R&D - MAIN PROJECTS OF THE LAST YEARS

HYSYTECH is one of the most active Italian companies in research and development projects, in collaboration with major universities and national and international institutions.
Here are some of the major projects of recent years, some of which are still underway.

PERFORM (2019-2022)
PERFORM is a H2020 EU project that aims at the development of an integrated platform for the production of value-added chemicals (maleic, valeric, glucaric and adipic acids) by electrochemical processes from bio-feedstocks.
https://performproject.eu/

SATURNO (2019-2022)
SATURNO project (Piedmont Region) aims to enhance organic waste and carbon dioxide in fuels, fertilizers and chemicals. The project is carried out with the contribution of resources from the European fund of regional development (FESR), the Italian State and the Piedmont Region within the POR FESR 2014-2020 of Piedmont.

PRIME (2019-2022)
PRIME project (Piedmont Region) aims to enhance renewable raw materials and waste in bioproducts and biomaterials. The project is carried out with the contribution of resources from the European fund of regional development (FESR), the Italian State and the Piedmont Region within the POR FESR 2014-2020 of Piedmont.

ENDURUNS (2018-2022)
ENDURUNS (H2020 EU project) aims at developing a hybrid sea surveying Autonomous Unmanned Vehicle with gliding capability, by using advanced power packs based on hydrogen fuel cells.
https://cordis.europa.eu/project/rcn/218347/factsheet/en

ENGICOIN (2018-2021)
ENGICOIN is a project (H2020 EU) that aims at the development of an integrated platform for the production of value-added chemicals (acetone, lactic acid, “PHA” bioplastic), exploiting CO2 sources by biological processes.
https://www.engicoin.eu/

OCEAN (2017-2021)
The OCEAN project (H2020 EU) aims to develop an integrated process for the production of high-value C2 chemicals from carbon dioxide using electrochemistry.
https://www.spire2030.eu/ocean

RECODE (2017-2021)
In the RECODE project (H2020 EU), CO2 from the flue gases of a cement industry will be used for the production of value-added chemicals (acid additives for cement formulations) and materials (CaCO3 nanoparticles to be used as concrete fillers).
https://www.recodeh2020.eu/

LIFECAB (2017-2020)
LIFECAB is a LIFE project that aims to demonstrate in real operational a new process to treat municipal biowaste (MBW) and produce soluble biorganic substances (SBO) to be used as additives for anaerobic fermentation reactors.
http://www.lifecab.eu

BIOROBURPLUS (2017-2020)
BioRoburplus project (H2020 EU) will develop a pre-commercial oxidative steam reformer (OSR) for green hydrogen production from different biogas types in a cost-effective manner.
http://www.bioroburplus.org/

CELBICON (2016-2019)
CELBICON (H2020 EU project) aims at the development and scale-up, from TRL3 to TRL5, of new CO2-to-chemicals technologies (PHA bioplastics, lactic acid, isoprene) combining electrochemical and biological processes.
http://celbicon.org/

STORE&GO (2016-2020)
Within the_STORE&GO project (H2020 EU) three innovated Power-To-Gas technologies will be demonstrated in Germany, Switzerland and Italy. In Italy is being developing a plant for LNG production from CO2 captured from the air and renewable electricity.
https://www.storeandgo.info/

TERRA (2015-2019)
TERRA project (H2020 EU) aims to develop a tandem electrocatalytic reactor (TER) coupling an oxidation reaction to a reduction one, for the synthesis of PEF (PolyEthylene Furanoate), a next generation plastic.
http://www.terraproject.it/

BIOMETHAIR (2013-2015)
The BIOMETHAIR project (Piedmont Region) has developed a solution for urban mobility based on technologies for the direct production of biomethane/hydrogen mixtures by biological processing of biomass.
http://www.biomethair.it/

CARDIOSOL (2013-2015)
The CARDIOSOL project (Ministry of Economic Development, Italy) concerned the valorization of biogas and carbon dioxide in syngas via non-conventional catalytic systems and solarized processes.

ARTIPHYCTION (2011-2015)
ARTIPHYCTION was an EU H2020 project that led to the creation of a photo-electrochemical device to convert solar energy into hydrogen by splitting water at room temperature.
http://www.artiphyction.org/

STEPS 1 & STEPS 2 (2009-2015)
The STEPS 1 and STEPS 2 projects (Piedmont Region) concerned the development and validation of a range of technologies for the descent, soft landing and surface mobility on Moon and Mars.

SOLHYDROMICS (2009-2011)
SOLHYDROMICS was a FP7 H2020 project that led to the creation of a photo-electrochemical device to convert solar energy into hydrogen hosting natural enzymes or their mimics.
https://cordis.europa.eu/project/rcn/89443/reporting/en

EFESO (2009-2011)
The EFESO project (Ministry of Economic Development, Italy) concerned the Natural Gas micro-CHP domestic unit development based on fuel processing and fuel cells technologies for ARISTON domestic appliances (1-2,5 kW).

CELCOYACHT (2005-2008)
The CELCOYACHT project (Piedmont Region) has concerned a solution for the Gasoline APU development for marine yacht (15 kW) based on fuel processing and fuel cells technologies.

MICROCHP (2005-2008)
The MICROCHP project (Piedmont Region) has concerned the Natural Gas micro-CHP domestic unit development based on fuel processing and fuel cells technologies (5 kW).

Hysytech S.r.l. is an engineering company founded in 2003, specialized in the design, development and industrial implementation of new turn-key process technologies and equipment. Our skills start from the know-how in chemical and process engineering, up to commissioning, monitoring and maintenance. We operate mainly in the field of generation, treatment and recovery of industrial gases, organic liquids and energy, according to the best engineering practices, also through the implementation of our technologies.

R&D - Link:
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