HYSILABS

One line pitch:
Based on an unique modular liquid solution, HySiLabs makes H2 easy to use, anywhere, anytime enabling a smooth transition from fossil to clean fuel.

Market Analysis:
Fossil fuels are currently the world’s primary energy source but climate change and health concerns demand a switch to clean energy sources. This requires the development of oil substitutes such as H2, a gas known to generate electricity without emitting any emission when combined in a Fuel Cell. Distribution and delivery of H2 is well known in the industry but the major challenge in using H2 as an energy source remains its public usage. Conventional technologies like high pressure are not adapted to this new environment because it requires considerable investments to guarantee safety when delivering H2 close to public areas. A technological need remains to facilitate its usage.

Value proposition:
HySiLabs disruptive innovation brings a solution that maintains the advantages of an energy-dense H2 vector with unique added values like: On-site and on-demand hydrogen release, a fuel liquid at standards conditions, non-explosive and non-toxic so not classified as dangerous good, with a Low flammability and a Long life storage. So by avoiding all hydrogen related constraints HySiLabs is providing a safe solution that could be easily implemented everywhere without any extra cost and with the same logistic of transport as conventional fuel but without any impact on the environment.

Business Model:
HySiLabs has established two different client acquisition strategies. One consists of integrating the solution into existing products of FC providers; it will allow the company to make initial sales. The second strategy consists of contacting electric systems suppliers to replace their power sources (electric battery, combustion engine) with the HySiLabs solution paired with a FC. HySiLabs offers an integration solution of its brand-new technology to manufacturers of systems running on hydrogen or wishing to integrate this vector in their products.

IP and Regulatory situation:
HySiLabs technology is based on a chemical reaction that consists in a catalytic hydrolysis of a silicon hydride derivative (HSL fuel, available at an industrial scale) that produces H2 when mixed with water and without any energy input needed. The chemical reaction has been patented 6 years ago and now delivered in several countries worldwide. The highly specialized know-how developed by HySiLabs lies in the design of the Hydrogen Generation Unit (HGU) which controls the reaction and produces hydrogen on demand.