



Interview with Dr. Fritz Faulhaber, CEO

“Technology is what drives us”

With a history spanning more than 60 years, FAULHABER has outgrown its regional roots in southwestern Germany to become a technology leader for microdrives in the range 0.01 to 200 mNm. Its catalog, in the meantime, is a hefty 470 pages long, there are plenty of new products in the pipeline for the coming years, and it will be interesting to see just what kind of innovations the market heavyweight from Germany's deep south will come up with in future as it continues to make a name for itself in the industry.

Dr. Faulhaber, the success story of your company's drive systems began more than 60 years ago. What do the FAULHABER company and the FAULHABER brand represent today?

We are a technology-driven business. Even 60 years ago, the idea behind my father's founding of the company, which grew out of his development of the ironless rotor coil, was wholly driven by technology. And today, too, it is this commitment to being one step ahead of the pack that motivates FAULHABER and opens up new possibilities for our customers and for the company itself. This is why the power of innovation has always been our most important corporate asset. For quite some time now, however, our innovations have no longer been limited to just product development. Nowadays, in fact, innovation straddles all areas of the company, particularly as it relates to production processes and manufacturing techniques. Ultimately, the key factors to success are the way we deploy our human resources and the quality and reliability of our work.

In such economically turbulent times as these, there is no doubt that stability is also an appropriate byword for the company and the FAULHABER brand. This means stability in a broad sense, be it management, quality standards, growth or financial strength. Why? Quite simply, because a traditional mid-sized, family-

run company could not have survived within the market for 60 years without producing solid work. That might sound somewhat unadventurous and boring, but it has been a formula that has worked successfully for 60 years.

During these 60 years, FAULHABER has experienced a large number of milestones, not all of them technological. What events were of great significance to you personally?

Of course, from the very beginning there were a lot of technological highlights. We have worked with our customers to realize a large number of projects, each of which has been absolutely fantastic in its own right. From cameras to medical technology, from deep sea to outer space – FAULHABER has been involved in all these and more. One of the most rewarding aspects about the business we are in is the wide range of customers and the various projects that we have been privileged to realize for them.

On a personal level, however, the most important achievement has been the organic growth that we have experienced during this period. We pay for all of our investments with our own hard-earned cash and are very frugal when it comes to borrowing money, e.g. for real estate. This approach has always served us well in the past. In addition, we are in the fortunate position of being able to align



our corporate goals over the long term, without having to constantly demonstrate on a quarterly basis that we are able to increase our earnings or having to listen to a banker telling us what we can or cannot spend.

It is our own achievements that have allowed us to become the FAULHABER Group as it is today, with its workforce of around 1,500 people. It is also through our own endeavors that we have been able to broaden and expand our technology and product range and transform into reality our vision of creating the world's most precise and compact moving objects that push to the limit that which is technologically feasible. I regard this as perhaps our greatest achievement to date.

Prior to 2009, financial losses and compulsory redundancies were unheard of at many German companies. How did the years of economic crisis impact on the FAULHABER Group and the Schönaich facility in particular?

Of course, like many other companies, the crisis did not just pass us by. On the contrary, because we produce industrial components we were faced with a very



difficult time, like most companies in the sector. The Schönaich facility and the firms in our production network suffered as a result, and we were also forced to make some structural adjustments, primarily in the production area. However, as our products are very sophisticated, our team members need a long and very thorough period of familiarization to work effectively at such a high level. This is why we preferred to take some losses on board in order to retain our staff, rather than put up obstacles to our future progress, at least for as long as this was possible. It was the first time in FAULHABER's history that such a step had been necessary. And I hope that we demonstrated consideration and foresight in taking it. On the whole, I think we have recovered and are back to where we were before the crisis.

How do you see Germany as a production base in terms of FAULHABER's future development?

Our products are not just a byword for high-tech, above all they represent the high quality that our customers expect. And that is hardly surprising when you consider the kind of applications in which our products are used. In areas like medical technology, it is now no longer a question of whether one out of a hundred parts can have a fault in it. It has been a very long time since this was acceptable. Nowadays, the quality of such products has to be impeccable.

Regarding Germany as a production base, we recognized very early on that there are challenges associated with this. This is why we automated our production facilities many years ago, but without having to reduce our workforce, thanks to the growth we were enjoying. I think that this has put us in a position of being able to produce a large number of parts today in the required premium quality at a cost level that is competitive in the global market.

Have quality standards really changed so dramatically?

Significantly. There are many reasons why quality requirements have become increasingly more stringent, not least due to legal constraints. For the manufacturers of industrial components, too, it is there-



fore absolutely vital to make as few errors as is humanly possible. And nowadays, quality management has to be proactive; this means we have to eliminate potential sources of error before they actually materialize.

In addition, the trend towards miniaturization is more pronounced than before. Developers are pushing the envelope in respect of what is possible. And on top of the pressure to deliver high performance in the smallest possible dimensions, we are now also being required to integrate as many functions as possible. In many areas of application, products have to cope with extremes at both ends of the scale, or to put it another way, they have to be all-singing and all-dancing and yet still work reliably and accurately. The demands are becoming steadily more exacting, and development engineers need us to supply tried and tested quality products that reduce their workload as much as possible, so that they can achieve their goals in the shortest possible time and without risk. And to accommodate these needs we always have to be one step ahead in terms of our technology and the quality of our products.

At the moment, what are the most important industries for your company? And what do you consider to be the growth markets for the future?

In Germany, the key sector for us is industrial automation, i.e. high-precision and special purpose machines, for example SMT assembly or solar cell manufacture.

Medical technology comes a close second, and in global terms is probably the most important and also the most rewarding sector for us. We have been involved in a lot of different areas here, such as laboratory automation with analysis equipment, surgery with operating theatre robots, intracardiac pumps or technologies used in implantology. The aerospace industry is also an important market for us, although in the past our areas of application were more complex, because flight instruments were predominantly driven by mechanical means. Nowadays, they are mostly digital. This is progress. Markets come and markets go. Several years ago, for example, we were producing hundreds of thousands of motors for dictation machines. Nowadays, virtually none. The cheap brands are all manufactured in Asia and the more expensive ones are digital in the meantime.

One market where there is a strong demand for our drive technologies is the military sector.

Why the military sector in particular?

Now most people probably think that the armed forces always use state-of-the-art technology. And there are certainly some areas, such as satellite surveillance, where military equipment is very high-tech. However, there are many other areas where technology used by the military is currently lagging very far behind the standard in industry. For our products, there are very interesting applications primarily in optical systems and robotics.

In the USA we currently have an application for a scout robot, which is thrown in front of you like a ball and then opens up to reconnoiter the area.

How is the FAULHABER Group adapting to current and future global competition, in particular regarding the development of the Asian market?

It is very difficult to answer this question in general terms, because every market has to be considered separately. The Asian market too has its own very specific rules. The great challenge for us as Europeans is to understand how this market works in the first place and how to do business there. This has nothing at all to do with the product as such.

If you attempt to implement German methods in China, you will find that you run out of ideas very quickly. You have to adopt a different style there and open up to the market and the culture in order to be successful. And there is absolutely no doubt that we can enjoy success there. Because in respect of technology we have the best products, and secondly, we are able to produce small to medium-size batches specially tailored to the respective application. After all, it is easier to produce two million items in a series than to make 100 or 500 products that are all different. This is one of the things we specialize in that a typical Asian manufacturer is not capable of and is also not interested in doing. This is also where our potential lies for the Asian market – in producing specially customized solutions in smaller quantities. And even in a country like China, with its reputation for inexpensive goods, people are still more than ready to pay a reasonable price for a quality product.

In 2010 FAULHABER also opened its first branch in China. As a European manufacturer, how has FAULHABER been able to position itself on the market there so far?

On the whole, our approach of marketing our products worldwide via distributors has proven successful. Nevertheless, our business is now less about standard products and more about customized special solutions. With a few exceptions, of course, a distributor does not have the capacities and know-how to provide customers with expert support for these

kinds of applications. This is why, in concert with our distributors, our strategy is to have our own offices wherever the markets demand this kind of proximity to customers. And China is just such a market.

First and foremost, we opened the office in China for those European customers who were using Faulhaber products, operating locally with production facilities and then re-exporting their goods. For the Chinese market itself, initially the products made by European companies were too expensive. In the meantime, a larger proportion of the population is located in China's major cities, which means of course that they also have a higher disposable income. In other words, the Chinese market is now also attractive even for Western companies producing products such as ours. Nevertheless, the price differences are still very high and above all, there is growing competition from Chinese companies. Nowadays, companies in China are not just making cheap copies of western products, they are increasingly developing their own high-end products and marketing them locally as well as internationally. Although this therefore makes China a difficult market, it is nevertheless a market which we believe offers the greatest growth potential in real terms.

You have mentioned that in technological respects you are pushing the boundaries of what is feasible in many areas. So just how is it possible today for a technology leader like FAULHABER to keep enough of those product innovations coming in the appropriate time frame?

As I have already suggested, our development capacity is extremely important for our future prospects. Strategically, we rely on constantly bringing new products out of the pipeline and in the process always staying one step ahead of the competition. And in most cases until now we have also managed to do so. We have pioneered almost all technologies in our industry. Our focus is not purely on production, but what we do produce is so technologically sophisticated and unique, that other companies cannot match it at first. And so we always enjoy a two-year lead until the competition catches up with us.

Our development cycles are relatively long. To develop a new technology to market readiness is quite simply a completely different matter from changing the color of a product. We cannot afford to bring a product to the market that is not reliable or ready to go into production. We would very quickly have to pay a heavy price for doing so. To make sure that this does not happen, development phases simply have to take a bit longer.

What is your vision for the future? Where do you envisage drive technology and your company in five years time?

Even at the risk of sounding a little tedious, we are simply going to remain true to our principles and continue to bank on stability. At present, Europe certainly does not appear to be witnessing the recovery of a healthy and vibrant economy. Therefore for the time being, we are not planning on taking any audacious steps but are focusing strongly on our product development.

On the whole, we will also stick to our drive technology environment. We would be capable of manufacturing other products, pumps for instance, but we are not going to, because we build drive systems. We will remain committed to the dimensions of less than 100 mm, we will deliver maximum accuracy and reliability, we will combine electronic and mechanical systems accordingly and will always provide the market with products offering maximum performance in a compact design.

In the past year we have launched 16 new products on the market including sub-variants. This is the kind of cycle we are in at the moment. And there are plenty of products in our development pipeline for the next few years.



Inauguration of FAULHABER CHINA in Taicang in October 2010