



Introducción al Proyecto INSHIP

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INSHIP – Integrating National Research Agendas on Solar Heat for Industrial Processes

H2020 LCE-33-2016 (RIA), GA: 731287
01.01.2017 – 31.12.2020 (48 months)
Coordination: Fraunhofer ISE

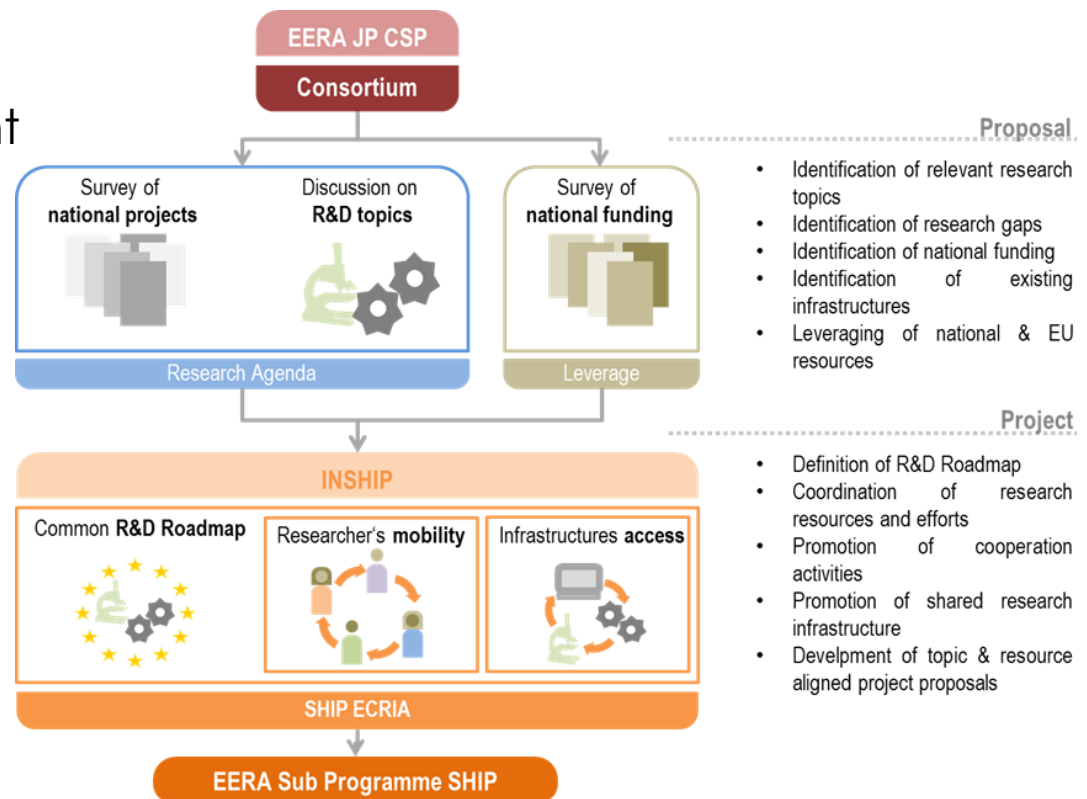
INSHIP aims at the **definition of a European Common Research and Innovation Agenda (ECRIA)** engaging major European research institutes, with relevant and recognized activities **on Solar Heat to Industrial Processes** into an integrated structure

- coordination objectives
- coordinated R&D activities (TRLs 2 to 5)

INSHIP focus

1) **definition of an ECRIA** consolidating existing EU and national resources **towards a SHIP R&D Roadmap**

2) **operationalization** through the engagement of a wide range of EU R&D institutions, **in coordinated R&D developed through researcher's mobility and infrastructure access schemes**



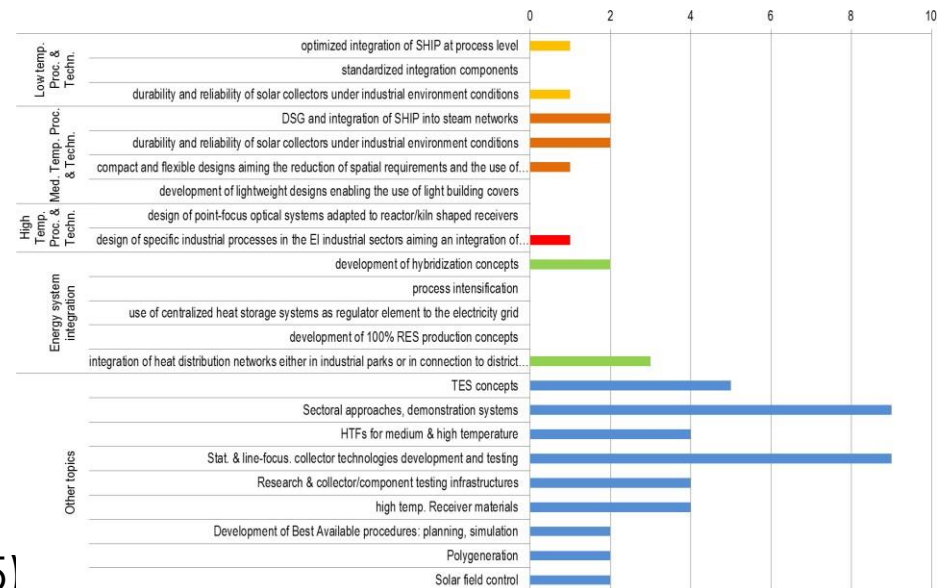
Ensuring a coordination of efforts around specific research activities, the project is structured in:

- **Coordination and Support Actions**
 - WP 1: coordination
 - WP 6: access to infrastructures & mobility
 - WP 7: alignment of R&D national policies and dissemination
 - WP 8: advanced networking
- **Coordinated Projects (R&D)**
 - WPs 2-4: low, medium and high temperature technologies/processes
 - WP 5: integration in the energy system

Definition of Research gaps based on survey of 52 concluded and ongoing SHIP projects*

Concrete objectives:

- Promote available **low and medium temp.** technol. (TRL >5) through develop. solutions (TRL 2-5) for solar integration
- develop solar thermal technologies aiming **high temperature processes** (TRL 2-5)
- integration of SHIP** in the overall energy system



* Austria, Cyprus, France, Germany, Greece, Italy, Portugal, Spain, Switzerland and Turkey

WP2: Technology and applications to low temperature SHIP (80°C to 150°C)

- Task 2.1 - Solar technology for low temperature SHIP
- Task 2.2 - SHIP applications in drying processes
- Task 2.3 - Durability and modularity
- Task 2.4 - Dynamic solar field and system control



WP3: Technology and applications to medium temperature SHIP (150°C to 400°C)

- Task 3.1 - Solar driven steam generation
- Task 3.2 - Balance of Plant concepts
- Task 3.3 - Durability and reliability
- Task 3.4 - Compact and building envelope integrated solar field concepts



WP4: Technology and applications to high temperature SHIP (400°C to 1500°C)

- Task 4.1 - Solar metals production for the metallurgical industry
- Task 4.2 - Solar lime production for the cement industry
- Task 4.3 - Solar fuel production for the transportation sector
- Task 4.4 - High-concentration optics for high-temperature solar reactors

The logo for ETH zürich, consisting of the text "ETH zürich" in white on a dark blue rectangular background.

WP5: Hybrid energy systems and emerging process technologies

- Task 5.1 - Process integration and storage management
- Task 5.2 - Emerging process technologies (process intensification)
- Task 5.3 - Hybrid energy supply systems
- Task 5.4 - Industry parks and heat distribution networks
- Task 5.5 - 100% RES branch concepts



Alignment of efforts and resources at European level

Concrete objectives:

- **coordination of cooperation** between EU research institutions participating in INSHIP
- **alignment of SHIP related national research and funding programs**, seeking synchronization with EC programs
- **acceleration of knowledge transfer to the European industry** in the context of the SET-Plan and other relevant initiatives such as SEII, EMIRI, KIC-InnoEnergy, etc.
- **expansion of the joint activities** offering researchers and industry a comprehensive portfolio of research capabilities
- **to become the reference organization** promoting and coordinating the international cooperation in SHIP research from and to Europe

Coordination and Support Actions

WP1: ECRIA Consortium Coordination

- Task 1.1 – Project management and coordination
- Task 1.2 – Background and foreground IP pooling
- Task 1.3 – Follow-up SHIP structure
- Task 1.4 – Coordination with relevant international organizations



WP6: Integrated SHIP Research Infrastructures

- Task 6.1 - Mapping of RTD SHIP infrastructures & resources to collaborative framework establishment
- Task 6.2 - Exchange of staff personnel
- Task 6.3 - Definition and implementation of the SHIP Infrastructure Mobility Scheme



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Coordination and Support Actions

WP7: Integration of EU resources and Dissemination

- Task 7.1 – Coordination and **alignment** of national RTD programmes and objectives in SHIP
- Task 7.2 – **Standardisation** of collecting national funding contributions
- Task 7.3 – **Dissemination** of the foreground and **exploitation of research results**
- Task 7.4 – Coordination with relevant **international organizations**



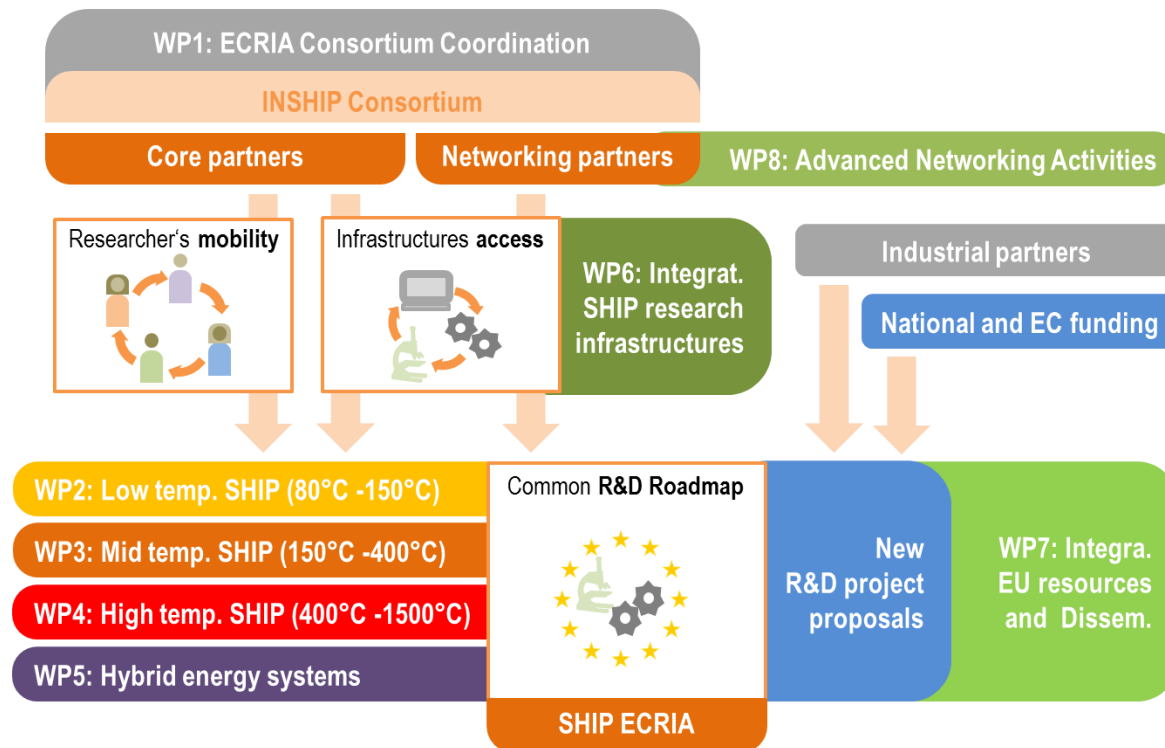
WP8: Advanced Networking Activities

- Task 8.1 - Analysis of needed national/regional **innovation strategies** on SHIP
- Task 8.2 - Assessment of **socio-economic impact scenarios** of SHIP development in EU
- Task 8.3 - **Interaction models** between research actors and key stakeholders on SHIP technologies & applications: **Roadmap**
- Task 8.4 - Joint framework for active **collaboration with industry**



CSA and CP integration

Integration of coordination and research activities

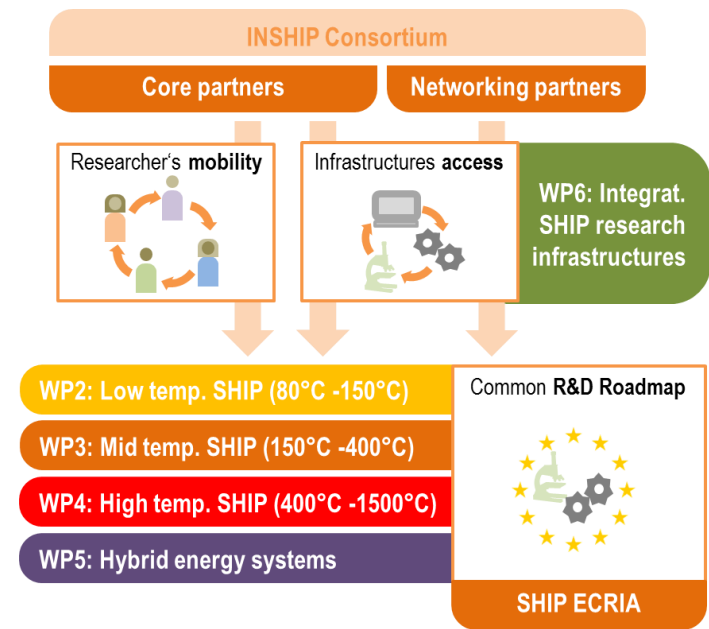


Infrastructure Access (IA Scheme)

Access by Networking partners to R&D activities & infrastructures

- Development of R&D activities aligned with WPs 2 to 5 topics
- Two Call for Proposals: months 8 and 28
- Additional funding: 185 k€ (1-4 week actions)

- Independent Assessment by Stakeholders Group
- Pre-assessment by related WP leader
- Ranking criteria:
 - alignment with the INSHIP ECRIA
 - engagement of INSHIP partners
 - engagement of industrial partners
 - leveraging of INSHIP contribution (own resources or new project proposals)



Infrastructure Access (IA Scheme)

WHAT THE IAScheme IS?

It is a funding option to perform joint R&D activities at an existing and registered Research Infrastructure (RI) working on SHIP related topics

Topics covered:

All topics related to Research and Innovation in the field of Solar Heat for Industrial processes and covered by INSHIP project

Who can participate?

Any research centre/company (European and non- European) willing to use existing infrastructures from the INSHIP consortium

Infrastructure Access (IA Scheme)

What are the modalities for applying?

Proposals must be led by the infrastructure owner

Consortia must have a minimum of 2 INSHIP partners and the inclusion of industrial partners will be positively evaluated

Development of concrete activities (1-4 weeks)

Proposal must include detailed budget and related distribution across partners (50% co-funded by EC) - accommodation and travel costs for the Industrial partners are eligible

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Definition of a European Common Research and Innovation Agenda (ECRIA) on Solar Heat to Industrial Processes

Technology development R&D activities (TRL2-5) in Coordinated Projects (WP2-5)

Staff mobility and access to research infrastructures (WP6)

Networking, alignment of funding and policies, dissemination (WP7-8)

Leveraging of EU/national resources aligned with ECRIA objectives

