Joint Project Catalogue - JoProDat & JoProShow

Joint Project Catalogue - JoProDat & JoProShow

Joint Project Catalogue – JoProDat & JoProShow

Stephan Schreiber, Manuela Richter (PtJ); Fábio A. Lourenço Vieira, Lorena D. Soares (FRCT), Hjalti Páll Ingólfsson (Geothermica Office), Bart van den Berg, Gerdi Breembroek, Paul Ramsak (RVO),

March 2019

Publisher:

GEOTHERMICA Office,

Orkustofnun, Grensásvegi 9, 108 Reykjavík

Tel: +-354-569 6000,

Email: os@os.is

Website: http://www.geothermica.eu/

ISBN: 978-9979-68-496-1

The GEOTHERMICA is supported by the European Union's HORIZON 2020 programme for research, technological development and demonstration under grant agreement No 731117

GEOTHERMICA

Accelerating the deployment of geothermal energy in Europe

Europe is challenged to increase the share of renewable energy for heating and cooling, industrial processes, power generation and energy storage. Geothermal energy is a vastly under-utilized indigenous, clean, low footprint and continuously available energy resource, and thus uniquely positioned to substantially contribute to a safe and secure energy supply of Europe's Energy Union. Hitherto only utilized in choice markets and in only a few geographical regions, GEOTHERMICA's objective is to combine the financial resources and know-how of 17 geothermal energy research and innovation programme owners and managers from 14 countries, to launch joint actions that demonstrate and validate novel concepts of geothermal energy utilization within the energy system and that identify paths to commerciality. Joint actions comprise joint calls and coordination activities, which will strengthen Europe's geothermal energy sector by building a tightly interconnected and well-coordinated network of European funding agents.

The following, alphabetically listed countries and regions participate in GEOTHERMICA: Belgium/Flanders, Denmark, France, Germany, Iceland (coordinator), Ireland, Italy, the Netherlands, Portugal, Portugal/Azores, Romania, Slovenia, Spain, Switzerland and Turkey.

Besides the pooling of national and EC funds for research and innovation, one of the major aims of GEOTHERMICA is the establishment of a long-lasting strategic collaboration of national geothermal research and innovation program owners and managers of the GEOTHERMICA consortium.

The national and regional funding agencies participating in GEOTHERMICA are supported by funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 731117.

Further information can be found on the GEOTHERMICA website: http://www.geothermica.eu/.

Executive summary

Within the GEOTHERMICA CFA, the work package 7 “Knowledge, strategy and support” was installed to pool all additional activities planned in the framework of the transnational cooperation of the 17 participating partners from 14 regions and countries. Within the work package the specific Task 7.1.2 “Joint Project Database” was formulated to create a joint project catalogue of national funding projects related to geothermal energy from all participating countries. The intention was, to provide the participating funding agencies a tool to get a detailed overview of the funding activities in the partner countries. Besides the effective use of funding budgets and the avoidance of duplication in funding projects, the tool can be used support (European) policy making, to identify experts on specific fields to foster further collaboration projects on a European base. During the development phase, it came obvious that the tool can also be used to inform the broad public on the progress of the dispersion of geothermal energy in Europe. Therefore, a second connected system was developed to present the highlight projects of the participating countries to interested citizens. Both systems will be updated on a yearly base to create a joint project catalogue of at least eight years at the end of the GEOTHERMICA CFA. Given the concept planned as a long-lasting cooperation between the partners, the database should also be kept up to date after GEOTHERMICA.

Acknowledgements

This document is a deliverable of the GEOTHERMICA project, which has received funding from the European Union's Horizon 2020 Programme for Research, Technological Development and Demonstration under Grant Agreement (GA) Nb #731117.

Table of Contents

List of Figures

Abstract

This report describes the technical development of the GEOTHERMICA Deliverable D7.1 “Joint Catalogue” on national research projects. A survey was carried out to collect the relevant data on research projects tackling geothermal energy in the participation countries during the last five years. The data collection will be updated on a yearly basis. The collected information is available in a two-string online system. One system, called “JoProDat”, displays funding relevant data accessible to all funding agencies of the participating countries. The other system, called “JoProShow”, exhibits projects identified as national highlight projects in an open system accessible to the broad public. This report addresses the methodology of data collection and the technical development of the two systems.

1 Introduction

The work in the precursor project "Geothermal ERA-Net" demonstrated the importance and the additional benefits of transnational cooperation and knowledge exchange in the different sectors of geothermal energy in Europe. Additional activities, between the representatives of the partner countries, were performed sharing experiences on different aspects of research funding in the different states. Moreover, several workshops were organized, involving experts from different countries, in order to address specific technical and non-technical topics (e.g. Operational Issues, Public relations for Geothermal, New concepts, etc.) to join forces for further research activities and to learn from each other. During the design of GEOTHERMICA it became evident to include a workpackage with additional activities fostering cooperation.

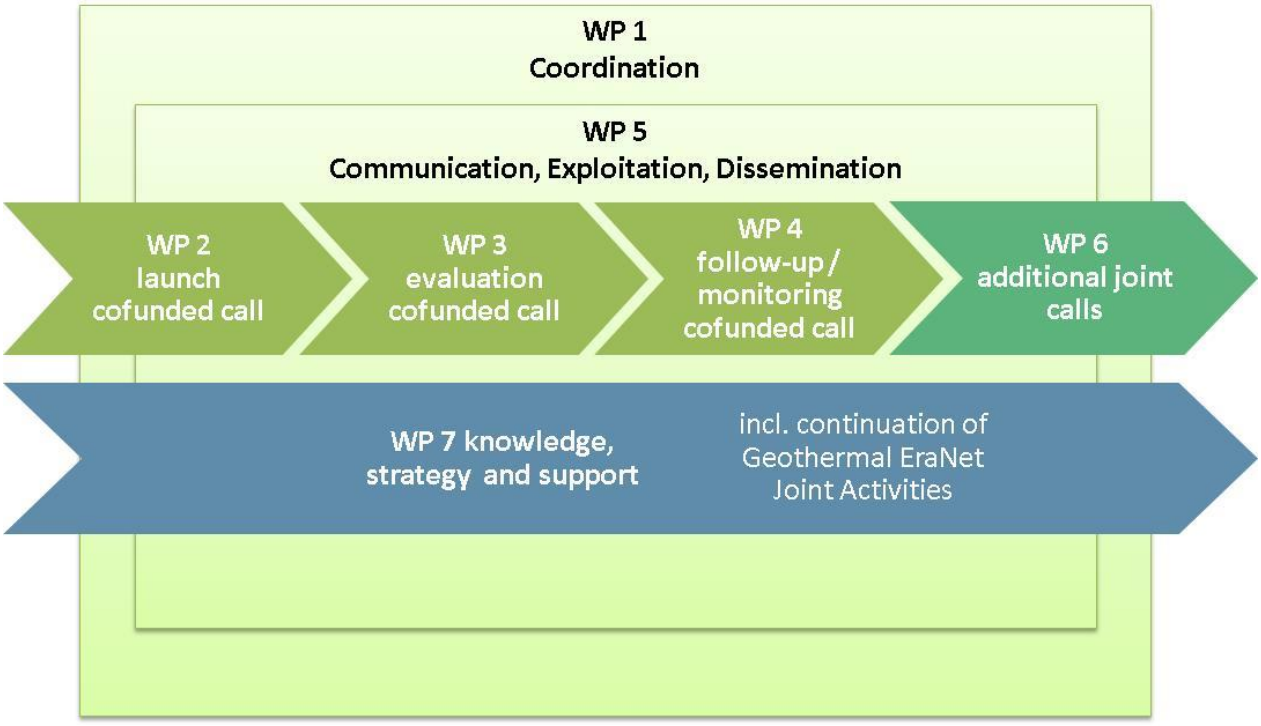

Figure 1 Work package structure of GEOTHERMICA

To build up on the success of the previous activities, GEOTHERMICAS' Workpackage 7 was designed to take on the concept of transnational collaboration and knowledge exchange in different tasks addressing the funding bodies/agencies of the partner countries and the relevant stakeholders from industry and research.

1.1 Workpackage 7

Workpackage 7 "Knowledge, strategy and support" aims at broadening the scope and scale of strategic cooperation as carried out in the precursor project "GEOTHERMAL ERA-NET".

The established cooperation between European funding agencies will be broadened and existing or new connection interfaces to other relevant stakeholders such as other ERA-NETs, in particular GeoERA, the Implementation Working Group Deep Geothermal, and the ETIPs, EERAJPGE, IEA Geothermal, among others, will be established.

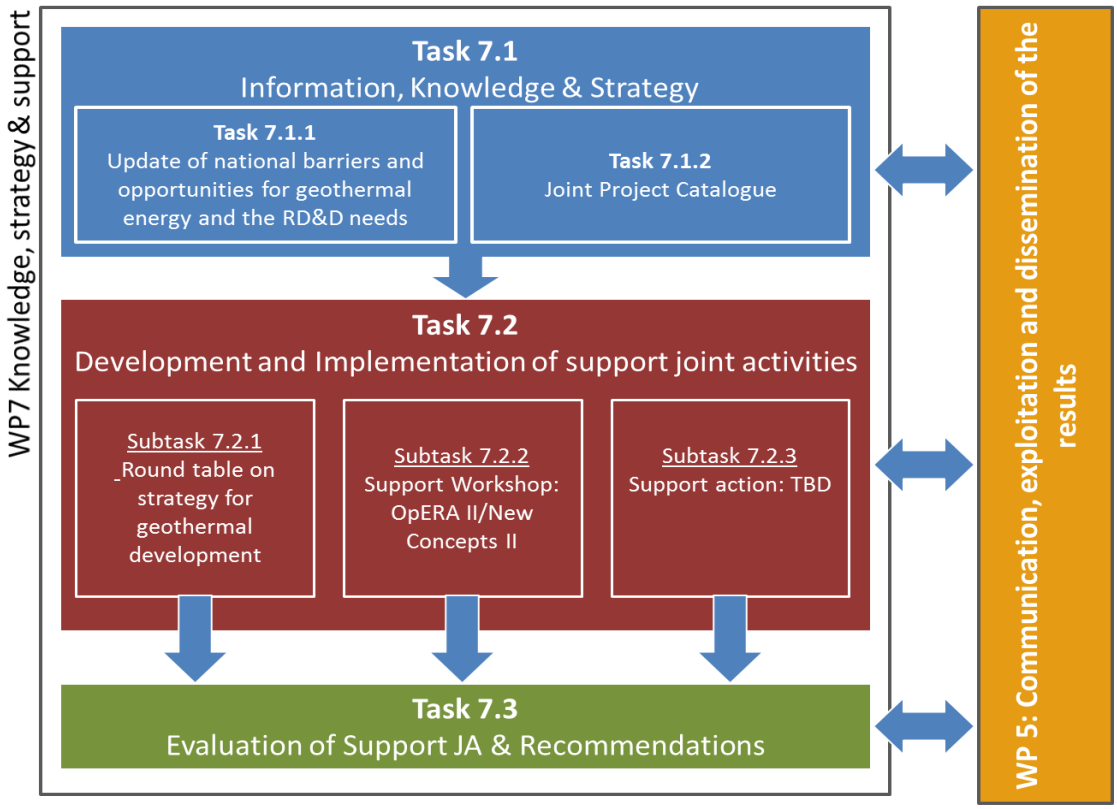

Figure 2 Internal structure of work package 7

WP7 "Knowledge, Strategy, and Support" consists of three tasks. Task 7.1 "Information, Knowledge, and Strategy" focusses on the effective collaboration between the funding bodies of the participating countries. Task 7.2 "Development and Implementation of support joint activities" connects the funding agencies and other relevant stakeholders. In addition, specific activities on issues or topics identified in the geothermal sector will be designed to connect the experts from the different countries on a transnational base. Afterwards, the performed work will be evaluated in a separate Task 7.3 "Evaluation of Support JA and Recommendations".

1.2 Task 7.1. 2 Joint Project Database

This report gives an overview of Sub-task 7.1.2 within Task 7.1. "Information, Knowledge, and Strategy". In the Grant Agreement, Task 7.1.2 is described as follows:

"Resulting from the cooperation within the precursor project, a joint catalogue of funded projects of the last 5-10 years will be organized. This catalogue will allow a cross-border inquiry on topics/issues which were already part of research funding within the partner countries. This will help to improve the knowledge about the European funding environment and give the opportunity to connect national geothermal communities to create multi-national research projects leading to efficiency gains in national funding efforts."

During the final conception phase, we decided to create a split system to, on one hand, address the needs of the participating funding bodie/agencies and, on the other hand, present the highlights of project funding in Europe to the general public. To create a European database of geothermal related funding projects of the last years, the system "JoProDat" was developed. This tool provides all necessary information on funding projects in the different countries accessible only to the participating funding bodies.

The experiences of the collaboration in the last years was that information on projects of the European Research Framework Programs was often easily accessible, while most supported projects were, if at all, only accessible via national funding databases often in the national languages. To create an overview of all topics, issues, and new concepts which were addressed by national funding schemes, a transnational database seemed to be the most adequate solution. The resulting outcome should allow all participating funding parties to search for projects addressing similar topics such as a new proposal on their desks or a new idea in the national sector. Such a transnational database aims to prevent inventing the wheel several times in parallel in the different countries. Besides the effect that funding money can be used more efficiently, partners from different countries can join forces on e.g. next steps by building up on previous results from all partners. This can accelerate solutions on specific issues and therefore support the development of geothermal energy in whole Europe. The developed system is called “Joint Project Database – JoProDat”.

Besides the internal system to provide information to funding bodies, it was decided to create a second, map-based tool to promote geothermal research in Europe. Each country can announce a number of “highlight” projects representing the most interesting, innovative or technologically advanced projects in the relevant country. The general information of the project shall be, together with a representative picture, displayed on a map and provided via the GEOTHERMICA website (www.geothermica.eu) to the broad public. The system is called the “Joint Project Showcase – JoProShow”.

2 Methodology

To collect the information of the participating countries/regions a survey was carried out from End 2017 to September 2019. The long period was necessary to resolve all data protection issues in the partner countries/regions and to provide translated information in a unified way.

For the data collection an excel template was provided as shown in figure 3.

JOINT PROJECT DATABASE		GEOTHERMICA 7WP		GEOTHERMICA	
Project Title:	Microseismic Activity in geothermal Systems 2 - MAGS2: From single systems to geothermal fields				
Short Title	MAGS2				
Country/Region:	Germany			**National ID:**	0325662A-G
Funding Scheme:	6. Energy Research Program - Deep Geothermal				
Program Owner:	Federal Ministry for Economic Affairs and Energy				
Program Manager:	Project Management Jülich (PtJ)				
NCP:	Stephan Schreiber, k.schreiber@fz-juelich.de				
Total Budget:	2.988.183,90 €	**Funding Budget:**	2.958.183,90 €	**Overall FQ:**	99%
Project Start:	2013-10-01	**Project End:**	2017-01-31	**Duration:**	40 Months
Coordinator:	Federal Institute for Geosciences and Natural Resources, BGR				
Contact:	Dr. Thomas Plenefisch (BGR), Prof. Dr. Ulrich Wegler (University of Jena)				
Partners:	BGR, LMU Munich, RU Bochum, CAU Kiel, FU Berlin, TUClausthal, TUBA Freiberg			**No. of partners**	7
Short desciption:	The utilisation of deep geothermal energy can contribute to climate protection and to enable for a sustainable power supply. However, the further development of geothermal energy has recently been affected by the occurrence of perceptible earthquakes during stimulation and production in geothermal reservoirs. In Germany, earthquakes were registered near the Landau and the Unterhaching geothermal power plant which resulted in concern by the local population. For the public acceptance of deep geothermal energy it is vital to give a clear scientific statement whether the seismicity will stay limited to micro-earthquakes or if the induced events might pose a risk for humans and/or infrastructure. Within the precursor project induced seismicits was investigated at singular locations. The MAGS 2 project aims at the understanding of induced seismicity in complex geothermal systems. The project investigates three main areas: 1. Monitorinconcepts, Public Acceptance 2. Controlled circulation to reduce induced seismicity 3. Risk assessment prior to the first drilling				
Keywords:	Geothermal Energy, Microseismicity, Induced Seismicity, Earthquakes, Acceptance, Traffic light, Automated detection				
Geothermica Scope:	Integration & Operation		Public Awareness & Education		
Website:	www.mags-projekt.de				
Add. information:	https://www.enargus.de/pub/bscw.cgi/?op=enargus.eps2&m=2&q=MAGS2&v=10				
Highlight Project:	Yes			**TRL Range:**	TRL 7-9

Figure 3. Part of the questionnaire used for the data collection. In addition, information on project partners, related literature and the coordinates of the project sites were collected.

Until January 2019, 112 Projects from nine countries/regions were collected and transferred to the online system described in chapter 3. Additional input from one other country is still under processing due to formatting issues. The data was provided by the national funding bodies processing data from internal databases and/or public national project databases. Besides general information like funding budget, project duration etc., thematic information was collected with a short description of the project and a keyword-field, using unified keywords. In addition, the projects were mapped on the GEOTHERMICA scope fields. The provided data ensures an efficient search for projects, giving a quick overview on the funded work. If synergies are identified, contact details can be used to connect applicants/experts from the different countries via the national contact points.

3 Database

3.1 JoProDat

3.1.1 Online tool

To move from fragmented or isolated information sources, dispersed among relevant countries, often inaccessible and/or in national languages, a compilation of pertinent information regarding projects within the context of Geothermica was performed. The collected information constitutes the core of the system "JoProDat"; a European database of geothermal related funding projects that addresses the need for a database with information presented in a homogeneous, and agreed upon, manner. The database incorporates a searchable source for information on funding projects with restricted access to participating funding bodies.

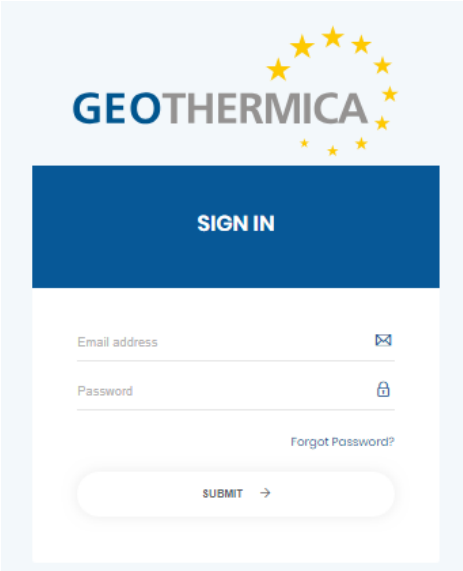

Figure 4. JoProDat access.

At present, access to the JoProDat platform is granted at http://frct.azores.gov.pt/webapp/ where one will be allowed to proceed with login- user name and password are required (see Figure 4). All Geothermica members are requested to fill the access sheet available at the project SharePoint. Acess for the EC can be provided upon request by the GEOTHERMICA Office. Access to the database is split into three categories: 1) **Administrator**; able to create, edit, and delete any information on the platform. 2) **Editor**; able to create and edit any project, but with no control over the platform. 3) **User**; able to view the information with no editing privileges.

Up to now, information from a total of 112 projects has been integrated in JoProDat. The data provided for each project was organized into the following categories:

1. Project Title
2. Short Title
3. Country/Region
4. National ID
5. Funding Scheme
6. Program Owner
7. Program Manager
8. National Contact Point (NCP)
9. Total Budget
10. Funding Budget

Project Start
Project End

13. Coordinator
14. Contact
15. Keywords
16. Geothermica Scope
17. Short Description
18. TRL Range
19. Project Coordinates
20. Partners
21. Institutions
22. Website
23. Additional Information (related literature, etc.)

The database provides an efficient search tool for projects, giving a quick overview of the funded work. Searches may be conducted for information incorporated in the categories listed above. Moreover, projects with linked work, funding or participating entities can be identified through the information within the enclosed projects thus, identifying potential synergies and/or complementarity among projects.

3.1.2 System setup

Upon entering the platform, one can view the incorporated features on the black rectangle positioned on the left (see also Figure 5, left panel) and is directed by default to the Dashboard function. There one has access to the total number of Projects, Partners, Institutions, and Users (see also Figure 5, top right panel). In addition, the user can search and create Projects. Searches are divided into two modes: 1) by Partners or Institutions (search window located to the right), and 2) by all other data (search window located to the left).

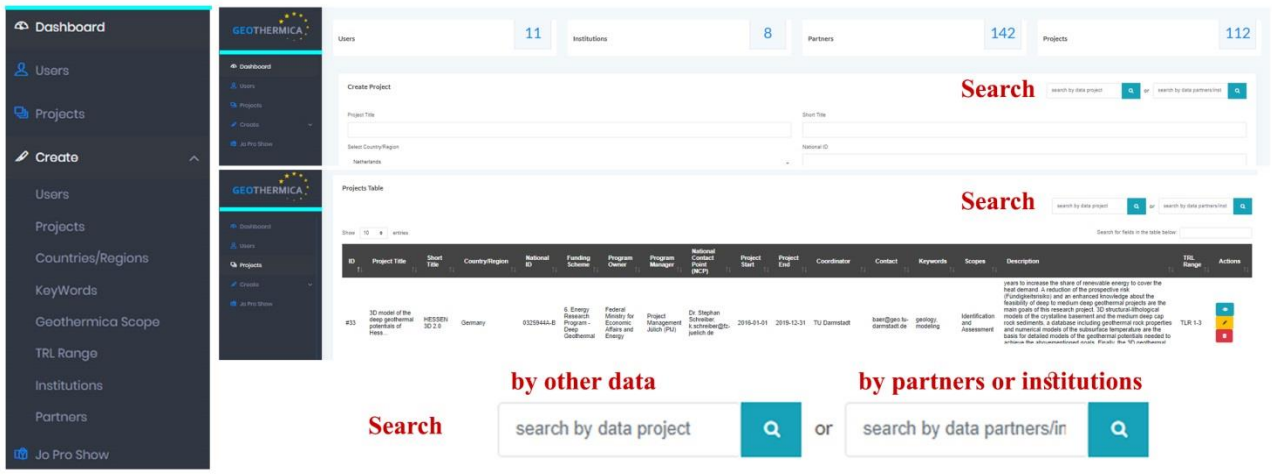

Figure 5. Part of the JoProDat system used to create projects and insert information. Left panel displays items list. Top right panel shows dashboard overview which allows search (red) for information as well as project creation/information. Middle left panel displays information under projects and search (red). Bottom right panel illustrates search options.

Besides the dashboard component, one can navigate through the list of platform users and projects (Figure 5, left panel). Under “Projects” (Figure 5, middle right panel), the user can search as described above as well as visualize all the information pertaining to the projects. Finally, the “Create” component allows insertion of new data to the following: Users, Projects, Countries/Regions, Keywords, Geothermica Scope, TRL Range, Institutions, and Partners. Each project can be visualized, edited, or deleted according the needs (see Figure 6).

Regarding the budget, the values are entered via “Create Partners”. Budget values are introduced partner by partner and used to automatically calculate total budget values and funding budget. When funding information for each partner is not available, the project total is manually entered using the functions provided and marked by a pencil symbol (see Figure 6, red outline).

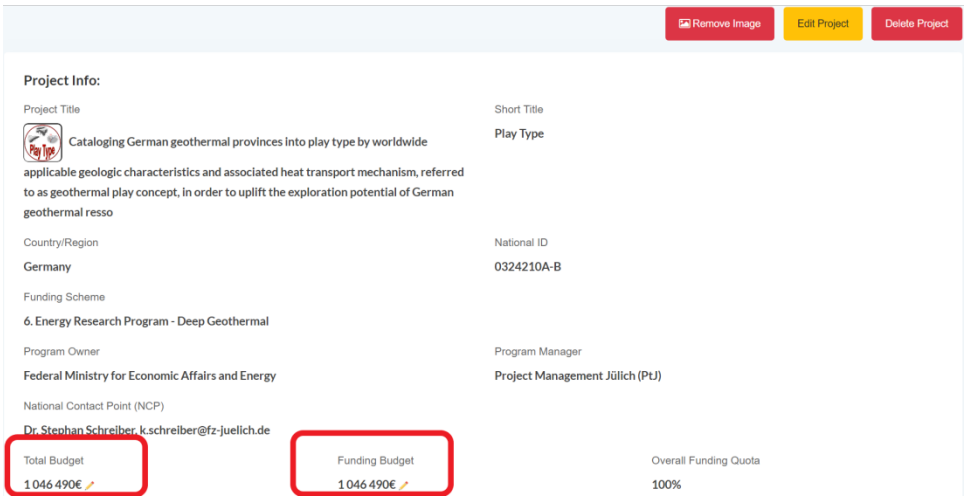

Figure 6. Total Budget and Funding Budget inserted manually upon incomplete partner data.

3.2 JoProShow

3.2.1 Online tool

A split system was created to address the needs of both the participating funding bodies (JoProDat, above) and to present the highlights of project funding in Europe to the broad public (JoProShow, below). For those who can access JoProDat, this other platform is listed as the bottom item on the left box (see Figure 5). For the general public, JoProShow is available via
http://frct.azores.gov.pt/webapp/inc/joproshow.php?id=map&user=allow

JoProShow displays the following information:

1. Project Title
2. Summary
3. Organization(s)
4. Country/Region
5. Contact Person
6. Program Owner
7. Status
8. Project Start
9. Project End
10. Total Budget
11. Funding Budget
12. Funding Scheme
13. Project Category

3.2.2 System setup

Once in the platform, the users can view a map with all projects selected by each country as highlighted projects.

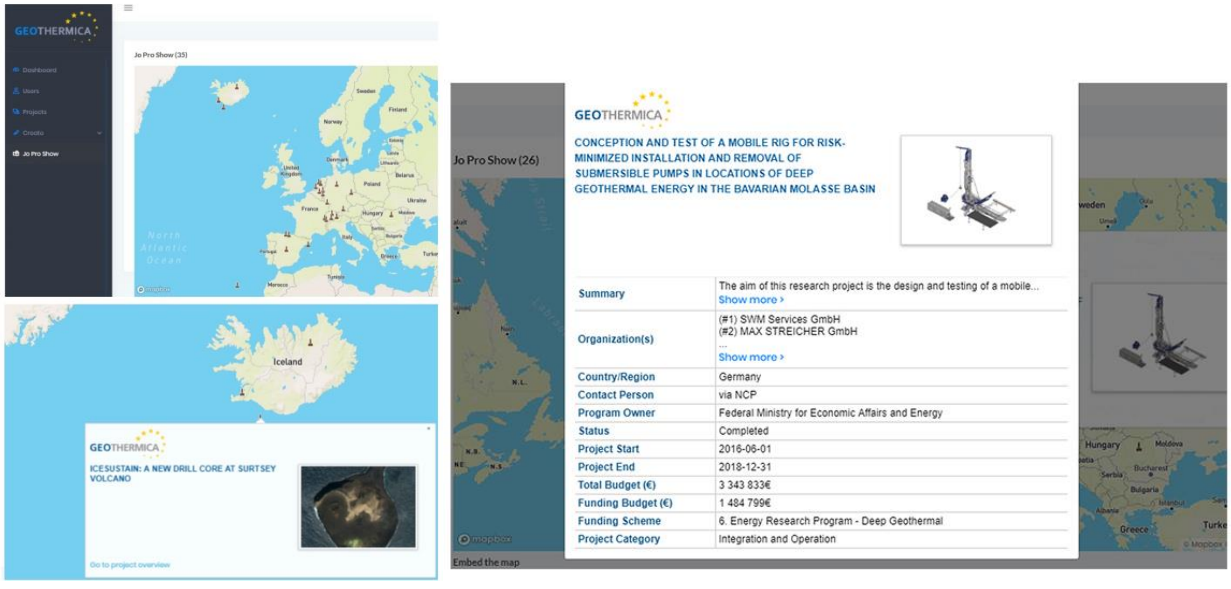

Figure 7 Part of the JoProShow system used to display highlighted projects. Left top panel displays map and indication of project location. Left bottom panel displays a highlighted project and link to project overview. Right panel displays information available in a project overview.

The user can click and look at the information provided for each project (Figure 6, top left panel). Afterwards, a window containing the project title and a picture associated with the project pops up superimposed on the map (Figure 6, bottom left panel). On the bottom of this window, one can click on “Go

to project overview" which opens a new window (Figure 6, right panel) containing information on all categories listed above.

4 Conclusions

The data collection and the technical setup of JoProDat and JoProShow already demonstrated the additional benefits of transnational information systems on geothermal research projects in Europe. The process resulted in a detailed analysis of the funding activities in all participating countries and therefore already induced significant knowledge exchange between the funding agencies. This can be of additional benefit for the future by:

- The identification of national experts on specific topics, who can join forces in future GEOTHERMICA or bi-/multilateral research projects.
- The identification of research topics which were already addressed in countries. This helps to avoid duplication in funding and therefore leads to a more effective use of funding budgets. In addition, new research projects can build up on results from projects in other countries and do not have to start at the early beginning. This might also lead to further cooperation possibilities between potential partners from different countries.
- Input for policy making at European, national and regional level and support the effective growth of the geothermal sector.

After the final setup of both systems, information will be provided for all partners to be used in their daily funding business and to the general public to allow a better overview on the funding activities throughout Europe.

5 Outlook

It is intended to update the developed systems on a yearly base which will create a joint project catalogue of the last eight years for research projects on geothermal within the participating countries at the end of the GEOTHERMICA CFA. If the system has proven it´s additional benefits for the daily work of the partnering funding agencies, it is most likely to continue the information collection even after the official end of GEOTHERMICA

GEOTHERMICA Office
Orkustofnun - Grensásvegur 9 - 108 Reykjavik - Iceland - Tel. +354 569 6000 - Fax: +354 568 8896

www.geothermica.eu