The Master of Saws
Dr. Nikolas Stihl Introduces the Digital Age to Motorized Manual Forestry

Anyone who works professionally or privately with wood knows them: the motorized saws from Stihl. And with good reason: these hand-held tools with their characteristic bright-orange color are regarded by experts and users as "the Mercedes" of motorized saws. And their fame is worldwide. This family-owned company and its products have dominated the market and the competition, apparently with ease, for more than 90 years. In doing so, they have quietly and unobtrusively mastered the many challenges raised by the onset of digitalization and the inexorable march of Industry 4.0 into production processes and the modern working world. The reason for this success? "It's because we began facing the challenge 20 years ago," says Nikolas Stihl, Ph.D., an alumnus of the University of Stuttgart. He should know: he is, after all, the grandson of the company's founder and has chaired the Advisory Board of Stihl Holding since 2012 while also serving as Chairman of the Supervisory Board of Stihl AG.

? Dr. Stihl, you once said, "We have 90 successful years behind us and every reason to think that this success will continue" – what makes you so confident?

› I'm a firm believer in our strategy; it has proven its value up to now. We have been the technological leader of our industry since the company was founded. My great-grandfather invented the original product, and we have continued to develop it ever since.
We have reached our present position by always being quicker and better than the competition, and we still are. I have great confidence in our engineers and in all of our employees. The areas of competent applications which we have built up over the years will continue to put us on a solid footing. And no matter what power system we might use in future, we'll still be delivering the best products on the market. I'm convinced of this.

? You're a manufacturer of manual tools: doesn't the whole issue of Industry 4.0 give you pause?

› We've basically been digitalizing our products for 20 years, and we have a long history of working digitally in both the primary and secondary value-added chains. For example, our two-stroke motors have an exhaust gas filtering system that produces more than 80% fewer emissions than 20 years ago, and that would have been impossible without digitalization. I see our technological leadership not only in our development of new products but also in the fact that we produce a high proportion internally. We have built up a global production alliance that can function only if all of our plants communicate with one another: unthinkable without digitalization.

? Are you saying that Stihl has already integrated Industry 4.0 into its production processes?

› We're working on it.

? And also into your products – for example with regard to "Smart Gardening", meaning automatic groundskeeping?

› There too, we're in the thick of it. For example, we've introduced electronic motor control systems and are currently developing systems that network our individual products and either make them intelligent or digitally generate value-added chains be-

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Photo: University of Stuttgart/Max Kovalenko

tween the products and the retailers. This, of course, also makes it possible for our end customers to use our products more accurately and more economically thanks to their own digital areas of competence.

? When a company is to be digitalized, do family-owned companies have an advantage over corporations because of their clearly organized structures?

› No doubt about it. But the all-important thing is to believe in what you're doing and stick to it. Fundamental changes require time and vast expenditures. It would be easy to increase profits in the short term by throttling expenditures. But we don't buy that. This is where a family-owned company has an advantage inasmuch as its management structures remain constant over a very long period of time. That makes it possible to think much farther into the future and pursue a long-term strategy.

? Digitalization requires support from the employees. How is that working out at Stihl?

› Our management-level personnel have the task of uniting our employees behind us on this path. For their part, our employees can be sure that we will not let anyone go in order to streamline our operations. Every employee is free to submit improvement suggestions without fear of reprisals. We promise each person that he or she will be given a job that is at least equivalent to their present one, and we've always kept our word on that up to now.
But in addition to making big leaps in innovation we also need the many small, iterative steps that make our products better. That in turn requires well-trained employees, and this is an area where we have implemented the German dual training system worldwide – not only in production, but also in our business procedures and in the technological area. These trainees are often the very ones who come upon good, often highly innovative ideas.

? That brings us straight to your own training at the University of Stuttgart. What did you gain from that time?

› How to work intensively at research. That is still helping me today in speedily opening up new areas. And we mustn't forget that while the University of Stuttgart is a research center with outstanding basic research facilities, both its own institutes and those

Their orange-colored housing stands out from the crowd: high-tech motorized saws from the House of Stihl.

Photo: University of Stuttgart/Max Kovalenko

of the allied Fraunhofer Society provide an excellent link to the world of actual practice. Even when I was there, many institutes had lines of contact to the region's major companies. Research is the important central task of all universities, but basic research also needs to be actually applied – and Stuttgart offers both in a very attractive mixture.

? Would you say that today's young people who graduate from our universities are well-prepared for actual practice in companies?

› They're well-prepared, but it usually takes up to a year before they find their footing in the different kinds of company areas. The possibilities and requirements offered by a university are not the same as those in a production company. But their motivation is invariably very high because they enjoy working with concrete products.

? And what about the Stihl Company's next generation?

› My son is studying chemistry – at the University of Stuttgart, I might add – and my daughter is a liberal arts student, and the children of our company's other managing partners are also in the midst of their training. So I see no reason to exclude a possible order of succession. But every person must first find his own path in life. For us it has never been

– and still isn't – a question of “You must” do this or that. What comes first is “You can" and then, if willingness is present, “You may" do it.

? Is that why you yourself first went out into the world?

Yes, a person wants to prove something to himself or herself. If a person does well in other companies, he can be confident that any praise he earns is genuine. And also it does no harm to gain experience and to do things that aren't done in one's home company. I'm sure I could have done the work of my first job as a designer at Mercedes in my family's own company, but things were completely different in the world of management consulting; I learned a lot there. I wouldn't want to have missed those days.

? What does the future of Stihl tools look like today?

Digitalization, rechargeable drive batteries, environmental protection, and systems concepts – those are the issues that will occupy us for the foreseeable future. We must continue to develop in all of our areas. That also means multiple-track progress, for example, as in the optimization of our combustion engines on the one hand and ongoing development of rechargeable drives on the other. And then there's our transformation from a product manufacturer to a systems provider. But these issues are not unique to us; they are the major challenges facing the whole of Baden-Württemberg's industrial world.

Many thanks for taking time for us!

The questions were put by Dr. Hans-Herwig Geyer and Martina Hönekopp

Dr. Nikolas Stihl studied machine design and construction at the University of Stuttgart. After graduating as a diploma'd engineer, he got his Doctor's Degree at the Faculty for Machine Design, Construction and Processing Technology at the Technical University of Chemnitz, Germany. The topic of his dissertation was “Complex Optimization of Motorized Manual Forestry as a Work System”.
Stihl first gathered practical experience from 1987 to 1990 as an engineer at Mercedes-Benz AG in Stuttgart, where he helped develop a 12-cylinder engine. He then worked as a management consultant at the German branch office of Arthur D. Little in Munich. That same year, Stihl rose to the position of Assistant to the Managing Directors of the Stihl Business Group. Shortly thereafter he was directing product management at the motorized saw division of Stihl Incorporated in Virginia Beach, U.S.A. In 1993 he then took over management of Viking GmbH in Austria, a position which he held until 2011.
As a Managing Partner of Stihl Holding AG & Co. KG, Dr. Nikolas Stihl became Chairman of the Advisory Board of Stihl Holding AG & Co. in 2012 and at that time also took over the Chairmanship of Stihl AG's Supervisory Board from his father, Hans Peter Stihl.