

EaPPLUS

Eastern Partnership +



Sustainable Process Industry (SPIRE) cPPP Calls 2019

**Jaroslav PIEKARSKI
National Contact Point in Poland**

*EaP Plus Webinar,
24 October 2018*





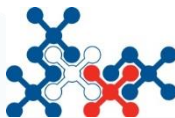
Sustainable Process Industry through
Resource and Energy Efficiency

Sustainable Process Industry Initiative (SPIRE)

EaPPLUS
Eastern Partnership +



NMP TeAm



Sustainable Process Industry

SPIRE is a contractual Public-Private Partnership dedicated to *innovation in resource and energy efficiency* enabled by the *process industries*.

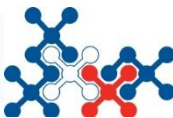


Sustainable Process Industry through
Resource and Energy Efficiency

EU budget: 900M€ from Horizon 2020 (2014 – 2020)

Key targets (2030): 30% less energy consumption;
20% fewer raw materials;
40% CO₂ equiv. footprint reduction

- Creating *knowledge, skills* and high-tech *jobs*;
- Increased use of *renewable feedstocks*;
- Efficient *sorting, separation* and *recovery* technologies.



Sustainable Process Industry



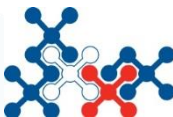
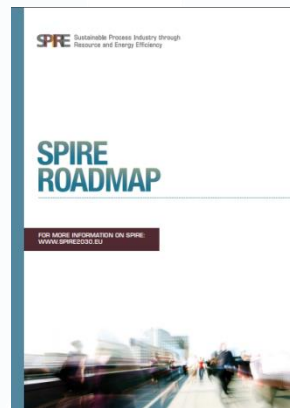
Implementation:



*Based on European Commission and stakeholders agreement representing eight sectors of the process industry: **chemicals, cement, ceramics, minerals, steel, non-ferrous metals, industrial water and process engineering.***

*The technological objectives are guided by a 2014-2020 multi-annual roadmap **developed by the research and industrial stakeholders** and **validated in a Europe-wide open consultation** process.*

*Calls are implemented according to **usual HORIZON 2020 procedure***



Resource Efficiency in the whole production process

Input

Process

Recycling

ENERGY

RAW MATERIAL

Solvents,
Catalysts &
Auxiliaries

WATER

PACKAGING

CO₂

PRODUCTS

By-products

Residues

WASTE WATER

Landfill Waste

Gaseous
Emissions

SPIRE in Horizon 2020 Workprogramme 2018-20



EN

Horizon 2020

Work Programme 2018-2020

*5.ii. Nanotechnologies, Advanced Materials, Biotechnology and
Advanced Manufacturing and Processing*

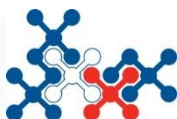


3.1. SUSTAINABLE PROCESS INDUSTRY (SPIRE)

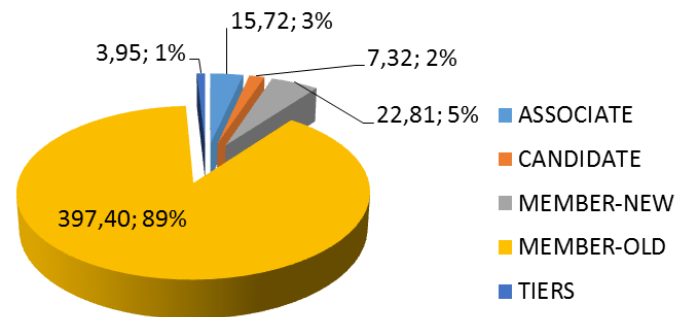
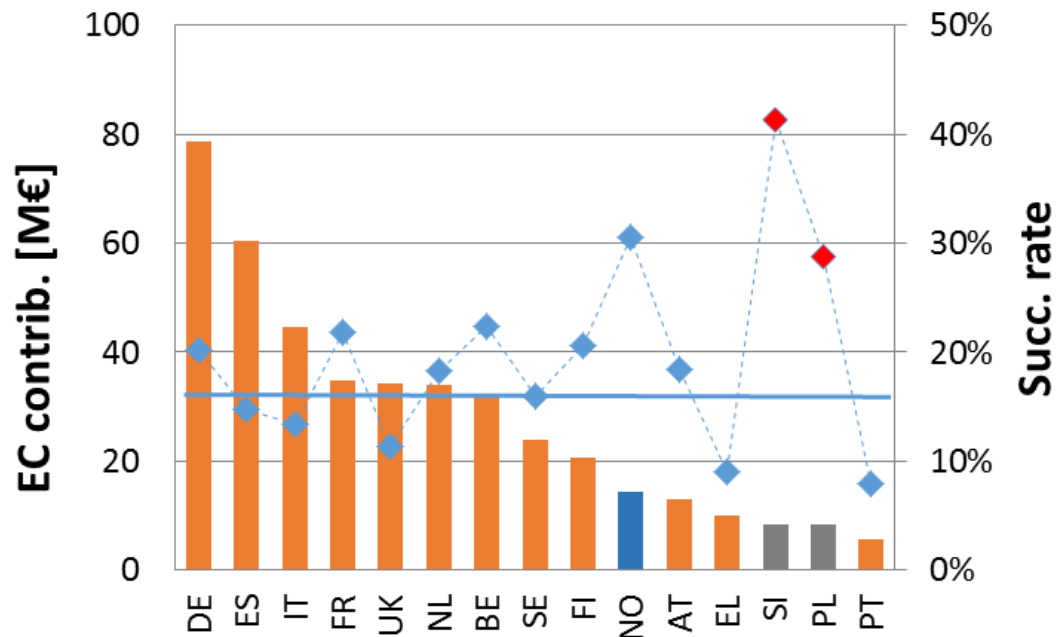
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In line with the strategy for EU international cooperation in research and innovation (COM(2012)497), **international cooperation** may be **particularly appropriate** in some areas of the Sustainable Process Industry, in **particular with Eastern Partnership countries** (Ukraine, Moldova, Georgia, Armenia, Azerbaijan and Belarus).



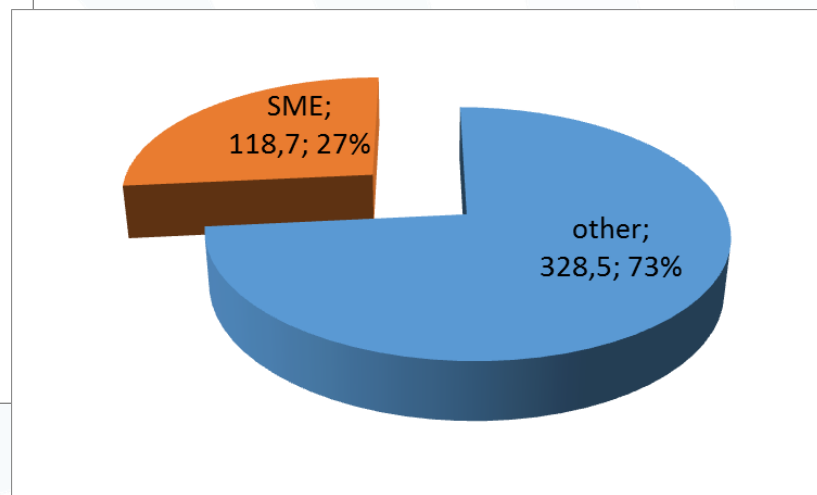
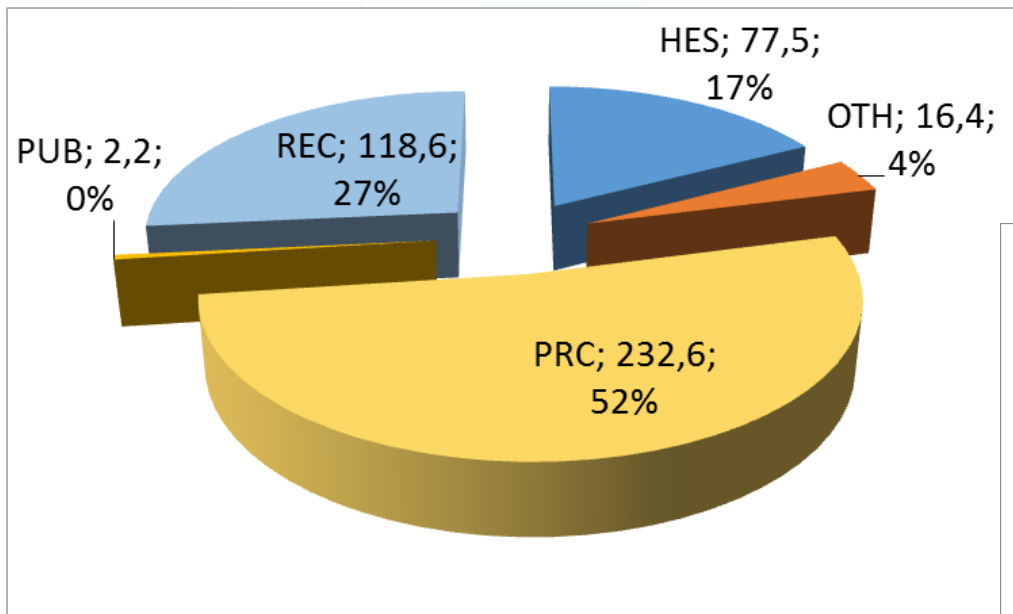


SPIRE Projects – EC Contribution



EC contribution 2014-17: **447 M€**
 Av. EC contrib / project: **6,4 M€**
 Av. EC contrib / partner: **0,43 M€**
 Av. nmb. partners: **~15**
 Av. success rate: **16%**

SPIRE Projects – Type of organisations



SPIRE CALLS 2019



SPIRE 2019 calls

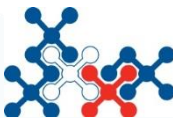
CE-SPIRE-04-2019: Efficient integrated downstream processes (IA)

CE-SPIRE-05-2019: Adaptation to variable feedstock through retrofitting (IA 50%)

DT-SPIRE-06-2019: Digital technologies for improved performance in cognitive production plants (IA)

Deadline: 22 February 2018

Budget: EUR 97 700,000



ENERGY and ENVIRONMENT topics

LC-SC3-RES-7-2019: Solar Energy in Industrial Processes (RIA)

LC-SC3-EE-6-2018-2019-2020: Business case for industrial waste heat/cold recovery (2019 – CSA)

CE-SC5-04-2019: Building a water-smart economy and society (IA)

CE-SPIRE-04-2019: Efficient integrated downstream processes (IA)

TRL 5-7€

10-14M€

Deadline

21.02.19

Specific Challenge: downstream processing: 50-60% of CAPEX and OPEX and up to 45% of the process energy High costs linked to inefficiencies in the upstream process,

Need of novel technologies for upstream and downstream (...) [and] their better integration,

Scope: ➤ Intensified process technologies (...) exploiting hybrid chemo and bio catalytic technologies and process analytical techniques (PAT);

- Modularity (...) flexibility (...) transition (..) to continuous operations;
- potential for integration in existing installations, the replicability;
- facilitate cooperation with other projects (...)

Expected Impact:

- 20% decrease in greenhouse gas emission
- Increased in resource and energy efficiency by at least 20%;
- Novel modular and scalable integrated (upstream-downstream) pilot line technologies with 10% decrease in CAPEX and OPEX;

CE-SPIRE-05-2019: Adaptation to variable feedstock through retrofitting (IA 50%)

TRL 5-7€
8-12M€

Deadline
21.02.19

Specific Challenge: *Process industry plants equipment (...) have a lifetime beyond 30 years. Keeping these facilities up to date is a major challenge.*

Scope: ➤ simulation models and decision support tools (...) to allow flexibility with respect to feedstock of variable composition; ➤ tools and methodologies to streamline and support retrofitting; ➤ Facilitate and adapt the equipment towards a larger number and more diverse feedstock

Demonstration of the technology in different process industries

Expected Impact: ➤ Increasing the resource and energy efficiency of the targeted processes by 20%; ➤ Decrease GHG emissions through retrofitting by at least 30%; ➤ Decreased utilisation of fossil resources in the process industry of at least 20%; ➤ Reduced OPEX by 30% and increased productivity by 20%;

DT-SPIRE-06-2019: Digital technologies for improved performance in cognitive production plants (IA)

TRL 5-7€
6-8M€

Deadline
21.02.19

Specific Challenge: ➤ raw materials, energy and environmental constraints require the EU process industry to improve its performance and flexibility.
➤ A fully up-to-date interactive and self-learning process control integrated with management tools is essential to obtain an optimal efficiency.

Scope: ➤ new technologies to realise cognitive production plants, with improved efficiency and sustainability (sensor technologies, intelligent handling of data streams, new methods for self-organizing processes).
➤ the full digital transformation of a complete site(s) (data acquisition, communication, automation, analytics, modelling, prediction, ...).
Replicability and scalability of the concepts should be considered appropriately.

Expected Impact: ➤ Increased production performance: energy and resource consumption improved by more than 20%.
➤ positive environmental impact – decreased CO2 emissions

LC-SC3-EE-6-2019-2020: Business case for industrial waste heat/cold recovery

*(2019) Symbiosis in industrial parks and clusters-
non-technological barriers (CSA)*

1 - 2M€

Deadline
03.09.19

Specific Challenge: (...) significant parts of the **input-energy are still lost** in the form of **waste heat/cold** (...)streams.

Wide-scale **deployment** of industrial **waste heat/cold recovery** is hindered (...) by the **lack of financial/ economic** justification (...) and (...)by the **limited industrial applicability**

Scope: improve the energy efficiency of **industrial parks districts and clusters:**

- instruments facilitating the actual implementation of **energy cooperation**;
- **replicable business models** and service concepts, at service provider level

Impact: ➤ Primary energy savings triggered by the project (in GWh/year);

- Investments in sustainable energy triggered by the project (in million Euro);

.....

LC-SC3-RES-7-2019: Solar Energy in Industrial Processes (RIA)

TRL 4-5

3-5M€

Deadline

27.08.19

Specific Challenge: ➤ The potential of applying solar energy for industrial purposes is still largely untapped.

➤ Using solar energy in industrial processes requires innovative advances in solar energy technology.

➤ industrial processes might need to be adapted to the use of the solar resource.

Scope: solutions that cover by means of solar thermal energy the highest possible share of the heating and/or cooling demand of one or more industrial processes.

Expected Impact: ➤ An increased decarbonisation of the industrial sector, a reduced dependency on fossil fuels and a reduction of emission of air pollutants

➤ create significant visibility to the potential of applying solar thermal energy in industrial processes,

*Focus on EU countries with **limited application of solar energy**.*

LC-SC5-04-2019: Building a water-smart economy and society (IA)

TRL 4-5
10-15M€

Deadline
27.08.19

Specific Challenge: To secure water supply there is a need ➤ to make available alternative water resources of various qualities (...)
➤ to better exploit water resources and all the valuable substances that could be obtained through the waste water treatment and reuse process

Scope: demonstrate the feasibility of a 'water smart' economy and society:

➤ avoid water scarcity and pollution; ➤ increase resilience to climate change; manage water-related risks; recover all valuable substances from wastewater

a) Symbiosis between industry and water utilities: ➤ reuse of treated wastewater; ➤ substances or energy derived from wastewater treatment;

➤ dynamic allocation of the right quality of water for the right purpose;

➤ Non-technological solutions are in scope (governance, business models);

b) Large scale applications with multiple water users at various relevant scales: ➤ stimulating efficient and multiple use; ➤ recycling and reuse of water; ➤ recovery of energy and materials; ➤ managing water demand and efficient allocation; ➤ exploiting alternative water sources; ➤ prevention of pollution and degradation; ➤ smart management of the water system



LC-SC5-04-2019: Building a water-smart economy and society (IA) -cont

TRL 4-5
10-15M€

Deadline
27.08.19

Expected Impact:

- significantly reduced use of water from freshwater sources;
- improved recovery and use of resources (materials and water itself), including energy;
- mobilisation of water-related investments and synergies with other funding instruments.
- the creation of new business opportunities and increased competitiveness of EU industries;
- supporting the implementation of EU water policies: circular economy, water security and efficient use, resilience to climate change, SDGs, the objectives of the EIP Water

SPIRE 2020 expected topics

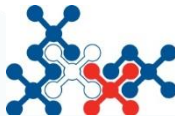
CE-SPIRE-01-2020: Tapping into the potential of **Industrial Symbiosis** (IA – 50%)

CE-SPIRE-07-2020: Near zero **discharge for fresh water** used by industry (IA)

CE-SPIRE-09-2020: Mineral **waste, by-products** and **recycled** material **as feed** for high volume production (IA)

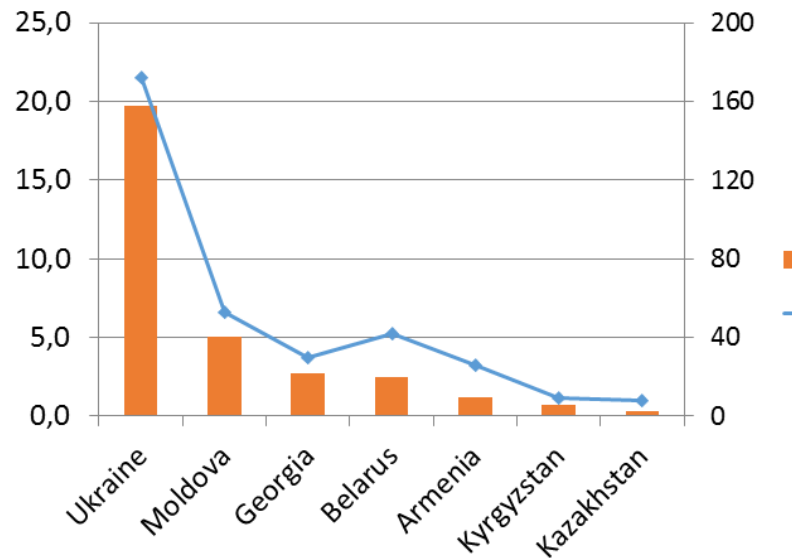
CE-SPIRE-xx-2020: Harnessing the power of **Artificial Intelligence** for Process Industries (CSA)

EAP COUNTRIES

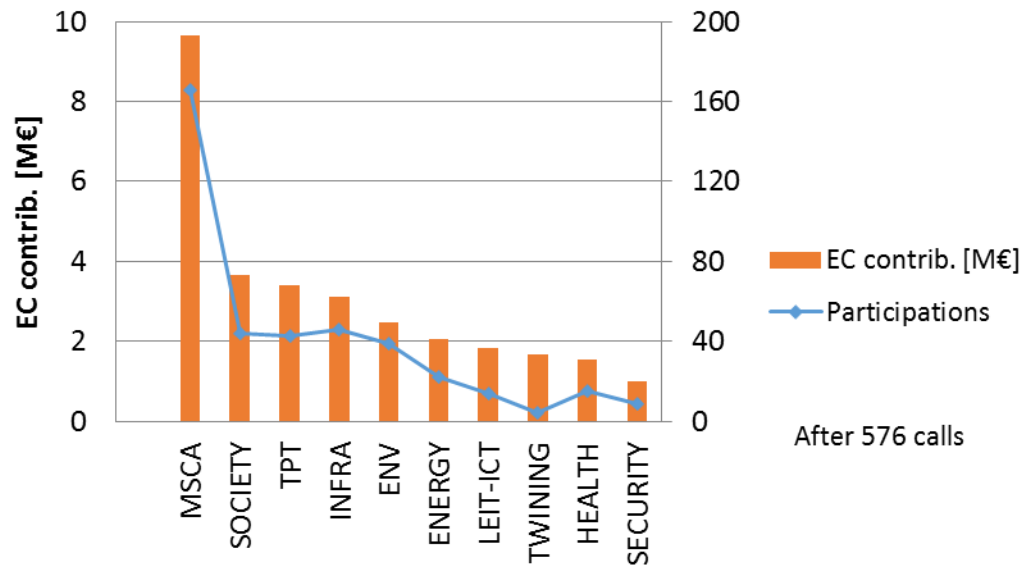


EECA Countries in H2020

Participation of EECA in H2020



EECA in areas of H2020



SPIRE 2018 call

Country	Proposals	Retained	%
Azerbaijan	1	0	0,0%
Georgia	1	0	0,0%
Ukraine	1	0	0,0%
Bulgaria	1	0	0,0%
Hungary	2	0	0,0%
Finland	5	0	0,0%
Czech Republic	5	2	40,0%
Denmark	5	2	40,0%
Poland	5	2	40,0%
Germany	55	26	47,3%
Spain	75	34	45,3%

SPIRE 2018 call – proposal with EECA countries



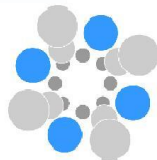
SPIRE 2018 calls – GET SUPPORT



<http://ec.europa.eu/research/participants/portal>



<https://www.spire2030.eu/>



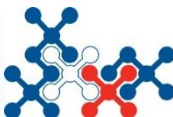
NMP TeAm

<https://www.NMPTEAM.eu/>

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NMP TeAm



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Partner search

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Links

Get information on how to register and create your own partner searches and partner offers

Find out who is your national NMP NCP

Project Ideas and cooperation offers from brokerage event in Strassbourg (17th October 2017)

Attention - Re-launch of the Partner Search Tool in October 2017

In view of the European Commission launching new Horizon 2020 work programmes for 2018-2020 - the partner search service of the Horizon 2020 NCP network projects NMP TeAm, NCPs CaRE and C-Energy 2020 have improved their services for you! These entail the following and will be effective from 16 October 2017 onwards:

Common registration level for the three activities. This will allow registered users to enter partner searches and offers on call topics of all the activities. Which means, that a registrant only needs to fill in his/her profile once and can still chose the specific database of interest.

Topic specific deadlines to avoid entries on already closed calls for proposals.

General overhaul of the tool

Partner Search - Partner Offer – How does it work?

This partnering tool supports potential applicants for **NMBP Work Program 2018-2020** in finding partners and building a consortium for a project proposal. It can be used in the following ways:

Step 1: In order to submit your own partner offer or partner search you first have to register on the common registration

Partner Search at Participant Portal

Hercule III Programme

Internal Security Fund - Borders

Internal Security Fund - Police

Justice Programme

Pilot Projects & Preparatory Actions

Promotion of Agricultural Products

Research Fund for Coal & Steel

the total capital (CAPEX) and operating costs (OPEX) and they account for up to 45% of the

Topic conditions and documents

1. Eligible countries: described in Annex A of the Work Programme.
A number of non-EU/non-Associated Countries that are not automatically eligible for funding have made specific provisions for making funding available for their participants in Horizon 2020

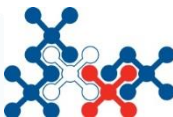
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Partner Search

13

Organisations are looking for collaborating partners for this topic

[VIEW/EDIT PARTNER SEARCH](#)



Partner Search at Participant Portal

We are sorry for any inconvenience this might cause.

Topic : Efficient integrated downstream processes (IA) (CE-SPIRE-04-2019)

Partner Search

Legend CO Contact Organisation SD Partner search details

Show 10 entries

Search:

REQUEST DATE	ORGANISATION NAME	ORGANISATION TYPE	COUNTRY	EXPERTISE REQUEST OR OFFER	ACTIONS
17 Oct 2018	BPE INTERNATIONAL DR HORNIG GMBH	Small or medium- size enterprise	DE	Expertise request	CO SD

BPE is an independent, family owned SME located in Germany, Bavaria with 25 years of experience in EC-Research - projects. We concentrate our energy activities in optimising photovoltaic energy by cooling processes for sea, land, air, space applications; 24 hours renewable energy without conventional batteries, and thermovoltaic that is heat to electric energy conversion processes, patents granted. Other activities are in materials science, micro technology, product development, geophysics.

16 Oct 2018	ASSOCIATION FOR ECONOMIC DEVELOPMENT OF	Non-governmental organization	BG	Expertise offer	CO SD
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Events in NMBP

NMBP event	Kind of event	Place	Title of meeting	Thematics
29-31. 10.2018	Conference & Matchmaking	Wien	INDustrial Technologies	NMBP
06-08. 11.2018	Workshop & Networking	Warszawa/ Poland	Workshop „Advanced Manufacturing” during Industry Week and International Conference "Instrumenty Przemysłu 4.0 "	Advanced Manufacturing &FoF
20.11. 2018	Brokerage event	Birmingham	GE-UK-PL Materials Brokerage event	NMBP



30 - 31 October, 2018 / Wien, Austria

INDustrial TECHnologies 2018



**INSTRUMENTY
PRZEMYSŁU
4.0**



WARSAW
INDUSTRY
WEEK

ORGANIZATOR



PATRONAT HONOROWY:

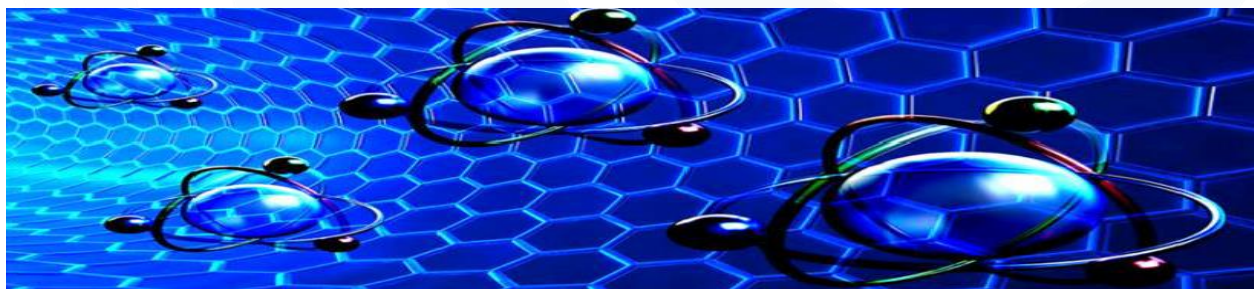
PATRONAT:



MINISTERSTWO
PRZEDSIĘBIORCZOŚCI
I TECHNOLOGII



PARP
Grupa PFR



20 November 2018
Birmingham, United Kingdom

**H2020 Brokerage Event on
Nanotechnology, Advanced
Materials & Manufacturing**

Thank you for your attention!

Jarosław PIEKARSKI

NCP in POLAND

E-mail: jaroslaw.piekarski@kpk.gov.pl

