

The Role of Innovation in Shaping a Sustainable Solar Industry

Thursday, December 7
10:00 – 11:00

SUSTAINABLE
SOLAR
EUROPE 2023



A portrait of Hanna Dittmar, a young woman with long blonde hair and blue eyes, smiling. She is wearing a dark, textured, high-necked top. The background is white.

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EUROPE 2023

Hanna Dittmar

Junior Project Officer,
SolarPower Europe

7 December, Brussels, Belgium



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Claire Agraffeil

Project Coordinator,
CEA

7 December, Brussels, Belgium



From research to industry

Towards a sustainable green energy transition

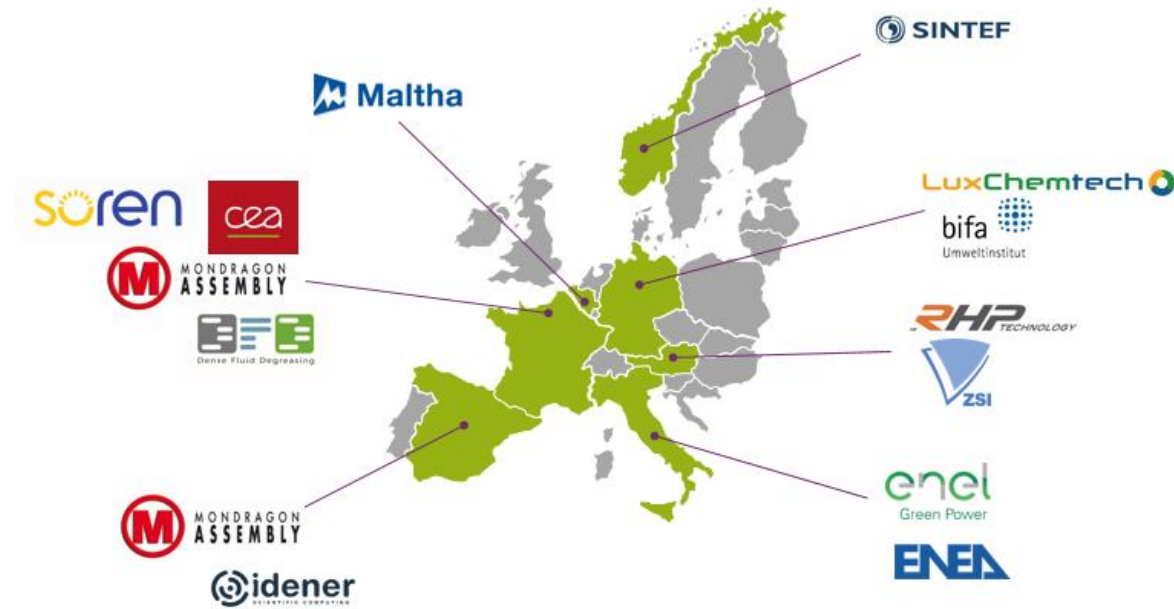
PHOtovoltaic waste management – advanced Technologies for recOvery & recycling of secondary RAW MAterials from end-of-life modules

H2020 project (May 2021 – April 2024)

Budget : 10,365,764.75 €

EC Contribution : 8,381,666.38 €

- 13 partners
- 5 key objectives
- Set up of a full management Pilot Line



A circular economy across the photovoltaic value chain

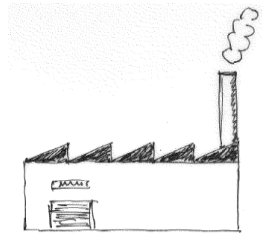
“develop innovation leading to competitive solutions to launch sustainable markets for secondary RM in Europe.”



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 958223.

A circular model

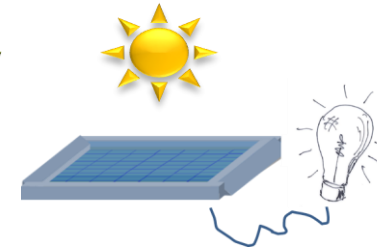
From concept to field experience



Sustainable products

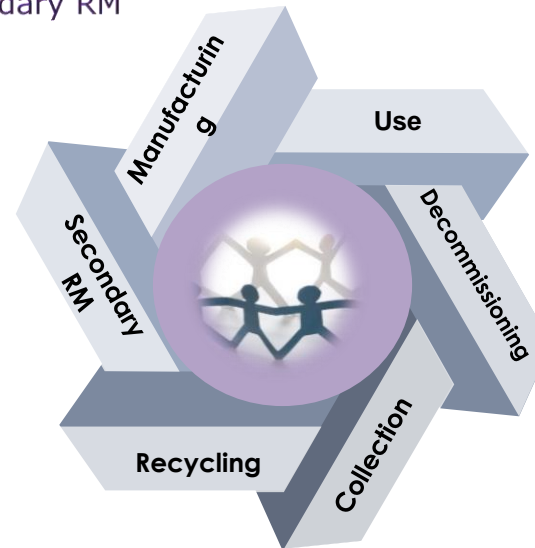
- Made up of secondary RM

Green energy Production



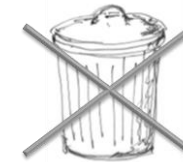
High-value recovery

- Recovery ratio > 98 %
- Metal purity 98-99.999 %



Good practices

- Assessment EoL
- Characterization
- Standardization



Up-cycling

- 7 Pilot Units
- Full Pilot Line





Francisco Javier Luque

Senior Project Manager,
Iberian Sustainable Mining Cluster

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07/12/2023
Clustering Workshop
Sustainable Solar Event



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Grant Agreement Number 101058583

RESiLEX project

Website: <https://www.resilex-project.eu/>



Context : Development of technological solutions for reusing Silicon, recycling PV modules and designing new products in the fields of mining, solar & batteries

The RESiLEX Consortium gathers **21** partners from **8** different countries:



Industries & SMEs



Industry-driven Clusters & Associations



Research Centres



Universities





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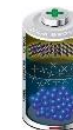
Grant Agreement Number 101058583

RESiLEX project

Website: <https://www.resilex-project.eu/>



- Budget → **12 M €**
- Duration → **4 years**, started on June 2022
- Technologies → **8 Demonstrations**



- Work packages → **8 WP**

5 WP technical

- WP2** : Mining & Raw materials extraction
- WP3** : Production of Solar-grade polysilicon
- WP4** : Cells & modules manufacturing
- WP5** : Recycling of PV panels
- WP6** : Manufacturing of Si-based anodes for Li batteries

3 WP organisation & analysis

- WP1** : Project management
- WP7** : LCC, LCA, social impact, ...
- WP8** : D&C + Exploitation strategy

- ISMC role

COORDINATOR

WP Leader: DEC

(Dissemination, Exploitation & Communication)



Stakeholder Engagement Event in Brussels

When: afternoon 23rd May 2024

Framework: Annual Conference of the European Technology and Innovation Platform (ETIP PV) in cooperation with the HE project EVERPV



<https://etip-pv.eu/events/etip-pv-conference>



ReSi lex



Thank you!




<https://www.resilex-project.eu/>

 RESiLEX Project
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www.ismc-iberiamine.com

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Grant Agreement Number 101058583



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Daniela Ariolli

Sustainability and Circular Economy Specialist
(Technical Innovation department),
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7 December, Brussels, Belgium

TRUST-PV research project

Exploring second-hand PV opportunities

Presented by
Daniela Ariolli, Sustainability and Circular Economy Specialist
BayWa r.e. Operation Services S.r.l., Rome, Italy

7th December 2023, Sustainable Solar Europe 2023, Brussels
The Role of Innovation in Shaping a Sustainable Solar Industry



TRUSTPV
SOLAR PV, PERFORMANCE & RELIABILITY

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 952957



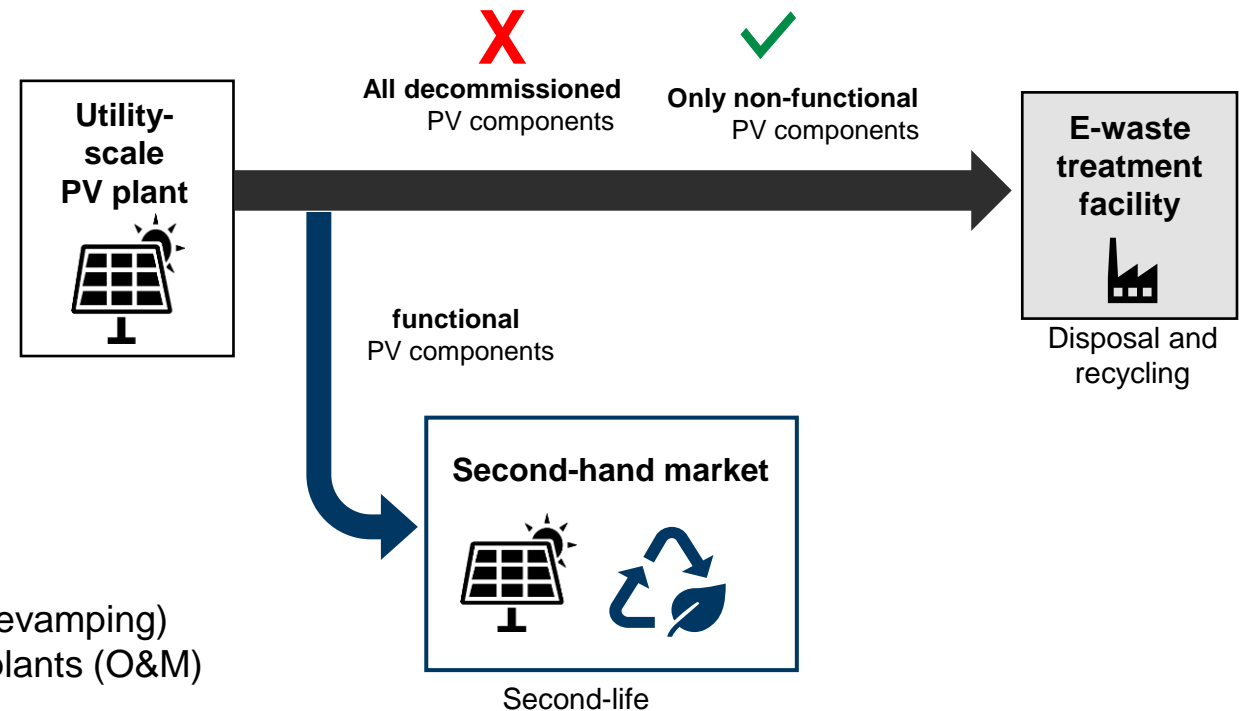
Circular PV

■ Topics explored:

- Extending the lifetime of PV assets by improving their reliability and performance
- Progressive revamping
- Re-use as an alternative of the state-of-the-art of EoL management (recycling/disposal)

■ Main activities:

- European circular PV players mapping
- Circular business model assessment in Italy (reuse & revamping)
- Test on site for preparing modules to be reused in PV plants (O&M)



TRUSTPV
SOLAR PV, PERFORMANCE & RELIABILITY

Link to the scientific article:

<https://doi.org/10.4229/EUPVSEC2023/5DO.15.6>

Link to TRUST-PV report:

[Re-use of PV modules and circular business models – TRUST PV \(trust-pv.eu\)](https://trust-pv.eu)



Thank you!

Daniela Ariolli

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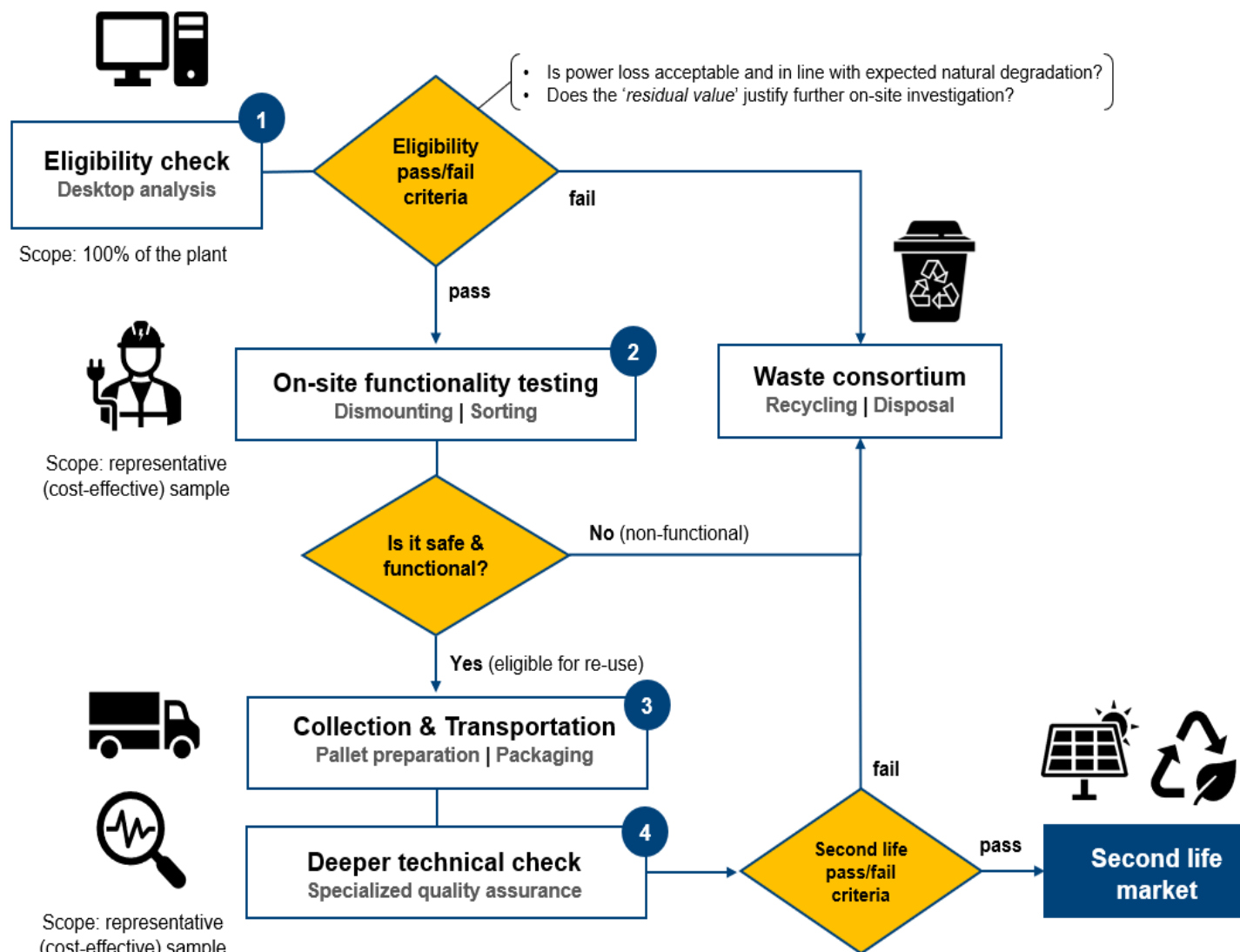
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Preparing for re-use procedure. Source: BayWa r.e.



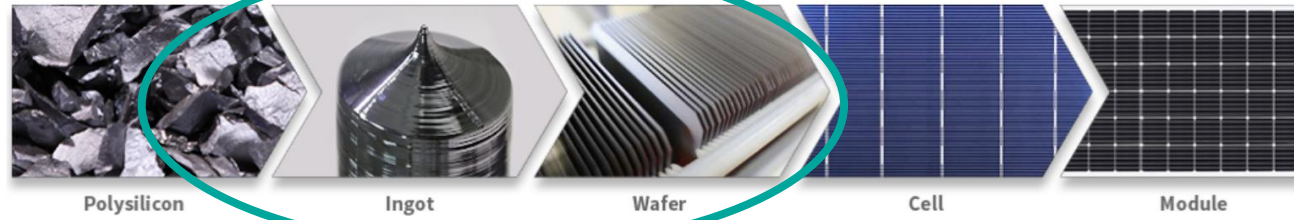
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Research Scientist,
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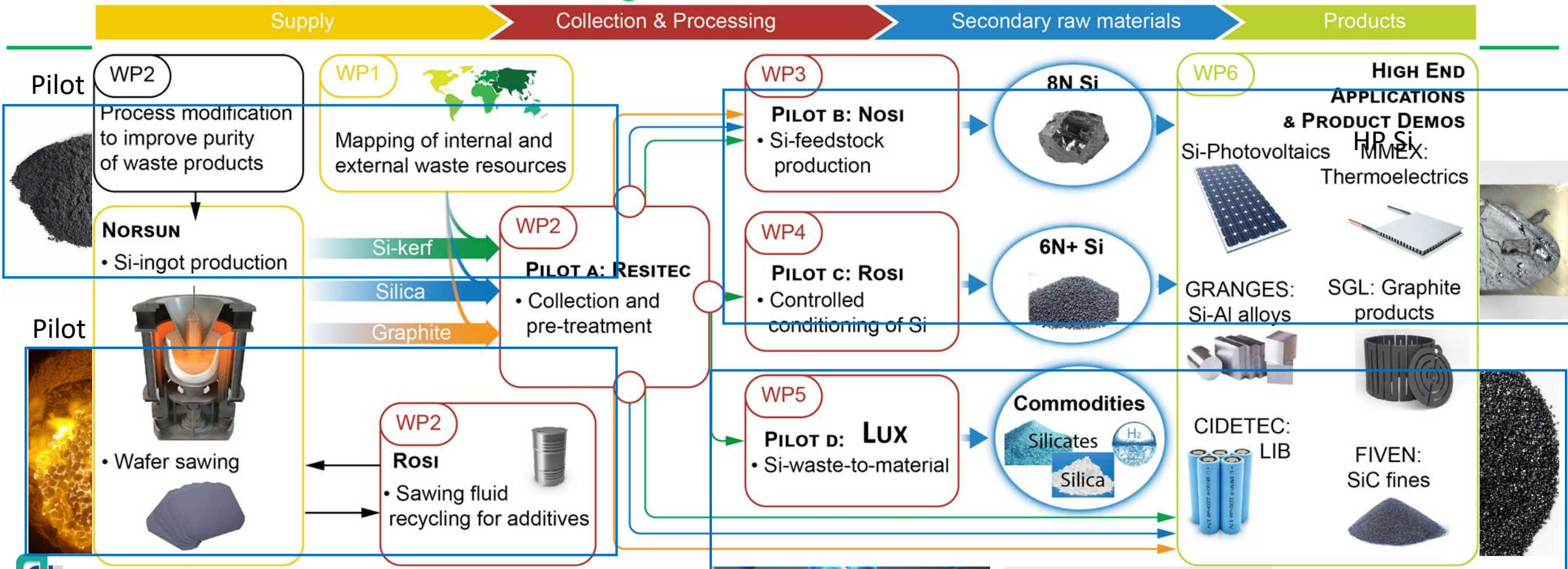
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PV value chain



Waste materials





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Tom Rommens

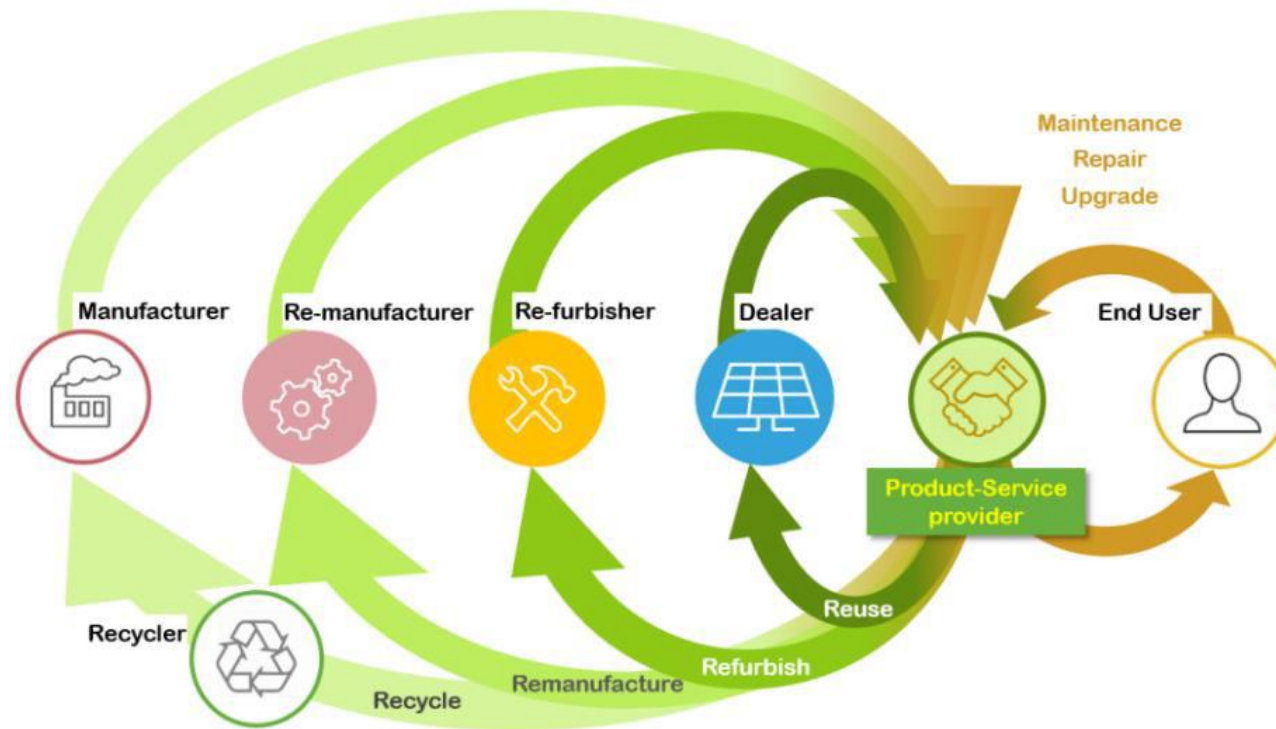
Researcher,
VITO

7 December, Brussels, Belgium



Tom Rommens - VITO

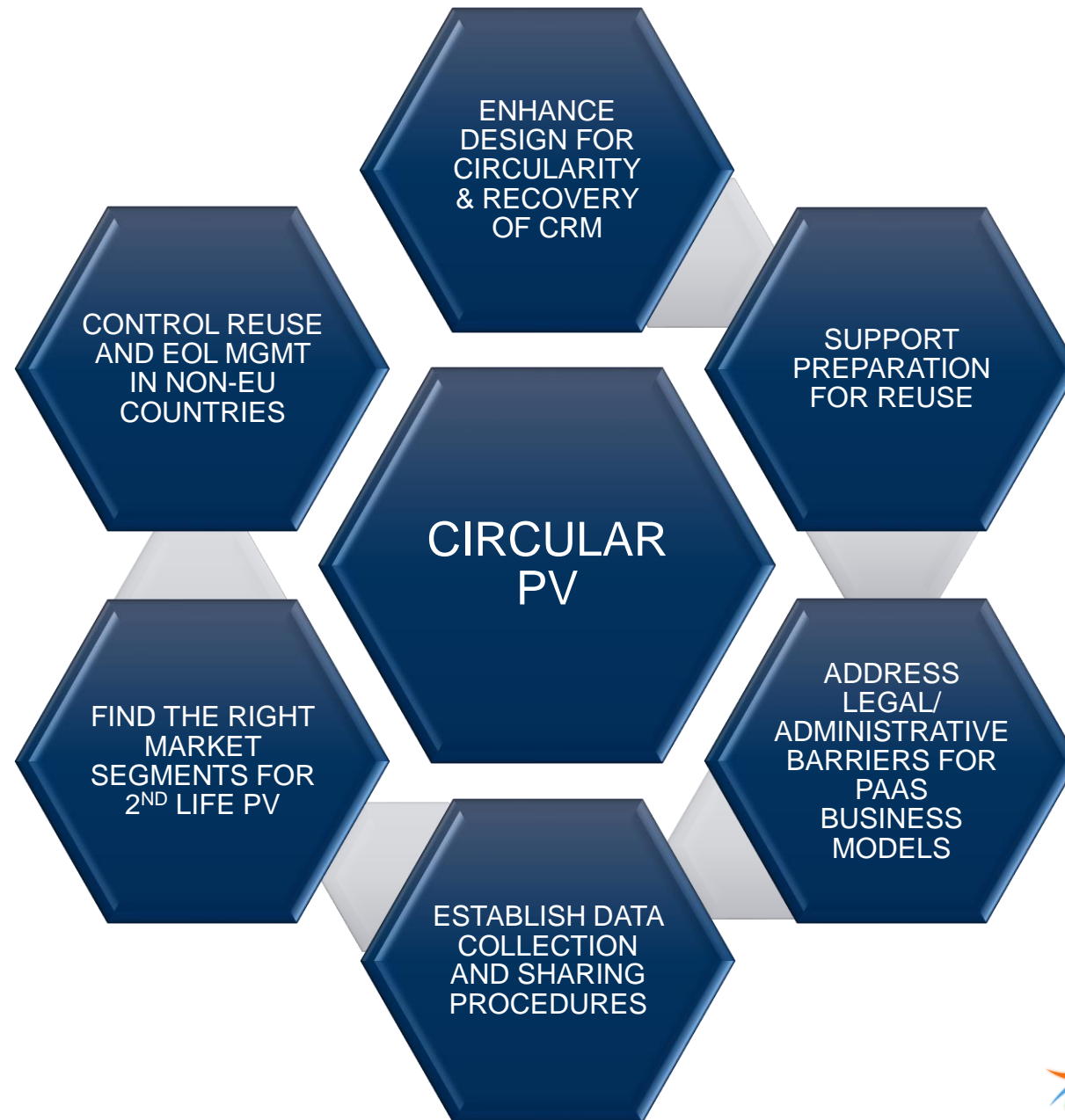
Circular Business Models for the Solar Power Industry



Circular PSS model = Circular product management + Value added product-service



Lessons



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