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PRESS RELEASE

Flemish expertise centres join forces with industry to push green hydrogen production forward

Flemish research centres imec and VITO (both partners in EnergyVille), together with industrial pioneers Bekaert, Colruyt Group, DEME and John Cockerill announced today that they are joining forces to invest in the production of green hydrogen. Under the flag of Hyve, the consortium aims at a cost-efficient and sustainable production of hydrogen at gigawatt level. Hyve will put the Flemish region in the driver seat for the deployment of a hydrogen economy and the transition towards a carbon neutral industry in Europe.

The EU's commitment to reaching climate neutrality by 2050, as part of Europe's Green Deal, will only be reached when we drastically transform our energy system. Within the Green Deal, hydrogen technology is considered essential in the energy transition towards a carbon neutral society. Especially in the chemical industry, the steel and cement industry, and in heavy duty transport, green hydrogen is considered key in decarbonisation. Today, the chemical industry depends on grey hydrogen, produced by steam reforming. Unfortunately, this process involves the emission of large quantities of CO₂. Green hydrogen, on the other hand, is produced through the electrolysis of water using renewable energy. To make green hydrogen competitive, the price of green electricity should further decrease, electrolyzers should be made more cost-efficient and the economy of scale should do its trick lowering the production costs.

The Hyve consortium brings together players across the value chain to achieve this ambitious goal, merging expertise in developing new components for electrolysis, with material suppliers, integration companies that will integrate the new components into their electrolyzers, and companies that will use this innovative infrastructure to generate green hydrogen.

Flemish research centres **imec** and **VITO** (both partners in **EnergyVille**) will leverage their knowledge to boost the efficiency of the electrolysis-technology. Imec's expertise in solid state electrolytes, electrode surfaces, and process technology at nanoscale is combined with VITO's expertise in membranes, catalysis, and system integration. **Bekaert**, supplier of Metallic Porous Transport Layers for electrolysis, will supply the appropriate materials. **John Cockerill**, world leader in the production of alkaline electrolyzers, will integrate the results into its production. **DEME**, worldwide leader in dredging and offshore energy services, aims at using the novel electrolyzers to convert wind and solar energy into green hydrogen and derived green products ('e-fuels'). Through the 'HYPORT®'-concept, DEME aims to import cheap green hydrogen products into Europe, complementary to local European production. Retailer **Colruyt Group** will support research applications for sustainable transport. Colruyt Group is

already running a hydrogen filling station, testing hydrogen-powered forklifts as well as the first heavy-duty trucks, collaborating on a green hydrogen plant in Zeebrugge through the energy holding company Virya Energy and is exploring e-fuels via Dats24.

“Colruyt Group has been producing its own green hydrogen for about ten years. Three years ago we opened the very first fully integrated public hydrogen filling station in Europe. In the coming months, four more public hydrogen filling stations will be equipped. Recently, our group put the first 44-ton hydrogen-powered electric heavy-duty truck in Europe on the roads. We clearly believe in hydrogen technology as a promising zero-emission solution for transport and logistics and are committed to invest in innovative hydrogen applications. We are convinced that with our partners in a strategic cooperation for the development of a new promising hydrogen electrolysis component, we can take important steps towards a more sustainable mobility and energy supply”, says **Jef Colruyt**, CEO at Colruyt Group.

“In line with its vision to provide solutions for a sustainable future, DEME is proud to participate in Hyve, a project in which partners along the value chain jointly develop a novel green hydrogen technology. This initiative complements and reinforces DEME’s ongoing efforts towards solving global challenges, like reduction of CO₂ emissions, and is fully aligned with its strategic objectives.” says **Luc Vandenbulcke**, CEO at DEME Group.

“Bekaert has a commitment to create green and sustainable solutions. Therefore, we look forward to working closely with the consortium partners and develop the building blocks for this electrolysis technology of the future, fully consistent with our ‘better together’ aspiration. We are committed to delivering long-term value to all our stakeholders and as such, create sustainable business partnerships. Like the one of this consortium”, says **Oswald Schmid**, CEO at Bekaert.

“John Cockerill is very pleased to partner with renowned research centres and major Belgian industrial players on this innovative project. Thanks to our position as world leader in the manufacture of high-capacity electrolyzers and our expertise in the field of hydrogen, we can put our know-how at the service of improving performance to make this project an innovative and iconic success in decarbonising industry”, says **Jean-Luc Maurange**, CEO of the John Cockerill Group.

“Sustainable development is in VITO’s DNA. We focus on a systems approach, paying attention to the whole techno-economic value chain. That is the best way to approach the complex problems of the energy transition. We do this together with our EnergyVille partners and with the necessary focus on industrial applicability. Hyve is a striking example of such collaboration and constitutes an important step for the research on green hydrogen in Flanders,” says **Dirk Fransaer**, managing director at VITO.

“As a world-renowned research centre in nanoelectronics and digital technology, we believe that technology is key in realising a sustainable society and we are committed to leverage our expertise to enable this. Our ‘power-to-molecules’ programme, investigating how CO₂ can be converted into valuable molecules for industry, points the way towards a carbon-neutral society”, says **Luc Van den hove**, CEO at imec. “Within Hyve, imec and VITO combine their knowledge and transfer it to an ambitious, large-scale innovation project to make Flanders a frontrunner in green hydrogen.”

About DEME

DEME is a world leader in the specialised fields of dredging, solutions for the offshore energy industry,

infra marine and environmental works. The company can build on more than 140 years of know-how and is a front runner in innovation and new technologies. DEME's vision is to work towards a sustainable future by offering solutions for global challenges: a rising sea level, a growing population, reduction of CO2 emissions, polluted rivers and soils and the scarcity of natural resources.

DEME can rely on 5,200 highly skilled professionals and a modern fleet of over 100 vessels.
www.deme-group.com

Contact:

Vicky Cosemans, Head of Communications
cosemans.vicky@deme-group.com +32 3 250 59 22