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# Description of the Organization

## Materials Technologies and Biotechnology units

- ❑ R&D
- ❑ Analysis&Testing
- ❑ Collaboration with Industry

## Nanotechnology & Surface Engineering Laboratory



- Materials Science and technologies
- Membrane technology and applications
- Bio-based materials & biotechnology
- Energy
- Directed self assembly of nanostructures for CMOS Technologies

- Nanomaterials & Semiconductor Tech. (synthesis, patterning, functionalization, surface treat),
- CVD systems / Processing techniques (films, fibers, coatings, etc).
- Smart surfaces, interfaces chemistry
- Sensors developments

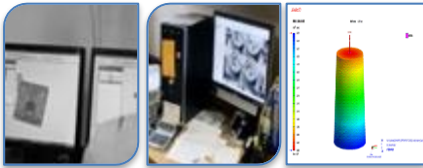
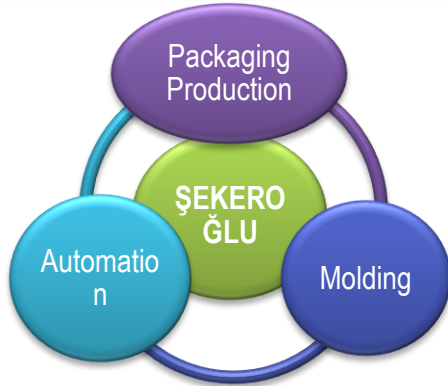
## Track Records

- ✓ **H2020-Twinning**-2019 EngSurf-Twin-952289 “Reinforcing the Scientific Excellence of Selcuk University in Engineered Surfaces and Films for Emerging Technologies ”
- ✓ **H2020-SPIRE**, 2020, Waste2Fresh “Smart Innovative system for recycling wastewater and creating closed loops in textile manufacturing Industrial processes
- ✓ **H2020-MSCA-RISE**-2017-778098 “Nanostructured Carriers for Improved Cattle Feed”
- ✓ FP7-**NMP**, Large Area Molecularly Assembled Nanopattern for Devices (LAMAND)
- ✓ FP7-**INFRA**-2012, The European Solar Infrastructure for Concentrated Solar Power (EU-SOLARIS)
- ✓ FP7-**SME**-2012-“Enhanced chitin-based biosorbents for drinking water purification “ChitoClean”
- ✓ FP7-**SME**-2013 ““Ingredients for Food and Beverage industry from a lignocellulosic source (LIGNOFOOD)
- ✓ **COST, ERA-NET**, Bilateral and National projects

Find information on the link; [https://www.youtube.com/watch?v=rJNhlAunS\\_g](https://www.youtube.com/watch?v=rJNhlAunS_g)

# COLLABORATION INDUSTRY

## ❑ Chemical/Plastic (Bio-Plastic) Ind



<https://www.sekeroglu.com.tr/en/>

## ❑ Burotime (Furniture industry)



<https://www.burotime.com/en/>

## ❑ Textile Industry



<https://gamateks.com.tr/>

## ❑ BioTechnology / Health



### **Natural Products R&D;**

**Natural Supplements**  
Turkey's **healthy living** brand  
**Nutritional Supplements**  
**Vitamin/Minerals**  
**FDA, EP, GMP Standards**

<https://zadevital.com/>

# Description of your research interest

## DESTINATION 1: CLIMATE NEUTRAL, CIRCULAR AND DIGITISED PRODUCTION

- HORIZON-CL4-2022-TWIN-TRANSITION-01-02: **Products with complex functional surfaces (Made in Europe Partnership) (RIA)**
- HORIZON-CL4-2022-TWIN-TRANSITION-01-03: Excellence in distributed control and modular manufacturing (Made in Europe Partnership) (RIA)
- HORIZON-CL4-2022-TWIN-TRANSITION-01-15: New electrochemical conversion routes for the production of chemicals and materials in process industries (Processes4Planet Partnership) (RIA)
- HORIZON-CL4-2022-TWIN-TRANSITION-01-17: Integration of hydrogen for replacing fossil fuels in industrial applications (Processes4Planet Partnership) (IA)

## DESTINATION 2: INCREASED AUTONOMY IN KEY STRATEGIC VALUE CHAINS FOR RESILIENT INDUSTRY

- HORIZON-CL4-2022-RESILIENCE-01-10: Innovative materials for advanced (nano)electronic components and systems (RIA)
- HORIZON-CL4-2022-RESILIENCE-01-11: Advanced lightweight materials for energy efficient structures (RIA)
- HORIZON-CL4-2022-RESILIENCE-01-12: **Functional multi-material components and structures (RIA)**
- HORIZON-CL4-2022-RESILIENCE-01-23: **Safe- and sustainable-by-design organic and hybrid coatings (RIA)**
- HORIZON-CL4-2022-RESILIENCE-01-13: Smart and multifunctional biomaterials for health innovations (RIA)
- HORIZON-CL4-2022-RESILIENCE-01-14: **Membranes for gas separations - membrane distillation (IA)**
- HORIZON-CL4-2022-RESILIENCE-01-24: Novel materials for supercapacitor energy storage (RIA)

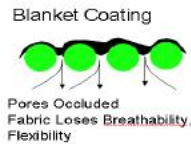
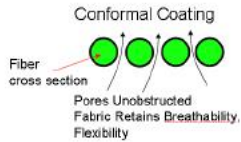
# Project Idea

## HORIZON-CL4-2022-TWIN-TRANSITION-01-02: Products with complex functional surfaces (Made in Europe Partnership) (RIA)

All-dry surface coating technologies for sustainable and environmentally-friendly way of fluorine-free, superhydrophobic, self-cleaning, non-stick and multi-functional surface modifications in industrial applications

### Advantages of using iCVD

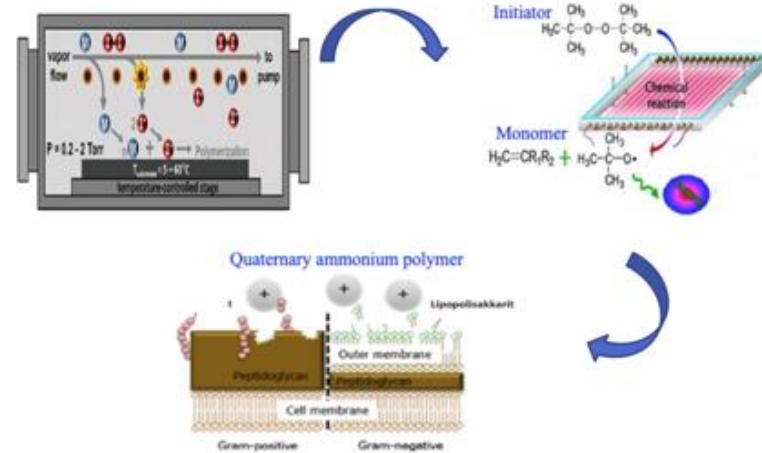
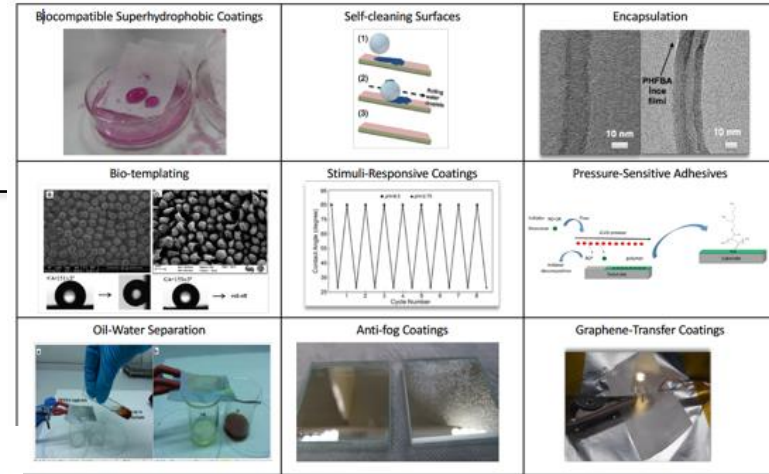
- ❖ High deposition rates - without any heat, radiation, or solvent damage on the substrate, which gives freedom to select almost any type of substrate
- ❖ Solventless & low temperature process
- ❖ High conformality - Substrates with complex geometries can be coated



- ❖ Scalable to large areas
- ❖ Suitable with economical roll-to-roll processing



A R2R iCVD system



# Consortium - profile of known partners *(if any)*

No	Partner Name	Type	Country	Role in the Project
01				
02				
03				
04				
05				
06				



This project is co-financed by the  
European Union and the Republic of Turkey  
Bu proje Avrupa Birliđi ve Türkiye Cumhuriyeti tarafından  
finanse edilmektedir



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