

# PRESS RELEASE

-----  
**PRESS RELEASE**November 27, 2020 || Page 1 | 4  
-----

## European research and technology organisations join to accelerate development of electrolysis technology

The Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM in Dresden is part of the initiative "HySpeedInnovation", which brings together a number of leading organisations in research and technology (RTOs) that offer proposals to speed up the development of water electrolysis as a green energy technology.

Green hydrogen produced by electrolysis using renewable sources such as the sun and the wind plays a crucial role in the energy transition. But much remains to be done to produce this clean energy carrier on an industrial scale and at an acceptable cost. Europe has good trump cards to achieve this.

At the initiative of the Dutch organization TNO, the position paper 'HySpeedInnovation' has been launched in which a number of leading European research and technology organisations describe the upscaling challenges that lie ahead and how the institutions can come together to tackle these challenges in order to make Europe a leader in the field of electrolysis. Besides Fraunhofer IFAM and TNO, Fraunhofer ISE and Forschungszentrum Jülich from Germany, the Norwegian SINTEF as well as France's CEA take part in this initiative.

The RTOs also recommend a supporting role for the European Commission and national authorities. Meanwhile, other knowledge institutions from EU Member States have also embraced the call, as has the network Hydrogen Europe Research which represents several hundred companies and organisations in the field of hydrogen.

### Significant upscaling of production capacity

An enormous challenge lies ahead in upscaling currently available technologies to GW-scale factories, which is required to drive forward the energy transition. For Europe, this challenge is reflected in the European Green Deal, which puts renewable hydrogen produced by electrolysis high on the political agenda. The European Hydrogen Strategy sets a target for 6 GW installed electrolyser capacity by 2024, and 2x40 GW by 2030 (40 GW in Europe and 40 GW in neighbouring countries) producing respectively 1 and 10 million tons of hydrogen annually. Tens of billions of euros are promised as a stimulus for this development. Several hydrogen strategies from European member states

---

**Editor**

**Cornelia Müller** | Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM, Branch Lab Dresden |  
Phone +49 351 2537-555 | Winterbergstrasse 28 | 01277 Dresden | [www.ifam-dd.fraunhofer.de](http://www.ifam-dd.fraunhofer.de) | [cornelia.mueller@ifam-dd.fraunhofer.de](mailto:cornelia.mueller@ifam-dd.fraunhofer.de) |

**FRAUNHOFER INSTITUTE FOR MANUFACTURING TECHNOLOGY AND ADVANCED MATERIALS IFAM,  
BRANCH LAB DRESDEN**

also have quantified targets for electrolyzers according to their National Hydrogen Strategies looking at the 2030 horizon: e.g. 6.5 GW in France, 5 GW in Germany, 3-4 GW in the Netherlands, 1 GW in Portugal and 4 GW in Spain.

-----  
**PRESS RELEASE**

November 27, 2020 || Page 2 | 4  
-----

Fragmented knowledge and facilities

In the position paper, the researchers describe the advantages and disadvantages of the main technologies on which current electrolyzers are based and where improvements are needed. This involves a good balance between cost, performance and sustainability. For example, serious alternatives have to be found for the scarce raw materials and rare metals currently used in electrolyzers. The production method, still largely manual, can and must also become much more efficient and cheaper.

The most important obstacle to overcome is not so much technical: the chain of manufacturers, their suppliers and the knowledge institutions themselves is fragmented across Europe, thus slowing down the innovations needed to develop a new generation of electrolyzers. There is also a lack of sufficient demand for green hydrogen, partly because the costs are still too high. This makes the business case for large-scale application dependent on government incentives.

Working together intensively

To support and accelerate the required developments, the European RTOs propose to work together more intensively and in a more coordinated way. For this purpose, three sets of opportunities have been identified. These opportunities are: (i) connecting hydrogen labs; (ii) setting clear performance standards; and (iii) monitoring performance of subsidized pilots. For each opportunity, actions have been identified that fall within the responsibilities of Europe's RTOs.

To achieve these objectives, European RTOs call for support from national governments and EU policy makers on the following topics:

- An EU funded program aimed at facilitating the establishment of a coordinated EU infrastructure enabling the use and sharing of water electrolysis testing facilities. The goal is to support (new) industries and to facilitate easier access to the production chain.
- An EU funded program aimed at developing harmonized performance, safety, sustainability and quality standards setting international minimum requirements for (components of) electrolyzers, e.g. as materialised in tender specifications.

---

**Editor**

**Cornelia Müller** | Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM, Branch Lab Dresden |  
Phone +49 351 2537-555 | Winterbergstrasse 28 | 01277 Dresden | [www.ifam-dd.fraunhofer.de](http://www.ifam-dd.fraunhofer.de) | [cornelia.mueller@ifam-dd.fraunhofer.de](mailto:cornelia.mueller@ifam-dd.fraunhofer.de) |

**FRAUNHOFER INSTITUTE FOR MANUFACTURING TECHNOLOGY AND ADVANCED MATERIALS IFAM,  
BRANCH LAB DRESDEN**

- The implementation of an Open Access policy for sharing aggregated data and learnings. Governments should make sharing of data and learnings of all subsidised research, demonstration and deployment projects mandatory.

-----  
**PRESS RELEASE**

November 27, 2020 || Page 3 | 4  
-----

However, for each opportunity, some requirements will have to be met that lie outside of direct RTO influence. It is here that the responsibility of policy makers on the national and EU levels is required to facilitate the proposed effort.

[More information on the activities of Fraunhofer IFAM Dresden in the field of hydrogen technology in general](#) and [electrolysis in particular](#).

[Download the position paper "HySpeedInnovation"](#).



Industrial alkaline atmospheric  
test electrolyser at Fraunhofer  
IFAM Dresden

---

**Editor**

**Cornelia Müller** | Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM, Branch Lab Dresden |  
Phone +49 351 2537-555 | Winterbergstrasse 28 | 01277 Dresden | [www.ifam-dd.fraunhofer.de](http://www.ifam-dd.fraunhofer.de) | [cornelia.mueller@ifam-dd.fraunhofer.de](mailto:cornelia.mueller@ifam-dd.fraunhofer.de) |

**FRAUNHOFER INSTITUTE FOR MANUFACTURING TECHNOLOGY AND ADVANCED MATERIALS IFAM,  
BRANCH LAB DRESDEN**

-----  
**PRESS RELEASE**

November 27, 2020 || Page 4 | 4  
-----

---

The **Fraunhofer-Gesellschaft**, headquartered in Germany, is the world's leading applied research organization. With its focus on developing key technologies that are vital for the future and enabling the commercial exploitation of this work by business and industry, Fraunhofer plays a central role in the innovation process. As a pioneer and catalyst for groundbreaking developments and scientific excellence, Fraunhofer helps shape society now and in the future. Founded in 1949, the Fraunhofer-Gesellschaft currently operates 74 institutes and research institutions throughout Germany. The majority of the organization's 28,000 employees are qualified scientists and engineers, who work with an annual research budget of 2.8 billion euros. Of this sum, 2.3 billion euros is generated through contract research.

**Editor**

**Cornelia Müller** | Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM, Branch Lab Dresden | Phone +49 351 2537 01277 Dresden | [www.ifam-dd.fraunhofer.de](http://www.ifam-dd.fraunhofer.de) | [cornelia.mueller@ifam-dd.fraunhofer.de](mailto:cornelia.mueller@ifam-dd.fraunhofer.de) |

**Further Contact**

**Dr. rer. nat. Lars Röntzsch** | Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM, Branch Lab Dresden | Phone +49 351 2537-411 | [lars.roentzsch@ifam-dd.fraunhofer.de](mailto:lars.roentzsch@ifam-dd.fraunhofer.de)