

HORIZON
2020

Fifth generation, Low temperature, high EXergY district heating and cooling NETworkS

Fact Sheet

Project Information

FLEXYNETS

Grant agreement ID: 649820

[Project website](#) 

DOI

[10.3030/649820](https://doi.org/10.3030/649820) 

Project closed

EC signature date

10 April 2015

Start date

1 July 2015

End date

31 December 2018

Funded under

SOCIETAL CHALLENGES - Secure, clean and efficient energy

Total cost

€ 1 999 363,75

EU contribution

€ 1 999 363,75

Coordinated by

ACCADEMIA EUROPEA DI
BOLZANO



Italy

Objective

District Heating and Cooling networks distribute energy from a centralized generation plant to a number of remote customers. As such, actual DHC systems suffer from

- significant heat losses
- highly unexplored integration potential of different available energy sources (e.g. renewables and waste heat) into the network
- high installation costs.

FLEXYNETS will develop, demonstrate and deploy a new generation of intelligent district heating and cooling networks that reduce energy transportation losses by working at “neutral” temperature levels. Reversible heat pumps and chillers will be used to exchange heat with the DHC network on the demand side. In this way, the same network can provide contemporary heating and cooling.

FLEXYNETS solutions will integrate effectively multiple generation sources (including high- and low-temperature solar thermal, biomass, PV, cogeneration and waste heat) where they are available along the DHC network, by managing energy at different temperature levels and assuring optimized exergy exploitation.

Together with storages, control strategies that optimize the harvest of renewable energy sources are key from the technical and economic points of view. On the one hand, strategies will be assessed that assure a thermal balance among diffused heat generation, storage and utilization. On the other, policies will be elaborated to decide when energy is to be gathered locally or exchanged (both purchased and sold) with the electricity and gas networks.

The optimal management of such new generation networks will lead to a synergic effect on primary energy savings (hence on the reduction of the CO2 emissions), assuring at the same time investment and operation profitability. As such, FLEXYNETS will contribute to a higher penetration of smart DHC networks on the heating and cooling market, and will contribute to the European recovery plan.

Fields of science (EuroSciVoc)

[engineering and technology](#) > [electrical engineering](#), [electronic engineering](#), [information engineering](#) > [electronic engineering](#) > **[control systems](#)**

[engineering and technology](#) > [electrical engineering](#), [electronic engineering](#), [information engineering](#) > [electrical engineering](#) > [power engineering](#) > **[electric power distribution](#)**

[engineering and technology](#) > [mechanical engineering](#) > **[thermodynamic engineering](#)**

[engineering and technology](#) > [electrical engineering](#), [electronic engineering](#), [information engineering](#) > [electrical engineering](#) > [power engineering](#) > [electric power generation](#) > **[combined heat and power](#)**

[engineering and technology](#) > [environmental engineering](#) > [energy and fuels](#) > [renewable energy](#) > [solar energy](#) > **[solar thermal](#)**



Programme(s)

[H2020-EU.3.3. - SOCIETAL CHALLENGES - Secure, clean and efficient energy](#)

MAIN PROGRAMME

[H2020-EU.3.3.1. - Reducing energy consumption and carbon footprint by smart and sustainable use](#)

Topic(s)

[EE-13-2014 - Technology for district heating and cooling](#)

Call for proposal

[H2020-EE-2014-2015](#)

[See other projects for this call](#)

Sub call

H2020-EE-2014-2-RIA

Funding Scheme

[RIA - Research and Innovation action](#)

Coordinator



ACCADEMIA EUROPEA DI BOLZANO

Net EU contribution

€ 503 500,00

Total cost

€ 503 500,00

Address

VIALE DRUSO 1

39100 Bolzano

 **Italy** 

Region

Nord-Est > Provincia Autonoma di Bolzano/Bozen > Bolzano-Bozen

Activity type

Research Organisations

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Participants (6)



PLANENERGI FOND

 Denmark

Net EU contribution

€ 375 250,00

Address

JYLLANDSGADE 1
9520 Skorping 

SME 

Yes

Region

Danmark > Nordjylland > Nordjylland

Activity type

Other

Links

[Contact the organisation](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 375 250,00



SOLTIGUA SRL

 Italy

Net EU contribution

€ 317 000,00

Address

VIA ROMA 54
47035 Gambettola 

SME 

Yes

Region

Nord-Est > Emilia-Romagna > Forlì-Cesena

Activity type

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

Links

- Contact the organisation Website
- Participation in EU R&I programmes
- HORIZON collaboration network

Total cost

€ 317 000,00



ACCIONA CONSTRUCCION SA

Spain

Net EU contribution

€ 241 687,50

Address

CALLE MESENA 80
28033 MADRID



Region

Comunidad de Madrid > Comunidad de Madrid > Madrid

Activity type

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

Links

- Contact the organisation
- Participation in EU R&I programmes
- HORIZON collaboration network

Total cost

€ 241 687,50



HOCHSCHULE FUR TECHNIK STUTTGART

Germany

Net EU contribution

€ 293 625,00

Address

SHELLINGSTRASSE 24
70174 Stuttgart



Region

Activity type

Higher or Secondary Education Establishments

Links

- Contact the organisation Website
- Participation in EU R&I programmes
- HORIZON collaboration network

Total cost

€ 293 625,00



SOLID AUTOMATION GMBH

Germany

Net EU contribution

€ 30 502,50

Address

Keltenstr. 25
72766 Reutlingen

SME

Yes

Region

Baden-Württemberg > Tübingen > Reutlingen

Activity type

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

Links

- Contact the organisation
- Participation in EU R&I programmes
- HORIZON collaboration network

Total cost

€ 30 502,50



ENISYST GMBH

Germany

Net EU contribution

€ 237 798,75

Address

ROBERT BOSCH STRASSE 8/1

72124 Pliezhausen 

SME 

Yes

Region

Baden-Württemberg > Tübingen > Reutlingen

Activity type

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

Links

[Contact the organisation](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 237 798,75

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European Union, 2025