

THE FASTEST WAY TO ACHIEVE YOUR GOAL

The development of dry powder inhalers is complex. The new alliance INTO aims to simplify these projects. To this end, it combines expertise gained in previously often separate fields of formulation development.

Who is Danny/Adobe Stock

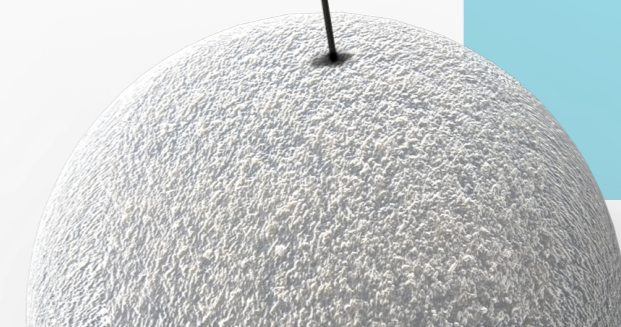
For the treatment of pulmonary diseases, countless people all over the world rely on inhalers. A large part of them are dry powder inhalers (DPIs), where the active ingredient is provided in a powder formulation.

However, it is a long road with numerous obstacles before the devices can actually help patients. Powder development in particular presents many challenges. The active ingredient, excipient, mixing process, filling process or the device itself – all these aspects, and especially the interactions between them, need to be well-balanced in order to make a formulation effective and robust.

At the same time, pharmaceutical companies often outsource the individual development steps to other companies. This is why different parties are responsible for aspects such as development of the active ingredient, selection of the excipient and the appropriate dosing technology. However, their focus is often limited to their specific expertise in the overall project. Upstream or downstream processes may only be partially taken into account and possible repercussions may simply be condoned. Failed development projects or subsequent problems during production can be the result.

It is against this background that INTO (Inhalation Together) was born. INTO is a strategic cooperation between the active ingredient manufacturer Sterling S.P.A., the expert for excipients DFE Pharma and Harro Höfliger who is responsible for the appropriate dosing technology. Each of the companies has decades of experience in the inhalation field. The alliance helps pharmaceutical companies to make formulation development for dry powder inhalers faster, safer and more efficient.

From the very first moment, INTO can see the entire development trajectory, from the active ingredient particle to the filling line. The specialists know where the obstacles are, how to overcome them, and how to, as quickly as possible, achieve the ultimate goal – a perfect powder formulation.



“Pharmaceutical companies benefit from our decades of experience.”



Olga Urazova,
Chief Business Development
Officer at Sterling S.P.A.

“Our services cover all critical steps involved in DPI development.”



Xander van Leeuwen,
Sales Director Inhalation
at DFE Pharma

“With INTO, our focus is always on the interactions between powder, filling process and inhaler.”



Marco Laackmann,
Director Inhalation Technology
at Harro Höfliger



Considering common inhalers too large, unwieldy and indiscreet, Don Smith went ahead and invented his own device: The 1nhaler. But it was a long road from the initial idea to the groundbreaking concept. The inventor's creativity, optimism and ability to inspire others kept him going.

PASSION AND PATIENCE

In his capacity as a successful creative director, Don Smith was solving the design and communication problems of numerous customers for years. In 2016, however, this was no longer enough for him: He quit his job and became an inventor. The idea for his first invention, the 1nhaler, occurred to him when his physician offered him the opportunity to test a new inhaler. Smith is asthmatic and has long been frustrated by the size and bulkiness of current devices.

The new inhaler also disappointed him. However, he found one detail very promising: The inhaler was a dry powder inhaler. "This technology inspired me to come up with the idea of packing a single powder dose into a completely new kind of small, discreet inhaler," says the inventor. "It would be capable of releasing the active ingredient in just one breath: a 1nhaler."

1nhaler Ltd. Illustration: Vectorjuice/Freepik



CHARISMATIC GENERALIST

Smith started to read specialist literature about pharmacology, physics and powder processing. He visited pharmaceutical conferences and congresses and talked to experts. "I know a lot about a lot," he says with a smile. "But I never pretended to be an expert for airways or inhalation. I presented my idea saying that I would appreciate receiving support in the inhaler's development." This honesty paid off. "The pharmaceutical industry is full of passionate people who want to keep others healthy," he says. "Many were inspired by this idea and supported me with their knowledge."

"Having the idea is the easiest part of any invention. Making it work is the hard part."

Don Smith

