Databases & Information Services on R&I Programmes

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RTD. J.5 Common Service for H2020 Information and Data

21/10/2015
Public Sources:

- **CORDIS:** COmmunity Research and Development Information Service
- **EU ODP:** EUropean Open Data Portal
- **p.m.:** The data warehouse of the research family of DGs.
- **CORDA:** COmmon Research DAta warehouse
  - **eCORDA:** A snapshot of CORDA for "Comitology Business"
CORDA Content

FP6, FP7 and Horizon 2020

- proposals/applicants
- signed grants/participants

Data available in the form of

- dynamic predefined reports
- 'Google-like' search (iSearch)
- Downloadable content
Content - Reports

Predefined reports provide an overview statistics/reporting and a degree of parametrisation.

Proposal Reporting
- FP7 List of Concluded Calls (R0a)
- FP7 proposals by thematic priority, funding scheme, activity type (R1)
- FP7 proposals success rates by country (R3)
- H2020 List of Concluded Calls (R0a)
- H2020 proposals by thematic priority, funding scheme, activity type (R1)
- H2020 proposals success rates by country (R3)

Project Reporting
- FP6 projects by thematic priority, instrument, activity type (R1)
- FP6 project participants by country (R3)
- FP6 project participants collaborative links by country (R4)
- FP7 projects by thematic priority, funding scheme, activity type (R1)
- FP7 project participants by country (R3)
- FP7 project participants collaborative links by country (R4)
- H2020 projects by thematic priority, funding scheme, activity type (R1)
- H2020 project participants organisation list (R2)
- H2020 project participants by country (R3)
- H2020 project participants collaborative links by country (R4)
Content – Reports (cont.)

Please select Project Signature Year

ALL YEARS

Please select country group, country code or NUTS code

ALL COUNTRIES

ALL COUNTRIES

*Please note that for the sake of this classification CANDIDATE and ASSOCIATED country groups are mutually exclusive.

*For the details on the country eligibility and classification please see the country group reference note here.

*For more information regarding NUTS classification please see information provided by reference note here.

NUTS Reference version: NUTS 2006-2010

<table>
<thead>
<tr>
<th>ALL COUNTRIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT - Austria</td>
</tr>
<tr>
<td>BE - Belgium</td>
</tr>
<tr>
<td>BG - Bulgaria</td>
</tr>
<tr>
<td>CY - Cyprus</td>
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<tr>
<td>CZ - Czech Republic</td>
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<td>DE - Germany</td>
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<tr>
<td>DK - Denmark</td>
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<tr>
<td>EE - Estonia</td>
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<tr>
<td>EL - Greece</td>
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</table>

<table>
<thead>
<tr>
<th>ALL NUTS (CZ)</th>
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<tbody>
<tr>
<td>CZ0 - CESKA REPUBLIKA</td>
</tr>
<tr>
<td>CZ01 - Praha</td>
</tr>
<tr>
<td>CZ020 - Stredocesky kraj</td>
</tr>
<tr>
<td>CZ03 - Jihozapad</td>
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<tr>
<td>CZ031 - Jihocesky kraj</td>
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<td>CZ032 - Plzensky kraj</td>
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<tr>
<td>CZ04 - Severozapad</td>
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</table>
### Content – Reports (cont.)

**Selection Criteria**
- **Country**: CZ - Czech Republic
- **NUTS**: CZ01 - Praha
- **Country Group**: ALL
- **Country Status**: ALL

**FP7 Participation Spatial Distribution (GIS)**

<table>
<thead>
<tr>
<th>Specific Programme</th>
<th>Priority Area</th>
<th>Signed Grant Agreements</th>
<th>Participations in the selection</th>
<th>Project cost in grant agreements (€)</th>
<th>Project cost for all participations in selection (€)</th>
<th>EU financial contribution for all participations in the selection (€)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health</strong></td>
<td>Signed Grant Agreements</td>
<td>52</td>
<td>57</td>
<td>789</td>
<td>352,416,423</td>
<td>13,944,836</td>
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<tr>
<td><strong>Food, Agriculture and Fisheries, and Biotechnology</strong></td>
<td>Signed Grant Agreements</td>
<td>49</td>
<td>61</td>
<td>607</td>
<td>235,316,811</td>
<td>13,273,648</td>
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<tr>
<td><strong>Information and Communication Technologies</strong></td>
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<td>106</td>
<td>1,311</td>
<td>604,935,435</td>
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<tr>
<td><strong>Nanosciences, Nanotechnologies, Materials and new Production Technologies - NMP</strong></td>
<td>Signed Grant Agreements</td>
<td>64</td>
<td>71</td>
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<td><strong>Energy</strong></td>
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<tr>
<td><strong>Environment (including Climate Change)</strong></td>
<td>Signed Grant Agreements</td>
<td>47</td>
<td>50</td>
<td>175</td>
<td>185,916,251</td>
<td>7,060,092</td>
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<tr>
<td><strong>Transport (including Aeronautics)</strong></td>
<td>Signed Grant Agreements</td>
<td>54</td>
<td>60</td>
<td>550</td>
<td>55,366,533</td>
<td>15,681,616</td>
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<tr>
<td><strong>Socio-economic sciences and Humanities</strong></td>
<td>Signed Grant Agreements</td>
<td>19</td>
<td>25</td>
<td>221</td>
<td>37,508,638</td>
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<td><strong>Space</strong></td>
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<td>19</td>
<td>402</td>
<td>141,117,025</td>
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<td>19</td>
<td>285</td>
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<td><strong>General Activities</strong></td>
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<td>2</td>
<td>2</td>
<td>2,600,934</td>
<td>31,000</td>
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**Subtotal: COOPERATION excluding JTI**
- **Signed Grant Agreements**: 415
- **Participations in the selection**: 462
- **Costs**: 6,882,200,656
- **EU financial contribution to all participations in the selection**: 893,322,927

**COOPERATION**
- **JTI-IMI (Innovative Medicines Initiative)**
- **JTI-ARTEMIS (Embedded Computing Systems)**
- **JTI-CLEAN (Space and Air Transport)**
Plans – CORDA / CORDIS:

- An analysis of CORDA regarding its development options is scheduled for 2016

- Making better use of the EU Open Data Portal

- Stabilizing in 2016 the renewed CORDIS focus: "Dissemination Support"
CORDIS in European Union research

• First EU framework programme for research in 1984
• CORDIS launched in 1990 and online in 1994

• CORDIS is the EC's primary public repository and portal for all EU-funded research projects and results

• FP4, FP5, FP6, FP7: web services and applications operated by the Publications Office
• Monitoring: Common Support Centre (RTD J5)
Getting started with CORDIS

CORDIS is the European Commission’s primary public repository and portal to disseminate information on all EU-funded research projects and their results in the broadest sense.

Go to the Participant Portal, the main EU web platform for the funding opportunities, management of projects and all participation related services for Horizon 2020 and related EC research and innovation programmes.

- Main content via banner tabs
- 6 languages: EN, DE, FR, ES, IT, PL
- Extensive archives: FPs 4/5/6/7
EU-funded research projects and results

- Transparent record of over 105,000 EU-funded projects since 1990, up to H2020
- Link to programmes, results, documents, searches, Open Access publications (OpenAIRE)
- Details from grant agreement

[Link to Cordis EU projects](cordis.europa.eu/projects)
Project results: Report Summary

LOVE Report Summary
Project reference: 216709
Funded under: FP7-ENERGY

Final Report Summary - LOVE (Low-temperature heat valorisation towards electricity production)

Executive Summary:
Pressured by increasingly stringent environmental and cost saving requirements, the industry sector is constantly looking for measures to increase energy efficiency. In 2010 an ambitious collaboration between academia and industry was launched in the frame of the EU FP7 project LOVE (Low temperature heat Valorization towards Electricity production), with the aim to investigate the generation of electricity by recovering waste heat at temperatures below 120°C, focusing on the cement sector as test case.

Thermodynamic cycles, and especially the Organic Rankine Cycle (ORC), make it possible to recover low-temperature waste heat to generate electricity. The development of ORC technology is nowadays considerably advanced and there exist many providers of commercial solutions for heat recovery applications. However, little or no industrial experience exists on heat recovery at temperatures below 250 °C, due to the low thermal efficiency at these temperatures and the high investment cost required. The overall goal of LOVE was to evaluate possibilities and limits for power generation in this challenging low temperature range. In particular, LOVE aimed to demonstrate the technical feasibility for one of the most energy-intensive industrial sectors with several instances of non-recovered low temperature heat sources: the cement sector.

To guarantee the successful execution of the project, a consortium consisting of strategic partners from academia and industry has been created. The consortium combined the strengths of leading players in their fields: global cement producers (Holcim, Cemex), major European utilities (EDF, EnBW), innovative equipment manufacturers (Holotec, Cryostar), and academic institutions with active research efforts in the field (MINES ParisTech/VARMINES, Swiss Federal Institute of Technology/EPFL).

Different waste heat source and technical solutions for their valorization were thoroughly investigated. Two demonstrators were designed, built and tested in two different cement factories. The project proved the technical feasibility of power generation by using low-temperature waste heat in real industrial environments. Advantages and limits of different technologies have been highlighted, as well as their exploitation potential in other sectors. Continuing collaboration between industry and academia can help enhance technical development and achieve large scale industrial implementation of waste heat energy recovery systems.

The total budget invested on the project was approximately 5 Million Euro, more than 60% funded by the European Commission.

Project Context and Objectives:
In the EU 27, the industry sector represents nearly one quarter of the final energy consumption and one fifth of the GHG emissions. Industries can reduce these losses by improving equipment efficiency or by installing heat recovery technologies (exchangers, heat pumps) to make use of the waste heat inside the plant or exchanging it with surrounding factories or residential communities. In the absence of any such re-circulation, waste heat becomes an attractive solution, but one which still needs development. The aim of the LOVE project (LOW temperature heat Valorization towards Electricity production) was to drive this development, with investigation on available low-temperature (<120°C) waste heat sources in industrial operations, and development and demonstration of cost efficient innovative technologies for electricity production.

Overall, the project consisted of four parallel research activities organized in several work packages:

1. Development of a methodology for the identification of waste heat sources in an industrial process and for the optimal integration of thermodynamic cycles (WP1).
2. Definition of key performance indicators (economic, sustainability and technical) for the proposed technologies and the evaluation of their market potential (WP2).
3. Manufacturing of two 100kWe demonstration units to be installed in two cement factories, one of Holcim and one of Cemex (WP2 and WP4).
4. Research on innovative heat exchangers and thermodynamic cycles (WP1, WP2 and WP5).

WP6 regulated management and dissemination activities.

- "Publishable summary" of periodic or final reports
- Provided by project participants to EC
- Only in English
Project results: "Result in Brief"

**LOVE Result In Brief**
Project reference: 256790
Funded under: FP7-ENERGY
Country: Switzerland

**Electricity from industrial waste heat**

_In the EU-28, the industry sector accounts for nearly one quarter of total energy consumption and one fifth of greenhouse gas emissions. An EU-funded project worked on technologies for more effectively using the generated waste heat._

The organic Rankine cycle (ORC) technology — which recovers surplus low-grade heat — has major potential to help fulfill EU 20-20-20 targets. However, existing technology does not address small temperature differences compared to the ambient air. The ‘Low temperature heat valorisation towards electricity production’ (LOVE) project sought to identify low-temperature (less than 120 degrees Celsius) waste heat sources and develop cost-effective technologies for converting them into electricity.

Project partners defined a methodology for optimal integration of thermodynamic cycles that was based on pinch analysis and process integration. This was mainly applied to the test cases identified in the cement sector. Two 100 kWel ORC prototypes were integrated into 2 pilot study cement plants for waste heat recovery and power generation. Components that include a radial inflow turbine, finned tube heat exchanger and packed column heat exchanger were designed and sized for these pilot studies. Theoretical studies for a 1 MWe ORC system were also conducted.

Different prototypes of polymeric gas-liquid heat exchangers were manufactured and tested under laboratory conditions. Capillary-tube heat exchangers were easily produced with promising results concerning heat transfer and pressure drop. Designs based on a polymeric film showed very good heat transfer performance but challenging manufacturing.

The potential to extract waste heat from solid material was also studied by using the cement cooler as a test case. Modelling and simulation of heat and mass transfer phenomena allowed identifying possible modifications for the cement cooler design to enhance heat recovery.

Based on the prototypes, project partners performed a detailed techno-economic assessment for low-temperature waste heat recovery. Results indicated payback times higher than those generally accepted by industry for off-production investments. Safety and environmental hazards of ORC installations were also evaluated, including a full life-cycle assessment analysis regarding the carbon dioxide footprint.

Project dissemination activities included publications in journals, presentations and conferences. A patent application was also filed for waste heat recovery from rawmill flue gases.

**Related Information**

- **Report Summary**
  - [Periodic Report Summary 3 - LOVE (Low-temperature heat valorisation towards electricity production)]

**Subjects**

- Rewritten for broader public and users of results
- Support innovation and exploitation
- Available in 6 languages
research.eu magazines

- research.eu results magazine: exploitable outcomes and features
- research.eu focus: editions on specific themes of interest

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- Alerts by email or RSS
- Extract to XML, CSV
- Create PDF Booklet
Open Data on EU research projects

- Full extraction of H2020, FP7, FP6, FP5, FP4
- Reuse for analysis or systems

open-data.europa.eu
Thank you!