

## Hypro (Cost-)efficient and sustainable electrolysis systems

Start	2025	
Subsidy	€ 34.512.627	
<b>Private contribution</b>	€ 15.679.504	
Leadership	Arend de Groot (TNO), Guido Mul (University of Twe	ente)
11 universities	1 research institute 2 universities applied science	34 industrial partners
Viversiteit   Lickelen   The retherlands   UNIVERSITY OF TWENTE. Image: Constraint of the retherlands Image:	Applied Sciences	AVOXT VITRITE VSparticle VSparticle ionbond Johnson Matthey Ispiring science, enhancing life









## GroenvermogenNL ambitions

Acceleration	$\checkmark$
Scaling up	
Reducing costs	
Innovative ecosystem	V
New talents	$\checkmark$



inputs	activities	outputs	outcomes	impact
Experts & state of art laboratories, funded talented researchers & resources.	Five technological research tasks; 1. AWE 2. PEM 3. SOEC & PCCs 4. AEM 5. Electrically Driven Processes for Residual Gas Valorisation (plasma, microreactors). One transversal task; 6. System Integration.	Advancement and comparison of hydrogen production technologies. Development of advanced characterization tools, digital twins, and accelerated stress test protocols. Establishment of a national hydrogen production technology ecosystem.	Adoption of developed technologies by industry across component manufacturers, OEMs, system integrators, hydrogen producers and operators. Informing government & regulatory bodies to make informed decisions. Use of these outcomes by academics for	Acceleration both existing and newly developed H2 production technologies. <b>Reducing</b> <b>costs</b> of H2 production through innovation (new materials, more efficient electrolysis, system integration). <b>Innovative ecosystem</b> with new participants in the consortium. <b>New talents</b> because

education.

approximately 40

PhD's are recruited

in hydrogen issues.

and become involved

2024	2025	2026	2027	2028	2029	2030	Beyond
<ul> <li>Signing Consortium agreement</li> </ul>	<ul> <li>Testing protocols</li> <li>Component develop- ments</li> </ul>	<ul> <li>Selecting &amp; testing materials</li> </ul>	<ul> <li>Monitoring tools, risks assessments</li> </ul>	<ul> <li>Performance te model develop stack material</li> </ul>	esting, oment, design	<ul> <li>Operational scale systems</li> </ul>	