

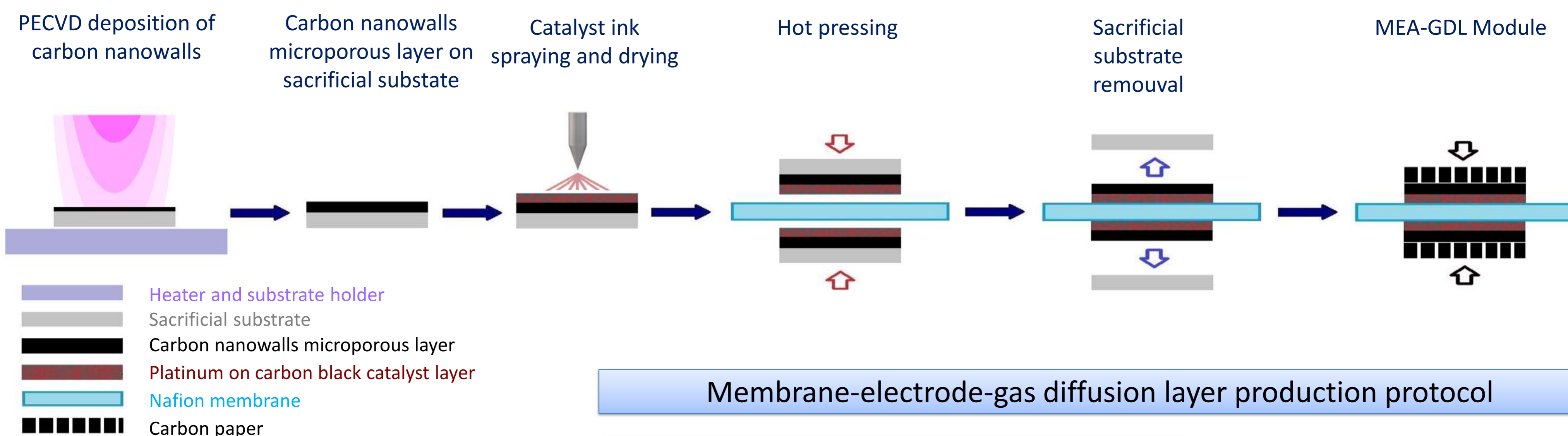
# Process for the production of membrane-electrode-gas diffusion layer assemblies based on plasma-assisted graphene nanowalls for high performance fuel cells

Patent application No. A 00635/2020

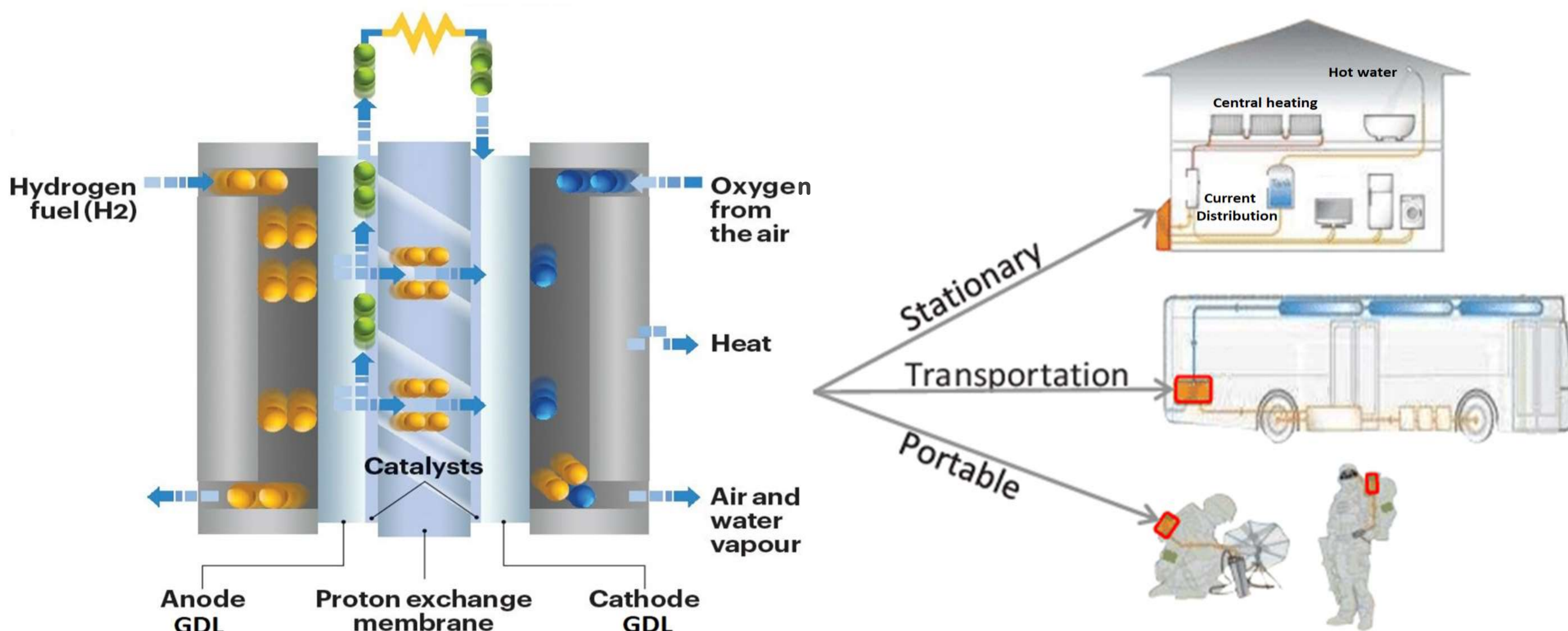
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The invention relates to a process for the preparation of membrane-electrode-microporous layer assemblies based on graphene nanowall thin films with optimised key properties favourable to microporous layers: specific area, hydrophobicity, electrical conductivity, stability and gas permeability. The process aims to produce assemblies that overcome the drawbacks of current preparation methods and proposes a low temperature heat transfer process characterised by the addition of a radio-frequency plasma assisted chemical vapor deposition step of a superhydrophobic graphene nanowall film microporous layer directly on the substrate. Assemblies prepared by this process, using undeteriorated graphene nanowall films as components, exhibit improved performance over conventional assemblies.



PEM-FC device and its applications



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