The Aerogel Industry: Current Status, Players, and Opportunities

Stephen A. Steiner III^{1,a,*}, Richard C. Collins^{2,b}, Shanyu Zhao^{3,c}, Jiaqing Wang^{4,d}, and Justin S. Griffin^{1,e}

¹ Aerogel Technologies, LLC, Boston, MA, USA

² IDTechEx, London, United Kingdom

³ EMPA Swiss Federal Laboratories for Materials Science, Dubendorf, Switzerland

⁴ Nanjing Fiberglass Research & Design Institute, Nanjiang, People's Republic of China

^a Email: ssteiner@aerogeltechnologies.com

^b Email: r.collins@idtechex.com

^c Email: shanyu.zhao@empa.ch

d Email: cio@fiberglasschina.com

^e Email: ssteiner@aerogeltechnologies.com

Over the past two decades, a commercial ecosystem dedicated to the production of aerogel-based materials has emerged and is continuing to grow each year. Today there are nearly 50 manufacturers of aerogel materials worldwide ranging from startups to large commercial enterprises producing not only silica-aerogel-based materials but a range of new multifunctional aerogel and aerogel-like compositions as well.

In this talk, we will present a characterization of the global aerogel industry as it stood entering 2020 based on a chapter prepared for *The Springer Handbook of Aerogels*, an upcoming flagship SpringerNature book about aerogels and aerogel-like materials to be published in 2021. A survey of key and emerging players will be presented along with a deep dive into China's aerogel industry and a retrospective of discontinued commercial aerogel efforts. Applications of commercial aerogel materials and examples of integrators using such materials to produce market-ready products will be surveyed. Effects of the COVID-19 pandemic will be addressed. Opportunities for new commercial models such as distributed toll-processing networks, vertical integration, and turn-key on-site manufacturing modules will be discussed.