



René Zünd,
Managing Director, Feinwerkoptik Zünd AG

“In innovation projects, it’s vital to listen carefully”

Based in the Rhine valley, Feinwerkoptik Zünd is making a big impact with small products – its latest invention measures just 1.55 millimetres in diameter. When it comes to innovation, the company focuses on its customers’ needs and relies on cooperation and an interdisciplinary approach.

Nestling in an impressive Alpine setting is the tiny settlement of Werdenberg which, with its 60 or so inhabitants, is reputed to be Switzerland’s smallest town. Snow is still lying on the mountain tops. “In good weather, it’s almost like the Matterhorn,” says René Zünd, Managing Director of Feinwerkoptik Zünd AG. Through his office window, you can just make out the Margelchopf, the region’s most impressive peak.

But at Feinwerkoptik Zünd, which specializes in optics, the sense of permanence conveyed by the surrounding mountains is scarcely discernible. “A lot of things are changing. We are undergoing a strategic realignment,” explains Zünd. He has been Managing Director of the family company,

which employs around 20 people, since 2014. His father, Johann Zünd, founded Feinwerkoptik Zünd AG 26 years ago. Back in those days, the company primarily manufactured lenses and prisms for lighting. Its products have grown increasingly complex over the years, and simple lenses have become comprehensive optical systems such as endoscopy cameras.

With the new generation of management, the firm's strategic focus is also being realigned to meet the changing economic environment. "We want to establish ourselves on the market as a contract manufacturer and also as an independent product and system developer," says Zünd. He explains this with reference to their latest innovation – a miniaturized camera with a diameter of just

1.55 millimetres, making it smaller than a pin head. It is able to penetrate into the narrowest vessels and generate high-resolution images. Originally developed for spinal surgery, the camera could also be used for technical applications and in the fields of space and defence. With products such as this miniaturized camera, Feinwerkoptik Zünd wants to increasingly offer solutions it has developed in-house that can be used across a wide range of industries.

"There are many potential applications for optical systems," declares Brigitte Waernier-Gut. She is Head of the Photonics Division at Swissmem, of which Feinwerkoptik Zünd is a member. It is not by chance that the EU has defined photonics as one of six key enabling technologies. Key enabling technologies enable companies to restructure industrial processes, and are a prerequisite for modernizing industry. Swiss optical companies such as Feinwerkoptik Zünd are benefiting from the huge demand for such technologies. Many of them have based themselves in the Rhine valley and actively keep in touch with each other, and also with the nearby Chur University of Applied Sciences and the Interstate University of Applied Sciences in Buchs. At the instigation of industrial companies, both universities are introducing undergraduate courses in photonics.

For Zünd, an interdisciplinary approach and in-depth knowledge are important success factors for projects. If customers express concerns, he takes these seriously. "They are all professionals," he says. Any indication, no matter how trivial it may sound, could ultimately be crucial. So in innovation projects, you've got to be able to listen carefully and implement purposefully, above all else. He doesn't stick to an established process, though. He is convinced that every project is completely different, and that long and complicated processes would only be a hindrance. And success has proved him right. 2016 was a good year for the company, and there is no shortage of new orders for this year either.

"There are many potential applications for optical systems."



For two generations, Feinwerkoptik Zünd has been manufacturing lenses for various industries. Photo: Biconvex lenses for an endoscope.



Employees at the company are characterized by their precision and meticulous way of working.

As a small company with flat hierarchies, streamlined processes and a high degree of technical expertise, Feinwerkoptik Zünd is a very flexible enterprise. “We are extremely quick,” says Zünd, illustrating this with a simple camera project. The design was worked out within three weeks, the prototype was produced after another two weeks and the complete prototype including mechanism and coated lens was ready 14 days later.

The new production robot that is going to be used for handling automatic surface treatment will also help to increase efficiency. It still needs to be properly calibrated, but once it’s up and running, it will be able to work right through the night, meaning an increase in productivity. By automating simple jobs, employees can devote themselves to more complex tasks that arise within the business. “We won’t be replacing anyone with robots,” declares Zünd reassuringly. To the contrary, growth is their aim. Aligning their corporate strategy towards becoming an independent product developer and solution provider will require new employees with expertise in optical design, optomechanics, electronics and software.

Zünd is not too worried about finding well-trained workers – their proximity to universities solves that problem. But it’s much harder to find employees with the right personality traits, such as a painstaking and meticulous way of working, curiosity and who take pleasure in their work. “Staff need to enjoy discovering new things and critically questioning existing processes. That’s how innovation occurs,” he believes. This calls for a secure environment and a corporate culture that permits creative thinking.

According to Zünd, a secure environment is the ultimate key to success. As a politically stable and dependable nation, Switzerland is virtually predestined to become an industrial base. “We do lots of things well,” he believes. From a policy point of view, he would therefore like to see a clear commitment to entrepreneurship and the perpetuation of an unbureaucratic economic environment that enables small and medium-sized businesses to concentrate on their products and processes. Focussing on their core skills enables MEM companies to use innovation to tackle the challenges of a rapidly changing economic environment, thereby remaining successful.

Feinwerkoptik Zünd

Feinwerkoptik Zünd AG supplies optical and optomechanical products to various industries across Europe and the US. The company also provides product and process development services, and supports customers in innovation projects. It employs around 20 employees and trainees at its production site in Werdenberg, in the canton of St Gallen.