Advanced High-Temperature Reactors for Cogeneration of Heat and Electricity R&D

Fact Sheet

Project Information

ARCHER

Grant agreement ID: 269892

Project website

Status

Closed project

Funded under

FP7-EURATOM-FISSION

Overall budget

€ 10 121 038,14

EU contribution

€ 5 400 000

Start date

1 February 2011

End date

31 January 2015

Coordinated by

NUCLEAR RESEARCH AND CONSULTANCY GROUP

Netherlands

Objective

In line with the Sustainable Nuclear Energy Technology Platform (SNETP) Strategic Research Agenda (SRA) and Deployment Strategy (DS), the ARCHER project will extend the state-of-the-art European (V)HTR technology basis with generic technical effort in support of nuclear cogeneration demonstration.

The partner consortium consists of representatives of conventional and nuclear industry, utilities, Technical Support Organisations, R&D institutes and universities. They jointly propose generic efforts composed of:

- System integration assessment of a nuclear cogeneration unit coupled to industrial processes
- Critical safety aspects of the primary and coupled system:
  - Pressure boundary integrity
oDust
oIn-core hot spots
oWater and air ingress accident evaluation
-Essential HTR fuel and fuel back end R&D
oPIE for fuel performance code improvement and validation
oBack end research focused on radiolysis
-Coupling component development:
oIntermediate heat exchanger development
oSteam generator assessment
-High temperature material R&D:
oCompletion of graphite design curves
oMaking use of the experience of state of the art metal in conventional industry
-Nuclear cogeneration knowledge management, training and communication

The activities proposed are imbedded in the international framework via GIF; direct collaboration within the project with international partners from the US, China, Japan, and the republic of Korea; and cooperation with IAEA and ISTC.

The proposal is a technical building block supporting nuclear cogeneration as fossil fuel alternative for industry and as such supports a high potential contribution to European energy strategy as defined in the SET-Plan. The results of the proposal will be reported to SNETP, to support the strategic pillar of ‘other uses of nuclear energy’, and the establishment of a Nuclear Cogeneration Industrial Initiative, which shall include effective (international) nuclear cogeneration demonstration.

Field of science

/engineering and technology/electrical engineering, electronic engineering, information engineering/electrical engineering/power engineering/electric power generation/combined heat and power
/natural sciences/chemical sciences/nuclear chemistry/radiation chemistry
/engineering and technology/environmental engineering/energy and fuels/nuclear energy

Programme(s)

Topic(s)

Call for proposal

FP7-Fission-2010
Funding Scheme

CP-IP - Large-scale integrating project

Coordinator

NUCLEAR RESEARCH AND CONSULTANCY GROUP

Address: Westerdruinweg 3
1755 LE Petten
Netherlands

Activity type: Other
EU contribution: € 1 317 112

Website
Contact the organisation

Administrative Contact
Steven Knol (Mr.)

Participants (33)

AKADEMIA GORNICZO-HUTNICZA IM. STANISLAWA STASZICA W KRAKOWIE

Address: Al Adama Mickiewicza 30
30-059 Krakow
Poland

Activity type: Higher or Secondary Education Establishments
EU contribution: € 37 259

Website
Contact the organisation

Administrative Contact
Jerzy Cetnar (Dr.)

ALFA LAVAL PACKINOX SAS

Address: Rue De Bassano 14
75116 Paris
France

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)
EU contribution: € 159 804

Website
Contact the organisation
ALFA LAVAL VICARB SAS

France
EU contribution
€ 228 392

Address
Rue Du Rif Tronchard 1
38120 Fontanil

Activity type
Private for-profit entities
(excluding Higher or Secondary Education Establishments)

Contact the organisation

ALSTOM POWER LTD

United Kingdom
EU contribution
€ 199 368,38

Address
Newbold Road
CV21 2NH Rugby

Activity type
Private for-profit entities
(excluding Higher or Secondary Education Establishments)

Website

Website

Jacobs Clean Energy Limited

United Kingdom
EU contribution
€ 99 093,50

Address
Chelford Road Booths Hall
WA16 8QZ Knutsford

Activity type
Private for-profit entities
(excluding Higher or Secondary Education Establishments)

Website

Website
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<td>1 Place Jean Millier Tour Areva 92400 Courbevoie</td>
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<td>COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES</td>
<td>France</td>
<td>€ 208,992</td>
<td>Rue Leblanc 25 75015 Paris 15</td>
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<td>€ 30,135</td>
<td>73D Rue General Mangin 38100 Grenoble</td>
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<td>Wilhelm Johnen Strasse 52428 Julich</td>
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<td>EDF ENERGY NUCLEAR GENERATION LIMITED</td>
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<td>Public bodies (excluding Research Organisations and Secondary or Higher Education Establishments)</td>
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<td>INSTITUT DE RADIOPROTECTION ET DE SURETE NUCLEAIRE</td>
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EU contribution

€ 119 172

Address
Av De La Division Leclerc 31
92260 Fontenay Aux Roses

Website
Contact the organisation

Administrative Contact
Didier Mestraletti (Mr.)

JRC -JOINT RESEARCH CENTRE- EUROPEAN COMMISSION

Belgium
EU contribution
€ 543 399,22

Address
Rue De La Loi 200
1049 Brussels

Website
Contact the organisation

Administrative Contact
Josephina Pijls (Ms.)

WESTINGHOUSE ELECTRIC GERMANY GMBH

Germany
EU contribution
€ 138 725

Address
Dudenstrasse 44
68167 Mannheim

Website
Contact the organisation

Administrative Contact
Anna Schwab (Ms.)

LGI CONSULTING

France
EU contribution
€ 288 907,80

Address
6 Cite De L’ameublement

Website
Contact the organisation

Administrative Contact

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<td>PAUL SCHERRER INSTITUT</td>
<td>Switzerland</td>
<td>€ 32,055</td>
<td>Forschungstrasse 111, 5232 Villigen Psi</td>
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<td>SAIPEM SA</td>
<td>France</td>
<td>€ 34,053</td>
<td>Avenue San Fernando 1/7, 78180 Montigny le Bretonneux</td>
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<td>EMPRESARIOS AGRUPADOS INTERNACIONAL SA</td>
<td>Spain</td>
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<td>Calle Magallanes 3, 28015 Madrid</td>
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<td>€ 21,722</td>
<td>Werner-von-siemens-strasse 18, 86405 Meitingen</td>
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<td>ASSOCIATION POUR LA RECHERCHE ET LE DEVELOPPEMENT DES METHODES ET PROCESSUS INDUSTRIELS</td>
<td>France</td>
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<td>Boulevard Saint Michel 60, 75272 Paris</td>
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<td>THYSSENKRUPP VDM GMBH</td>
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<td>Plettenberger Strasse 2, 58791 Werdohl</td>
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<tr>
<td>Matthias Rickert (Mr.)</td>
<td>TECHNISCHE UNIVERSITEIT DELFT</td>
<td>Netherlands</td>
<td>€ 41,504.25</td>
<td>Stevinweg 1, 2628 CN Delft</td>
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<tr>
<td>Rogier Van Loghem (Mr.)</td>
<td>TECHNISCHE UNIVERSITAET DRESDEN</td>
<td>Germany</td>
<td>€ 142,641</td>
<td>Helmholtzstrasse 10, 01069 Dresden</td>
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<td>Sven Kreigenfeld (Mr.)</td>
<td>TUV RHEINLAND INDUSTRIE SERVICE GMBH</td>
<td>Germany</td>
<td>€ 83,795</td>
<td>Am Grauen Stein, 51105 Koln</td>
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<td>Torsten Pfalz (Mr.)</td>
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CENTRUM VYZKUMU REZ SRO
Czechia
EU contribution
€ 94 860
Address
Hlavni 130
250 68 Husinec-rez
Activity type
Research Organisations
Contact the organisation
Administrative Contact
Jakub Prahl (Dr.)

THE UNIVERSITY OF MANCHESTER
United Kingdom
EU contribution
€ 340 603
Address
Oxford Road
M13 9PL Manchester
Activity type
Higher or Secondary Education Establishments
Website
Contact the organisation
Administrative Contact
Liz Fay (Ms.)

RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN
Germany
EU contribution
€ 85 823
Address
Templergraben 55
52062 Aachen
Activity type
Higher or Secondary Education Establishments
Website
Contact the organisation
Administrative Contact
Hans-Josef Allelein (Prof.)

UNIVERSITAET STUTTGART
Germany
EU contribution
€ 499 320
Address
Activity type
| Organisation                                                                 | Country       | EU Contribution | Address                                       | Activity Type                   |
|----------------------------------------------------------------------------|---------------|-----------------|-----------------------------------------------|--------------------------------|---------------------------------|
| KARLSRUHER INSTITUT FUER TECHNOLOGIE                                        | Germany       | € 9 400          | Kaiserstrasse 12, 76131 Karlsruhe             | Higher or Secondary Education Establishments |
| HELMHOLTZ-ZENTRUM DRESDEN-ROSSENDORF EV                                     | Germany       | € 72 470         | Bautzner Landstrasse 400, 01328 Dresden       | Research Organisations          |
| THE CHANCELLOR MASTERS AND SCHOLARS OF THE UNIVERSITY OF CAMBRIDGE         | United Kingdom| € 7 863,60       | Trinity Lane The Old Schools, CB2 1TN Cambridge | Higher or Secondary Education Establishments |
CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS

France
EU contribution
€ 20 013
Address
Rue Michel Ange 3
75794 Paris
Activity type
Research Organisations
Website
Contact the organisation

Administrative Contact
Keith Cann (Mr.)

NOORDWES-UNIVERSITEIT

South Africa
Address
Hoffman Street 11
2531 Potchefstroom
Activity type
Higher or Secondary Education Establishments
Website
Contact the organisation

Administrative Contact
Piet Stoker (Prof.)

Last update: 1 August 2019
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