

EC Grant Agreement n°609788

CHEETAH

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

Deliverable

D2.16 – Realization of Knowledge Exchange Sharing Web area based on utilization of the project web site developed in task 4.1/deliverable 4.1

WP2 – Fostering the use of existing facilities and expertise



D2.16 – Realization of Knowledge Exchange Sharing Web area based on utilization of the project web site developed in task 4.1/deliverable 4.1

Section 1 – Document Status

Document information

Deliverable name	D2.16 – Realization of Knowledge Exchange Sharing Web area based on utilization of the project web site developed in task 4.1/deliverable 4.1
Lead beneficiary	ENEA
Due delivery date from Annex I	M3
Actual / forecast delivery date	M7
Dissemination level	Public Restricted Confidential

Document validation

Name	Organisation	Date	Visa
Francesco ROCA – WP2 leader	ENEA	07/10/2014	OK
Jan Kroon - Coordinator	ECN	20/10/2014	OK

Document history

Version	Date	Modifications	Name
V0	02/08/2014	Creation draft version	F.Roca
V1	05/09/2014	Updated version with extra info	F.Roca
VF	08/09/2014	Submission to PC	F.Roca
	06/10/2014	Format and typo corrections	C. Secchi

D2.16 – Realization of Knowledge Exchange Sharing Web area based on utilization of the project web site developed in task 4.1/deliverable 4.1

Section 2 – Table of content

Section 1 – Document Status	2
Section 2 – Table of content.....	3
Section 3 – Publishable summary.....	4
Section 4 – Executive summary.....	5
Section 5 – Deliverable technical report	8

Section 3 – Publishable summary

CHEETAH Knowledge Exchange Portal, 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). The portal is powered and developed by UTPP-ENEA ©2014 and it is an integral part of CHEETAH project web site by availing the contribution from all CHEETAH partners to:

- identify the CHEETAH partners and European PV RTD Community's technical-scientific needs
- efficiently establish and promote channels and procedures to transfer information among each partner in order to enforce potential and effectiveness of RTD activities held by each organization

The portal is also accessible to non-CHEETAH partners offering them information on availability of infrastructures, equipment, expertise, technical documents to widely foster the interaction and collaboration among organizations involved in Photovoltaic RTD.

In addition, the web area provides dedicated tools to share expertise by organizing on-line meetings, webinars and on-line tests.

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

Section 4 – Executive summary

1.1. Description of the deliverable content and purpose

The deliverable presents the efforts which have been set by CHEETAH project to establish the CHEETAH knowledge Exchange Portal (KEAP), the specific web area integrated to the main project web site which will sustain the collaborative frame of CHEETAH partners on ideas exchange, expertise, infrastructures and research results.

CHEETAH KEAP operates from the collection of availability of expertise/infrastructure (supply site), to its elaboration (management) and its final offer to project partners (demand site). For that reason, it represents the main pillar for WP2 - fostering the use of existing facilities and expertise - and it needs the tight collaboration among CHEETAH organization contact points, project work packages and task leaders

CHEETAH KEAP also tightly interacts with CHEETAH WP4 - Dissemination, internal and external communication activity - because it brings all the relevant technical/scientific information from different sources in a uniform and usable way and it avoids double work on the collection of information and on its elaboration maximizing the knowledge exchange supply, collection and offer.

Particularly CHEETAH KEAP introduces several very efficient ICT procedures for the collection and management of information. In fact the web portal operates as a dynamic data base matrix: any uploaded information is linked to the other by dynamic links that allow access to any individual information as well as to a group of information already uploaded (*available equipment? Expertise? Where are are located? Who could I contact? Etc*). It also imposes the utilization of structured cataloguing criteria based on PV technologies/PV RTD topics and CHEETAH involved organizations. Last but not least, all interested browsers/readers can have efficient access to stored data thanks to the utilisation of search engine/query keywords used in connection with the more diffuse and efficient ICT procedures and user friendly graphic interfaces.

From this point of view, the procedure to collect and offer information to CHEETAH partners and other project consortia 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. It makes CHEETAH KEAP unique and its approach has never been experienced in Europe.

From operative point of view:

- the operational management of the site requires a continuous adaptation to the information content and its periodically revision on daily/weekly/monthly basis
- the ICT technical management of the web portal (ICT procedures and strategy) will periodically need revisions and implementations to adapt the web portal to new necessities on PV RTD fields/topic cataloguing/search criteria, and this will also impose implementation of the graphic output

Therefore CHEETAH KEAP cannot be managed by utilising the main project web site for the following main motivations:

- It needs to exploit a dynamic ICT environment that is totally different from any conventional html web site approach,
- It offers a more direct interaction on the technical/scientific content among coordinator, WP2 responsible, CHEETAH partners contact points, WP/task leaders, webmaster and end-users and the scientists/researchers/experts/students interested in accessing the information,
- All key participants are directly involved in the process and in real time, as it usually happened in exchange web site like linked-in, research-gate, google-scholar. This will offer a more friendly shorthand approach with each other by focussing mainly on technical aspects and their needs, more than formal procedures to approve amendments, as they are typically requested to project Web Site,
- The utilisation of a different area will reduce any technical ICT difficulty which could be caused to the main project web site by the very frequent revision/maintenance requested by CHEETAH KEAP: it will be continuously implemented during the development of the project depending from technical/scientific necessities of the project and involved partners.

This will impose the access and utilisation of different ICT frame. In addition CHEETAH KEAP utilises the same graphic frame of the main project web site as well as some video output organization. Furthermore CHEETAH KEAP URL, has been set on a very similar way to CHEETAH project web site in agreement with the coordinator and ALMA, responsible for the development of the project web site.

The selected uniform resource locator (URL) assures that reader browsing on both web sites don't feel any change moving from one to other ICT environment, except the URL difference limited to the changes in the words project/exchange

CHEETAH Web site URL <http://www.cheetah-project.eu>

CHEETAH KEAP URL <http://www.cheetah-exchange.eu>

and the presence in CHEETAH logo of the words "knowledge Exchange web area".

In the near future, additional relevant facilities will be introduced in CHEETAH KEAP, among them:

- webinar tools, to offer outstanding speeches on hot PV RTD Topics,
- on-line forum/fora for internal/external technical/scientific discussions on specific themes,
- on-line questionnaire tool to optimize submission and collection of specific information requested to CHEETAH partners.

1.2. Brief description of the state of the art and the innovation brought

See technical session



CHEETAH

Knowledge exchange Area portal (CHEETAH KEAP)

Summary on main functionalities

(as August 2014)

CHEETAH KEAP TEAM

Responsible Francesco ROCA (ENEA) info@cheetah-exchange.eu franco.roca@enea.it;
Phone: +39-081-7723270

Web master David CASABURI (ENEA) webmaster@cheetah-exchange.eu

ICT Technician Giuseppe CIPOLLETTA (ENEA)

2. CHEETAH KEAP

CHEETAH Knowledge Exchange Portal was developed in parallel to the project web site and to other dissemination activities (newsletter, communication, etc); it 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).

The portal is powered and developed by UTPP-ENEA ©2014 as an integral part of CHEETAH project web site by availing the contribution from all CHEETAH partners to:

- currently identify CHEETAH partners and European PV RTD Community's technical-scientific needs,
- efficiently establish and promote channels and procedures to transfer information among each partner in order to enforce potential and effectiveness of RTD activities held by each organization,
- the web area provides dedicated tools to share expertise by organising on-line meetings, webinars and on-line tests and experiments

The portal will also offer to non-CHEETAH partners access to the information on available infrastructures, equipment, expertise and technical documents to foster the interaction and pan-European collaboration among organizations involved in PV RTD.

3. CHEETAH CONTENT AND ORGANIZATION

CHEETAH KEAP uses the same graphic frame as the main project web site, although it is based on a different ICT frame. The last one is more useful to the management of dynamic data bases.

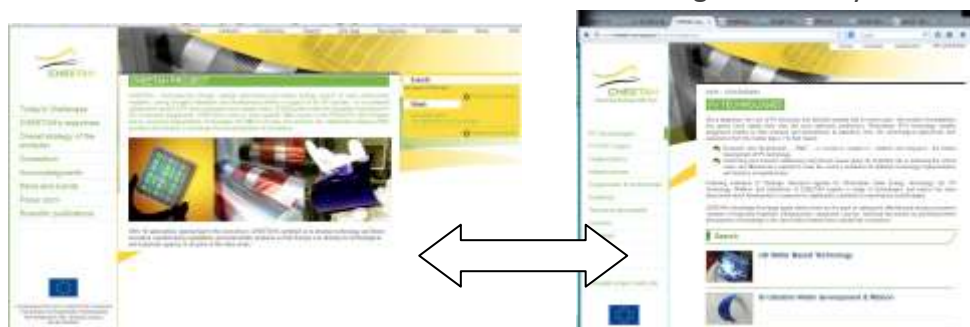


Fig. 1 - CHEETAH project web site home page (on left) and CHEETAH KEAP (on right) respectively

In agreement with coordinator and ALMA, CHEETAH KEAP URL has also been set very similar to CHEETAH project web site:

CHEETAH Web site URL <http://www.cheetah-project.eu>

CHEETAH KEAP URL <http://www.cheetah-exchange.eu>



The words “Knowldedge Exchange Web area” were also introduced in the CHEETAH logo, as a visual tool to realize that browser/readers move from CHEETAH web site to CHEETAH KEAP area.



Fig 2 : CHEETAH KEAP:

Slight changes in CHEETAH Logo by including extra words « Knowldedge Exchange Web area”

The main differences concern the following aspects:

- CHEETAH KEAP will continuously be adapted to the operative technical/scientific information needs of the project partners on daily/weekly/monthly basis
- the ICT technical management of the web portal (ICT procedures and strategy) can be periodically subjected to revisions and implementations to adapt the web portal to new necessities on PV RTD fields/topic cataloguing/search criteria.

Relevant facilities will be very soon included such as webinars tools, on line forums and discussions, and on-line questionnaire tools.

4. CHEETAH KEAP PV TECHNOLOGIES

Photovoltaic (PV) technology steadily progresses thanks to both research and development at laboratory level and the technological deployment and experience from the market place. Research and Development – “R&D” – is crucial to sustain in mid and long-term the further development of PV technology. Performing joint research addressing well-chosen issues plays an important role in achieving the critical mass and effectiveness required to meet the sector’s ambitions for definitive technology implementation and industry competitiveness, Following indications of “Strategic Research Agenda for Photovoltaic Solar Energy Technology” EU PV Technology Platform and indications of CHEETAH experts, a range of technologies and topics has been determined which development is expected to significantly contribute to reach the overall targets and can be the objective of knowledge exchange:

- cSi Wafer Based Technology
- Si Ultrathin Wafer development & Ribbon
- TFSi-Thin Film Silicon
- CIGSS- Copper indium gallium diselenide
- CdTe-Cadmium telluride
- Emerging/Novel Inorganic, Hybrid PV Materials & Nanotechnologies (Perovskite, Kesterite, quantum dot/quantum wire SC, Intermediate band SC, etc)
- Organic Photovoltaics
- DSSC- Dye Sensitized Solar Cells
- Material and Device Characterisation
- Materials, devices, system modelling
- PV Module realisation & Development
- PV Module qualification & testing
- PV Components, Systems & Interface to grid
- CPV Concentration Photovoltaics
- BIPV Building Integration Photovoltaics
- Education & training

D2.16 – Realization of Knowledge Exchange Sharing Web area based on utilization of the project web site developed in task 4.1/deliverable 4.1

- Socio-economic aspects & market
- Environmental impact, waste reduction and recycling
- PV RTD Networks, coordination of research efforts, strategy and PV RTD projects management

CHEETAH Knowledge Exchange portal uses them as the base to catalogue the offer/demand among consortium partners of requested expertise, infrastructures, equipment, courses, technical documents, by promoting further development of knowledge in the same field of interest also outward the consortium.



Fig. 3 - PV RTD TECHNOLOGIES web page

http://www.cheetah-exchange.eu/pv_technologies.asp

5. PV RTD TOPICS

Based on CHEETAH catalogue of main PV RTD Technologies, a list of relevant R&D topics is proposed for the main existing technologies (wafer-based crystalline silicon, thin-film silicon, thin-film polycrystalline materials and organic materials) and ‘novel’ technologies and concepts as well as PV module characterization & testing, PV application and market. The main R&D topics per technology area are summarized on the CHEETAH web site and consist of around 120 topics. It is a tentative list that is dynamically updated following the indication of CHEETAH experts. PV RTD Topic can be sorted by utilizing different criteria. To each specific PV RTD topic the list of available CHEETAH experts, infrastructures, equipment, courses, technical documents is associated, when applicable, with the aim of intensifying the collaboration and the knowledge sharing among CHEETAH R&D providers.



Fig. 4 - PV RTD TOPICS web page
<http://www.cheetah-exchange.eu/tags.asp>

6. CONSORTIUM ORGANIZATIONS

The large number of outstanding research organisations working together on PV RTD via the CHEETAH project will avoid the useless replication of a large number of small efforts.

The CHEETAH Knowledge Exchange Portal aims at widely distributing information among partners on available expertise, infrastructures, equipment and technical documents, to provide the scientific community with common data base/catalogue. A list of CHEETAH consortium partners offers useful information associated to each CHEETAH organisation (expertise, infrastructures, technical documents, courses, webinars, discussion, news, etc.).



Fig. 5 - CHEETAH organizations web pages
<http://www.cheetah-exchange.eu/organisations.asp>

7. CHEETAH INFRASTRUCTURES

The main goal of dissemination of the information on existing infrastructures of the CHEETAH partners is to make available some of the existing top-class PV Research Infrastructures for the benefit of the whole European PV community. This is proposed on the basis of the establishment of reciprocal collaboration framework within European Community funded collaborative projects or in perspective of some projects based on agreements between parties based on business-to-business approach or bilateral/multilateral public/private funded project.. The extended database with the description of the research facilities is classified according to several criteria (research organisation, technical topic, category of infrastructure), is periodically updated and it serves to prevent duplication by stimulating access (CHEETAH task 2.2) and to promote future developments (CHEETAH task 2.3) in the circumstance of necessity of demand and lack of availability on the other side.

The listing of existing Research Infrastructures within the entire CHEETAH consortium, including friendly selection tools will be detailed and reported in the D2.1 report.



Fig. 6 - CHEETAH Infrastructures web pages
<http://www.cheetah-exchange.eu/infrastructure.asp>

8. CHEETAH EXPERTISE



Fig. 7 - CHEETAH experts web pages
<http://www.cheetah-exchange.eu/expertise.asp>

CHEETAH experts are available to comment/interact on a wide range of PV RTD topics. A list is offered in alphabetical order and searching criteria can be utilized by typing name or keywords, such as PV Technology/PV RTD Topic/Organization/Equipment.

9. CHEETAH WEBINARS, TECHICAL DOCUMENT, COURSES, DISCUSSION, NEWS

The aim of this task is the training of CHEETAH partner's scientific community based on the offer/demand of expertise, infrastructures, equipment. A set of training interactive courses and webinars will be planned in collaboration with all Joint Research Activity leaders of WP3 - mobility and international Cooperation activities and WP4 - Dissemination, internal-External Communication. The targeted audience should range from 5-10 to maximum 20 participants in order to enable a large number of them to effectively interact with experts. Particularly webinar will be based on the fruitful results and experiences of SOPHi@Webinar, the internal e-learning platform of FP7-SOPHIA project offering on-line in-depth training and discussions to all SOPHIA partners. The CHEETAH Webinar Platform will produce joint initiatives with SOPHi@webinar till January 2015, when SOPHIA project will be completed and the e-learning platform will be further implemented and directly transferred to CHEETAH project.



Fig. 8 - CHEETAH Webinars/courses web pages
<http://www.cheetah-exchange.eu/courses.asp>
<http://www.cheetah-exchange.eu/webinars.asp>