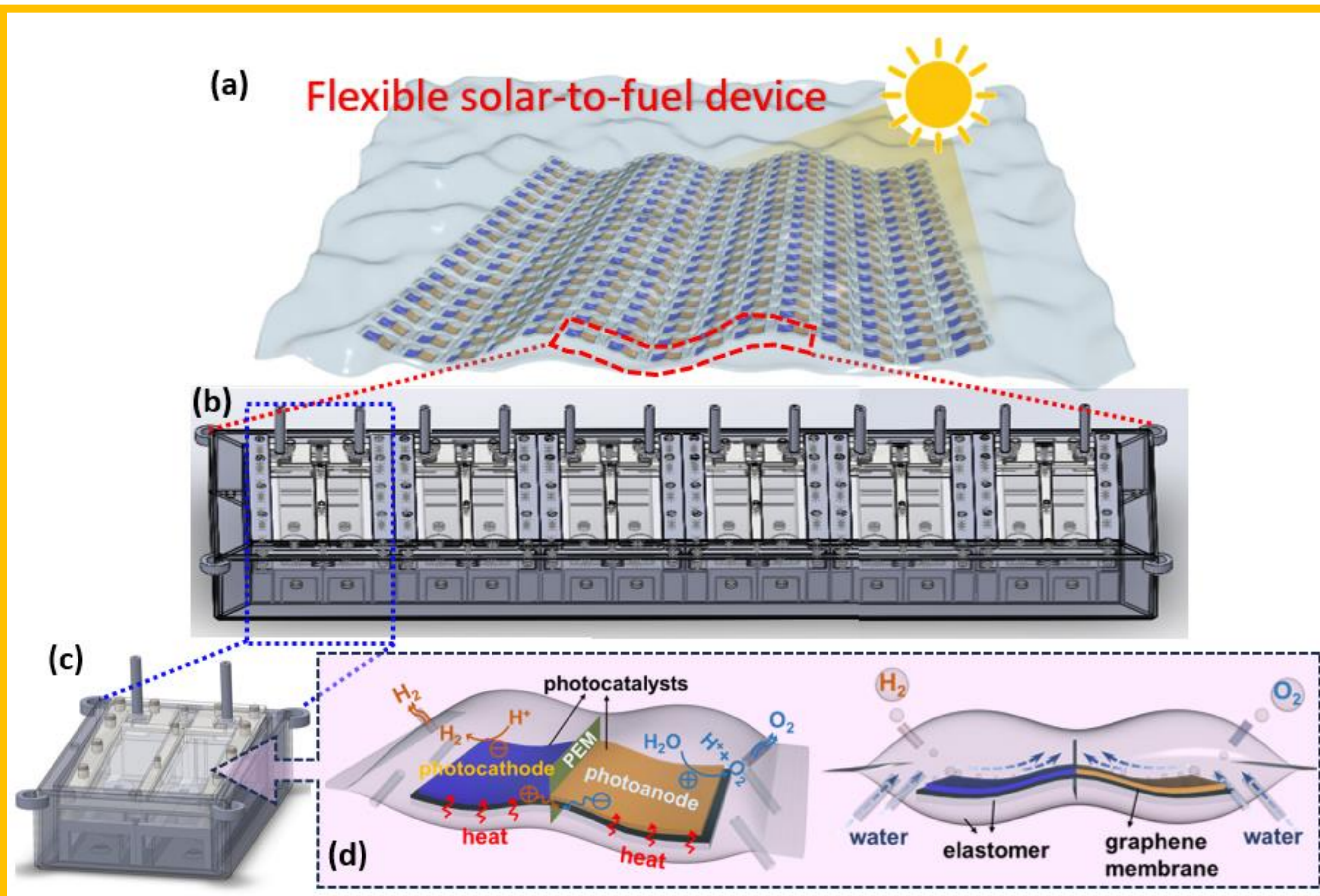


Solar-Energy-Driven Modular Floatable Device for Scalable Green Hydrogen Production From Wastewater

This project received funding from the Australian Renewable Energy Agency (ARENA) as part of ARENA's Transformative Research Accelerating Commercialisation (TRAC) Program.

Project Aim & Overview



Schematic of the floating platform for H₂ generation

- Fabricating large-scale, dual-chamber floating device uses only natural sunlight to simultaneously produce cost effective green hydrogen, degrade organic species and purify wastewater.
- proposing innovative approach to hydrogen production by establishing a fully solar-driven hydrogen-from-wastewater floating device.
- Overcoming the solar-accessibility limitations towards cost-effective green hydrogen production at \$2.5/kg of hydrogen.

Composite materials & Membrane

Prototyping flexible devices

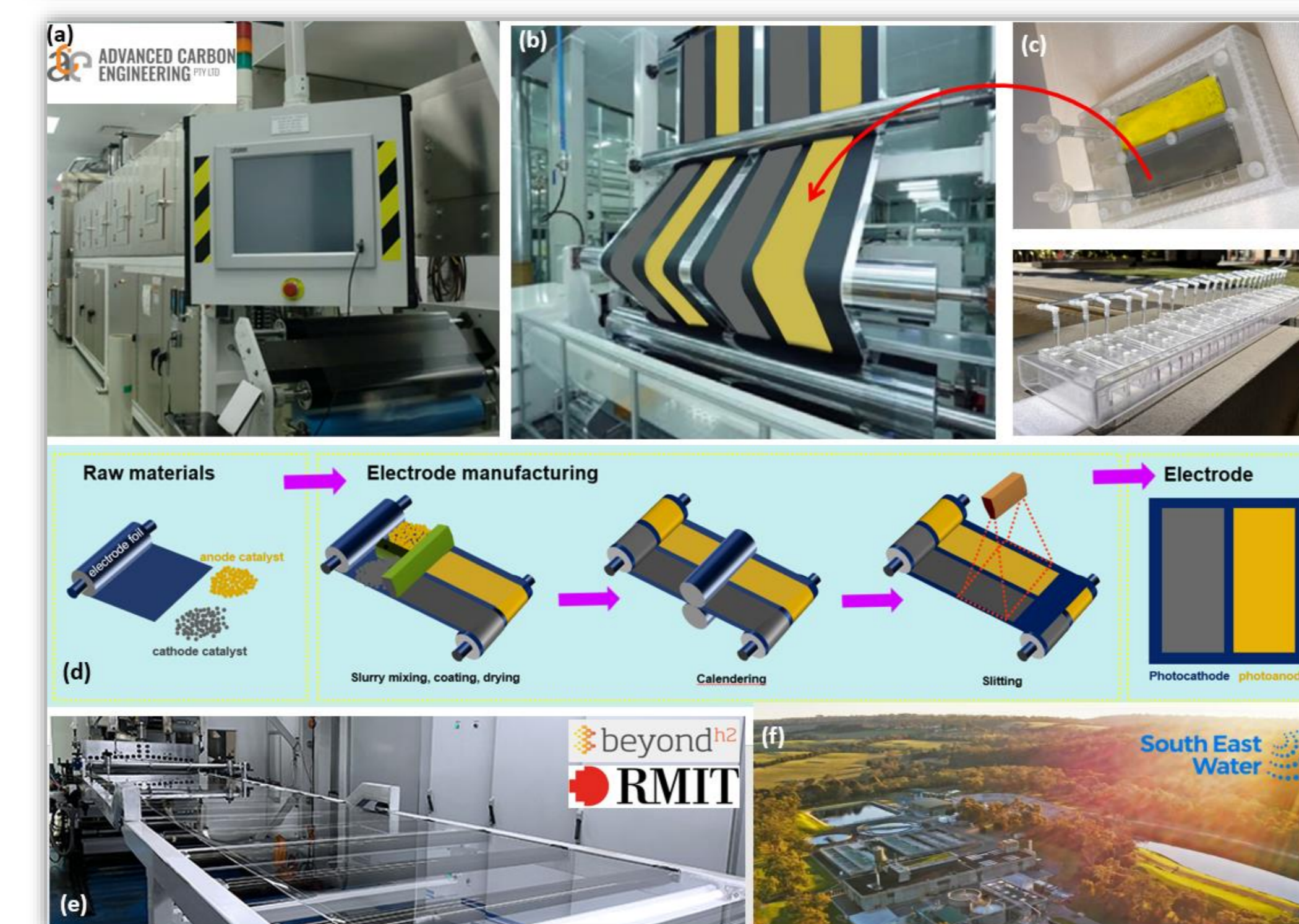
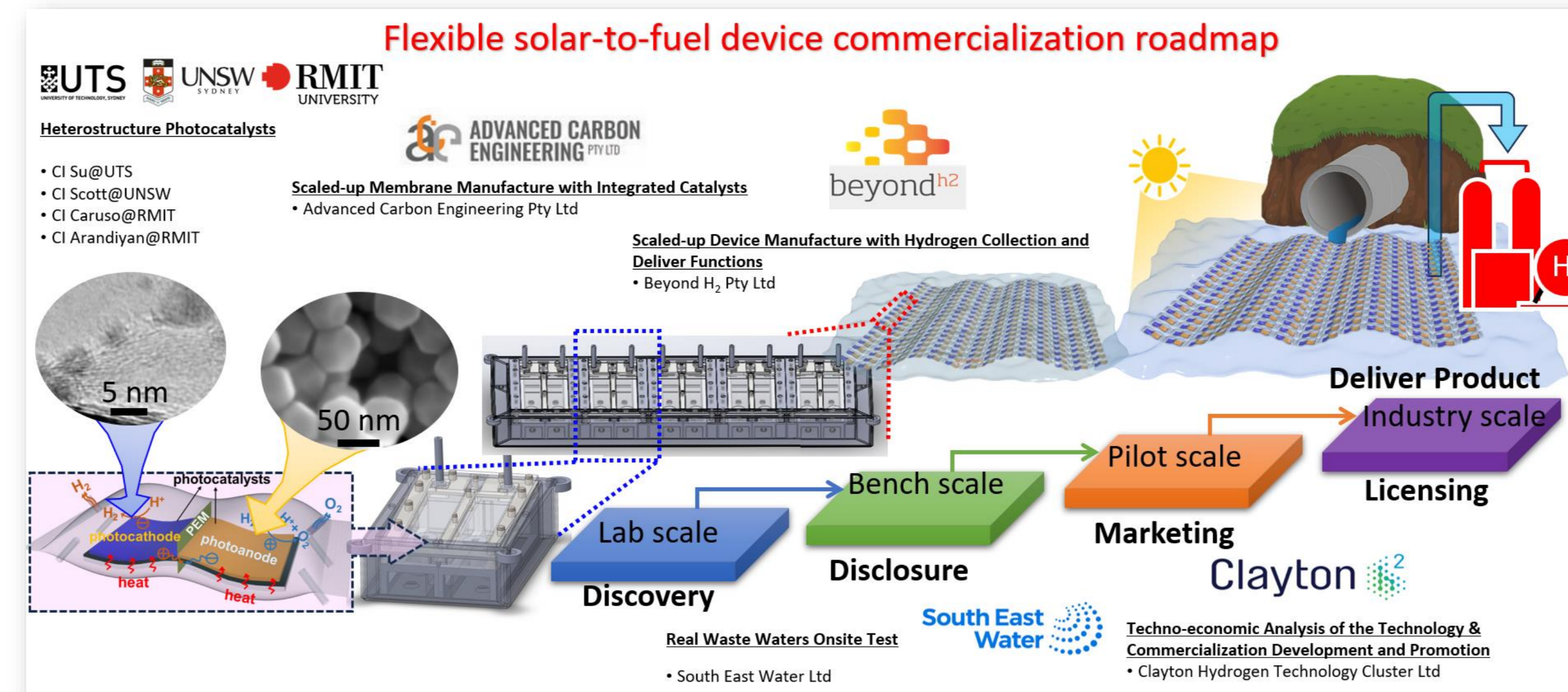
Materials & devices (1m²) manufacturing

Delivering 20 m² floating device

Technoeconomic appraisal & Commercialisation

Stage 1
R&D

Stage 2
Commercialisation

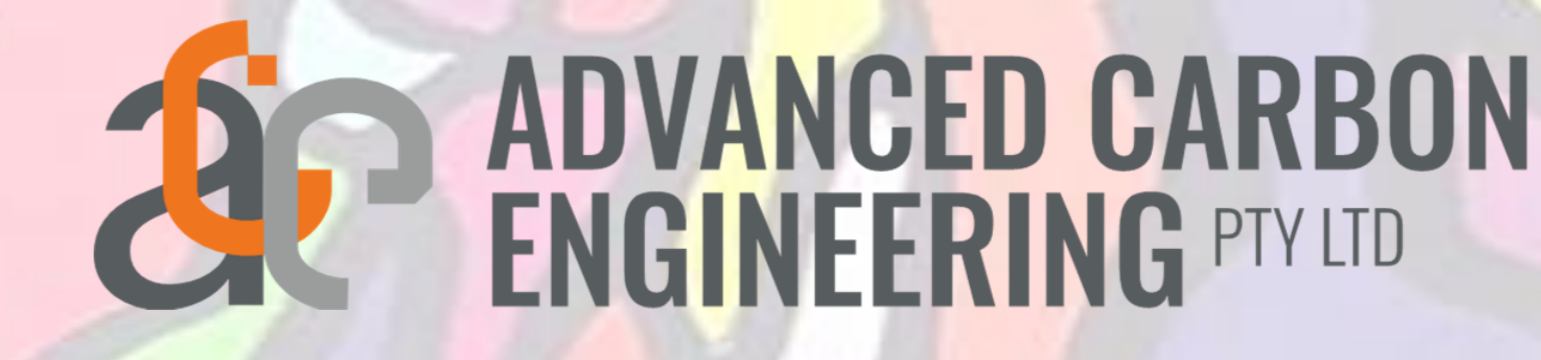


Schematic of the commercialisation plan

Timeline & Outcomes

Milestone	2024	2025	2026	2027	2028	2029
Stage 1 (Research stage)	We are here					
Design and manufacture of composite materials						
Assemble small scale flexible floating device						
Design and construct prototype-scale 2D floating unit						
Stage 2 (Commercialisation stage)						
Fabrication, testing and manufacture 1m ² floating device						
Manufacture and testing 20m ² floating device						
Techno-economic appraisal and commercialisation						

- ✓ 1m x 1m solar-energy-driven floating device following by delivering of a 4m x 5m solar-energy-driven floating device
- ✓ Improvement in the technology readiness and commercial readiness of hydrogen production technologies
- ✓ Development, deployment and commercialisation of floatable devices utilising wastewater



Disclaimer: The views expressed herein are not necessarily the views of the Australian Government. The Australian Government does not accept responsibility for any information or advice within this document.

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