Department Hydrogen Technology

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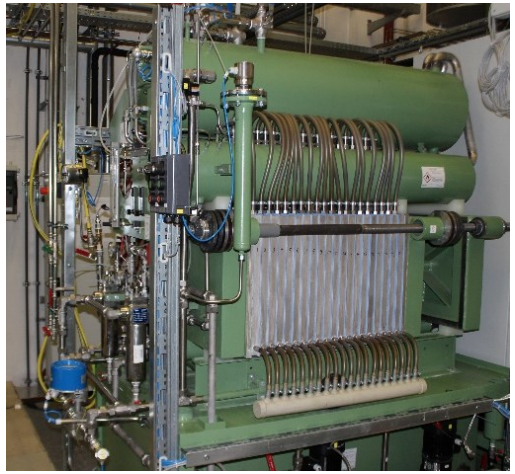
Electrochemical Technology

“R&D offer”

Service	AEL	AEMEL	Sea water / waste water electrolysis
Simulation of H_2 / electrolyte flow on cell level	X	X	
Monitoring the effect of electrolyte quality on the cell performance	X	X	X
Monitoring the degradation on component level (electrode, separator) in a cell	X	(X)	X
Monitoring the gas purity (HTO/OTH) on cell level as a function of current density load	X	X	X
Monitoring the effect of components, cell design and contact pressure of the electrodes on the separator (on cell level) on the gas purity (HTO/OTH)	X	X	X
Monitoring (in-operando) of the electrode potential (anode, cathode) in a cell by using additional reference electrodes	x	x	x
Evaluation of the mechanical properties of electrodes and components (compression, tensile, cycling)	x	x	x
Qualifying of materials (catalyst coating, separator, PTL) for application in an electrolyser	X	X	X
Development of metallic components (PTL, catalyst coating) and production processes for components	X	X	X
Evaluation of cell designs and cell concepts for electrolysis	X	X	X
Development of electrolyte supply concepts (symmetrical and asymmetrical)	X	X	X
Evaluation of material combinations (PTL + catalyst + separator) and relation to electrolysis performance	X	X	X
Development and evaluation of separator coating processes (spraying, decal concept, screen printing, doctor blades)	(X)	X	X
Ink-development for separator- and PTL-coating processes		X	
Development of non-PGM catalysts (based on non-critical transition metal alloys)	X	X	X
Protocol development (with AST) for specific electrochemical applications and customer requests	X	X	(X)
Stack testing up to 1 kW	X	X	



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