

Edinburgh Technopole Solid Form Solutions*

*Now part of Cambrex plc

Solid Form Solutions specialises in solid state science, and works closely with pharmaceutical companies to help bring innovative products from the lab bench to market. President **Stephen Watt** discusses how the company has grown, and describes the services it offers.

“There are world-class facilities right on our doorstep.”

Can you start by giving us some background on Solid Form Solutions?

Solid Form Solutions is a leader in solid state science and crystallisation development, working within the pharmaceutical industry since 2008. Its American parent company Avista Pharma specialises in the preclinical development of active pharmaceutical ingredients (APIs), the part of a drug that produces its effects. Solid Form Solutions is an important cog in the Avista Pharma wheel of product development; we assess the physical properties of chemicals to help us anticipate any potential downstream manufacturing problems for our clients.

What are some of the problems encountered in drug development, and how do you overcome them?

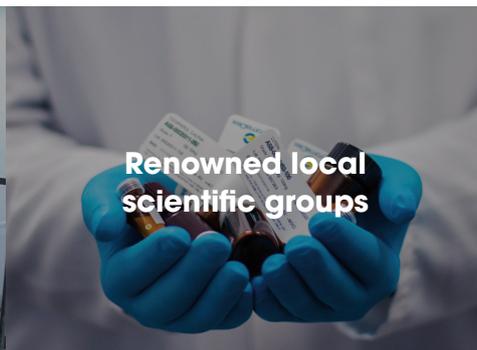
The problems we're talking about are things like insolubility of the API in the body, which, when orally administered, can prevent the therapeutic agent reaching its desired location. To combat this, we produce the API as a salt – since salts are generally more soluble in bodily fluids – and retest the newly formed product to make sure we have improved solubility. The client can then continue to the next stage of development, which includes stressing the material to ensure that the product will survive the varying global climates, and assessing the scalability of the material for the synthesis of larger quantities. All our services include a test known as X-ray powder diffraction, which involves firing X-rays at chemicals to interrogate their crystalline lattice structure. This technique is crucial to our work, and allows us to extract a vast amount of information from a very small quantity of material.

What is the next stage of development after initial physical testing?

Once we've decided on the best physical form for a product, the client will then need to make a larger batch, which our parent company usually assists with. They then have a few hundred grams of the product, and can perform studies to get a more realistic representation of how well the drug may work in patients. If these tests come back with favourable results, our clients begin preparing for the first stage of clinical trials. The whole process from point of discovery to market can take anywhere between 10 to 15 years, so it is a very long and expensive process. We offer our clients an efficient path to success with their product development, aiming to sift out unsuccessful drugs early on, while highlighting the candidates that have potential. This strategy reduces risk and saves time for our clients.



**Leaders in solid
state science**



**Renowned local
scientific groups**



**Preclinical development
of APIs**

So, do you continue to work with the client after this point?

Yes. When the chemical is ready to be produced in kilogram batches, there are certain risks that need to be considered. We look at scale-up and work out how to crystallise the product without physical form complications. This means that when the drug is produced as an actual product, the company has assurance that the chemical will always produce the same dissolution profile and will act consistently.

Have you always been based at Edinburgh Technopole?

No. We originally started in an incubator laboratory, which worked for us at the time but, as the company grew, we had limited space. We moved to Technopole in 2012 and have since grown to around 49 employees – it's the perfect lab space for our current needs. The park itself is beautiful, with excellent views, which is important for us as we have many clients who visit the site. The location is great too – a busy hub of life sciences that's close to the airport.

Is the location of the science park a positive in terms of recruitment of staff?

Oh, absolutely! The local universities have well-renowned scientific groups that focus on our niche skillset of crystallisation and solid form, particularly Strathclyde – I would say around 30 to 40 per cent of our employees have been recruited from there. We also have access to a lot of the high-end services that these universities provide, which means we can outsource some work to them if we want to use a technique but don't have the capabilities in house. Edinburgh University, for example, has just invested £25 million in a particular technology that you will struggle to find anywhere else in the world; there are world-class facilities right on our doorstep.



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FACTORY



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To learn more about Solid Form Solutions, visit www.solidformsolutions.co.uk.

To find out more about the facilities and opportunities at Edinburgh Technopole, visit www.edinburghtechnopole.co.uk

