

## Clean catalysis for more sustainable fine chemical production

Stoli Catalysts designs and manufactures continuous flow processes that dramatically cut the manufacturing cost of fine and speciality chemicals such as fragrances, food supplements, cosmetics and intermediates for pharmaceuticals.



### Technology & Products

Stoli's core technology is based on fixing catalysts to the inside walls of reactor tubing and other channel-based geometries and passing the multiphase gas and liquid components over the surfaces. In contrast, traditional batch processing mixes powdered catalysts in a pot with the other ingredients. Using continuous flow processing, StoliFlow™ systems are much more efficient than traditional batch processes and readily scalable. Production efficiencies in energy, labour, reaction time and waste deliver significant cost reductions and margin enhancement, as well as lower environmental impact. It has two patent applications at international stage.

### The Market

Stoli is targeting the \$600bn fine chemicals market that includes perfumes, cosmetics, nutraceuticals and ingredients used to make pharmaceuticals. The near-term addressable market for StoliFlow™ products, system designs and services is approximately \$800m. Its aim is to be the leader in sustainable, low-impact catalytic and enzymatic continuous flow production of fine and specialty chemicals. Longer-term target markets in enzymatic biosynthesis and biofuels are valued at over \$2bn.

### Business Model

Stoli is developing a system design and licensing model with the first commercial-scale pilot plant to be delivered in H2.21. Additionally, it provides services in process and catalyst development, catalyst coatings, characterisation and proof-of-concept projects as a means to developing customer relationships. Sales to date are over £200,000. Customers include Airbus, Adisseo and SABIC.

#### Fundraising to July 2020

The development of the pilot plant is being largely funded by a EUR1.2m (£1m) Horizon 2020 SME Instrument grant. It is raising up to £600,000 for match funding and to expand business development.

#### Update July 2020

Stoli were successful in being awarded a grant from MICRA (Midlands Innovation Commercialisation of Research Accelerator) which helped cover the costs of the new laboratory, and in May 2020 they were given a Royal Society of Chemistry graduate internship grant, which offers the chance to hire a recent BSc Chemistry graduate (or equivalent), or an individual returning to work from a career break.