



# **Cost-reduction through material optimisation and Higher EnERgy output of solAR pHotovoltaic modules**

***Joining Europe's Research and Development efforts  
in support of its PV industry***

***Jan Kroon – Project coordinator  
CHEETAH event @ EUPVSEC, Hamburg  
16-09-2015***



This project has received funding from the European Union's Seventh Programme for research, technological development and demonstration

# Facts and Figures

- FP7-Energy-2013 IRP
- Grant agreement no.: 609788
- Combination of collaborative research project and coordination action
- Total planned costs: 13.2 M€
- Contribution by EC: 9.7 M€
- Duration 48 months: (1/1/2014 -1/1/2018)
- Coordinator: ECN
- Website: [www.cheetah-project.eu](http://www.cheetah-project.eu)

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Today's Challenges

CHEETAH's objectives

Overall strategy of the workplan

Consortium

Acknowledgments

News and events

Press room

Scientific publications

Exchange Portal



The screenshot shows the CHEETAH project website. At the top, there is a navigation bar with links: home, Contacts, User links, Search, Site map, mynaspere, Share, and RSS. The main content area features a large banner for the 'CHEETAH PROJECT EVENT AT EU PVSEC'. The banner includes the text: 'Europe's Research and Development efforts in support of its PV industry', 'Cost-reduction through material optimisation and higher Energy output of solar photovoltaic modules', and 'Hamburg, Germany, 16<sup>th</sup> September 2015 (13:00 – 16:45) CCH - Congress Centre Hamburg (EU PVSEC 2015) – Hall 7 on the first floor'. Below the banner, there is a paragraph stating: 'Cheetah project will host its first public event at this years EU PVSEC. The project has gone only halfway towards the end of it, but there are already some remarkable results to show and discuss on together with other experts.' To the right of this paragraph, there are two links: 'You can find the draft agenda of the event here' and 'Please register for the event here'. Below the main content, there is a section titled 'CHEETAH PROJECT' with a detailed description of the project's goals and funding. At the bottom of the main content area, there are three images: a solar cell, a roll of material, and a person holding a solar panel. On the right side of the website, there is a 'News' section with two entries: '17 July 2015 CHEETAH PROJECT EVENT AT EU PVSEC' and '27 May 2015 INTENSIVE COURSE ON SOLAR DESALINATION TECHNOLOGIES AND RESEARCH TRENDS'. Each entry includes a brief description and a link to 'Read more news'.

# History

**SET Plan** 20-20-20 targets

**SEII** Solar Europe Industry Initiative (**SolarPower Europe & EU-PVTP**)

## **SET plan for PV for 2020**

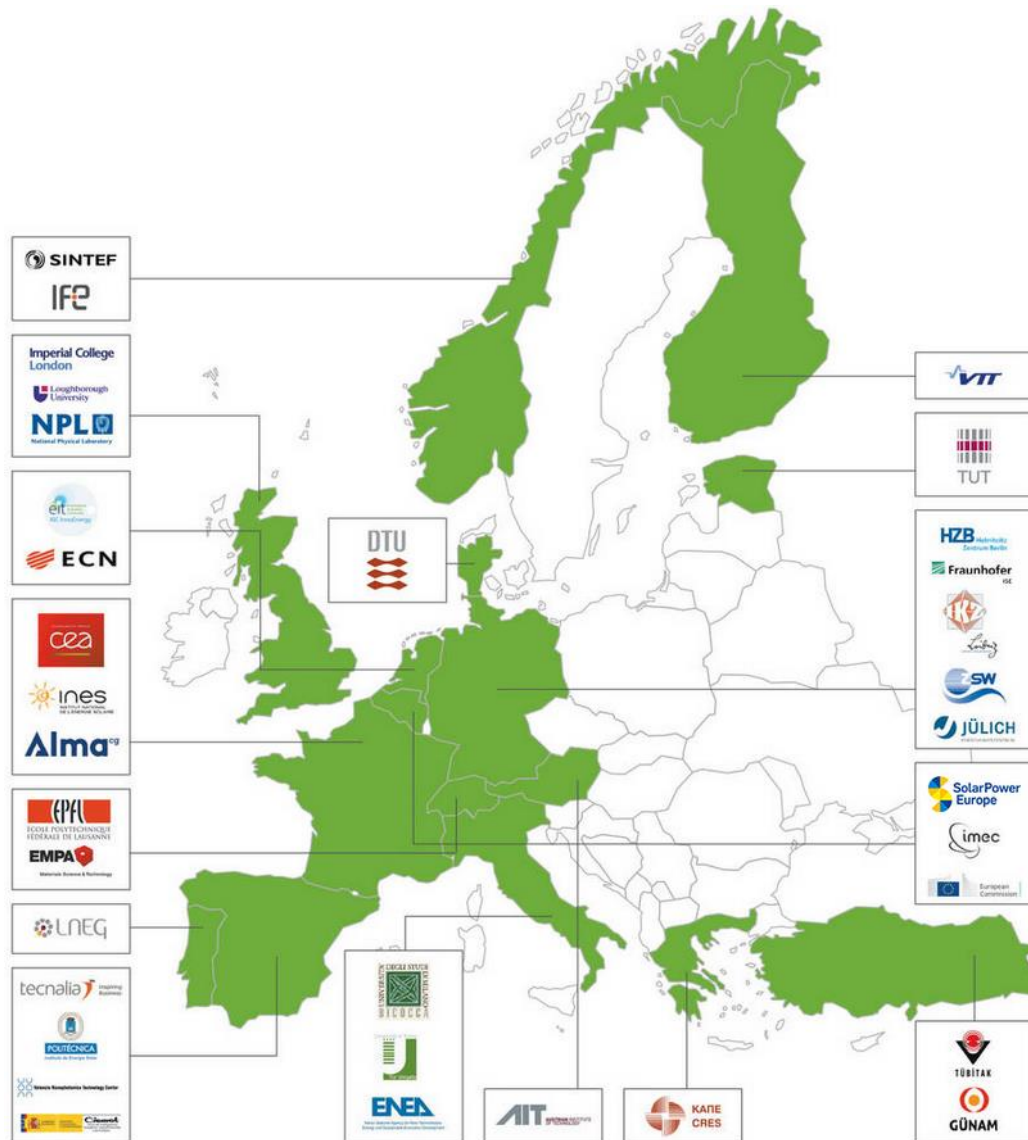
- Baseline BaU: 4% in 2020, 10% in 2030
- Accelerated Growth: 8% in 2020, 15% in 2030
- Paradigm Shift: 12% in 2020, 25% in 2030

**EERA-PV**: Established at SET-plan Conference, Madrid 2010

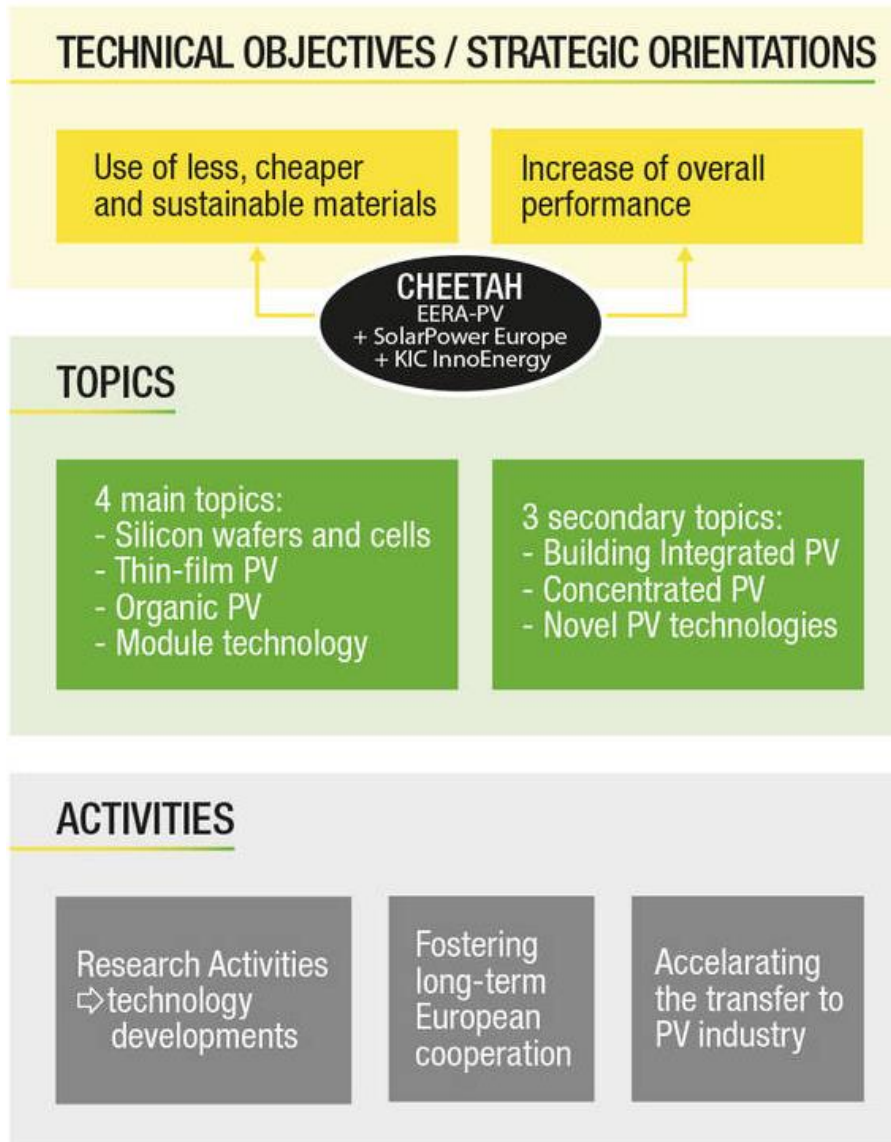
- Accelerate development PV through integration RD&D in EU
- Rely on existing instruments for its JP

**SOPHIA** first example of such a joint project (RI) and now: **CHEETAH** !!

# Consortium: 34 partners

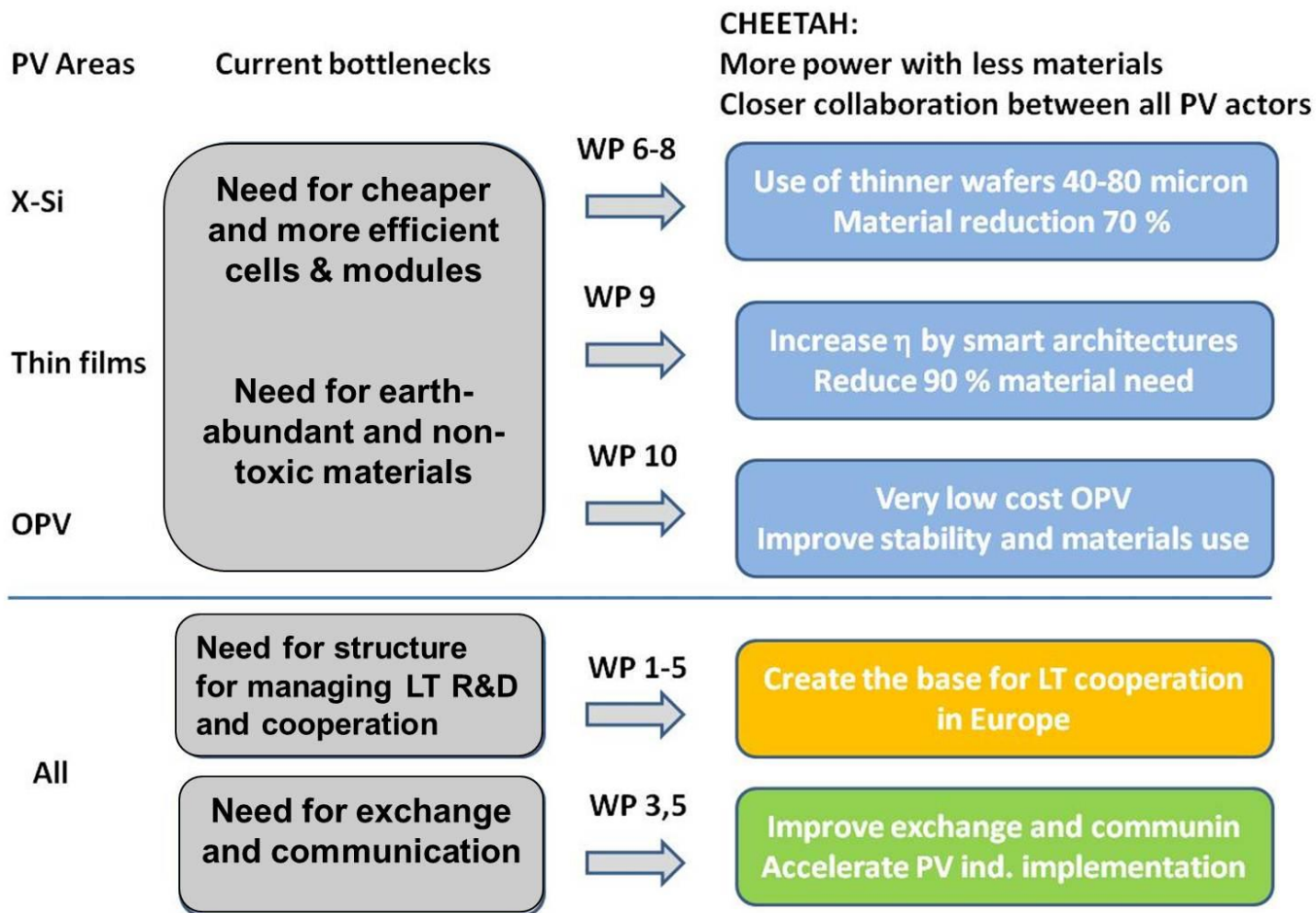


# Concept and objectives





# Main innovations

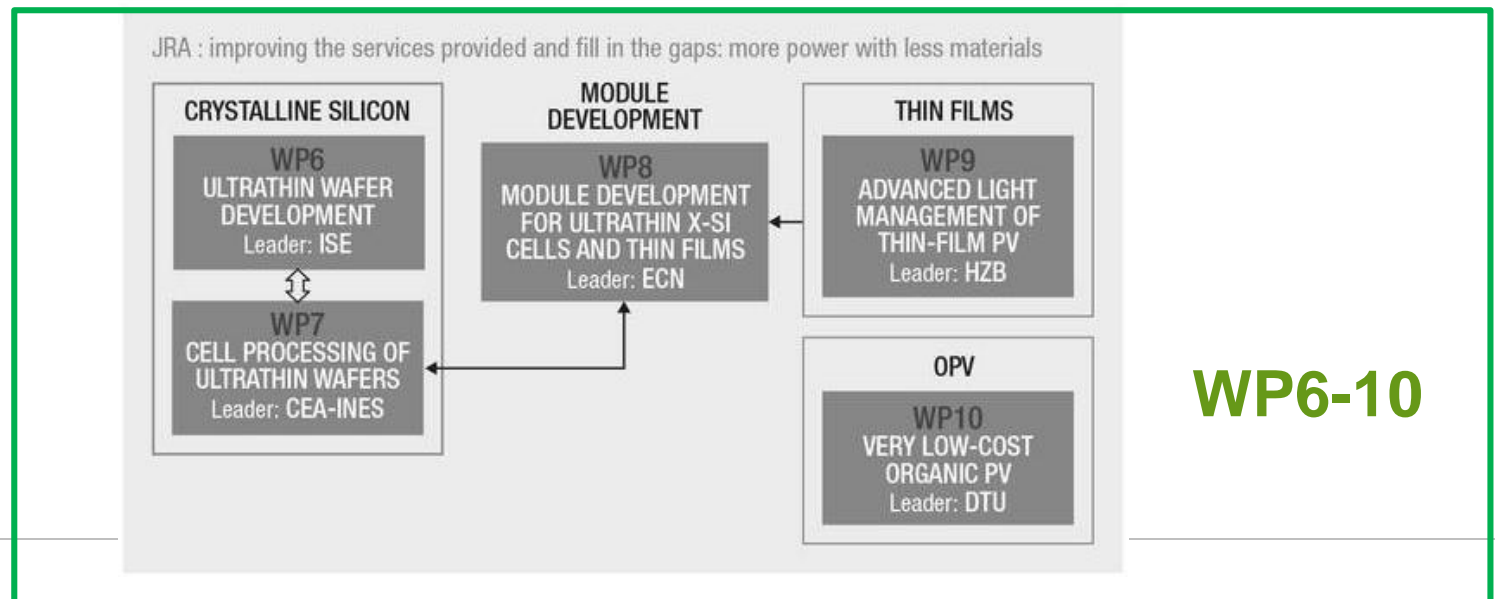


# WP structure



**WP1**

**WP2-5**



**WP6-10**



## Some examples of CSA in WP2-5 (no R&D)

- Coalignment with EERA-PV Joint Programme
- Mobility actions between CHEETAH partners for training/educational purposes
- Organization of (dedicated) training workshops/summer universities
- Establishment of an International Coordination Board
- Set-up of Round Robin trials towards standardization
- Dissemination and exploitation
- Interfacing with industry: public events, advisory board
- Construction of a “Knowledge Exchange web Area Portal”

# http://www.cheetah-exchange.eu/



PV Technologies

PV RTD Topics

Consortium members

External partners

Infrastructures

Equipments & Instruments

Expertise

Technical documents

Courses

Webinars

News

Discussion

Cheetah-project web site

Home

Contacts

Privacy policy

Useful links

7FP-CHEETAH

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[home](#) >

## CHEETAH KNOWLEDGE EXCHANGE WEB AREA PORTAL

The the first and more relevant steps to support a joined "pan-European strategic common vision" to sustain the development of PV technology aligned to "European Photovoltaic Technology Platform", "Strategic Energy Technology Plan" and National European PV Technology platforms concern the inventory of available expertise and infrastructures, the analysis of technical-scientific necessities in short, medium and long term and the definition of action plans aiming to foster relationships and multidisciplinary collaboration research at international, national, and each organization and laboratory level. **CHEETAH Knowledge Exchange Web Area Portal (KEAP)**, powered and developed by UTPP-ENEA ©2014 is an integral part of [CHEETAH project](#) web site by availing itself of contribution coming from all [CHEETAH partners](#)

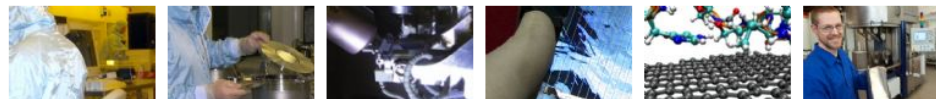
In parallel to project web site and other dissemination activities (newsletter, communication, etc), constitutes the tool to bring information from different sources in a uniform and simple way to all CHEETAH partners, as permanent channel fostering the *use of existing Facilities and Expertise (WP2)*.

- 🔧 CHEETAH KEAP operates from the collection the availability of expertise/infrastructure (supply site), to its elaboration (management) and its final offer to project partners (demand site).
- 🔧 it operates as a dynamic data base matrix: any uploaded information is linked to any other by dynamic links that allow access to information as well as to a group of information. For that reason, it represents the main pillar for fostering access to existing infrastructures and expertise (WP2)
- 🔧 Based on several very efficient ICT procedures for the collection and management of information, all interested browsers/readers can have efficient access to stored data thanks to the utilization of search engine/query keywords used in connection with the more diffuse and efficient ICT procedures and user friendly graphic interfaces.

Such tools have been realized with the aim of promoting individual and collective knowledge exchange actions among experts and trainees from beneficiary organizations. In addition,

- 🔧 The portal is also accessible to non CHEETAH partners offering them opportunities to upload their own infrastructures, profiles. [Contact us](#) for it
- 🔧 the web area provides dedicated tools to share expertise by organizing on-line meetings, webinars and on-line tests.

CHEETAH KEAP represents a major breakthrough in the field with highly innovative contents and a substantial improvement in comparison with the state of the art of knowledge exchange on PV RTD. The ICT technical management is periodically revised and implemented to adapt the web portal to new necessities on PV RTD fields/topic cataloging/search.



Poster 7AV 4.48, Thursday, 17th September 2015 17:00 - 18:30,  
Room: CCH 2nd Floor / Poster Area Hall G



# Advanced Characterization Methods for PV

Freiburg, Fraunhofer ISE  
January, 15th 2016

Materials

Cells

Systems

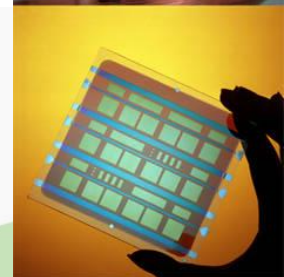
Material characterization:  
OPV Thin-Film c-Si Intermediate Band  
**X-ray analysis**  
Large-Area Characterization  
In-line imaging  
Outdoor Module Testing  
& many more

Exchange & Collaboration platform

For questions & registration:  
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**Start of the project  
1-1-2014**



**@M18**



**End of Project ??  
01-01-2018**

**Thank you for your attention!!**