



**FETEK**

Lithuanian Photovoltaics  
Technology Cluster

# Skirmante Balezentiene

Photovoltaics Industrial Technology Cluster

**proTECH**   
Cluster Coordinator



# Lithuania's **Photovoltaics** sector

## overview. **Co-opetition** over Competition Since 2008

**4**

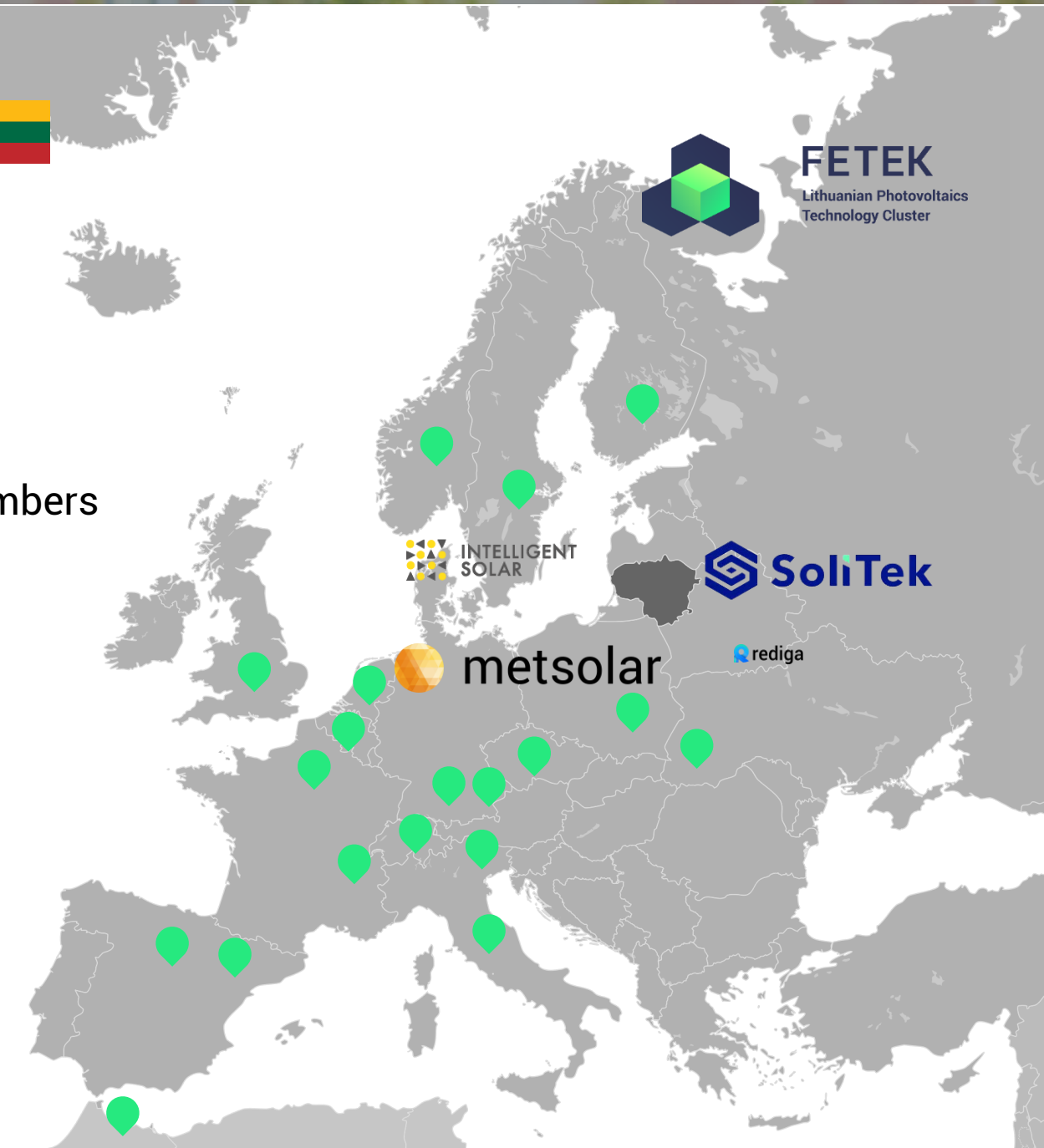
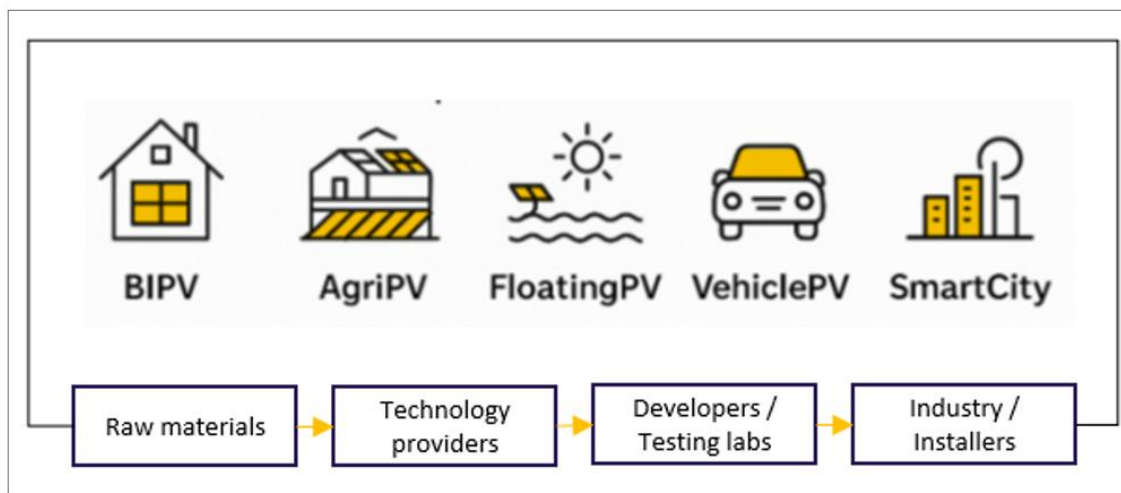
Main Photovoltaics  
Manufacturers

**120+**

joint RTD  
Initiatives

**45 + 250**

Photovoltaics Industrial Cluster Members  
& 250+ associated Members

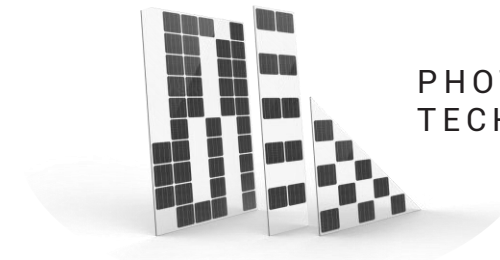




# Where are we now?



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PHOTOVOLTAICS  
TECHNOLOGIES & PRODUCTS



CO2 UTILIZATION SYSTEMS &  
CO2 REUSE FOR HEAVY  
INDUSTRY



Battery Energy Storage Systems  
(BESS) and BESS Parks  
SIB (Sodium-Ion, Li-Ion)



THERMAL ENERGY STORAGE  
(Industrial & Residential)



IoT + deep-tech AI for PV  
Operations & Maintenance





**Where are we  
now?**





# How PV sector was built

Lab-to-Fab success by PV Industry/Research Experts. From creating open-access Industrial RTD infrastructure to leading EU region by PV industry and PV deployment.



Vertical adaptability  
Startup ecosystem  
Boost



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2008

2009

PV Industry emerges



Application to BAPV  
/ Solar Parks

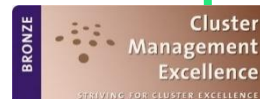


Single company  
level RTD  
support



PV + Storage

2018

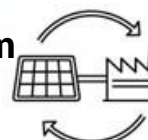


2023



2024

Premium / Premium  
Packages



2026

Replication  
Worldwide  
Model:  
Tech-transfer

I UPGRADE

II UPGRADE

III UPGRADE

IV UPGRADE  
ongoing

V UPGRADE  
upcoming

**FLEXCELL**  
technology  
(LT RTD based)

**Standard**  
technologies  
(Al-BSF solar cell  
technology and 3  
busbar module)

**PERC**  
technology  
(solar cell and  
glass-glass  
module  
technology)

**IBC**  
technology  
(solar cell and  
multi-busbar/IBC  
module  
technology)

**Tandem**  
technology  
(solar cell and  
module  
technology)

**Four Major PV upgrades of Si cell / module production technology**  
(during cluster existence)



2008

Industrial RTD  
Infrastructure created  
**FIRST STEP**

# Open for Opportunities



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## OFF-GRID WATER PURIFICATION SOLUTIONS

SEA WATER – TO DRINKABLE  
WATER. OFF GRID SYSTEM



## AGRI-SOLAR SOLUTION DISTRIBUTION PARTNERS

DUAL LAND USE, UP TO 10%  
MORE HARVEST. UP TO 15%  
LESS WATER CONSUMPTION



## BIPV PRODUCT DISTRIBUTION PARTNERS

MADE IN EU PV/BIPV  
PRODUCTS FOR SEAMLESS  
INTEGRATION



## WASTE HEAT RECOVERY PRODUCT DISTRIBUTION.

UP TO 95% WASTE HEAT  
RECOVERY  
UP TO 2X MORE DENSE HEAT  
STORAGE



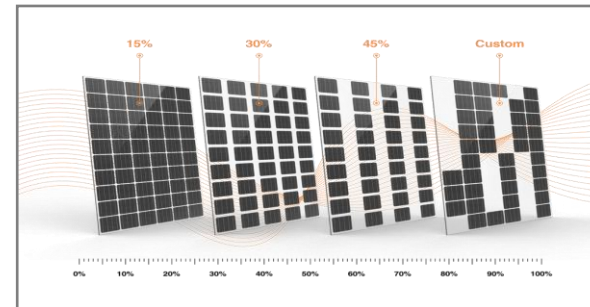
## BESS PARK DEVELOPMENT AND INVESTMENT

INVESTMENT READY  
INDUSTRIAL SCALE BESS  
PARKS + AI (EU/GCC)



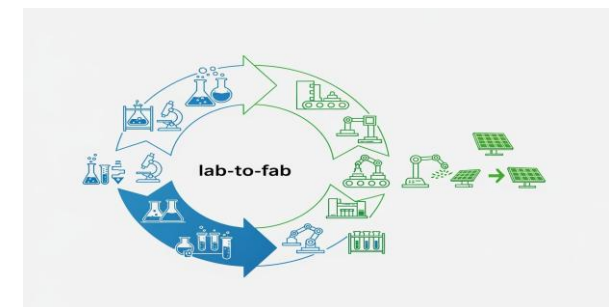
## INVESTMENT READY PV/BESS COMPANIES

BIPV/PV MANUFACTURERS  
AI STARTUPS  
BESS TECHNOLOGY  
DEVELOPERS



## LOCALIZATION PARTNERSHIPS

BIPV/PV PRODUCTS  
STORAGE SYSTEMS  
AGRI PV SYSTEMS  
PV MANUFACTURING SCALE-UP



## RTD-BUSINESS SCALABLE MODEL TRANSFER SERVICES

REPLICABLE BUSINESS MODEL  
TO BOOST ECOSYSTEM OF  
INTEGRATED PV LOCALLY





Let's **#RePowerGCC**  
Together!

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