

# ***KETs2026 reloaded – EU brokerage event September 24, 2026 (and beyond) | online***



## **Workshop 2 – Raw Materials & Advanced Materials**

**Marek Simon**

German Industrial NCP (PtJ)

Online, 24 September 2026

# Pitches by the Participants

1. Péter Mogyorósi (LC Innoconsult International)
2. Guy Baret (NEXTHORIZON)
3. Stéphane Bobé Enguéléguélé (SOVEREIGNPIALPHA France)
4. Gülşah Arar Dursun (TUSAŞ ENGINE INDUSTRIES)
5. Alex Nemirovskiy (LLC Uchemicals)
6. Hannes Grimm-Strele (Fraunhofer ITWM)
7. Szymon Roszyk (Poznan Science and Technology Park)
8. Henri Appeldoorn (SIRRIS)
9. College Dublin)
10. Philipp Seitz (Technical University of Applied Sciences Würzburg-Schweinfurt)
11. Denis Vandormael (SIRRIS)
12. Barış Bakar (Kalekim Construction Chemicals Co.)
13. Bruna Moura (CeNTI)
14. Mazyar Ahrari (BUTEKOM)

# **Péter Mogyorósi** **(LC Innoconsult International)**

# LC Innoconsult International

Our skills and expertise: 12 experts/7 PhD

## Our references

Project partner

- **4 H2020** – 3 of them WP leader
- **4 BBI & CBE** – 3 of them WP leaders
- **7 HEU** – 6 of them WP leaders
- **1 CLEANH2 JU** – WP leader

External service provider

- 40 FP7 and H2020 projects (ESICII, CEB, SSERR)
- 40+ H2020 projects as Horizon Results Booster expert
- 4 projects from the market

# Key player in the field of Exploitation

## **Exploitation**

- Commercialization roadmap
- Business model
- Business plan
- Risk Analysis

## **Monitoring innovation**

- Market analysis
- Techno economic feasibility study
- Stakeholder engagement
- Bankability analysis

## **Knowledge management**

- Background IP
- FTO
- IP strategy
- IP Ownership

## **Communication and Dissemination**

- D&C guideline and plan
- Raising public awareness
- Disseminating the generated knowledge

# Contact details

|                 |                                                                                                                                                 |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Contact person  | Dr. Péter Mogyorósi                                                                                                                             |
| Organisation    | LC Innoconsult International                                                                                                                    |
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| B2Match profile | <a href="https://www.b2match.com/e/kets2026-reloaded/participants/3587745">https://www.b2match.com/e/kets2026-reloaded/participants/3587745</a> |
| LinkedIn        |                                                                                                                                                 |



# **Guy Baret (NEXTHORIZON)**

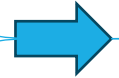
# NEXTHORIZON

- NEXTHORIZON is a French SME developing chemical processes and smart materials
- Skills and expertise :
  - Ceramic nanomaterials**, luminescent compositions
  - Graphene** for polymers improvement (anti-abrasion, anticorrosion, lubrication)
  - Supercritical water process** : nanoparticles production & water remediation
- Past experience in EU-funded projects: participation to 14 EU projects since 2005

# Project idea /expertise

- To assess addition of **graphene**

in **anti-corrosion** paints  
and **anti-abrasion** layers  
in **lubrication** media



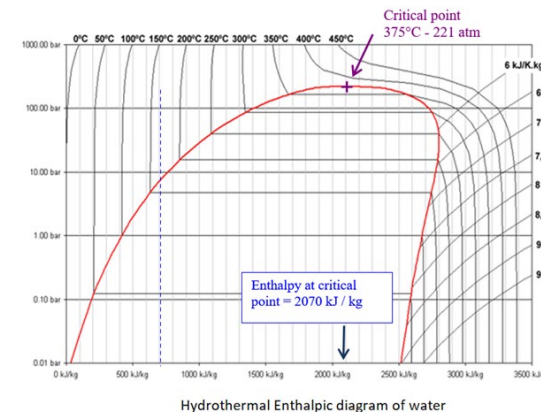
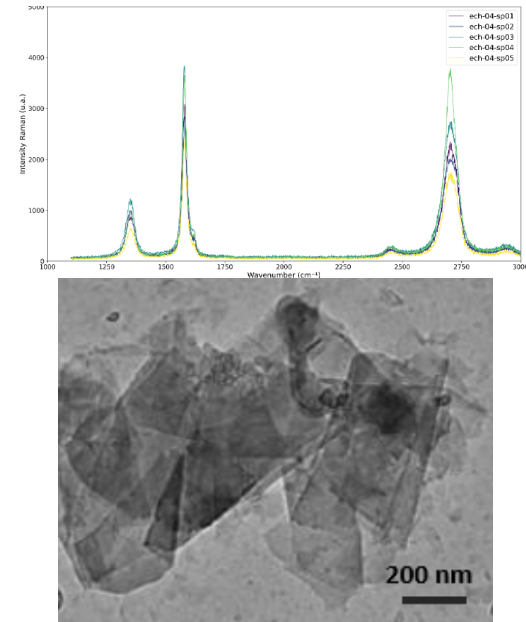
to improve high-quality graphene dispersion  
in solvents, epoxy resin, PU, PE, ...  
oils, ...

in **anode material** for Lithium or Sodium batteries

in **adhesion of electrode** materials onto the metal substrate

- To develop **ceramic nanoparticles** production  
by **supercritical water process**

- To develop luminescent compositions for anticounterfeiting



# Contact details

## Contact person

|                 |                                                                                           |
|-----------------|-------------------------------------------------------------------------------------------|
| Organisation    | NEXTHORIZON (SME)                                                                         |
| Country         | France (Grenoble)                                                                         |
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| B2Match profile | NEXTHORIZON   KETs2026 reloaded                                                           |
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# **Stéphane Bobé Enguéléguélé (SOVEREIGNPIALPHA France )**

# SOVEREIGNPIALPHA France Ltd

Deeptech SME · HQ Paris · R&D facility Plachy-Buyon (Somme, Hauts-de-France) · IBM Partner Plus Silver Partner · Clusters: TEAM2, EuraMaterials, SafeCluster, Systematic Paris-Region

## Who we are

- Sovereign, agentic and quantum-inspired AI for critical raw materials, battery circularity, advanced materials and EU compliance (CRMA, ESPR / Digital Product Passports, AI Act, Battery Regulation).
- **Founder & CEO:** PhD Political Science (UPJV), MBA International Relations & Diplomacy, barrister (25+ years), author of 7 monographs (L'Harmattan, Paris), UNDP consultant in 15+ African countries.

## Skills and expertise

### 1 Agentic AI & Digital Product Passports

On-premise multi-agent orchestration (GraphRAG, open-source stack, EU AI Act compliance by design); DPP operating system at TRL 7-8 for CRMA / ESPR traceability.

### 2 Rare-earth & critical-material recovery

Computer vision + LIBS spectroscopy-ML sorting, QAOA scheduling, cobot disassembly (ROS2); secondary-CRM marketplace (TRL 4-5); customs fraud intelligence.

### 3 Battery circularity

Calendar-ageing model validated on 3 independent datasets; fixed-point lot admission & circular anode (2 INPI filings); Battery Passport readiness for 18 Feb 2027.

### 4 Modelling, compliance & dissemination

Monte Carlo, causal inference, GUM uncertainty budgets, preregistered refutation campaigns; AI Act conformity files; Zenodo / ORCID open science, policy briefs (FR, EN, DE).

## EU & public funding track record

- **Horizon Europe:** first participation sought (SME newcomer) – ready as work-package leader for AI & data, DPP / compliance, exploitation & dissemination.
- **Interreg Crossroads France-Wallonie-Vlaanderen (AAP4):** SUSTEX-CHAIN cross-border Digital Product Passport consortium – submitted 2026.
- **France 2030 and Région Hauts-de-France calls (2026):** candidate to the RIVCircular call, Topic 3 (EV-battery reuse & recycling).
- **International:** UNDP consultancy in 15+ African countries; IBM Partner Plus Silver Partner.

## Workshop requested

### WS 2 – Raw Materials & Advanced Materials (cluster 4)

Available for B2B meetings on 24 Sept 2026 and during the long-term matchmaking until January 2027.

# Project idea / expertise – WS 2 Raw Materials & Advanced Materials

**Project idea.** An AI-orchestrated line that recovers rare-earth magnets from electronic waste and issues a verifiable Digital Product Passport for every recovered lot, feeding a marketplace for secondary critical raw materials.

**Target topics:** HORIZON-CL4-2027-01-MATERIALS-PRODUCTION-16 (innovative processing of raw materials, IA), -22 (reducing dependencies on critical & strategic raw materials, IA), -03 (de- and re-manufacturing, RIA); HORIZON-CL6-2027-01-CIRCBIO-01 (circularity of consumer electronics, IA).

**< 1 %**

end-of-life recycling rate of Nd, Dy, Tb – magnet metals (UNEP IRP, 2011)

**25 %**

EU 2030 recycling benchmark for strategic raw materials (CRMA, Art. 5)

**65 %**

maximum share of any strategic raw material from one third country by 2030 (CRMA)



## Why we expect it to succeed

- **Building blocks already at TRL 4-7:** vision + spectroscopy sorting, quantum-inspired scheduling, cobot cell, DPP operating system (TRL 7-8); the chain is protected by INPI patent applications.
- **Engineering targets fixed in advance:** 200 devices / hour,  $\geq 90$  % recovery, conformity file for a high-risk AI system (AI Act) and WEEE Directive 2012/19/EU compliance.
- **Preregistered validation:** acceptance thresholds set before testing, real data, SHA-256 manifests – results reviewers can audit.
- **Policy pull:** CRMA 2030 recycling benchmark, ESPR and Battery passports create demand for traceable secondary rare earths; recycling today stays below 1 %.

## What we offer / what we request

**We offer:** work-package or task leader for AI & data, DPP / traceability, modelling and techno-economic assessment, exploitation & dissemination; SME use-case provider; letters of support from our clusters.

### We request:

- a coordinator or RTO in hydrometallurgy / magnet recycling with a pilot line;
- WEEE collectors and recyclers able to supply feedstock;
- a magnet or e-motor manufacturer as industrial end-user;
- a DPP / standardisation body and EEN-NCP support for SME participation.

Sources: European Union (2024) Regulation (EU) 2024/1252, Art. 5 and recitals 11-12; UNEP International Resource Panel (2011) Recycling Rates of Metals: A Status Report; European Union (2024) Regulation (EU) 2024/1689; European Union (2012) Directive 2012/19/EU. Performance figures are SOVEREIGNPIALPHA internal targets and validation results (2026).

# Contact details

|                 |                                                                                                                                          |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Contact person  | Stéphane Bobé Enguéléguélé – Founder & CEO                                                                                               |
| Organisation    | SOVEREIGNPIALPHA France Ltd (deeptech SME) – HQ Paris; R&D Plachy-Buyon (Somme)                                                          |
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| E-mail          | stephane.bobe@sovereignpialpha.tech · +33 6 01 02 79 97                                                                                  |
| B2Match profile | b2match.com/e/kets2026-reloaded/participants/3649518                                                                                     |
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Scan for my b2match profile

**Workshop requested:** WS 2 – Raw Materials & Advanced Materials (cluster 4)

**Website:** [sovereignpialpha.org](https://sovereignpialpha.org) **ORCID:** 0009-0009-6419-7264

**Clusters:** TEAM2 (recycling & circular economy), EuraMaterials, SafeCluster, Systematic Paris-Region · IBM Partner Plus Silver Partner

# **Gülşah Arar Dursun (TUSAŞ ENGINE INDUSTRIES)**

# TUSAS ENGINE INDUSTRIES, INC.

**FOUNDATION: 1985**

**TOTAL SALES: ~ 700** million USD

**TOTAL EXPORT: ~ 500** million USD

**INVESTMENT: 85+** million USD

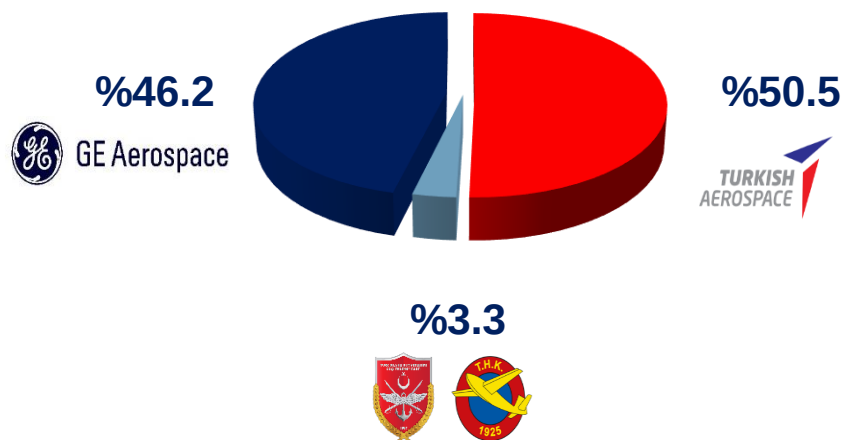
**EMPLOYEE: 3700+**



**PIC NUMBER: 972770224** (TUSAS MOTOR SANAYI A.S.)

**PREVIOUS EU PROJECTS: 2** (ESPOSA & RBF4AERO)

- TEI is the largest aircraft engine parts manufacturer in MEA region.
- TEI designs and manufactures its own indigenous engines.
- It has accumulated over 40 years of know-how for aircraft engines.



## PARTS & MODULE MANUFACTURING

- Manufacturing for Civil Aviation Engine Programs (LEAP, GE90, CF34, CFM RISE, CFM56, GE9X, CF6, GEnx, GP7200, HF120, Passport)
- Manufacturing for Marine and Industrial Engine Programs

## ENGINE ASSEMBLY, TEST AND OVERHAUL (AIT & MRO)

- Assembly, Inspection & Test
- Maintenance, Repair & Overhaul

## ENGINE DESIGN & PRODUCT DEVELOPMENT

- TEI Indigenous Engine Development & Products (TEI-TP38, TEI-TJ65/90/3000, TEI-PG50, TEI-TS1400, TEI-PD Family Engines, TEI-TF6000, TEI-TF10000, TF35000)
- Electrical Power Generation and Avionics Systems (Alternator Control Unit, Brushed Alternator, Central Power Unit, Power Control Unit, Permanent Magnet Alternator)

# Expertise & Partnership

## Teams' Expertise

- Advanced Manufacturing,
- Additive Manufacturing,
- Material Development & Characterization,
- Digitization & Automation,
- Artificial Intelligence,
- Quality and NDT Technologies,
- Integration, Test & Validation



### Potential Roles;

- Technical Requirements & Specification Provider,
- Industrial Use Case Provider
- System Integration Partner
- Pilot / Demonstration Site
- Technology Validation Partner
- End-User
- Prototype Development & Testing Partner

## Interested Calls

|          |                                                                                                                                                                                                                                                        |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b> | <b>Advanced manufacturing for key products (IA) (Made in Europe partnership)</b><br>HORIZON-CL4-2027-01-MAT-PROD-02                                                                                                                                    |
| <b>2</b> | <b>Factory processes and automation for de- and re-manufacturing (RIA) (Made in Europe partnership)</b><br>HORIZON-CL4-2027-01-MAT-PROD-03                                                                                                             |
| <b>3</b> | <b>Circular innovative advanced materials: Facilitating the transition from design to markets (RIA)</b><br>HORIZON-CL4-2027-01-MAT-PROD-06                                                                                                             |
| <b>4</b> | <b>Innovative advanced materials and new production processes – reducing dependencies on Critical and Strategic Raw Materials (IA) (Innovative Advanced Materials for the EU and Processes4Planet partnerships)</b><br>HORIZON-CL4-2027-01-MAT-PROD-22 |
| <b>5</b> | <b>Efficient energy input from renewable sources and energy management in the process industries (IA)</b><br>HORIZON-CL4-2027-02-MAT-PROD-32-two-stage                                                                                                 |
| <b>6</b> | <b>New approaches for Human/AI collaboration for the workforce of the future (RIA) (Made in Europe)</b><br>HORIZON-CL4-2027-02-DIGITAL-EMERGING-52-two-stage                                                                                           |

# Contact details

|                 |                                                                                                                                                 |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Contact person  | Gülşah ARAR DURSUN                                                                                                                              |
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| E-mail          | <a href="mailto:Gulsah.ArarDursun@tei.com.tr">Gulsah.ArarDursun@tei.com.tr</a>                                                                  |
| B2Match profile | <a href="https://www.b2match.com/e/kets2026-reloaded/participants/3612938">https://www.b2match.com/e/kets2026-reloaded/participants/3612938</a> |
| LinkedIn        | <a href="https://www.linkedin.com/in/gulsah-arar-dursun-b7328469/">https://www.linkedin.com/in/gulsah-arar-dursun-b7328469/</a>                 |



# **Alex Nemirovskiy (LLC Uchemicals)**

# LLC Uchemicals

- **Ukrainian industrial SME** developing silica-based products from secondary mineral and ash feedstocks.
- **Core expertise**
  - Low-temperature plasma treatment of dispersed inorganic and organic materials
  - Alkaline, fermentation, deep eutectic solvent extraction of silica, metals
  - Development and scale-up of sodium silicate, precipitated silica and adsorbent products
- **EU-funded project experience**
  - Coordinator and sole beneficiary of UASILICA, Horizon Europe EIC Deep Tech Ukraine, Grant Agreement No. 101311871
- **Scientific cooperation:** Taras Shevchenko National University of Kyiv , Vernadsky Institute of General and Inorganic Chemistry, Institute of Pulsed Processes and Technologies of the National Academy of Sciences of Ukraine

## UASILICA expertise and partner request

### **Project idea**

UASILICA develops processing routes for converting silica-rich industrial and agricultural residues into sodium silicate and precipitated silica using low-temperature plasma and selective extraction.

### **Why we expect it to succeed**

The project targets established industrial silica products and uses secondary feedstocks available in Ukraine. It combines the industrial and commercial experience of LLC Uchemicals with expertise in plasma processing and nanomaterials and scientific cooperation with Taras Shevchenko National University of Kyiv and the Vernadsky Institute of General and Inorganic Chemistry. UASILICA is currently funded under Horizon Europe's EIC Deep Tech Ukraine programme.

### **What we offer**

- An industrial SME partner for process development, pilot trials and subsequent manufacturing
- Expertise in plasma treatment, alkaline and deep eutectic solvent extraction, and silica-based product development
- Ukrainian use cases involving mineral, energy-generation and agricultural residues

### **What we are looking for**

- Suppliers and processors of silica-rich residues
- Industrial users interested in testing sodium silicate, precipitated silica, fillers or adsorbents
- Partners for demonstration, scale-up and commercial exploitation

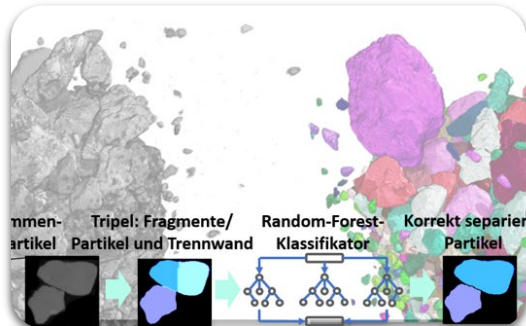
# Contact details

|                 |                                                                                                                                                 |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Contact person  | Alex Nemirovskiy                                                                                                                                |
| Organisation    | LLC Uchemicals                                                                                                                                  |
| Country         | Ukraine                                                                                                                                         |
| E-mail          | <a href="mailto:dreamworker666@gmail.com">dreamworker666@gmail.com</a>                                                                          |
| B2Match profile | <a href="https://www.b2match.com/e/kets2026-reloaded/participants/3655577">https://www.b2match.com/e/kets2026-reloaded/participants/3655577</a> |
| Project website | <a href="https://silica.pp.ua">https://silica.pp.ua</a>                                                                                         |



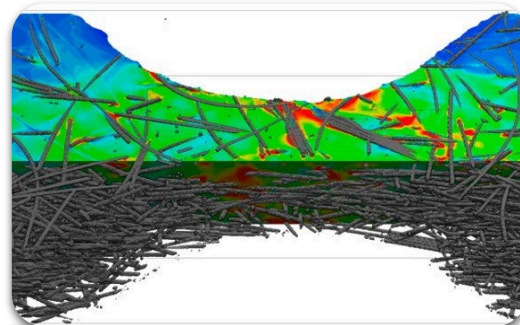
# **Hannes Grimm-Strele (Fraunhofer ITWM)**

# Modeling and Simulation of Complex Material Behavior of Textiles, Foams, and Composites



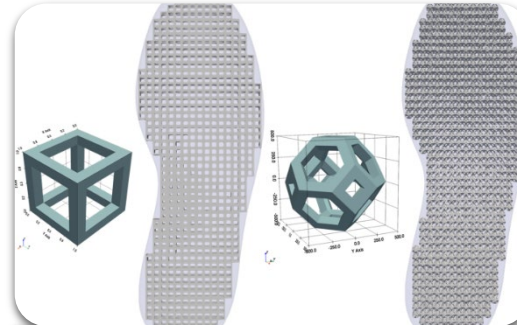
## Microstructure Analysis

- Spatial analysis of material structures using 2D and 3D images
- Development of algorithms and software



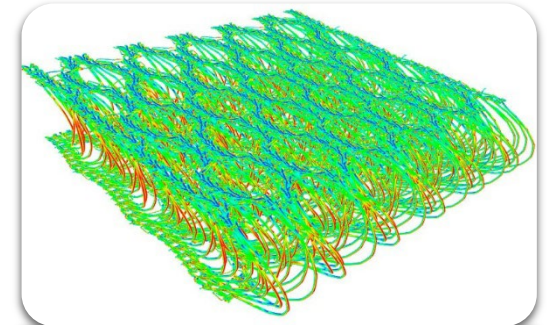
## Lightweight Construction

- Effective material cards for composites and foams
- Multiscale simulation methods
- Solver development



## Programmable Materials

- Multiscale optimization of additively manufactured components
- Parameterizable microstructures for 3D-printing



## Technical Textiles

- Simulation of the deformation behavior of technical textiles and nonwoven
- Special consideration of the contact between yarns or fibers

# Contact details

|                 |                                                                                                                                                 |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Contact person  | Dr. Hannes Grimm-Strele                                                                                                                         |
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| Country         | Germany                                                                                                                                         |
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| B2Match profile | <a href="https://www.b2match.com/e/kets2026-reloaded/participants/3625222">https://www.b2match.com/e/kets2026-reloaded/participants/3625222</a> |
| LinkedIn        | <a href="https://www.linkedin.com/in/hannesgrimmstrele/">https://www.linkedin.com/in/hannesgrimmstrele/</a>                                     |

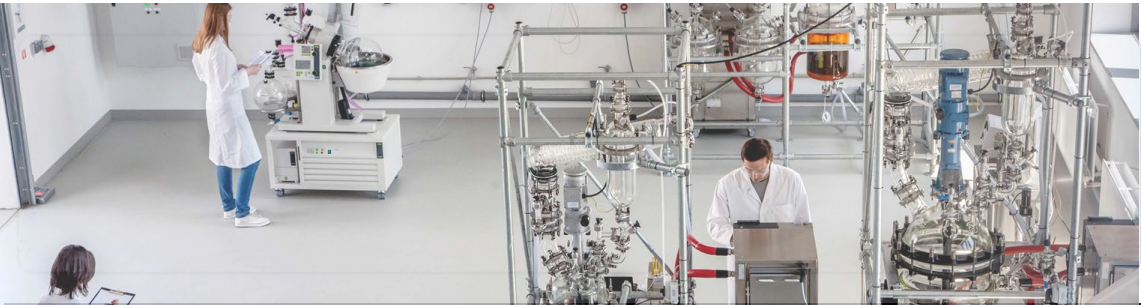


# **Szymon Roszyk (Poznan Science and Technology Park)**

# Adam Mickiewicz University Foundation Poznan Science and Technology Park (PPNT)

## Institutional Profile & Mission

- Established in 1995 as the first Science and Technology Park in Poland
- Research and development in organic synthesis, with a main focus on ionic liquids and organosilicon compounds
- Scale up activities (up to 100 kg/batch)
- Dedicated business incubation, startup acceleration, seed capital support, and IP management for technology ventures
- Regional Horizontal Contact Point for EU Framework Programmes and active member of the Enterprise Europe Network (EEN)
- Extensive experience in communication, dissemination, and exploitation activities, including organizing conferences, workshops, and trade fairs



Poznań, Poland — Advanced Laboratories & Pilot Plant Facilities

## EU-Funded Projects Track Record

Submitted EU proposals:

| Funding Scheme / Call                                                             | Consortium Role | Year        |
|-----------------------------------------------------------------------------------|-----------------|-------------|
| <b>2 EIC Pathfinder Open</b><br>Bio-composite/agrochemistry                       | Coordinator     | <b>2026</b> |
| <b>HORIZON-CL-2026-01-CIRCBIO-02</b><br>Comprehensive textile recycling solutions | Member          | <b>2026</b> |
| <b>CBE JU 2026 (RIA 02)</b><br>Textile production from brewer's waste             | Member          | <b>2026</b> |
| <b>CBE JU 2026 (RIA 03)</b><br>New bio-based plastic production                   | Member          | <b>2026</b> |

# R&D Expertise & EU Project Engagement

## PPNT’s expertise

- **Polymer Modification:** Enhancing mechanical (mainly flexibilization), thermal stability, flame-retardant, antibacterial activity and moisture resistance
- **Functional Additives:** Developing specialized curing agents, crosslinkers and adhesion promoters
- **Carbon-Footprint-Reducing Components:** Bio-polyoles for polyurethane foams, bio-monomers for epoxy systems
- **Surface Functionalization of Materials:** Textiles (synthetic and natural) and construction materials (glass, wood, stone, PV panels)
- **Bio-/Eco-composites:** Development of advanced vitrimers (covalent adaptive networks) and composites reinforced with natural fibers
- **Biomass Processing:** IL-based cellulose and lignin dissolution systems
- **Ionic Liquids for High-Tech Industry:** Applied in photonics, optoelectronics, electrolytes, and electrochemical devices
- **Agrochemistry:** Synthesis of active biostimulants and systemic acquired resistance (SAR) inducers for sustainable agriculture

## Main Interest — Horizon Europe 2027 Calls (Cluster 4: Industry & Materials)

IA 2027-01-MAT-PROD-02

Advanced manufacturing for key products.

RIA 2027-01-MAT-PROD-04

Optimise the usage of resources in a circular economy.

RIA 2027-01-MAT-PROD-06

Circular innovative advanced materials: facilitating the transition from design to markets.

IA 2027-01-MAT-PROD-08

Textile circularity through advanced processing & manufacturing technologies and system approaches.

## Partnership & Contact Details



**Szymon Roszyk**

Poznan Science and Technology Park • Poland

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 [linkedin.com/in/szymonroszyk](https://www.linkedin.com/in/szymonroszyk)

 <https://www.b2match.com/e/kets2026-reloaded/participants/3628090>



# **Henri Appeldoorn (SIRRIS)**

# The belgian collective center of the technology industry

**sirris** innovation  
forward

  
**150**  
MULTIDISCIPLINARY  
EXPERTS

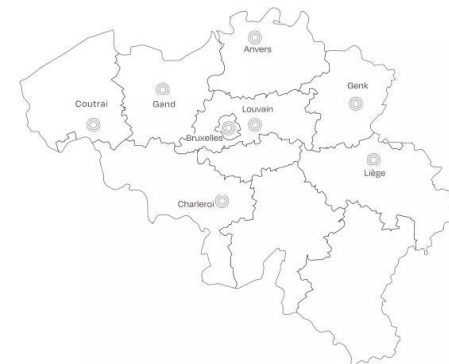
  
**8**  
STATE-OF-THE-ART  
INDUSTRIAL LABS

  
**5**  
DOMAINS OF  
EXPERTISE

  
**BIGGEST  
PARTNERNETWORK  
IN BELGIUM**

  
**1,300**  
INNOVATION  
PROJECTS A YEAR

  
**>75%**  
SMES



Belgium-wide support

## PRODUCT DEVELOPMENT HUB • THREE PRODUCT PATHWAYS

From idea to product

**PRODUCT HUB**  
Product Development HUB  
BY **sirris**

Focused support for teams  
developing physical products



### LIGHT PRODUCTS

#### Composites & Hybrids

- Topological optimisation/FEA
- Mechatronics and robotisation
- Digitalisation of processes



### MICRO PRODUCTS

#### Design at micro scale

- Microfluidics
- Manufacturing at the micron
- Automatisations of lab protocols



### SMART PRODUCTS

#### Add intelligence

- From requirements to products
- IoT and IIoT product design
- Embedded software

## Capabilities across the development journey

Advanced  
manufacturing

Digital  
transformation

Green  
transition

Innovation  
management

Product  
solutions

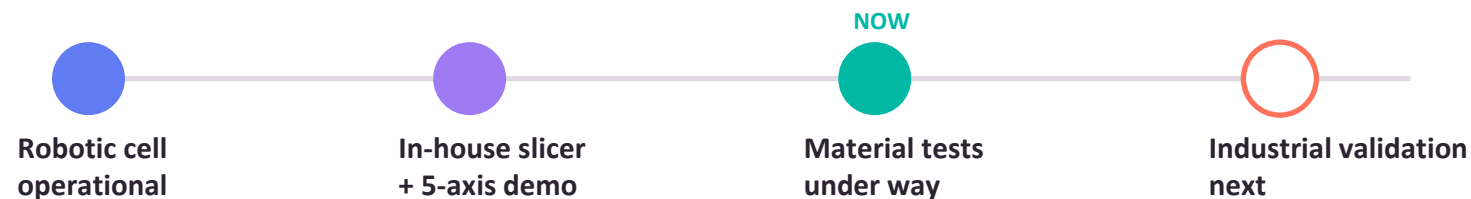
# INVERTED 3D PRINTING: mould-free, lightweight composites

An integrated route from optimised geometry to reinforced thermoplastic demonstrators

## THE INTEGRATED APPROACH



## DEVELOPMENT MOMENTUM

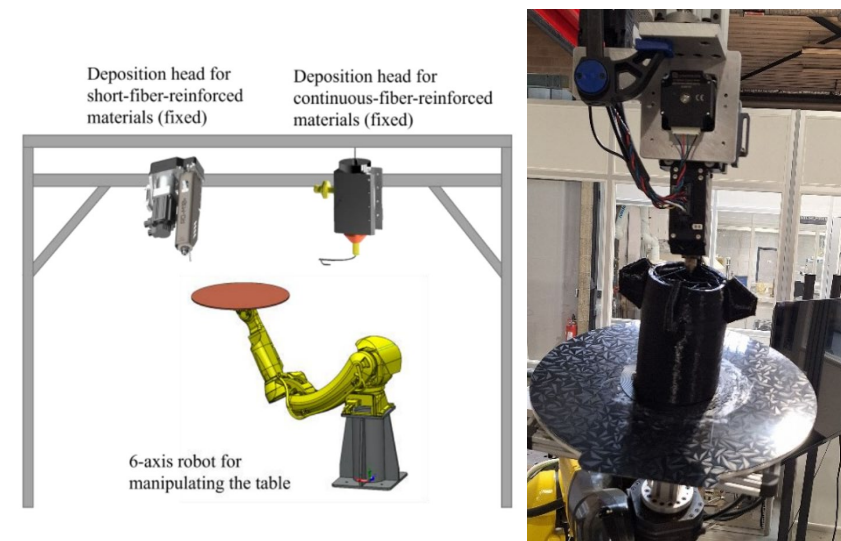


## WE BRING

- Robotic cell + multi-plane slicer
- Continuous-fibre thermoplastic 3D Printing equipment & know-how

## WE SEEK EU PARTNERS TO INDUSTRIALISE

- End users & demonstrator owners
- Materials, testing, certification, metrology & machining



demonstrator cell

**Let's build and validate cross-sector demonstrators together.**

Aerospace • mobility • medical • tooling

# Contact details

## Contact person

|                 |                                                                                                                                                                                          |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Organisation    | SIRRIS                                                                                                                                                                                   |
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| B2Match profile | <a href="http://www.b2match.com/e/kets2026-reloaded/participants/3664027">www.b2match.com/e/kets2026-reloaded/participants/3664027</a>                                                   |
| Website         | <a href="http://www.sirris.be">www.sirris.be</a><br><a href="http://www.sirris.be/en/industrial-lab/product-development-hub">www.sirris.be/en/industrial-lab/product-development-hub</a> |



Principal Engineer



Engineer

Development Hub:  
Light, Micro & Smart Products

# **Victor Ikechukwu Vincent (University College Dublin)**



# UCD expertise for critical raw materials processing

**University College Dublin seeks Horizon Europe partners for innovative processing of ores and extractive waste, and for an expert network spanning exploration to recycling.**

## Mineral and ore characterisation

- Mineral systems and economic geology for complex and low-grade ores
- Drill-core characterisation, petrography, whole-rock and mineral geochemistry
- Mineral chemistry, alteration vectoring, in-situ geochronology and isotope geochemistry
- Experience in sediment-hosted Cu-Co and Pb-Zn deposits, and granite-related Sn-W-Nb-Ta systems

## Target topics

MAT-PROD-16 Innovative processing of ores and extractive waste  
MAT-PROD-17 Expert network on Critical raw materials

## Processing and data contribution

- Characterise mineralogical controls on recovery and yield across the processing chain
- Evaluate ores and extractive waste for improved recovery of critical raw materials
- Combine experimental data with AI-assisted analysis for yield modelling and laboratory validation

## Partners sought

Coordinators, geological surveys, mining and processing companies, analytical facilities, data holders, recycling specialists, and partners in GIS and AI, LCA and socio-economic assessment.

**Victor Ikechukwu Vincent, PhD**  
**victor.vincent@ucd.ie; victor.vincent@icrag-centre.org**

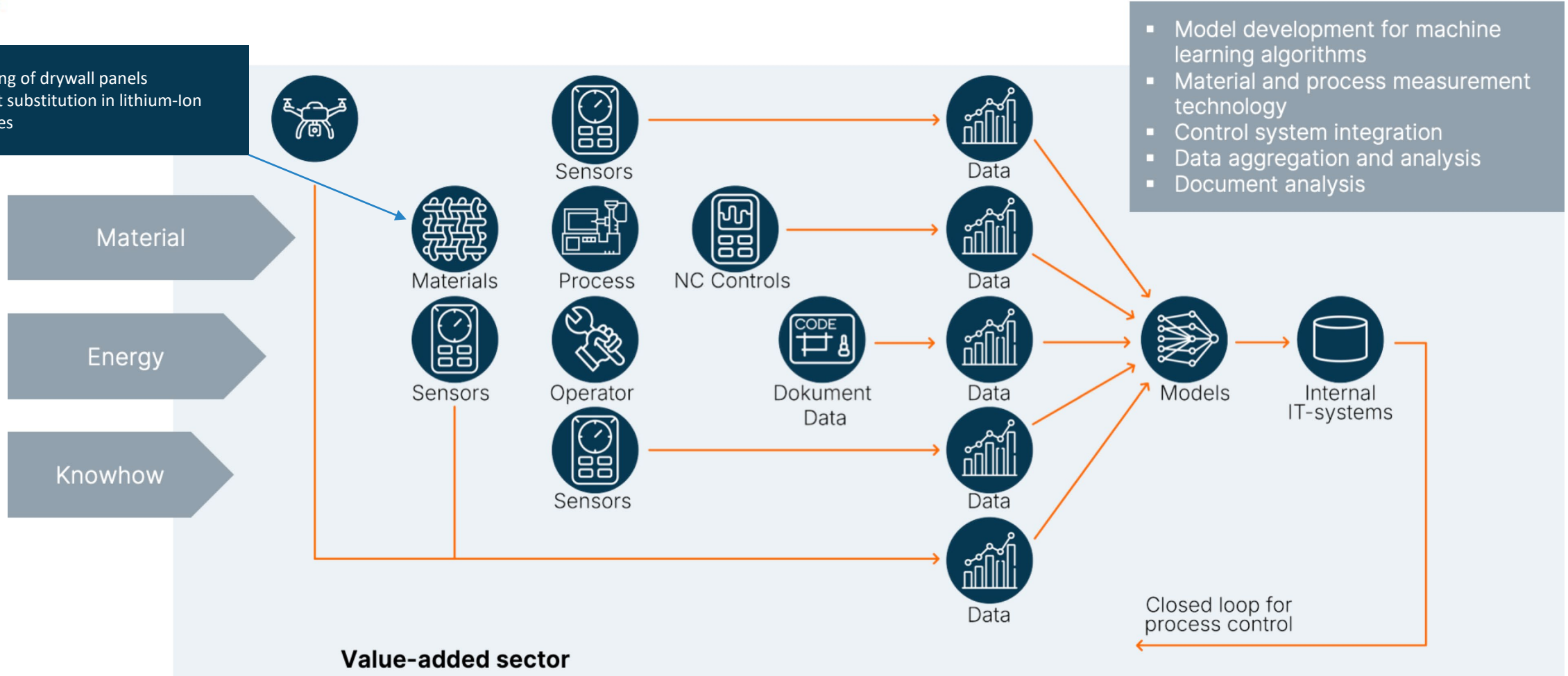
**Philipp Seitz**  
**(Technical University of Applied**  
**Sciences Würzburg-Schweinfurt)**

# Institute of Digital Engineering (IDEE)



## Areas of Expertise

- Recycling of drywall panels
- Graphit substitution in lithium-Ion batteries

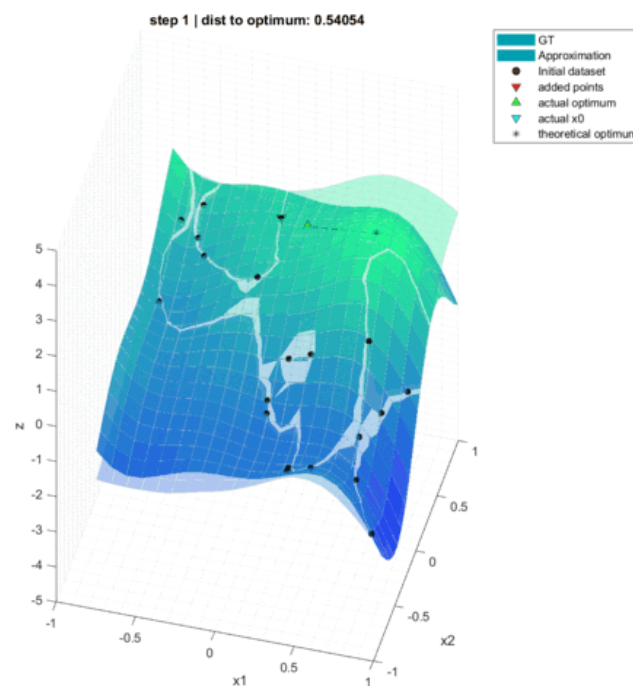


# Expertise

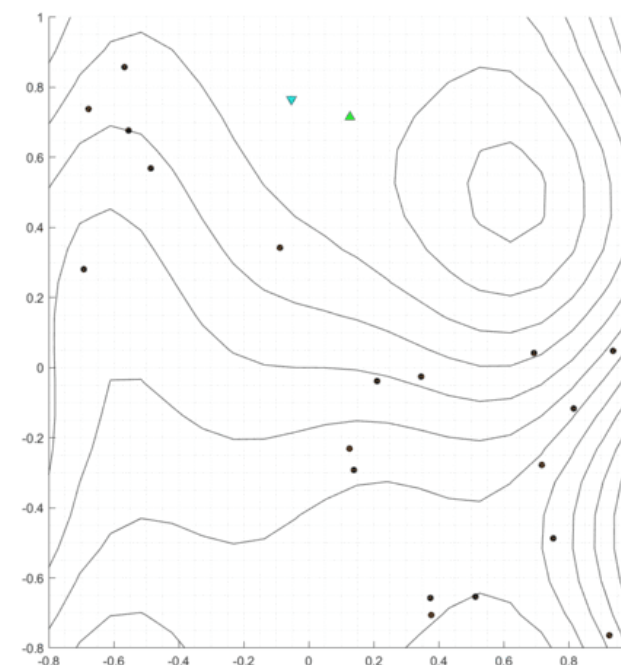
## Data-driven Optimization with Neural Networks

Search for optimal parameters in unknown high-dimensional parameter spaces

- Least experiments as possible  
➡  $n+1$  initial measurements on  $n$  parameters
- Replace Trial&Error with systematic improvements to optimal output
- First experimental results:  
2 parameters ↔ ~15 measurements
- Simulation results:  
up to 7 parameters ↔ ~50 measurements



Transparent: Temporary approximation



# Contact details

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## Contact person

|              |                                                                                                          |
|--------------|----------------------------------------------------------------------------------------------------------|
| Organisation | Institute of Digital Engineering (IDEE)<br>Technical University of Applied Sciences Würzburg-Schweinfurt |
| Country      | Germany                                                                                                  |
| E-mail       | philipp.seitz@thws.de                                                                                    |
| WWW          | idee.thws.de                                                                                             |

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# **Denis Vandormael (SIRRIS)**

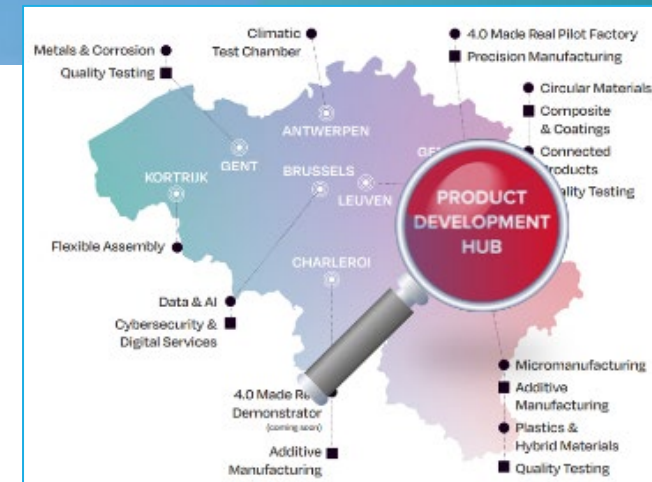


- **Collective Centre for Technological Industry in Belgium**

→ Industry-driven R&D support from early concepts to manufacturing transfer

- **Core expertise** (Sirris\Product Development Hub\Micro Lab)

- Microfluidic microsystems & device engineering
- Polymer and metal micro-manufacturing
- Design for Manufacturing (DfM)
- Instrumentation, mechatronics & system integration
- Testing, characterisation & pilot manufacturing



μ-machining • μ-3D printing • μ-replication • μ-assembly • μ-metrology

## Integrated Industrial Prototyping Platform

**From proof-of-concept to manufacturing-ready systems**

Device Engineering • Instrumentation • Integration • Pilot Manufacturing



**END-TO-END**  
engineering &  
prototyping



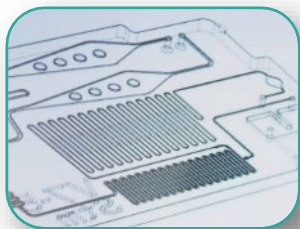
**RAPID**  
iterations &  
technical derisking



**EARLY**  
system integration &  
validation

# Industrialising microfluidic devices and systems

Device architecture



Proofs-of-concept



Functional demonstrators



Preseries &amp; pilot



Instrumentation



Validation



One partner across the entire development chain until manufacturing transfer

## Microfluidics for Advanced Materials

Key application areas



### Continuous-flow formulation

Enzymatic processes,  
bio-based formulations,  
functional ingredients



### Special formulation & encapsulation

Capsules, core-shell  
particles



### Material/process screening

Rapid testing of  
formulations and  
conditions



### In-line characterisation

Quality control in  
material processing

MICROFLUIDICS

## Looking for partners

- **Microfluidic technology developers** → industrialisation of lab-scale concepts
- **End-users, application owners** → miniaturised fluid-handling applications
- **Sensor, materials & instrumentation partners** → integrated microfluidic systems
- **Manufacturing partners** → scale-up, pilot production & technology transfer

to translate innovative microfluidic concepts  
into integrated, manufacturing-ready systems

# Contact details

| Contact person  |                                                                                                                                                 |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Organisation    | Sirris                                                                                                                                          |
| Country         | Belgium                                                                                                                                         |
| E-mail          | Denis.Vandormael@sirris.be                                                                                                                      |
| B2Match profile | <a href="https://www.b2match.com/e/kets2026-reloaded/participants/3664084">https://www.b2match.com/e/kets2026-reloaded/participants/3664084</a> |
| LinkedIn        | <a href="https://www.linkedin.com/in/denis-vandormael-494703/">https://www.linkedin.com/in/denis-vandormael-494703/</a>                         |



**Bariş Bakar**  
**(Kalekim Construction Chemicals Co.)**

Field Of Expertise:

- ✓ Cement-based and polymer-based construction materials development
- ✓ Paints and coatings production and performance test.
- ✓ Integration of advanced and functional materials
- ✓ Performance, durability, and curing testing
- ✓ Industrial validation of sustainable solutions
- ✓ Valorisation of industrial by-products and wastes

Kalekim Construction Chemicals

10  
Factories

- Istanbul, Isparta, Mersin, Erzurum, İzmir, Balıkesir x2, Yozgat, Mardin, Mugla

2  
GLOBAL INVESTMENTS

Kenya & Albania, Iraq

500+  
CENTER PERSONNEL

- R&D Center
- Cement, epoxy, acrylic, poliuretane, silicone
- Characterization (XRD, XRF, FTIR, STA, SEM, Rheometer)
- Performance test for all product range
- Fast conditioning/ weathering
- Ongoing EU Project (1 Eramin (partner), 1 M-Eranet (coordinator))

260+  
PRODUCTS

- 4 MAIN BUSINESSES
- Tile application Solutions
  - Waterproofing Solutions
  - Paints&Plasters
  - Thermal Insulation Systems

PUBLIC OFFERING IN 2021  
ACQUISITION IN 2022  
Lyksor Chemistry

80  
COUNTRIES

500+  
PERSONNEL

OFFICES  
Russia & France

APPLICATION WARRANTY

OFFICES  
Russia & France

Past experience in EU-funded projects

| Project Name         | Call                        | Role in Project       | Year | Status                                                                                                    |
|----------------------|-----------------------------|-----------------------|------|-----------------------------------------------------------------------------------------------------------|
| STF4SW               | M-ERA.NET                   | Coordinator           | 2023 |  Funded                |
| ValorWaste<br>ERAMIN | ERA-MIN                     | Partner               | 2023 |  Funded                |
| NORISK               | Erasmus<br>Mundus<br>Master | Associated<br>Partner | 2023 |  Accepted              |
| HERITAGEL            | EUREKA<br>Network           | Coordinator           | 2024 |  Accepted             |
| NIPURE               | M-ERA.NET                   | Coordinator           | 2025 |  Funded              |
| DE-CO2-RATE          | M-ERA.NET                   | Coordinator           | 2026 |  Under<br>Evaluation |

We develop advanced façade and coating solutions that combine Anatolian vernacular knowledge, nature-based materials and bioclimatic design to create cooler, healthier and more resilient buildings.



**Beypazarı**  
White lime surfaces  
& natural cooling



**Mardin**  
Thermal mass &  
porous stone



**High TSR / SRI**  
Reflects solar  
radiation



**Thermal Emissivity**  
Radiative  
cooling



**Moisture Regulation**  
Balances  
humidity



**Low Carbon Footprint**  
Sustainable  
minerals

**Radiative Cooling**  
Bacteria-inspired  
or natural minerals  
for infrared emission

**Urban Heat Island Mitigation**  
Cooler cities,  
healthier communities



Up to  
**-10°C**  
surface temperature  
reduction\*

### Inspired by Nature, Powered by Science

A multi-functional mineral system with bio-inspired radiative cooling.



**Lime**  
High reflectance  
& alkalinity



**Pumice**  
Porosity &  
thermal stability



**Perlite**  
Thermal insulation  
& low density



**Halloysite**  
Moisture regulation  
& functional  
nanotubes



**Natural Minerals**  
Local & renewable  
resources



Sourced from Anatolia  
& circular economy



#### Bio-inspired Radiative Cooling Filler.

Bacteria (e.g. *Bacillus thuringiensis*) or  
natural structures (e.g. lotus effect)  
for high infrared emissivity.



Multi-scale porosity  
for superior thermal performance

**Reflective top coat**  
(high TSR / SRI)

**Functional layer**  
(bio-inspired radiative cooling)

**Porous layer**  
(perlite + pumice)

**Base layer**  
(lime-based matrix)

### The Power of Anatolia's Vernacular Architecture



**Beypazarı**  
White lime & ventilation



**Mardin**  
Thermal mass & porous stone



**Harran**  
Natural airflow & humidity control



**Cappadocia**  
Thermal buffering

### Nature as a Design Partner



**Lotus effect**  
Self-cleaning &  
water management



**Desert plants**  
IR reflection &  
water efficiency



**Edelweiss**  
UV protection &  
microstructure



**Olive leaf (silver)**  
Solar reflectance

### Why We Expect Success



Unique combination  
of vernacular knowledge,  
nature-based solutions  
and advanced material science



Proven R&D and  
characterisation  
infrastructure



Pilot and field validation  
across different climates  
and building typologies



Measurable impact:  
lower energy use,  
lower emissions,  
reduced cooling demand

### What We Offer



Coating & plaster  
formulation expertise



Material characterisation  
(FTIR, XRD, SEM, TGA, ...)



Pilot & industrial  
scale-up



Durability &  
weathering testing



LCA & circular  
economy approach

### What We Request from Partners



Universities &  
research institutions  
(technology & modelling)



Heritage organisations  
& architects  
(cultural knowledge)



Municipalities &  
social housing providers  
(demonstration sites)



Experts in LCA/LCC,  
climate modelling &  
biobased materials  
(impact assessment)

# Contact details

## Contact person

|                 |                                                                                                                                                                                                                                                                                                                |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Organisation    | Kalekim Construction Chemicals Co.                                                                                                                                                                                                                                                                             |
| Country         | Türkiye                                                                                                                                                                                                                                                                                                        |
| E-mail          | <a href="mailto:barisbakar@kale.com.tr">barisbakar@kale.com.tr</a> , <a href="mailto:mehrnoshabolfathi@kale.com.tr">mehrnoshabolfathi@kale.com.tr</a>                                                                                                                                                          |
| B2Match profile | <a href="#">Barış Bakar   KETs2026 reloaded</a><br><a href="#">Mehrnosh ABOLFATHI   KETs2026 reloaded</a>                                                                                                                                                                                                      |
| LinkedIn        | <a href="https://www.linkedin.com/in/bar%C4%B1%C5%9F-bakar-8a445399/?skipRedirect=true">https://www.linkedin.com/in/bar%C4%B1%C5%9F-bakar-8a445399/?skipRedirect=true</a><br><a href="https://www.linkedin.com/in/mehrnosh-abolfathi-1077b818a/">https://www.linkedin.com/in/mehrnosh-abolfathi-1077b818a/</a> |



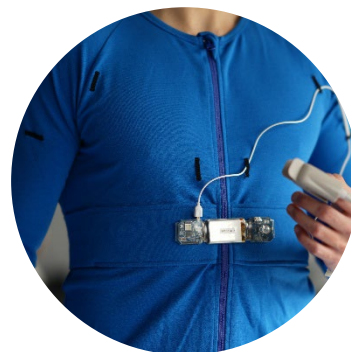
# **Bruna Moura (CeNTI)**

# Centre for Nanotechnology and Advanced Materials



Engineering Advanced Materials and Enabling Technologies for Industrial Innovation

Bridging applied research, industrial prototyping and technology transfer to deliver high-value solutions



## KEY FIGURES

**190+** Researchers | **20+** Years of Innovation

**19** Laboratories | **6600 m<sup>2</sup>** Research Facilities

**400+** R&D&I Projects | **75+** Granted Patents

**CORE EXPERTISE**    Materials Science & Engineering ▪ Applied Nanotechnology ▪ Smart Systems ▪ Sustainable Technologies

Past and On-going EU-funded projects:



### Coordinator

Lithium-ion Battery Recycling  
Production of Lithium-ion cells  
Rare Earth Magnet Recycling



### Partner (RTO)

Material Characterization  
Half-cell Evaluation



### Coordinator

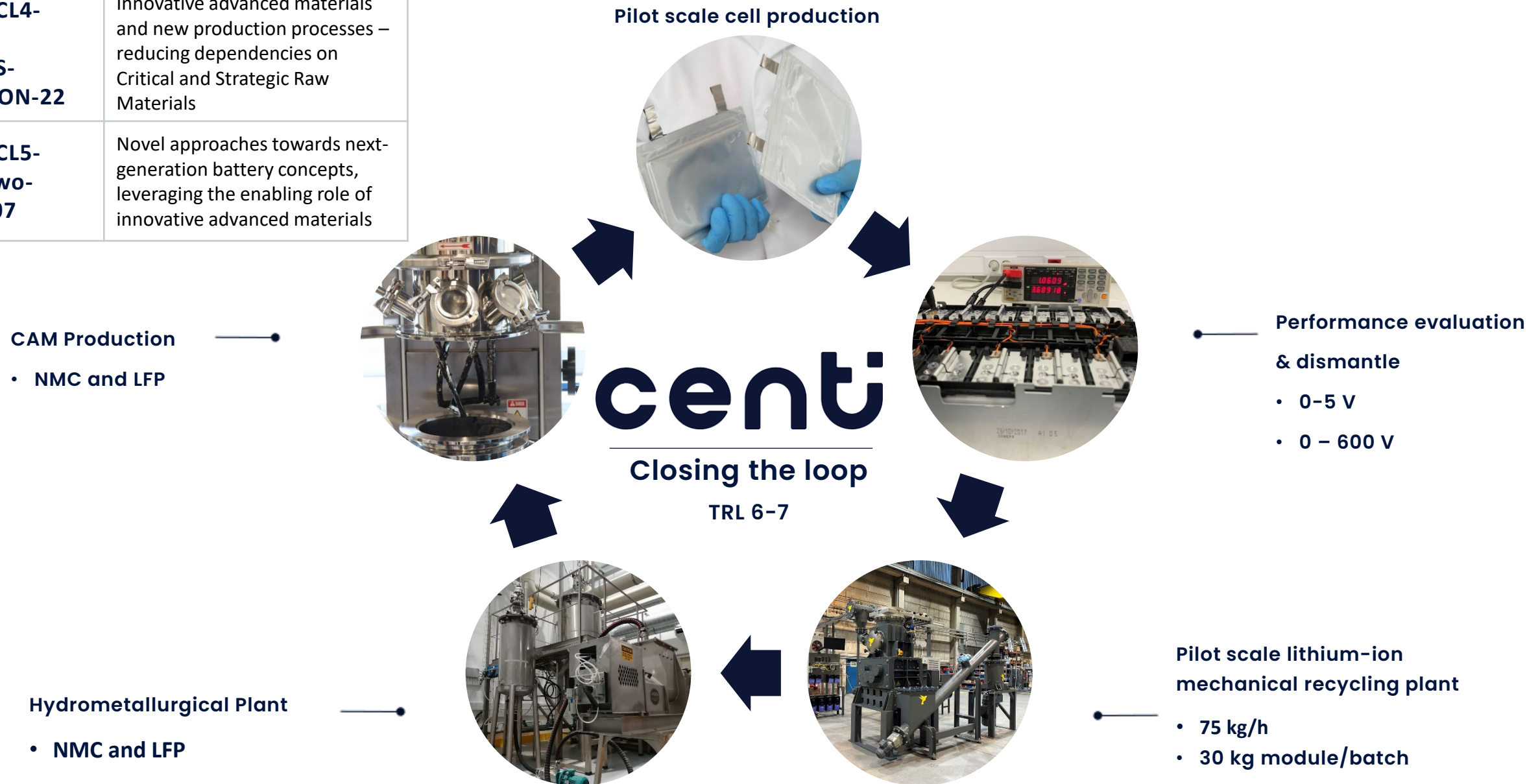
Scale-up production with inline  
characterisation of nano-enabled bio-based  
materials



### Partner (RTO)

Capture of biogenic CO<sub>2</sub> in energy-rich algae  
biomass and Optimise Biomass Conversion  
and Process Sustainability

|                                                    |                                                                                                                            |
|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <b>HORIZON-CL4-2027-01-MATERIALS-PRODUCTION-22</b> | Innovative advanced materials and new production processes – reducing dependencies on Critical and Strategic Raw Materials |
| <b>HORIZON-CL5-2027-04-Two-Stage-D2-07</b>         | Novel approaches towards next-generation battery concepts, leveraging the enabling role of innovative advanced materials   |



# Contact details

|                 |                                                      |
|-----------------|------------------------------------------------------|
| Contact person  | Bruna Moura                                          |
| Organisation    | CeNTI                                                |
| Country         | Portugal                                             |
| E-mail          | <a href="mailto:bmoura@centi.pt">bmoura@centi.pt</a> |
| B2Match profile | <a href="#">Bruna Moura   KETs2026 reloaded</a>      |
| LinkedIn        | <a href="#">CeNTI   LinkedIn</a>                     |



# **Mazyar Ahrari (BUTEKOM)**

## BUTEKOM | Bursa Technology Coordination and R&D Center

INDUSTRY-DRIVEN R&D HUB • BURSA, TÜRKİYE

### From advanced materials to industrial proof.

BUTEKOM brings researchers and manufacturers into the same development loop — combining materials expertise, pilot-scale production and testing infrastructure to move promising ideas toward industrial use.

#### ADVANCED MATERIALS

Composites • technical & smart textiles • innovative material development

#### SMART MANUFACTURING

AI-enabled production • automation • robotics • digital process development

#### VALIDATION & SCALE-UP

Pilot lines • industrial testbeds • characterization • testing & certification

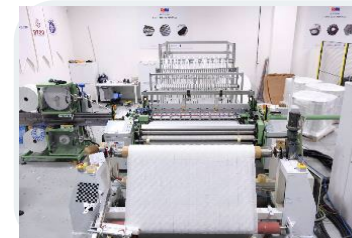
#### EU COLLABORATION

Active in national/international R&D; strong fit as Pilot Demonstrator, Use-Case Partner or WP Leader



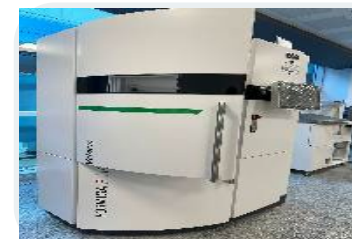
#### ROBOTICS

Automation and robot-assisted industrial processes



#### TEXTILE PILOT LINE

Real pilot-scale production for textile and material validation



#### ADDITIVE MANUFACTURING AND ADVANCED TESTING

High-performance laboratory and testing infrastructure

#### WHY PARTNERS CHOOSE BUTEKOM

One place to develop, test and validate — with direct access to a strong manufacturing ecosystem.

# Project idea / expertise

TARGET WORKSHOP • RAW MATERIALS & ADVANCED MATERIALS (CLUSTER 4)

## Circular advanced materials. Smarter production. Real-world validation.

We want to connect circular, high-performance materials with smarter manufacturing — and prove them in real industrial environments. The concept combines advanced materials, smart textiles/composites, AI-supported production and pilot-scale validation for mobility, textile and process-industry applications.

1

### MATERIAL

Advanced materials, composites and smart textile structures

2

### MANUFACTURE

AI-assisted process optimisation, automation and robotics

3

### VALIDATE

Pilot demonstrators, testing, certification and industrial use cases

## WHAT WE BRING

- Pilot-scale demonstrators & real manufacturing use cases
- Advanced materials, composites & technical textile development
- AI-based process optimisation & robotics integration
- Testing, validation, certification & technology transfer

## WHO WE WANT TO MEET

- R&D partners in advanced materials, circularity and smart manufacturing
- AI / robotics developers and technology providers
- End users for real-world demonstration
- Universities and research institutes for scientific collaboration

Why it can move fast: pilot lines + industrial testbeds • deep materials + AI know-how • real manufacturing validation • strong Horizon Europe 2026/27 fit

## Contact details

|                 |                                                                                                                                                     |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Contact person  | Dr. Mazyar AHRARI   International Projects Responsible                                                                                              |
| Organisation    | BUTEKOM Bursa Technology Coordination and R&D Center                                                                                                |
| Country         | Türkiye                                                                                                                                             |
| E-mail          | <a href="mailto:murat.kurtlar@butekom.org">murat.kurtlar@butekom.org</a>   <a href="mailto:mazyar.ahrari@butekom.org">mazyar.ahrari@butekom.org</a> |
| B2Match / event | <a href="#">KETs2026 reloaded — 24 September 2026</a>                                                                                               |
| LinkedIn        | <a href="https://linkedin.com/company/butekom">linkedin.com/company/butekom</a>                                                                     |

**Let's build the next industrial demonstrator together.**

**OPEN TO COLLABORATION ON**

- Advanced materials
- Circular manufacturing
- AI-enabled production
- Pilot & demonstration actions

**Meet us in the B2B sessions**