

Implementation of a smart RETROfitting framework in the process industry towards its operation with variable, biobased and circular FEEDstock

Fact Sheet

Project Information

RETROFEED

Grant agreement ID: 869939

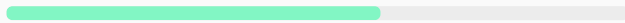


Start date

1 November 2019

End date

31 October 2023



Funded under

INDUSTRIAL LEADERSHIP - Leadership in enabling and industrial technologies - Advanced manufacturing and processing

Total cost

€ 15 645 076,88

EU contribution

€ 9 912 915,33

Coordinated by

FUNDACION CIRCE CENTRO DE INVESTIGACION DE RECURSOS Y CONSUMOS ENERGETICOS



Spain

Project description

Bio-based, circular reinvigoration of process industries

The idea behind circular economy is to keep materials in use for as long as possible through actions such as recycling and remanufacture. Moving in this direction, the EU-funded RETROFEED project will boost bio-based and circular feedstock in process industries. It will do this by retrofitting core equipment and through the

implementation of an advanced monitoring and control system. As regards the production chain, the project will also provide plant operators with a decision support system (DSS). Bringing together a consortium of nine large companies and four SMEs, the project will test its approach in five resource and energy intensive sectors: ceramics, cement, aluminium, steel and agrochemicals.

Objective

RETROFEED main objective is to enable the use of an increasingly variable, bio-based and circular feedstock in process industries through the retrofitting of core equipment and the implementation of an advanced monitoring and control system, and providing support to the plant operators by means of a DSS covering the production chain. This approach will be demonstrated in five resource and energy intensive sectors (ceramic, cement, aluminium, steel, and agrochemical) with the potential to reach in average an increase of 22% in resource efficiency and 19% in energy efficiency, with a consequent reduction in costs and GHG emissions of 9.3 M€ and 135 kton CO₂ respectively.

Furthermore, the project aims to develop a methodology to support retrofitting in resource and energy intensive industries that will be complemented by a decision support system able to perform a diagnosis of the impact in the process of different retrofitting solutions so plant managers and operators can decide on the most suitable retrofitting action for their companies. This decision support system will remain operative after the modification of the process so it can ease the operation of the process under the increased variability of feedstock by analysing a set of key indicators defined within RETROFEED over the production chain for this purpose. RETROFEED consortium comprises strong industrial participation; 9 large companies, including 5 of them as final users, and 4 SMEs as technology providers, working with experienced RTOs and supporting entities. The private investment associated to RETROFEED is over 7M€ along the execution of the project. Lastly, RETROFEED is expected not only to enable technological advances in the technologies and demonstrators involved but will also contribute to the development of new standards, regulations, training programmes, and adaptation and certification of industrial processes thus facilitating the replication of the project results within the EU industry.

Fields of science

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

Programme(s)

H2020-EU.2.1.5.3. - Sustainable, resource-efficient and low-carbon technologies in energy-intensive process industries

Topic(s)

CE-SPIRE-05-2019 - Adaptation to variable feedstock through retrofiting (IA 50%)

Call for proposal

H2020-NMBP-ST-IND-2018-2020

[See other projects for this call](#)

Sub call

H2020-NMBP-SPIRE-2019

Funding Scheme

IA - Innovation action

Coordinator



FUNDACION CIRCE CENTRO DE INVESTIGACION DE RECURSOS Y CONSUMOS ENERGETICOS

Net EU contribution

€ 1 495 100,00

Address

Parque Empresarial Dinamiza,
Avda. De Ranillas, 3D
50018 Zaragoza
 Spain

Activity type

Research Organisations

Non-EU contribution

€ 0,00

[Contact the organisation](#)

Region

Noreste > Aragón > Zaragoza

[Website](#)

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

Participants (18)



ASOCIACION DE INVESTIGACION METALURGICA DEL NOROESTE

Spain

Net EU contribution

€ 836 162,50

Address

**Calle Relva Torneiros 27A
36410 Porrino**

Activity type

Research Organisations

Non-EU contribution

€ 0,00

[Contact the organisation](#)

Region

**Noroeste > Galicia >
Pontevedra**

[Website](#)

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



INSTYTUT ENERGETYKI

Poland

Net EU contribution

€ 715 250,00

Address

**Ul. Mory 8
01 330 Warszawa**

Activity type

Other

Non-EU contribution

€ 125,00

[Contact the organisation](#)

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



IVL SVENSKA MILJOEINSTITUTET AB

Sweden

Net EU contribution

€ 598 437,50

Address

Po Box 21060

Activity type

Research Organisations

Non-EU contribution

€ 0,00

100 31 Stockholm

[Contact the organisation](#)

Region

[Östra Sverige > Stockholm > Stockholms län](#)

[Website](#)

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



ENERGY EFFICIENCY IN INDUSTRIAL PROCESSES ASBL

Belgium

Net EU contribution

€ 725 928,75

SME Yes

Activity type

Non-EU contribution

Address

Other

€ 0,00

**Avenue Des Klauwaerts 6
1050 Bruxelles**

[Contact the organisation](#)

Region

Région de Bruxelles-Capitale/Brussels Hoofdstedelijk Gewest > Région de Bruxelles-Capitale/Brussels Hoofdstedelijk Gewest > Arr. de Bruxelles-Capitale/Arr. Brussel-Hoofdstad

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



GEONARDO ENVIRONMENTAL TECHNOLOGIESLTD

Hungary

Net EU contribution

€ 201 156,25

SME Yes

Activity type

Non-EU contribution

Address

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

€ 201 156,25

**Zahony U 7
1031 Budapest**

[Contact the organisation](#)

[Website](#)



ODYS SRL

Italy

Net EU contribution

€ 238 375,00

SME Yes

Address

**Via A Passaglia 185
55100 Lucca**

[Contact the organisation](#) [↗](#)

Region

Centro (IT) > Toscana > Lucca

Activity type

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

Non-EU contribution

€ 238 375,00

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



OPTIT SRL

Italy

Net EU contribution

€ 355 000,00

SME Yes

Address

**Via Giuseppe Mazzini 82
40138 Bologna**

[Contact the organisation](#) [↗](#)

Activity type

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

Non-EU contribution

€ 355 000,00

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



TORRECID SA

Spain

Net EU contribution

€ 303 862,50

Address

Barido Torredo

Activity type

Private for-profit entities

Non-EU contribution

€ 303 862,50

Paritida Torreta
12110 Alcora Castellon
[Contact the organisation](#)

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

€ 303 802,50

Region
**Este > Comunitat Valenciana >
Castellón/Castelló**

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



SECIL-COMPANHIA GERAL DE CAL E CIMENTO, SA

Portugal

Net EU contribution

€ 1 399 807,50

Address
**Edificio Na Estrada Do Outao
Sem Numero De Policia-outao
2900-718 Setubal**

[Contact the organisation](#)

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

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

Non-EU contribution

€ 1 399 807,50



ASAS ALUMINYUM SANAYI VE TICARET ANONIM SIRKETI

Turkey

Net EU contribution

€ 352 291,88

Address
**Ruzgarlibahce Mah. Kumlu
Sok. Asas Ism. 2
34810 Istanbul**

[Contact the organisation](#)

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

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

Non-EU contribution

€ 352 291,87



FERRIERE NORD SPA

Italy

Net EU contribution

€ 256 027,19

Address

Via Zona Industriale Fraz
Rivoli
33010 Osoppo Ud

[Contact the organisation](#)

Activity type

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

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

Non-EU contribution

€ 256 027,19

 THIRD-PARTY 

COMPAGNIA SIDERURGICA ITALIANA SRL

 Italy

Net EU contribution

€ 55 656,88

Address

Zona Industriale Rivoli
33010 Osoppo

[Contact the organisation](#)

Activity type

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

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

Non-EU contribution

€ 55 656,87



FERTIBERIA SA

 Spain

Net EU contribution

€ 389 500,00

Address

C Agustin De Foxa 27 11
28036 Madrid

[Contact the organisation](#)

Activity type

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

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

Non-EU contribution

€ 579 500,00

Region

Comunidad de Madrid >
Comunidad de Madrid >
Madrid



SISTEM TEKNİK ENDUSTRIYEL FIRINLARLIMITED SIRKETI

Turkey

Net EU contribution

€ 824 000,00

SME Yes

Address

Tosb Taysad Osb 1 Cadde 14
Sokak 3 Cayirova
41420 Kocaeli

[Contact the organisation](#)

Region

Doğu Marmara > Kocaeli >
Kocaeli

Activity type

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

Non-EU contribution

€ 824 000,00

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



RINA CONSULTING - CENTRO SVILUPPO MATERIALI SPA

Italy

Net EU contribution

€ 539 125,00

Address

Via Di Castel Romano 100
00128 Roma

[Contact the organisation](#)

Activity type

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

Non-EU contribution

€ 539 125,00

[Website](#)

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



HTT ENGINEERING SPOL SRO

Czechia

Net EU contribution

€ 112 500,00

SME Yes

Address

Cimburkova 567/10

Activity type

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

Non-EU contribution

€ 112 500,00

612 00 Brno

Establishments)

[Contact the organisation](#)

Region

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

[Česko](#) > [Jihovýchod](#) >
[Jihomoravský kraj](#)



RINA CONSULTING SPA

Italy

Net EU contribution

€ 208 984,38

Address

**Via Cecchi 6
16129 Genova**

[Contact the organisation](#)

Activity type

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

Non-EU contribution

€ 208 984,37

Region

[Website](#)

[Nord-Ovest](#) > [Liguria](#) >
[Genova](#)

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



SILCOTUB SA

Romania

Net EU contribution

€ 305 750,00

Address

**Bld Mihai Viteazul Nr 93
450131 Zalau**

[Contact the organisation](#)

Activity type

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

Non-EU contribution

€ 305 750,00

Region

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

[Macroregiunea unu](#) > [Nord-Vest](#) > [Sălaj](#)

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