Plankton-like Protocells for Artificial Photosynthesis Targeting Carbon-neutral Energy Vectors

Fact Sheet

Project Information

**PLANKT-ON**
Grant agreement ID: 101099192

**DOI**
10.3030/101099192

**Funded under**
The European Innovation Council (EIC)

**Total cost**
€ 2 533 216,25

**EU contribution**
€ 2 533 216,00

**Coordinated by**
CONSORZIO INTERUNIVERSITARIO NAZIONALE PER LA SCIENZA E TECNOLOGIA DEI MATERIALI
Italy

**Start date**
1 April 2023

**End date**
31 March 2026

Project description

Artificial photosynthesis for sustainable energy production

Global energy demands are continuously rising and necessitate green alternatives to fossil fuels, including wind and solar sources. Funded by the European Innovation Council, the PLANKT-ON project aims to develop a net-zero emissions technology inspired by nature that releases oxygen into the atmosphere and simultaneously produces formate as a precursor for hydrogen fuel. The technology involves assembling synthetic plankton-like protocells that use light, water and CO2 to
produce O2 and formate. The latter is easily converted into hydrogen gas through chemical reactions, serving as a potential source of clean energy. The technology will complement other solar technologies, such as photovoltaics and photoelectrocatalysis, and will empower the EU vision for solar fuels production through artificial photosynthesis.

**Fields of science**

- engineering and technology  » environmental engineering  » energy and fuels  » renewable energy  » solar energy
- natural sciences  » chemical sciences  » catalysis  » photocatalysis
- natural sciences  » physical sciences  » astronomy  » planetary sciences  » planets
- engineering and technology  » electrical engineering, electronic engineering, information engineering  » information engineering  » telecommunications  » radio technology  » radar
- natural sciences  » biological sciences  » botany

**Programme(s)**

HORIZON.3.1 - The European Innovation Council (EIC)  

**Topic(s)**

HORIZON-EIC-2022-PATHFINDEROPEN-01-01 - EIC Pathfinder Open 2022

**Call for proposal**

HORIZON-EIC-2022-PATHFINDEROPEN-01

See other projects for this call

**Funding Scheme**

EIC - EIC

**Coordinator**
CONSORZIO INTERUNIVERSITARIO NAZIONALE PER LA SCIENZA E TECNOLOGIA DEI MATERIALI

Net EU contribution
€ 706 250,00

Address
Via giusti 9
50121 Firenze
Italy

Region
Centro (IT) > Toscana > Firenze

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

Other funding
€ 0,00

Participants (4)

COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES

France

Net EU contribution
€ 451 966,00

Address
Rue leblanc 25
75015 Paris

Region
Ile-de-France > Ile-de-France > Paris

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

Other funding
€ 0,25
ASOCIACION CENTRO DE INVESTIGACION COOPERATIVA EN BIOMATERIALES- CIC biomaGUNE

Spain

Net EU contribution
€ 450 000,00

Address
Paseo miramon 182, parque tecnologico de san sebastian edificio empresarial c 20009 San sebastian

Region
Noreste > País Vasco > Gipuzkoa

Activity type
Research Organisations

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

Other funding
€ 0,00

POLITECNICO DI MILANO

Italy

Net EU contribution
€ 407 500,00

Address
Piazza leonardo da vinci 32
20133 Milano

Region
Nord-Ovest > Lombardia > Milano

Links
Contact the organisation  Website  Participation in EU R&I programmes  HORIZON collaboration network
ENPHOS S.R.L.

Italy

Net EU contribution

€ 517 500,00

Address

Galleria pozzo rosso 13
36100 Vicenza

SME

Yes

Region

Nord-Est > Veneto > Vicenza

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

Other funding

€ 0,00

Partners (1)

UNIVERSITY OF BRISTOL

United Kingdom

Net EU contribution

€ 0,00

Address

Beacon house queens road
BS8 1QU Bristol
Region
South West (England) > Gloucestershire, Wiltshire and Bristol/Bath area > Bristol, City of

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

Other funding
€ 0,00

EC signature date 16 December 2022
Last update: 24 May 2023

Permalink: https://cordis.europa.eu/project/id/101099192

European Union, 2023