Aerogel Launch Factory – Feasibility Study and Next Steps

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Abstract

Although numerous aerogel production processes have been developed and many possible applications for aerogels are emerging especially also in Europe, there is a need to scale-up and develop those processes further to enable industry and innovative start-ups to adopt and produce aerogels in Europe. Depending on the aerogel production process there is a lack of pilot scale aerogel production plants to enable industrial application development. The Aerogel Launch Factory (ALF) aims to bridge the gap from lab to pilot scale bringing aerogels a step closer to industrial production capacity enabling the production of sufficient quantities of aerogels, and to gain the knowledge required for industrial scale aerogel production facilities in Europe.

Especially in Europe only a few aerogel materials have found their way into industrial applications and are produced in sufficient quantities. ALF will offer at least three different processing pilot plants for aerogels to scale-up production and to produce various kinds of aerogel types for a wide range of applications. The aim is to offer aerogel pilot plants based on batch and continuous supercritical drying, atmospheric pressure freeze drying, and other processes, which will be developed in close collaboration with industry partners. With the establishment of ALF we will offer a toolbox for aerogel development with the concept that the pilot plants will be set up in the immediate vicinity of the R&D-oriented laboratories for synthesis and characterization to exploit synergies. The presentation will aim at an update on the current progress, the feasibility study and pilot plants envisioned to enable and facilitate collaboration in research, development and technology transfer. Future challenges are identified and the pragmatic approach to using the pilot plants is discussed.

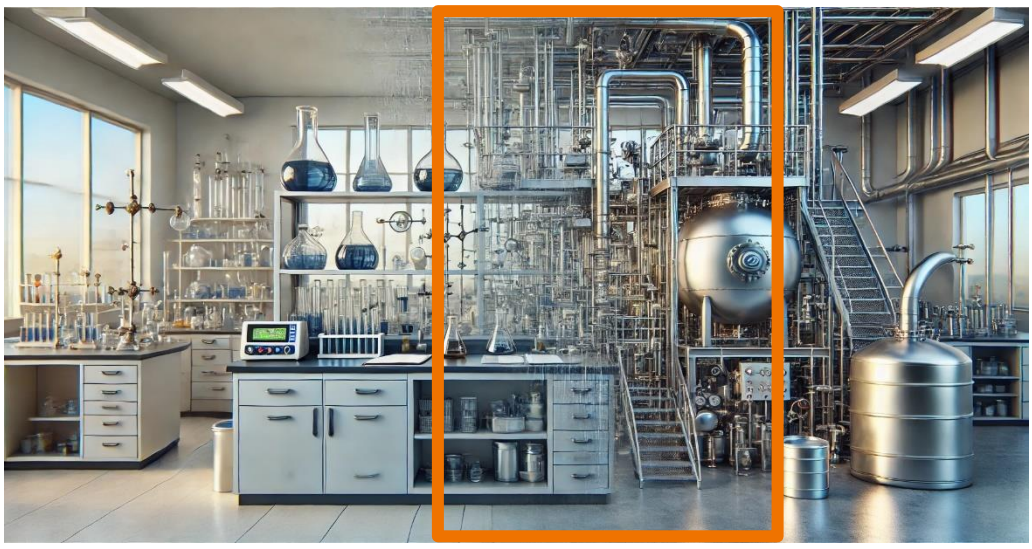

Fig. 1: Visual (ChatGPT) representation of ALF filling the gap (orange box) from chemistry lab to a pilot plant of production.