IPCEI: Electrolyzer GW Fab in Flanders

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Electrolyzer GW Fab: the strategic opportunity

- Regulatory framework is changing rapidly for hydrogen and water electrolyzers
- Rapid upscaling (GW scale) is required to support ambitious EU targets
- Technology and products are key for success
- Historical activity in Belgium (Flanders) and Canada
- IPCEI funding and support from Flanders has been decisive to invest in Flanders
- For the EU: PEM cell stack manufacturing (BE) and system assembly (BE & SP)
Electrolyzer GW Fab: objectives
R&D and First Industrial Deployment

- **Cell stack upscaling**: more cells, larger active areas, thinner membrane and higher current densities
- **Materials and components**: MEA improvements (efficiency, durability), reduction of iridium and platinum loadings, alternative materials
- **Product design**
  - Standardization is essential
  - Upscaling: for larger projects (25 - 1000 MW)
  - Innovative product design: robust & reliable, compact (low footprint), modular (easy to transport), plug&play, design to manufacture, design to service, easy to integrate
  - Power transformers/rectifiers optimization
- **Manufacturing**: from manual to (semi-) automated production process, from bay manufacturing to flow manufacturing
- **Vertical integration and supply chain** optimization
Electrolyzer GW Fab: project status

- R&D work on cell stack components
- Test of new production equipment for cell stack manufacturing (first industrial deployment)
- Preparation of the implementation of a flow manufacturing process for cell stacks and electrolyzer systems
- Production in 2 shifts
- Expansion in Flanders from 7.600 m² to 17.200 m² (from 75 to 200 FTE and more to come)
Thank you!

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