Entrepreneurship Through Research:

Grant Funding

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NOVINANO Lab / SoftServe

APPROACH Workshop #6

October 10, 2025

About NOVINANO Lab

Applied research in laser–matter interaction

Materials processing and surface engineering

Integration of advanced measurement and characterization techniques

Our Mission

Connecting science with real impact

We turn research into innovation by applying laser and nanomaterials technologies to solve real-world problems.

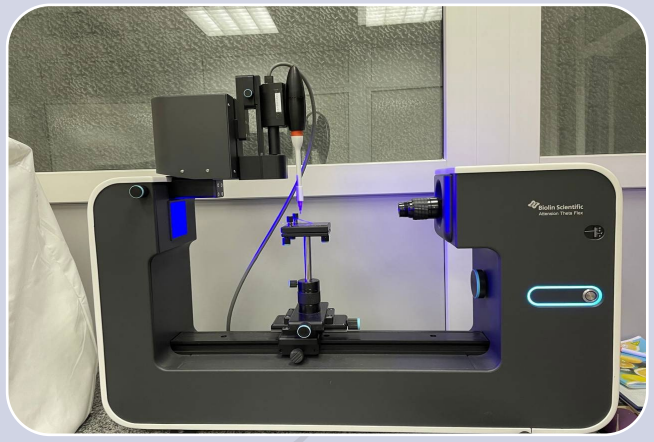
Bridging academia and industry

We collaborate with universities, startups, and industrial partners to transform photonics and biomedical research into practical applications.

Research Infrastructure and Characterization Tools

SensoFar Optical Profilometer

Surface morphology and roughness analysis



Theta Flex Contact Angle Meter

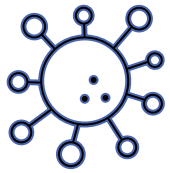
Wettability and surface energy measurement

PHAROS Femtosecond Laser System

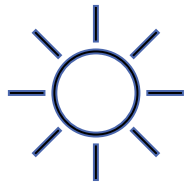
Ultrafast laser micro- and nanostructuring

From Research to Applications

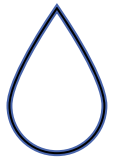
Examples of how research becomes innovation:



Laser texturing for biomedical implants



Microstructuring for solar energy harvesting



Surface modification for improved wettability and adhesion

Different forms of research-based entrepreneurship

Technology Transfer

Turning research outcomes into market-ready technologies

→ *Patents, spin-out companies, industry licensing*

Social & Environmental Entrepreneurship

Applying science to address societal and sustainability challenges

→ *Improving healthcare materials, reducing waste, renewable energy solutions*

Consultancy & Services

Using research expertise to provide analysis, prototyping or training for partners

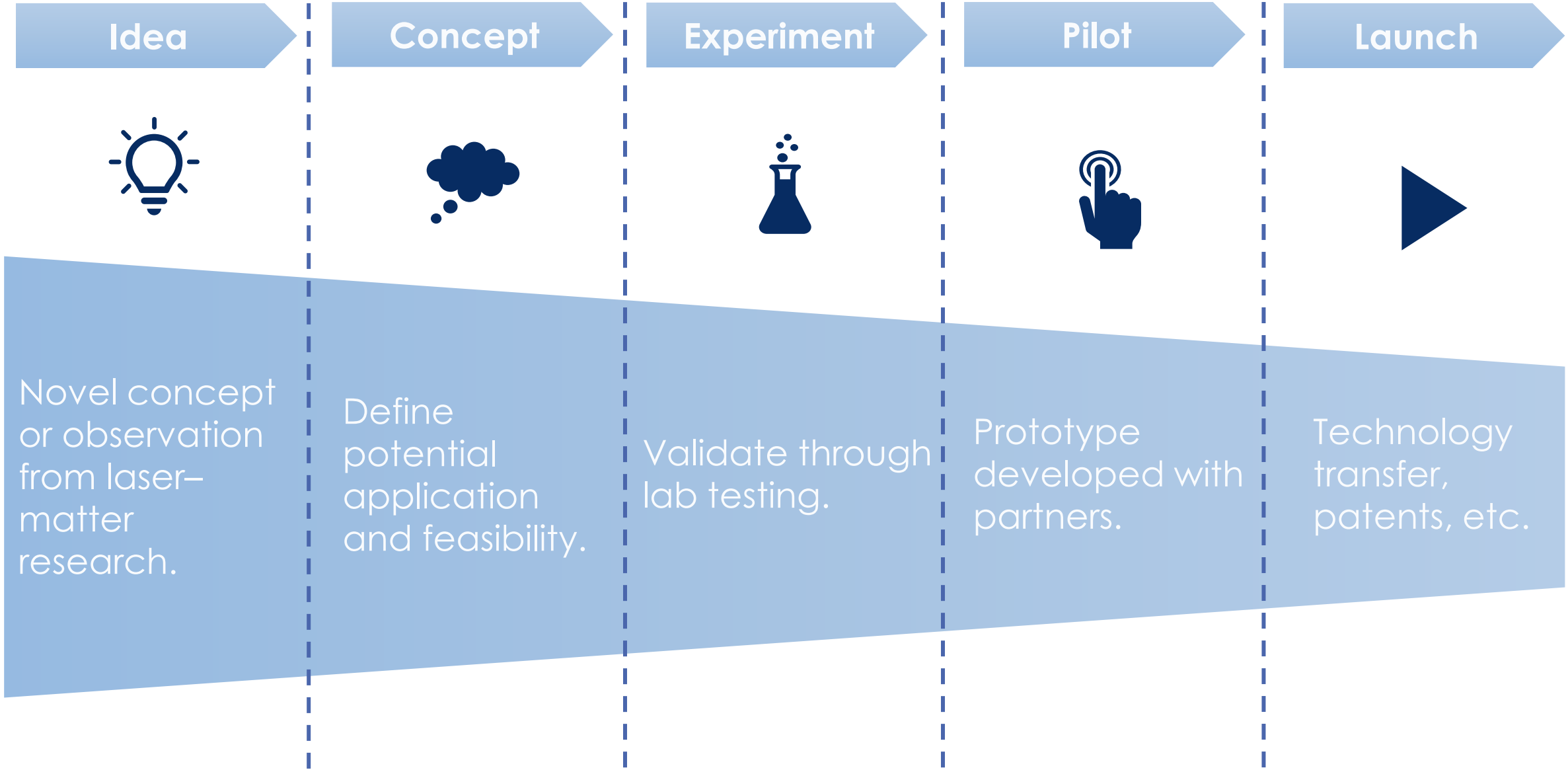
→ *Surface engineering support, optical profiling, wettability studies*

Collaborative Innovation

Building joint R&D initiatives and European consortia

→ *Horizon Europe (APPROACH, LaserPro), Innovate UK projects*

How research ideas move towards innovation and market



APPROACH

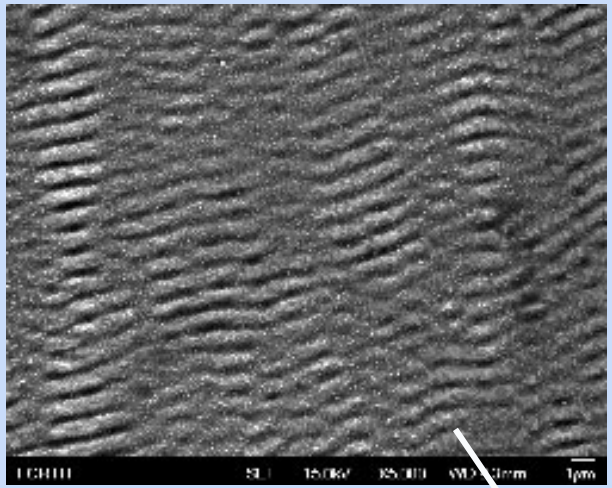
LaserPro

Innovate UK

Connecting research with European and industrial innovation ecosystems.

Collaborative Projects Driving Innovation

Laser-Processed Stainless-Steel Implants



Research stage

Laser texturing of stainless-steel surfaces for improved cell adhesion and reduced bacterial colonization.

Collaboration & validation

Joint work with local hospital.
In vivo testing on animal models (rabbits) confirmed biological safety and integration.

Real-world impact

Technology implemented in clinical implants.

research → prototype → validation → clinical use

Microstructured Solar Surfaces

research →
prototype → →
validation → → →
sustainable application

Research stage

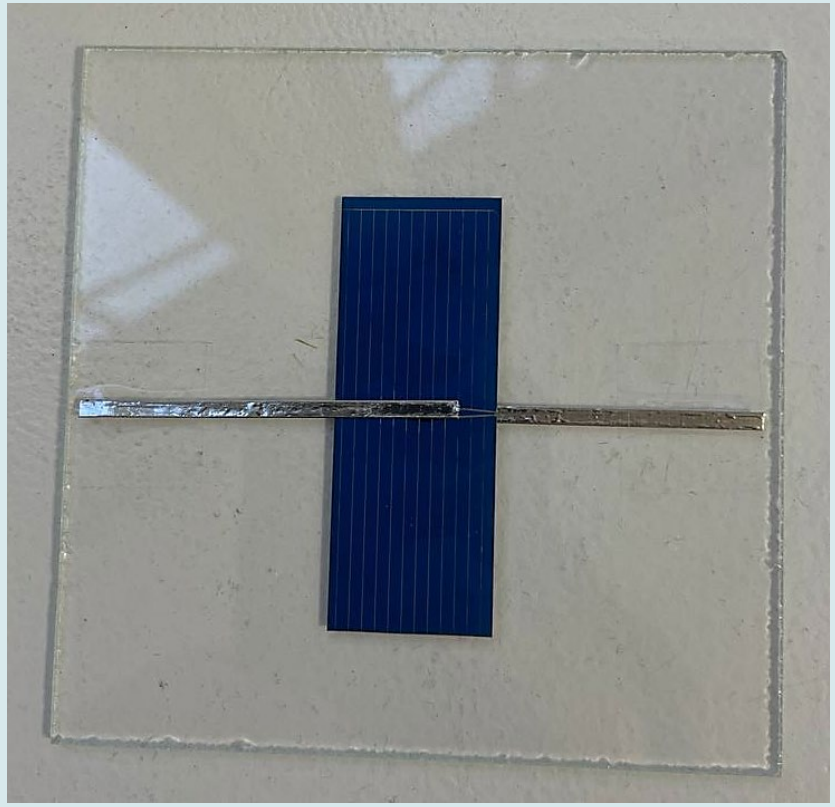
Microstructuring applied to metallic and semiconductor layers used in photovoltaic devices.

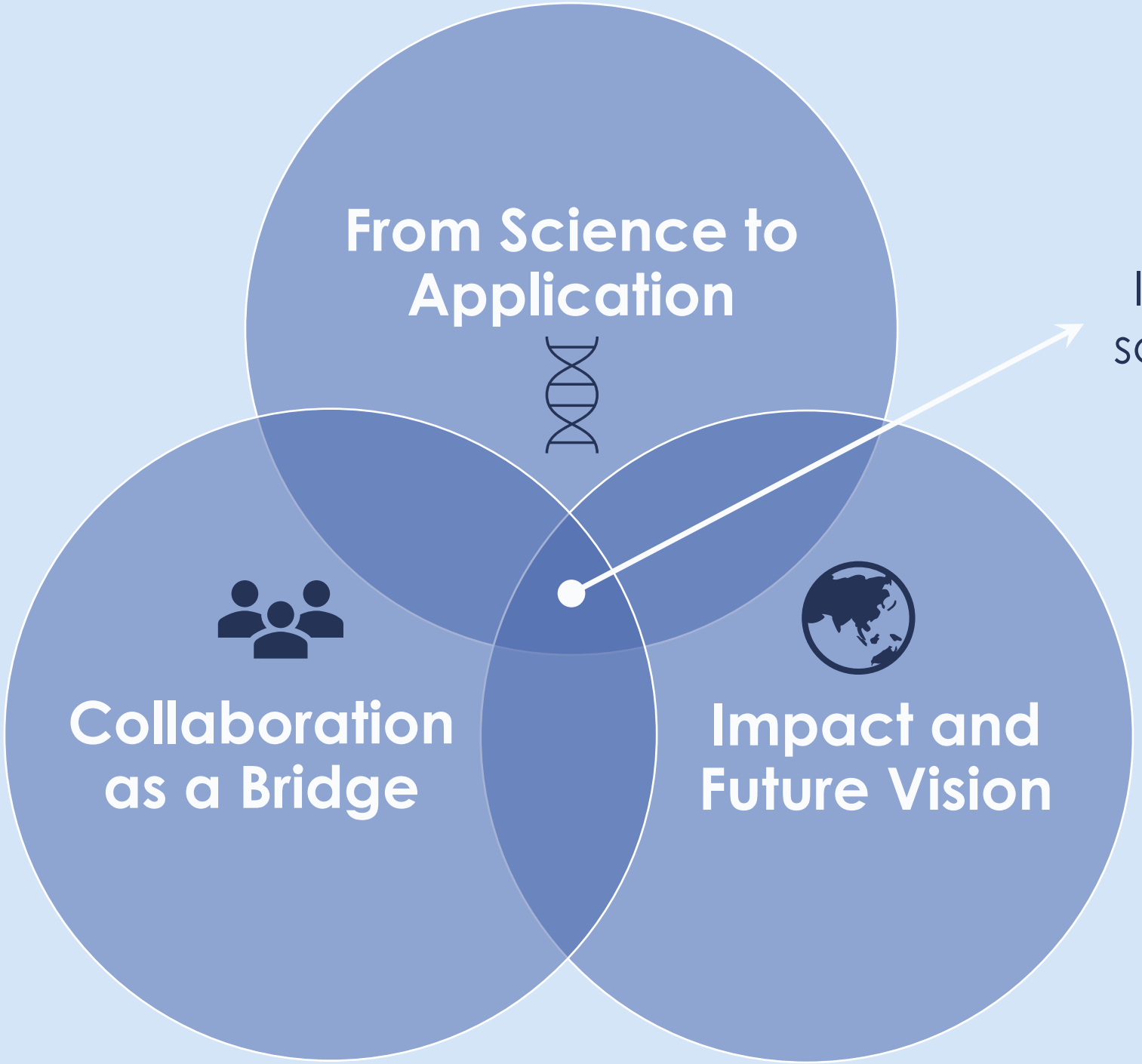
Collaborate & validation

Preliminary testing indicated potential improvement in optical absorption and energy conversion.

Potential impact

Demonstrates how advanced laser materials processing contributes to green innovation.





Innovation happens where science meets collaboration and purpose.

THANK YOU FOR ATTENTION!