and low temperature

Meet us at Poland@ITER 2019

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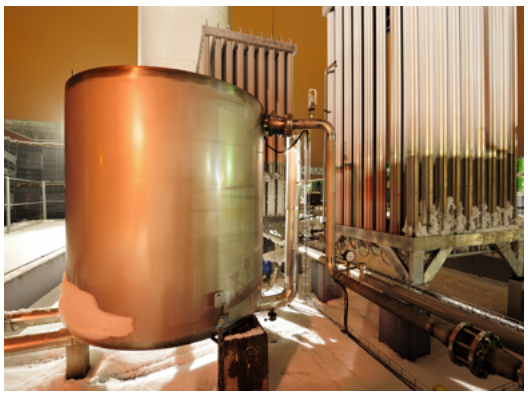

Company size

MICRO

Contact

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+48 74 856 81 88

best@systemy-grzewcze.pl

creo TECH Instruments S.A.

Industry sectors

Scientific Instrumentation, Space industry, control and measurement systems

About Creotech

Creotech Instruments S.A (CTI) was established in 2008 as a spin-out of a scientific project “Pi of the Sky” looking for gamma ray bursts. Its dedicated R&D and production teams specialize in design and manufacturing of electronics for space and scientific instrumentation as well as scientific cameras for astronomical purposes. As a member of the Open Hardware Repository (OHWR) initiative Creotech designs and manufactures scientific instrumentation (in particular – FPGA-based control and measurement electronics and data acquisition cards) for all major Big Science experiments (CERN, DESY, Sirius in Brasil, GSI in Germany). The space heritage of the company includes: assembly of electronic modules for power supply units for MXGS ASIM (ESA) and for CASISS ExoMars (ESA), hardware design for several other ESA projects, ASIM Technology Support project (ESA GSTP), OPS-SAT project (FPGA HDL development), designing and manufacturing of PCBs for commercial satellites. Last but not least, CTI is presently involved in the process of development and commercialization of Sinara control and measurement ecosystem for quantum technologies.

Potential for cooperation with ITER

Potential fields of cooperation with ITER and other Big Science institutions:

- design, development and manufacturing of control and measurement systems
- design services of real time and hard real time FPGA-based electronics
- design services of White Rabbit sub-ns time synchronization systems
- design, development and manufacturing of systems in the MTCA standard
- certified (automotive, medical, space) manufacturing services
- QMS certified under ISO 9001:2009
- QMS certified under ISO 13485:2012
- ECSS standards
- production line in ISO8 and ISO7 cleanroom environment
- electrical and functional tests performed in an ESD protected lab
- quick track prototyping of electronics
- electronics design services
- electronics engineering consultancy services

Creotech Instruments

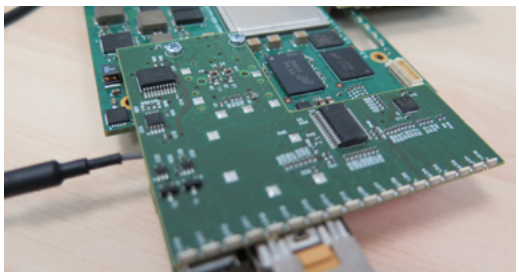
www.creoetch.pl

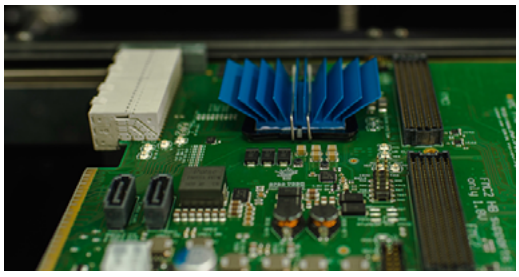
Procurement codes

02	Electrical engineering and magnets
03	Electronics and radio frequency

Meet us at Poland@ITER 2019

Anna Kamińska,
BD for Scientific Instrumentation Director
anna.kaminska@creotech.pl





Company size

SME

Contact

Okulickiego 7/9, 05-500 Piaseczno
+48 222 464 575
sales@creotech.pl

Experience in Big Science Projects

Creotech Instruments S.A. (CTI) has significant experience in Big Science projects. The company is a certified manufacturer of electronics for CERN and has supplied many hundreds of electronic modules to this institution. Moreover, CTI has a framework contract for the provision of electronics engineering consultancy services to CERN and a history of several sucessful elsctronics designes and analysis performed under this agreement. The company contributed to the design, manufectured and supplied electronics for beam instrumentation at the Brasilian Synchrotron SIRIUS, for detector instrumentation at GSI-CBM and for the X-ray spectrometer instrumentation at the Joint European Torus. As one of its flagship projects, CTI designed and supplied the Hard Real Time Control and Protection System for Diverter Field Power Supply (CPS-DFPS) for the MAST tokamak.

Presently, CTI takes part in the development of elements of the time synchronization system for ESRF and manufactures key elements of the General Machine Timing System for GSI.

Successes and awards

1. Obtaining, as the only company in Poland, ESA qualification for electronics assembly for Space
2. Assembly of the power supplier for the CaSSIS camera for ExoMars orbiter
3. Assembly of the power supplier for the ASIM experiment at ISS
4. Obtaining a framework contract for the provision of electronics engineering consultancy services to CERN
5. Obtaining a contract for CREODIAS, platform for data hosting and processing in the framework of Copernicus DIAS (ESA)
6. Design and supply of the Hard Real Time Control and Protection System for Diverter Field Power Supply (CPS-DFPS) for the MAST tokamak

creo TECH Instruments S.A.

Creotech Instruments

www.creoetch.pl

Procurement codes

02	Electrical engineering and magnets
03	Electronics and radio frequency

02 05 06

FRAKO-TERM Sp. z o.o.
Research & Implementation Company

Industry sectors

New technologies, Research activities, Power engineering

About Frako-Term

We are a Polish company that was founded in June 2004 based on 100% Polish capital. Our research activities have started with the work on developing an innovative method of optimizing the operation of heating devices by increasing the efficiency of the combustion process using the oxygen separation from the air by magnetic field forces.

We participate in projects concerning the application of superconductors in magnetic separators, energy storage, current limiting devices, energy flow systems and other energy devices. Our research is aimed at developing new products, processes and services or introducing significant improvements to existing ones.

The company cooperates with many local and foreign centers i.a. AGH University of Science and Technology in Cracow, Institute of Electrical Engineering in Warsaw, University of Zielona Góra and Joint Institute for Nuclear Research (JINR) in Dubna (Russia).

We specialize in the design, development and manufacture of high and ultra high vacuum and cryogenic installations. We supply also cryogenic equipement (cryocoolers, helium liquefiers, vacuum pumps, cryogenic insulation MLI etc.).

Potential for cooperation with ITER

HV and UHV chambers, thermal screens, MLI insulation, cryogenic systems

Experience in Big Science Projects

We are the main supplier of HV and UHV equipement for the NICA project realized by JINR in Dubna:

- Vacuum chambers for Booster and Collider;
- Beam chambers;
- Copper thermal screens;
- MLI blankets.

Frako-Term

www.frakoterm.pl

Procurement codes

02	Electrical engineering and magnets
05	Mechanical Engineering and raw materials
06	Vacuum and low temperature

Meet us at Poland@ITER 2019

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Zofia Mroczek, Cryogenic Specialist
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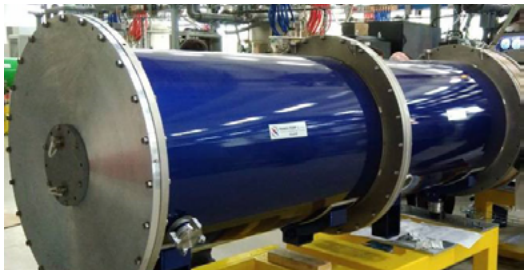

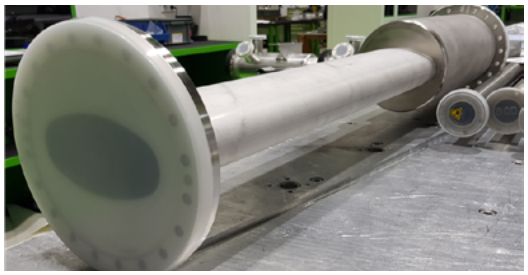

Company size

SME

Contact

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sales@frakoterm.pl

ICS Industrial Control Systems

www.icsystems.pl

Industry sectors

Industrial automation, manufacturing machines

About ICS

ICS Industrial Control Systems was established in 2004. The core business of ICS is designing and manufacturing of inspection and measurement machines and systems, machine vision systems, production control systems such as Flow Control Systems and Traceability.

In particular, ICS company designs and delivers:

- Inspection and measuring machines and systems.
- Control systems for machines nad systems.
- 2D machine vision systems - image processing and analysis.
- 3D vision systems based on laser triangulation technology.
- Production control systems - Flow Control Systems and Traceability.

We cooperate with leading companies in the world in the field of automotive, food and industrial products.

Potential for cooperation with ITER

The control system:

- slow and fast controllers,
- data processing, FPGA,
- real time data communication,
- image analysis, thermal imaging,
- measurements of electrical and mechanical values.

Procurement codes

03	Electronics and radio frequency
04	Information technology

Meet us at Poland@ITER 2019

Krzysztof Skura, Managing director
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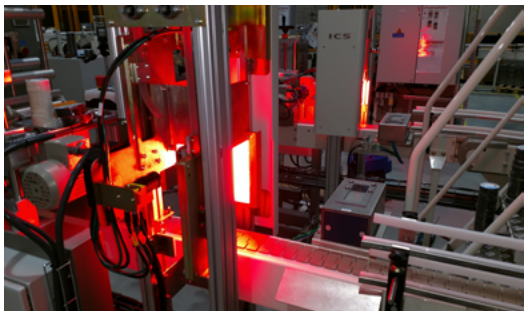

Company size

MICRO

Contact

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THE HENRYK NIEWODNICZAŃSKI
INSTITUTE OF NUCLEAR PHYSICS
POLISH ACADEMY OF SCIENCES

Industry sectors

Research Institute

About IFJ PAN

The IFJ PAN is the largest institute of the Polish Academy of Sciences. An important part of the IFJ PAN scientific mission is the Institute's active participation in large international research facilities in the field of design, construction and upgrade of research infrastructure and scientific research which uses these infrastructures. These tasks are completed mainly by a staff of 64 engineers and technicians from the Division of Scientific Equipment and Infrastructure Construction (DAI), which are holding a broad and appreciated expertise over the world. Since 2008, the DAI participated in all major world scientific projects. Currently, the engineers from IFJ PAN are involved among others at CERN in the several projects related to the superconducting strands testing, the superconducting magnets research and development, the R&D and commissioning of cryostats for superconducting links supplying LHC magnets, the construction and commissioning of special superconducting RF cryomodules for LHC - crab cavities. Also the engineers and technicians from IFJ PAN are involved in ESS (Lund, Sweden) in RF installations and RF cryomodules acceptance tests for the ESS linear accelerator, developing skills to handle the tasks in the field of construction and testing of RF systems. Also, people from this large scientific-engineering-technical team are involved in other large international projects: E-XFEL, ITER, CTA, T2K, Pierre Auger, AMICI, ATLAS, DONES.

Potential for cooperation with ITER

- highly specialized installation work,
- qualification tests and commissioning of devices at cryogenic conditions,
- measurements of superconducting coils and their connections,
- design and development of detection systems,
- design and construction of diagnostic systems.

The Henryk Niewodniczanski
Institute of Nuclear Physics
Polish Academy of Sciences
www.ifj.edu.pl

Procurement codes

02	Electrical engineering and magnets
03	Electronics and radio frequency
06	Vacuum and low temperature
07	Particle and photon detectors

Meet us at Poland@ITER 2019

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Marek Scholz, Senior Scientist
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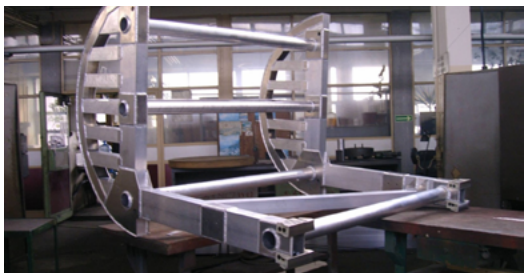

Company size

Large research institute

Contact

Radzikowskiego 152, 31-342 Krakow

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Experience in Big Science Projects

The IFJ PAN participated, among others, in the following projects:

- Wandelstein 7-X (W7-X, Greifswald, Germany),
- European X-Ray Free Electrons Laser (E-XFEL, DESY, Hamburg),
- Large Hadron Collider (LHC, CERN, Geneva),
- European Spallation Source (ESS, Lund, Sweden),
- Système de Production d'Ions Radioactifs Accélérés en Ligne (SPIRAL2, GANIL, Caen, France),
- Facility for Antiproton and Ion Research (FAIR, Darmstadt),
- Cherenkov Telescope Array (CTA),
- Pierre Auger Observatory (Argentina),
- High Resolution Neutron Spectrometer (HNRS, F4E/ITER, France),
- Radial Neutron Camera (RNC, F4E/ITER, France)
- Belle2 experiment (KEK, Tsukuba, Japan)
- Bronowice Cyclotron Center (IFJ PAN).

Successes and awards

1. IFJ PAN contribution to XFEL construction

- Performance of acceptance tests of cavities for a series of 840 units on DESY infrastructure and delivering the corresponding test reports,
- Performance of acceptance tests of cryomodules for a series of 103 units on DESY infrastructure and delivering the corresponding test reports,
- Performance of acceptance tests of cold magnets for a series of 103 units on DESY infrastructure and delivering the corresponding tests reports – common effort with DESY.

2. IFJ PAN contribution to LHC construction, LHC LS1, LHC LS2:

- design & construction of measuring/testing devices,
- preparation of necessary software and data bases,
- manufacturing of superconducting N-lines,
- development of measuring/testing methods,
- organization, performance & documentation of electrical measurements /tests,
- organization, performance & documentation of interconnection inspection.

3. IFJ PAN contribution to W7-X:

- assembly of the bus bar system powering 70 superconducting coils on five modules of the stellarator.
- mechanical and electrical connection of the superconductors.

4. IFJ PAN contribution to Cherenkov Telescope Array

- Design and prototyping of Davis–Cotton (D-C) telescope structures: complete design of three Small Size Telescope (SST) structures of various mirror dish diameters (6m, 7.6m, 4m)
- Design and prototyping of composite mirrors: full size prototypes of hexagonal mirrors for SST (0.78m flat-to-flat, curvature radius 23m) and MST (1.20m flat-to-flat, curvature radius 32m).

THE HENRYK NIEWODNICZAŃSKI
INSTITUTE OF NUCLEAR PHYSICS
POLISH ACADEMY OF SCIENCES

The Henryk Niewodniczanski
Institute of Nuclear Physics
Polish Academy of Sciences
www.ifj.edu.pl

Procurement codes

02	Electrical engineering and magnets
03	Electronics and radio frequency
06	Vacuum and low temperature
07	Particle and photon detectors

INNOVATION PHOTONICS TECHNOLOGY

Industry sectors

Photonics

About InPhoTech

InPhoTech is a leading Polish developer and supplier of innovative solutions based on photonics and optical fibers. Established almost a decade ago, the company is continuously growing and expanding its portfolio. An active R&D personnel makes up more than half of its 60 employees. InPhoTech develops technologies and supplies ready-solutions for various industries, such as energy, oil & gas, mining, space and aviation, medicine, telecom or security. The company's expertise and successful path were recognized in Poland and Europe with numerous awards and grants.

Basing on its know-how and its proprietary technology InPhoTech designs, develops and manufactures complete photonics solutions, being able to uniquely control the whole manufacturing process across vertically integrated chain, from the fiber fabrication, to the device manufacturing and field tests. InPhoTech's innovative portfolio includes the following products:

- Distributed, quasi-distributed and discrete fiber optic sensors for measuring deformations, temperature, vibrations, pressure or presence of gases in hostile, remote and difficult to access environments. Our sensors are used in heavy industry, energy and automotive sectors, as well as in medicine or space.
- Specialty optical fibers:
  - Microstructured fibers: Multicore; single, few and multi-mode fibers; high-capacity telecom fibers.
  - Secure-transmission optical fibers.
  - Optical fibers & coatings for harsh environments: Radiation-hardened optical fiber; fiber coatings for extreme (high and low) temperatures; fibers for space, fibers resistant to harsh chemical conditions.
  - Fibers for high-power applications.
- Optical Devices & Components

InPhoTech

www.inphotech.eu

Procurement codes

08	Optics and photonics
10	Health, safety and environment

Meet us at Poland@ITER 2019

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Artur Stabrawa,
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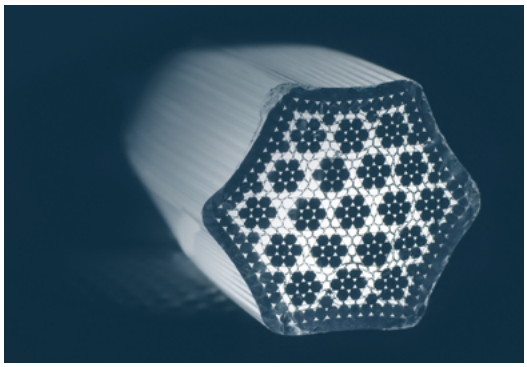

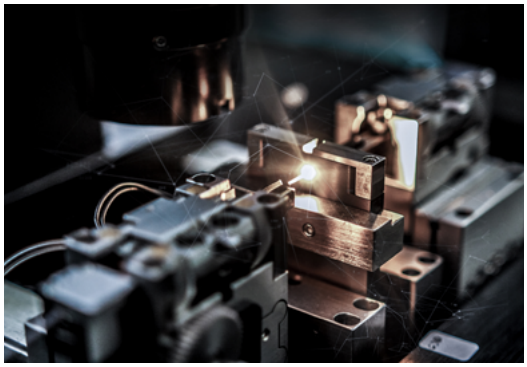

Company size

SME

Contact

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Potential for cooperation with ITER

As a developer and manufacturer of optical fibres and photonics equipment, we envisage big potential in fiber-based monitoring equipment (e.g. for temperature, strain or deformation) that will be used in harsh or demanding environments where standard electronics cannot be implemented due to radiation or high temperatures.

Fiber optic distributed sensors bring advantage of continuous spatial distribution measurements regime where every single point of optical fibre deployed along (or embedded in) investigated infrastructure acts as a sensor and provides means of live control over operational performance.

We anticipate that optical fibre technology that can inherently be applied in temperatures extending beyond 700°C could be of great benefit to ITER, and we believe that InPhoTech would be the best partner for development and supply of such devices.

Experience in Big Science Projects

InPhoTech has a proven track in delivering innovative photonic solutions to the market. It has participated in numerous projects involving industrial and research institutes from various sectors, such as heavy industry, mining or space.

In its nearly a decade of existence, it has been involved in several projects and consortia, within national and transnational frameworks, such as the EC FP7 or the H2020. One of these examples is the ESA granted project for developing a system for continuous and distributed structural health monitoring of composite materials with embedded optical fibers.

Another highlight is the BEACON project, where InPhoTech developed a radiation resistant multicore fiber for optical amplifiers together with dedicated elements to integrate the multicore fiber with other systems on-board of telecommunication satellites.

Successes and awards

1. SME Instrument Phase 2, Horizon 2020, awarded in 2019
2. SME Instrument Phase 1, Horizon 2020, awarded in 2016
3. Initiator of Innovation, Newsweek Poland 2016
4. Technology Fast 50, Central Europe Deloitte 2015
5. Polish Innovation Award 2015
6. Polish Inteligent Development Award 2016

INNOVATION PHOTONICS TECHNOLOGY

InPhoTech

www.inphotech.eu

Procurement codes

08	Optics and photonics
10	Health, safety and environment

03 04 07

The Institute of Electronic Systems

Warsaw University of Technology
www.ise.pw.edu.pl

Procurement codes

03	Electronics and radio frequency
04	Information technology
07	Particle and photon detectors

Meet us at Poland@ITER 2019

Andrzej Wojenski, PhD
Assistant Professor, Faculty Eurofusion Project Leader
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Industry sectors

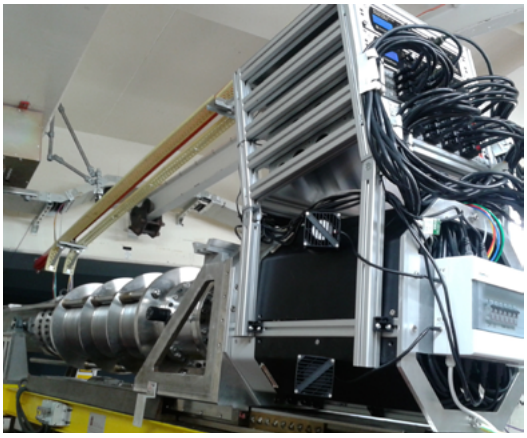
Electronics development R&D

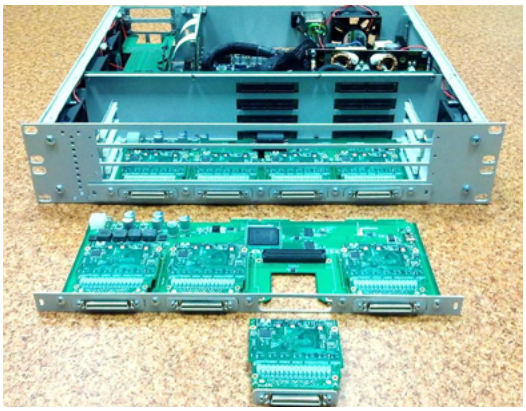
About ELHEP@ISE

The Electronics Laboratory for High Energy Physics ELHEP group from Institute of Electronics Systems - Warsaw University of Technology is active in European research projects since 1991, starting at ZEUS (DESY, Germany) project. Our team is mostly involved in fusion and high energy physics experiments. We are designing complex and distributed real-time measurement and control systems for the big science research topics with specialization in:

- Complete real-time systems design,
- FPGA development,
- PCB hardware design,
- Fast, real-time data transmission,
- Integration with multichannel detectors

With well-equipped laboratory we are able to perform prototyping with various tests in wide scope of electronics designs and implementations. Our experience is based on big involvement in multiple interdisciplinary projects focused on high-tech electronics and physics phenomena analysis. Those include design of full systems for projects related to synchrotron experiments (i.e. beam positioning), signal to physics discrimination algorithms like triggering systems for CERN and complex signal analysis from fast physical detectors (especially soft X-ray GEM detector) for producing end products for physicist: energy and topological spectra with high time resolution (below us).
We were and are working in many international collaborations with international research organizations: WEST CEA (France), CCFE JET (UK), IPP ASDEX (Germany), CERN (Switzerland), GSI (Germany), DESY (Germany), IPPLM (Poland). Our Institution is also a partner in Eurofusion collaboration. We are also running lectures at the Warsaw University in wide range of electronic topics. In our group are done diplomas on the level of Engineer, Master Of Science and PhD.





Potential for cooperation with ITER

Our team is open for cooperation with ITER and big science market companies. Our biggest potential is in fields of:

- Experienced staff working on international big science projects related especially with plasma physics and high energy physics experiments
- Specialization in complex design of high-resolution, multichannel real-time measurement/control systems including: electronics PCB, firmware/software, data processing and analysis
- Experience in integration, installation and tests of our systems directly on-site in big facilities (i.e. CCFE JET, CEA WEST)
- Well-equipped laboratory for electronics development and testing
- Experience in interdisciplinary projects involving physics phenomena analysis in cooperation with physicists teams

Company size

Large - University

Contact

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a.wojenski@elka.pw.edu.pl

Experience in Big Science Projects

- Design of the fast, multichannel FPGA-based measurement system for soft X-ray measurements using GEM detectors (up to 256 channels) with real-time in-FPGA histogram computations (energy and topology). Two cameras installed, integrated with infrastructure and commissioned at JET tokamak as official KX1 diagnostic (UK).
- Design of the fast, multichannel real-time FPGA-based soft X-ray measurement system for plasma impurities detection using GEM detectors. Novel approach with raw signal
- FPGA-streaming to the data processing PC for detailed signal analysis and spectra computation. System installed at WEST CEA (France).
- Sub-millisecond real-time data transmission protection system for distributed tokamak power supply based on central-remote FPGA units layout connected through long gigabit fiber links. The system is designed in uTCA standard distributing information from more than 200 channels (digital and analogue), installed at MAST tokamak (UK).
- Long collaboration with CERN (Switzerland, also IFD, INFN) regarding implementation of the mion triggering system RPC (CMS@LHC) including: hardware design of system modules, design of firmware for more than 4000 FPGAs with synchronization and data distribution from RPC chambers. Triggering algorithm have been designed and implemented in the Team
- Beam position monitoring system for GSI (Germany) synchrotron experiments in uTCA standard – frontend electronics, FPGA real-time data processing, synchrotron bunch positioning algorithms were designed.
- Readout path for CBM@FAIR GSI (Germany, ongoing project) project – design of data processing algorithms in FPGA devices including synchronization of data streams (sorting, organizing), events synchronization, constant low latency data paths. Integration with custom transmission chips (from collaboration members).
- Experience in complex software design for: low-level control (hardware configuration), data processing (i.e. PCIe data streaming drivers/interfaces), data computation (i.e. spectra) and interfacing (data distribution, control panels) for the measurement systems.
- Experience in measurements and verification of Gas Electron Multipliers detectors in triple-foil configuration (T-GEM) with custom readout boards (i.e. 1D, 2D) for soft X-ray measurements used in physics experiments (mostly tokamak experiments)

Successes and awards

Installation of our systems and components in different international scientific institutions CERN, CCFE JET, CCFE MAST, CEA WEST, DESY. One of the examples is installed soft X-ray official diagnostic KX1 working at JET.

The Institute of Electronic Systems

Warsaw University of Technology

www.ise.pw.edu.pl

Procurement codes

03	Electronics and radio frequency
04	Information technology
07	Particle and photon detectors

02 05

Sam Dong Europe

Industry sectors

Engineering and Manufacturing

About Sam Dong

Sam Dong Co., Ltd. (Hereafter, Sam Dong) established in 1977 produces oxygen-free high conductivity (OFHC) copper and various metal-based wires. Especially, the Sam Dong has been providing the highest quality magnet wire products and services for heavy industry customers.

In order to efficiently meet oversea customers' demand, Sam Dong also established entities in Tennessee (2007), Ohio (2009), USA as well as Kostrzynnad Odra (2018), Poland (EU). Currently, our company is supplying various products to North & South America, Europe, Asia (Including Japan and Taiwan), and Oceania.

In recent years, newly developed energy systems have become widespread everywhere in our daily lives. We have considered our new customers' demands since 2014, established R&D Center, at Daejeon City in 2015, and initiated the manufacture of a variety of customized MgB2 superconducting wires for wide energy and medical applications as well as specific research requirements.

In 2018, Sam Dong is capable of producing up to 1,000 km of specially customized MgB2 superconducting wires (> 1 km in length) toward various superconducting applications.
In 2019, the new technologies developed is first patented and distributed to our industry partners and universities for direct applications (i.e., energy storage and magnetic resonance imaging systems). Main research outcomes presented at well-established international conferences (ICSM 2018 and EUCAS 2019) and published in international journals. Our research activities will be officially introduced by Superconductor Week magazine (US) at the end of 2019.

Over the past five years, we have successfully installed wire fabrication facilities and demonstrated a kilometer-scale MgB2 multifilament conductor with excellent current-carrying capacity, which is comparable to commercially available low-temperature superconductor (i.e., Nb-Ti). We are currently paying attention to finding an alternative diffusion barrier as a wire component to further bring the cost-down (< $7 per meter).

As a new vendor for customized MgB2 superconducting wires, Sam Dong seeks to do for multi-faceted and highly collaborative, both experimentally and theoretically, crossing multidisciplinary areas in materials science, physics, cryogenics, and electrical and mechanical engineering within and beyond the EU (Poland)/Korean/Australian Universities, Institutes, and industries.

Sam Dong Europe

www.samdongamerica.com

Procurement codes

02	Electrical engineering and magnets
05	Mechanical Engineering and raw materials

Meet us at Poland@ITER 2019

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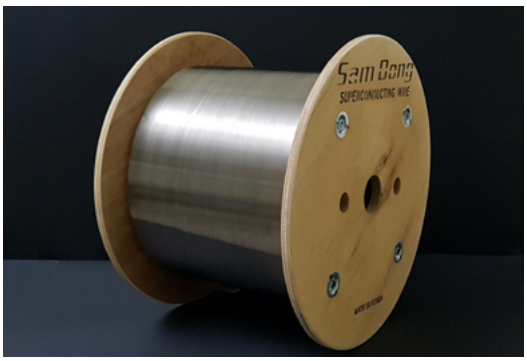

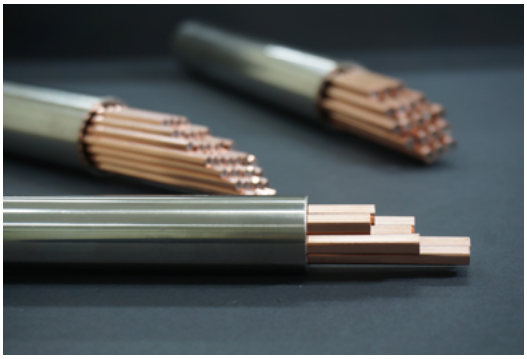

Company size

SME

Contact

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66-470, Kostrzyn nad Odrą

+48 698 686 390

atobolski@samdong.com

Potential for cooperation with ITER

Superconducting magnets and their associated cryogenic cooling systems represent a significant fraction of the ITER total cost. For instance, in the ITER design, the superconducting magnet system represents a key determinant of the thermal efficiency and the construction/operating costs of such a reactor. In the presence of intense neutron and high energy gamma radiation two things happen to superconductors themselves. Direct interaction produces a shower of energetic gamma rays and particles as the neutrons slow and are absorbed, creating unstable nuclei and isotopes. This interaction displaces atoms from their lattice structure, and new bonds form. As this damage accumulates, the material properties customarily deteriorate until the structure is compromised, and in the case of superconductors, the critical temperature and critical current can be reduced.

The advantages of using MgB2 in this particular application are its availability as a round wire, its suitable operating temperature in the 10-30 K range, and its potential affordability. First, MgB2 wires can be made in round shapes, facilitating various cable designs. In contrast, many cable configurations are not possible for YBCO-coated conductor or BSCCO conductor, which is fabricated in tape form. With MgB2, the superconducting system designer has the option to use round wire for the fabrication of a variety of different braided strands and cable designs for the cable-in-conduit cable (CICC) windings of certain fusion magnets. Round wire also affords flexibility in adjusting the copper-to-superconductor ratio or incorporating reinforcing elements in the CICC. The PF (Poloidal Field) coils and CC (Correaction Coil) operate at moderate magnetic fields up to 6 T using Nb-Ti, which could be replaced by MgB2, not only for further operating-cost reduction, but also for increasing the operating margin and eventually even achieving a higher operating temperature (> 10 K). With this background, the Sam Dong can contribute the Big Science applications.

We are now developing low-activation MgB2 conductor with boron isotope (^{11}B), which is very stable and robust under fast and therma neutron irradiation. $Mg^{11}B_2$ is known to be stable against neutron irradiation without nuclear transformation and thus can reduce nuclear heating in terms of a thermally robust magnet. We will therefore take an initial look at the possible suitability of Mg11B2 for future Big Science, i.e., fusion devices.

Potentially, our company can contribute (i) fusion magnet-grade low-activation MgB2 wire conductor and (ii) its cable-in-conduit conductors (CICC).

Sam Dong Europe

Sam Dong Europe

www.samdongamerica.com

Procurement codes

02	Electrical engineering and magnets
05	Mechanical Engineering and raw materials

Experience in Big Science Projects

As a new vendor, Sam Dong, our major contribution to the superconducting field includes the development of a number of novel techniques for processing superconductors and refining the starting powders for superior MgB2 conductor (wire/tape). So far, our company does not involve in EU based Big Science project. However, we are currently supplying a km-scale commercial wire to Korean and Japanese Institutes and industries. With this experience, we are willing to support and supply a high-quality superconducting wires and their application parts for EU Big Science projects.

Oxygen-free high conductive Cu wire: Sam Dong has been provided a high quality magnet wire products as well as insulation, winding, and multi-ductility technologies for Big Science projects, such as tranfomer, wind turbine generator, airplanes motor, nuclear power generator, railway vehicles, and space industry. Based on the technical know-how accumulated over the 40 years, we smoothly move to a superconducting field and seek to contribute the high-quality MgB2 superconducting conductor.

Magnet-grade MgB2 wire exceeding Nb-Ti: Sam Dong research efforts have led to noticeable progress in the development of MgB2 conductor. According to our report, high-field performances of the Sam Dong MgB2 are now much better than those of Nb-Ti due to chemical doping. According to our previous patented work, an elaborate form of carbon doping, homogeneous carbohydrate doping via the chemical solution route, combined with densification, significantly improves the in-field critical current density. What is interesting is that our MgB2 wire is even better than Nb-Ti at 4.2 K in terms of transport critical current.

Scaling-up conductor production: Besides our research efforts toward enhancing the transport critical current performance, scalable fabrication by the PIT process has been developed in Daejeon R&D Center, Sam Dong Co., Ltd. For the drawing process, linear draw bench and circular bull block machines were designed and installed (production capacity: >1,000 km per year). These setups also allow us to fabricate multifilament MgB2 wires up to 3 km.

Conductor properties characterizations: Our R&D center has world-class facilities for applied superconductivity research, which are equipped for powder and wire fabrication processing, with superconducting characterization instruments such as a 15 T high-field magnet, a 15 T Physical Properties Measurement Systems (PPMS), a 5 T Magnetic Properties Measurement Systems (MPMS), a large-bore cryostat, and a cryo-cooled system. In addition, we designed a speciality probes for mechanical property and proto-type magnet.

Sam Dong Europe

Sam Dong Europe

www.samdongamerica.com

Procurement codes

02	Electrical engineering and magnets
05	Mechanical Engineering and raw materials

Successes and awards

SUCCESSES

Development of fabrication techniques of metal-alloy superconductor composites wires

- Year Funded: $259,414 (2015), $ 251,046 (2016), $ 259,414 (2017)
- Total Funding: $ 769,874
- Funding agency: The Korea Institute of Advancement of Technology
- Chief Investigator: Dr. Jun Hyuk Choi
- Project Summary: The aim of the project is to develop a high-performance MgB2 conductors

Development of a commercial nano-carbon doping process using glycerin

- Year Funded: $ 184,100 (2016)
- Total Funding: $ 184,100
- Funding agency: The National Research Council of Science & Technology
- Chief Investigator: Mr. Ju Heum Jeon
- Project Summary: The aim of the project is to develop a carbon doping through chemical process for high-performance MgB2 conductors

Scalable integration of MgB2 superconducting wires toward cost-effectiveness and industrial competitiveness

- Year Funded: $ 335,899 (2018-2019)
- Total Funding: $ 335,899
- Funding agency: The Korea Evaluation Institute of Industrial Technology
- Chief Investigator: Dr. Jun Hyuk Choi
- Project Summary: The aim of the project is to find out alternative diffusion barrier (Nb) of MgB2 superconducting conductor for cost-down

AWARDS (onwards 2008)

22.Jul.2019: The Best Supplier (Gold Prize), Fuji Electric

09.Jul.2019: Hitachi Partner of the Year 2019, Hitachi

04.May.2018: Best Partner, Hyundai

30.Jan.2018: Certificate of LG-BIQs, LG Electronics

17.July.2017: The Best Supplier, Fuji Electric

14.July.2016: Won the Certificate of Appreciation, Hitachi

09.Dec.2015: Appreciation Plaque, Hyosung Heavy Industries

20.July.2015: Memorial Tablet, Fuji Electronic

18.Mar.2015: Appreciation Award, Ministry of Trade, Industry and Energy

05.Mar.2015: Appreciation Award, Mitsubishi Electric

16.Dec.2014: Best Partner, Hyosung Heavy Industry

23.Feb.2011: Best Supplier of the Year, General Electric (GE)

17.Jun.2009: Best Supplier of the Year, Siemens

30.Nov.2008: $200,000,000 Export, Republic of Korea (Government)

Sam Dong Europe

Sam Dong Europe

www.samdongamerica.com

Procurement codes

02	Electrical engineering and magnets
05	Mechanical Engineering and raw materials

Industry sectors

Research Institute

About DMCS

Lodz University of Technology (TUL) is a technical research university founded in 1945. TUL educates students at B.Sc., M.Sc. and Ph.D. studies in various fields of technology including electronics, computer science, civil engineering, architecture, materials nanotechnology, biotechnology and biomedical technology.

The Department of Microelectronics and Computer Science (DMCS), lead by Prof. Andrzej Napieralski, is a part of the Faculty of Electrical, Electronic, Computer and Control Engineering at Lodz University of Technology. The main research areas of the department include microelectronics, electronics, computer science and biomedical engineering.

DMCS has significant achievements in various areas such as: microelectronics, microsystems, embedded systems, industrial electronics, information systems, databases, analysis of biomedical signals and images, power conversion and management in electronic systems, software engineering and optimization and artificial intelligence concepts.

The Control and Data Acquisition (CADAQ) laboratory, being part of the DMCS, was created 20 years ago by D.Sc. Dariusz Makowski. CADAQ has significant world-wide achievements in the area of hardware and software solutions for control, data acquisition and processing systems dedicated to large-scale, complex physics experiments and scientific projects, such as ITER project.

CADAQ team has several years of experience in both hardware and software systems design, in particular with Advanced Telecommunications Computing Architecture (ATCA), Micro Telecommunications Computing Architecture (MTCA), Advanced Mezzanine Card (AMC), and PCI eXtensions for Instrumentation (PXI/PXIe) technologies. CADAQ has been involved in the design of control, diagnostic, and instrumentation systems for several Large Physics facilities: Deutsches Elektronen-Synchrotron (DESY), ITER, European Spallation Source (ESS) and European Organization for Nuclear Research (CERN). We have also been working within PCI Industrial Computer Manufacturers Group (PICMG) on the development of industrial xTCA standards, including: MTCA.4, MTCA.4.1 and ATCA.

CADAQ team is involved in the Euratom activities in the field of control, data acquisition, and processing, archiving and diagnostic systems, including development as well as implementation of high-reliability distributed systems dedicated for plasma applications. The achievements of our team in the field of data acquisition and control systems are highly valued by fusion facilities, such as ITER, Compass, KSTAR and W7-X.

Department of Microelectronics and Computer Science

Lodz University of Technology

www.dmcs.pl

Procurement codes

02	Electrical engineering and magnets
03	Electronics and radio frequency
04	Information technology
07	Particle and photon detectors
08	Optics and photonics

Meet us at Poland@ITER 2019

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Andrzej Napieralski, Prof.
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Piotr Perek, M.Sc.
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ISO 9001 Quality Management

Company size

Large

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secretary@dmcs.pl

Potential for cooperation with ITER

We are looking for consortium partners for designing and building control and diagnostic systems for ITER project.

We hold a certificate and operate a Quality Management System, which complies with the requirements of ISO 9001:2015 for the following scope: Design, implementation and integration of electronic and IT systems.

We specialize in:

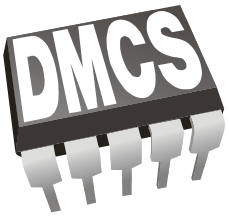
- Design
- Development
- Assembly
- Production
- Debugging and
- Testing of complex, distributed control and data acquisition systems based on CPUs, FPGAs, and GPUs

We use the following industrial standards:

- National Instruments PXI, PXI Express, Compact RIO
- PICMG CompactPCI, CompactPCI Express
- PICMG AdvancedTCA, AMC, MicroTCA.4 and MicroTCA.4.1
- Vita FMC and FMC+
- PCI and PCI Express
- IEC VME Bus

Areas of Specialisation:

- Data acquisition and processing
- Diagnostic systems
- Data processing
- Data archiving
- Vision systems
- Machine vision
- Image acquisition and processing
- Data transmission
- Machine protection

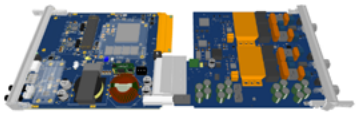


Department of Microelectronics and Computer Science
Lodz University of Technology
www.dmcs.pl

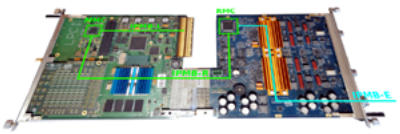
Procurement codes

02	Electrical engineering and magnets
03	Electronics and radio frequency
04	Information technology
07	Particle and photon detectors
08	Optics and photonics

PCB Design



HVC-80 and HPD-200



DAMC-TCK7 and DRTM-VM2

ATCA Carrier Board with RTM for LLRF applications

Experience in Big Science Projects

We specialize in the following areas:

- Development of conceptual design and architecture for complex large-scale measurement, data acquisition and control systems
- Design and development of custom hardware components for AdvancedTCA, MicroTCA and PXI/PXIe-based systems
- Development of customized low- and high-level firmware for programmable devices: FPGAs, MCUs, DSPs and GPUs
- Development of high-performance, low-latency image acquisition and processing solutions
- Development of device drivers for GNU/Linux, Windows and real-time operating systems
- Migration of data acquisition and control systems to modern xTCA standards, such as: MTCA, MTCA.4, ATCA, PXI/PXIe, FMC
- Production of prototypes and small series of hardware
- Help with hardware/software debugging and problems solving
- Optimizing hardware designs for mass production

We were involved in development of the following projects:

- ITER methodology and IO standards devoted to designing of complex diagnostic systems, Cadarache, France
- Electronics, firmware and software of diagnostic systems for ITER tokamak, Cadarache, France
- Low Level Radio Frequency control and beam diagnostic systems for the European X-ray Free Electron Laser, Hamburg, Germany
- Low Level control system for the Free Electron Laser in Hamburg (FLASH), DESY, Germany
- Control system for the European Spallation Source accelerator being built at Lund in Sweden
- Image acquisition and processing systems for Wendelstein 7-X stellarator, Greifswald, Germany
- Data processing hardware and software for Real and Complex Systems Analyzer (ARUZ), Lodz, Poland

Department of Microelectronics and Computer Science
Lodz University of Technology
www.dmcs.pl

Procurement codes

02	Electrical engineering and magnets
03	Electronics and radio frequency
04	Information technology
07	Particle and photon detectors
08	Optics and photonics

Successes and awards

We are involved in the design of control and diagnostic systems for the largest international large-scale physics facilities:

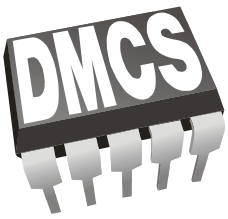
- ITER, France
- Deutsches Elektronen-Synchrotron, Hamburg, Germany
- European Spallation Source, Lund, Sweden
- European Organization for Nuclear Research (CERN), Geneva, Switzerland
- Max Planck Institute for Plasma Physics, Greifswald, Germany
- Institute of Plasma Physics, Prague, Czech Republic

Awards:

- „Blue Star Award" for the successful application of the diagnostic I&C methodology, ITER, France, 2019
- Seoul International Invention Fair SIIF – Silver Prize for "Industrial--grade scalable system for video acquisition from high-speed cameras", Seoul, 2018
- XXII International Salon of Research, Innovation and Technological Transfer INVENTICA 2018– Gold Medal for "High Performance Low Latency Real-Time Image Acquisition and Processing", Lasi, 2018
- 6th International Exhibition – Silver Prize for "Chained neutron fluence detector", SuZhou, 2009
- IENA International Trade Fair Ideas Inventions New Products– Silver Prize for "System for monitoring neutron and gamma radiation dedicated for linear accelerators", Nuremberg, 2009
- „Blue Star Award" for development and testing of prototype LLRF control system for FLASH accelerator developed with Advanced-TCA technology, DESY, Germany, 2009
- Brussels Eureka – Gold Prize for "Systeme portable pour la lecture les dosimetres de rayonnements gamma et neutron", Brussels, 2008
- Prime Minister Award for PhD dissertation „The impact of radiation on electronic devices with the special consideration of neutron and gamma radiation monitoring", 2007

Patents:

- „Solid state neutron detector system", European Patent Office, patent no. 05011654.0-1240, EP20050011654
- "FPGA device and circuit for partition activation and deactivation", Polish Patent Office, patent no. 229515
- „The method and the optical device recording image", Polish Patent Office, patent no. P.418138.7
- „Guided optical device, biometric data acquisition system and method of biometric data acquisition", European Patent Office, patent application no. PCT/IB2016/052779.



Department of Microelectronics and Computer Science
Lodz University of Technology
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Procurement codes

02	Electrical engineering and magnets
03	Electronics and radio frequency
04	Information technology
07	Particle and photon detectors
08	Optics and photonics

Poland@ITER 2019 organizer

Wroclaw Technology Park

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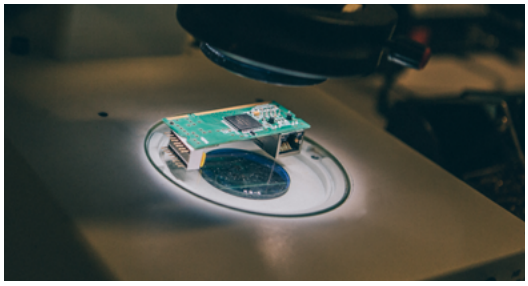

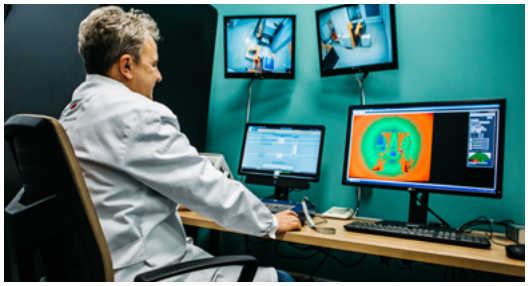

About WPT

Wroclaw Technology Park (WTP) is a place where science, business and innovations meet. It is a combination of modern infrastructure, cutting-edge research facilities and expert knowledge which provides conditions for the development of entrepreneurs operating in every scale. It is a place for startups and booming SMEs.

Over 200 companies related to broadly-understood new technologies are currently operating in the Park. They may take advantage of 12 laboratories and prototype workshops equipped with world-class devices, modern office space, attractive investment plots, production and storage halls.

WTP is also a broadly-developed networking place and extensive know-how. It is a venue in which theory and practice, business and science, innovations and market expectations merge. Such a versatile profile has fostered conditions that allow making full use of scientific and industrial potential of Lower Silesia, and promoting innovative business in the region.

Big Science in WPT

WTP brings together science and technology entities and creates a nurturing environment for local and global projects, alongside facilitating smooth cooperation between Polish businesses and Big Science centres.

Wrocław Technology Park is the architect and the coordinator of the BIG SCIENCE HUB, a platform for sharing ideas, contacts and experiences, geared to promoting and growing the innovation sector, and making it more accessible to companies from a wide range of profiles and industries.

Collaboration with CERN and ITER

WPT acts as the go-between for entrepreneurs and R&D institutions. Sylwia Wójtowicz, WTP's Commercialisation and Development Director, holds the position of Industry Laison Officer CERN.

WPT is also home to companies engaged in a successful cooperation with Big Science institutions, among others Technology Transfer Agency Techtra, Kriosystem Sp. z o.o., Saule Sp. z o.o., Scanway Sp. z o.o.

These and other innovative companies are offered support in handling organizational matters and in funding acquisition. They may use the Park's technical infrastructure, including 12 laboratories and prototype workshops.

WTP is involved in initiatives which promote space-related innovations designed to change entrepreneurs' perception of this sector. WPT seeks to demonstrate that the largest global scale projects involve micro and small companies as well.

Future must be designed.

Let’s do it together.

BIG SCIENCE HUB

BIG SCIENCE HUB is a platform integrating business and science, big science in particular. It is a place for **entrepreneurs** to find opportunities to make new contacts which may lead to new jobs or contracts, and where **Big Science institutions** may find reliable partners. It is also an opportunity for innovative companies to present their offers to potential partners (not only Big Science centres), investors or principals.
For **universities** and **scientific institutions**, it is an occasion to present their potential to companies and to establish partnerships that may lead to the commercialisation of solution developed by their researchers.

BIG SCIENCE HUB is, above all, a chance for business and science to meet and to start cooperation to the benefit of both.

WPT
WROCLAW TECHNOLOGY PARK

The initiator and coordinator of BIG SCIENCE HUB is Wroclaw Technology Park, which has been strongly connected to the Big Science market since its inception. WTP experts help Polish companies unleash their potential and discover new business opportunities.

POLAND@ITER 2019

Organizers:

WPT
WROCLAW TECHNOLOGY PARK

European Commission

Media patronage:

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Find out more at:

BIG SCIENCE HUB | www.big-science.pl