



## Solhyd initiates production of hydrogen panels

09 November 2023, 10:23

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### Scalable and manageable, with an eye towards the future

Solhyd developed an innovative hydrogen panel. After an intensive period of research and development, the time had come to produce a first batch of panels. Solhyd turned to Sirris for help in setting up the optimal production concept and for advice on various production-related matters.

[Solhyd](#), a KU Leuven spin-off, wants to make green hydrogen accessible to everyone and has developed a hydrogen panel to this end. The modules produce hydrogen via sunlight.

### From blank canvas to scalable production concept

Right from the start of the project, Solhyd entered the spin-off phase. This was particularly evident due to the high share of R&D activities. Although the hydrogen panel had gone through several successful tests, there was still a lot of work ahead to industrialise the first prototype. To this end, Solhyd successfully collaborated with [Comate Engineering & Design](#).

In addition to industrialising the product, Solhyd quickly realised that the production needed further planning. The initial panels were assembled manually on a standard worktable, although management soon realised that this approach would not be feasible for future scaling. Together with

Sirris, Solhyd started thinking about a suitable production concept that would be scalable for the future. As a first step, the (manual) assembly process was analysed to gain a better understanding of the different steps, the required time and the complexity involved. This resulted in several improvement proposals focussing on a more efficient and, above all, more uniform production process (with an emphasis on quality). In addition, this exercise also led to proposals for changes in the product design ('design for assembly').

In the next step, an initial production concept was outlined. Solhyd already had a spacious production hall, but there were questions about the best layout. Together with Solhyd, the production floor was divided into zones: - R&D and production were detached from each other, wet and dry assembly were separated. In addition, workstations were further elaborated – using ergonomic worktables, shadow boards for tools, etc. - and the flow of components, assemblies and finished products was planned out. This exercise also considered future scaling up, so that additional assembly stations could be integrated when production numbers increase significantly.

Solhyd immediately set to work with this analysis and, step by step, the production concept that had been thought out was actually rolled out.



Production hall before the project





The new production hall

## Digital production monitoring

Although the current number of panels to be assembled is manageable from a planning point of view, Solhyd's management also realised that a solid foundation was required for the future. Indeed, planning and tracking orders and managing stock, whether on paper or through Excel, would quickly become inadequate and could cause problems. Together with Sirris, Solhyd developed a digital order flow system. This included setting up a future-proof system for numbering parts and considering the bill of material (BOM). Solhyd immediately started registering all important production-related information (in Excel) and afterwards even initiated a test for an ERP system to get to know the typical order flow in advance and thus be armed for the future. Currently, Solhyd is in the process of fine-tuning the digital order flow step by step.

## Practical tips & tricks

When initiating production, various practical questions arise, and Solhyd was no exception. Sirris assisted Solhyd in finding answers. Insights were shared, for instance, on documenting the assembly process in work instructions, organising the warehouse and managing stock, packaging options, visual management, recording and tracking improvement suggestions ...

## Ready for the future!

Solhyd's evolution in recent months has been spectacular. Although there is still R&D to be done to further optimise the product, Solhyd made the shift from prototyping to production. Solhyd's leadership is driven, with great technical acumen, as well as an enthusiastic team at work, striving for continuous improvement. An initial batch of 10 panels is currently being produced for a pilot project. After this initial production run of ten panels, production of an additional 6-12 panels

followed fairly quickly, using the experience and knowledge gained from Sirris to increase efficiency and safety

### **Want to find out more?**

Want to set up a (new) production and have questions on how to get started? Or would you like a thorough analysis of your current production? Sirris has extensive experience in setting up production and all the practical issues involved, both organisational and technological. [Please contact us for details!](#)

## **Authors**



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