

Our project at a glance



12
Partners



7
Countries



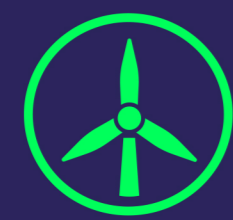
3
Years



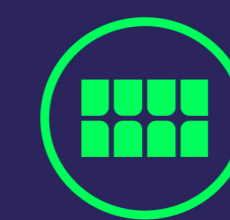
3.97M€
EU funding

Bet everything on green!

We believe in the potential of **renewable energies** as a way to decarbonise our economy. That's why our goal at ASTERISK is to **produce hydrogen using only clean energy sources**, such as wind turbines or solar power.



Wind power



Solar power

Seawater is the key

Instead of using fresh water, a valuable resource we must preserve for other applications, we will produce green hydrogen **directly from seawater**.



Agriculture



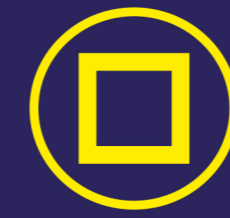
Human consumption



Farms

TRANSFORMING SEAWATER INTO GREEN HYDROGEN

What we do



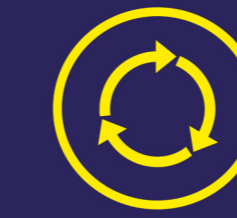
Catalysts & membranes

At ASTERISK we seek to apply **environmental consciousness** to every part of our process. Therefore, our electrolyser components will use abundant materials such as iron and nickel and avoid the use of toxic compounds, such as PFAS, also called **'forever chemicals'**.



Brine valorisation

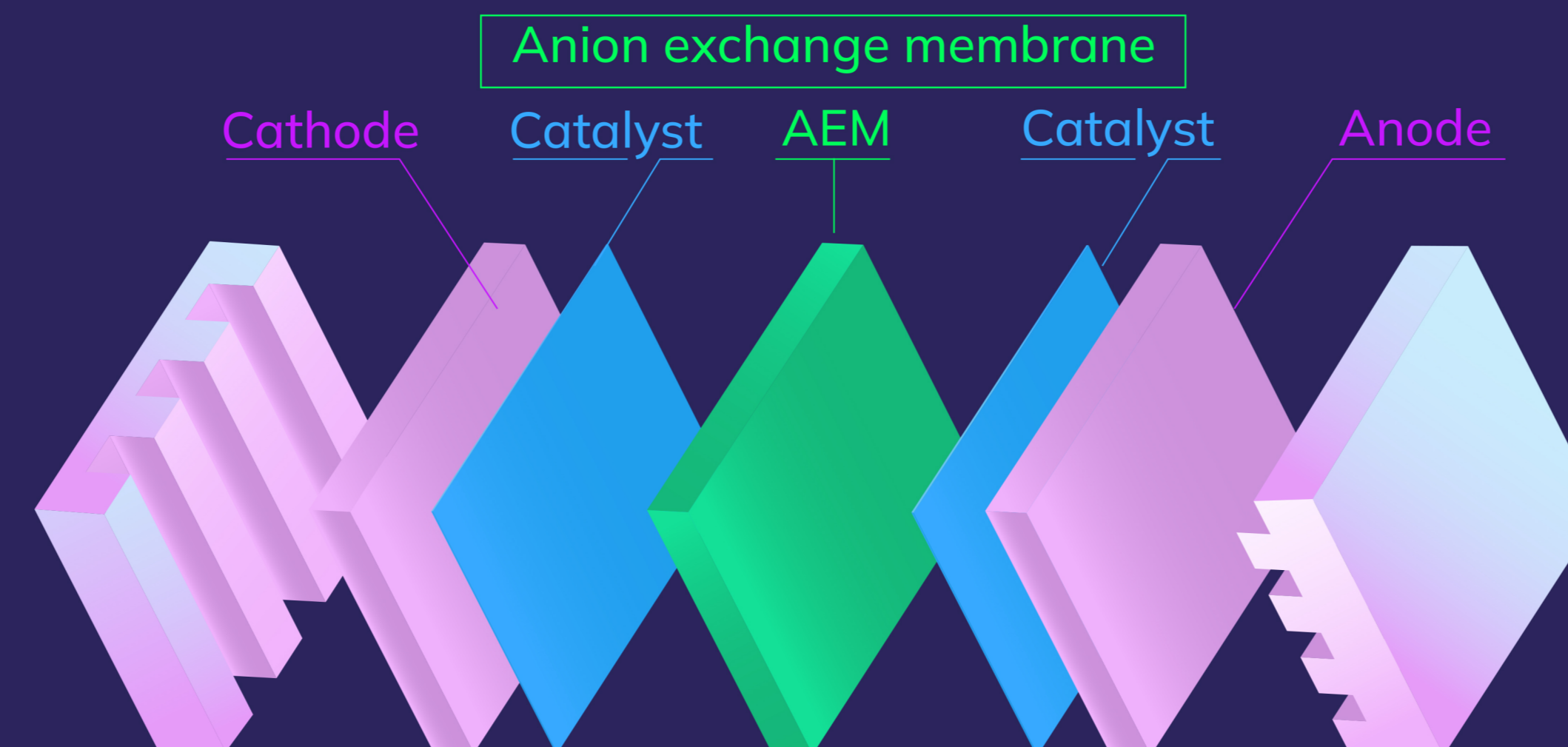
In addition to obtaining green hydrogen, we will recover industrially valuable compounds from seawater, such as **mineral salts**. This is what we call closing the loop!



Sustainability

For us, it is important to design a device with the lowest possible environmental impact. That is why we consider the **recyclability** of all our components and different end-of-life scenarios for our electrolyser.

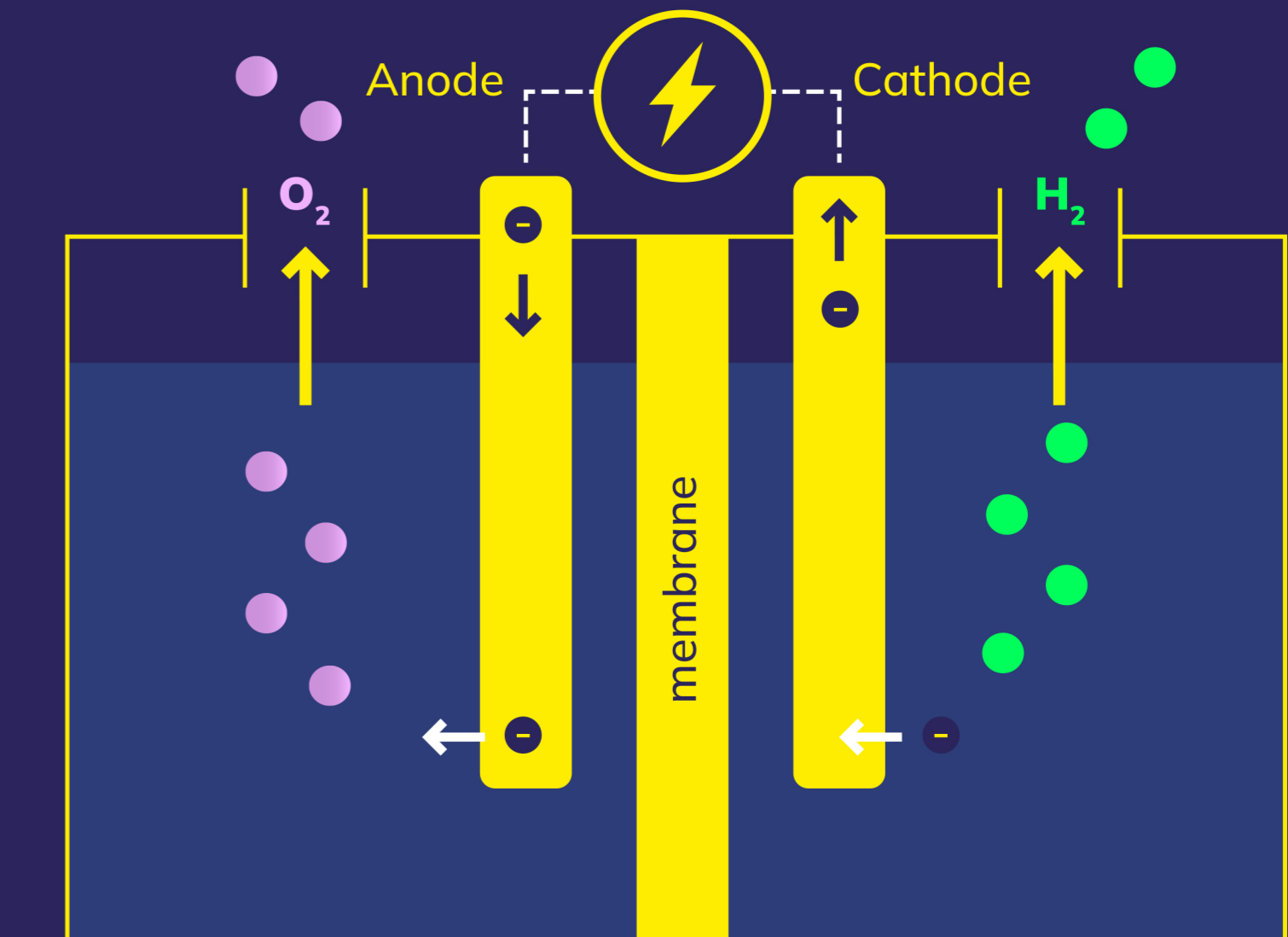
Our main objective: an electrolyser ready for harsh salinity conditions.



Proof of concept (PoC) of a 5 kWe stack by using seawater with degradation rate of <5% over 500h of operation

Splitting water with electricity

Although there are several methods for obtaining hydrogen, the simplest, most efficient and environmentally friendly is **water electrolysis**. This process uses electricity to separate water molecules into its components, oxygen and hydrogen.



The support behind ASTERISK

ASTERISK has ambitious goals. Fortunately, we count on funding from the **European Commission** and the **Clean Hydrogen Partnership**, which supports research and innovation on hydrogen and fuel cell technologies, to stimulate the production, distribution, storage and end-use applications of clean hydrogen.

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the Clean Hydrogen Partnership. Neither the European Union nor the granting authority can be held responsible for them.