
30 YEARS OF INNOVATION

Interview with Dr.-Ing. Alexander Schmidt



Mr. Schmidt, you surely are often asked: What does IPG mean?

It was an abbreviation, which interestingly enough was "invented" by our customers, since they found the actual name too long. In July 1984, we founded the "Ingenieurgesellschaft (Engineering Association) Prof. Dr.-Ing. R. Gnadler GmbH", but after a short period of time everybody just began to call it IPG. In 1997, we renamed ourselves IPG Automotive Software Engineering and Consulting GmbH, but later realized that was much too long. In 2003, we finally became IPG Automotive GmbH.

Where did your passion for the automobile come from?

It started at the university. I studied mechanical engineering with a focus on automotive engineering at the Technical University of Karlsruhe and was especially interested in the field of simulation along with all its possibilities from the beginning. I worked as an assistant in that field at the university for several years.

For which reasons was IPG then founded?

The need for vehicle dynamics simulation was simply there. The position at the university was temporary, but the former project partner, Daimler, wanted to work with the same people even after the project ended. So, Professor Dr.-Ing. Rolf Gnadler together with my colleague Dr.-Ing. Andreas Riedel and I formed the engineering association that has become today's IPG Automotive GmbH.

Was the path to self-employment a big step for you?

My grandfather and my father had their own carpenter's shop, so I grew up with self-employment and was used to the concept. When the opportunity to be entrepreneurial arose, I saw it as a chance that might not come back so soon, and I just took the plunge.

What were the first activities in the company?

Initially, its main business consisted of development projects. We helped directly in chassis development of commercial vehicles and passenger cars. The first major client was Daimler, fundamentally through the continuation of the university activities. For the project named FADYNA, which, by the way, ran until 2003, we created a comprehensive model library for all commercial vehicles. Also, I built the first IPGCar, we carried out driving dynamics and vibration analyses ... I could list countless examples. Very early on, we dealt with the issue of real-time simulation. At that time, everything developed gradually and we approached one challenge after the next.

The working conditions have changed greatly over time - do you remember anything that has stuck in your memory?

Of course! In the beginning, there was only one computer with multiple terminals, the HP 1000-A700. Hardly imaginable today, but we only had one hard drive with 70 MB for the whole company.

How would you describe the development of IPG over the years?

We have always moved forward and dealt with new technologies. In the automotive industry, we have sometimes presented things that people had not heard of. After initially concentrating on pure development projects, we recognized the need for our own products. Our first products were IPGTire and IPGDriver. In 1989, there already was the first hardware-in-the-loop test bench, and I can proudly say that we are amongst the pioneers of the HIL method and vehicle dynamics simulation.

What challenges have you encountered along the way?

In the beginning, it was primarily new for us how to run a company, and to acquire and deal smoothly with orders were all things that we had to learn. What we noted, most of all, was that the transition from a pure engineering company to a company with its own software products was a challenge. However, we fortunately also recognized early on how important real-time simulation would become. Thus, the first two generations of the simulation software were followed by the release of 1.1 in the late 1990s, the version that was named CarMaker for the first time. Before, we were faced with the big decision to build on the previous versions or to leave aside everything that was known to us and set up CarMaker completely anew. We decided on the latter and discovered that it was the right thing to do. With an improved user interface and new animations, we were able to meet the needs of our clients even better and build on this development with other products.

In your opinion, what do your clients value most about IPG Automotive?

Most important, of course, is the technology. But we also stand for absolute reliability and quality. I cannot remember a project that was not successful in the end despite all the obstacles and difficulties. Clients have also told me that they feel that IPG is one big family. You feel the team spirit and the great amount of helpfulness, which one can simply notice especially in the course of a long collaboration.

Are there things that did not go as planned?

Of course there were, then as is the case now. After all, life is not always straightforward. As with all companies, there were also occasional setbacks for us, but it is important that we were technologically ahead and were able to ensure the quality of work. This has, after all, led us to where we are now and has meant that we can celebrate our 30th anniversary this year.

Where do you see IPG Automotive in the coming years? What challenges and opportunities do you expect?

I have already said 20 years ago that the market is much bigger than what we see today. The automotive sector and in particular the advanced driver assistance systems have evolved at such a speed that no one could have previously imagined. I see so many applications for our products and test benches to which one can connect CarMaker. Further development is in full swing and will certainly open up further new possibilities which we cannot imagine yet. However, one thing remains the same: Our mission is to assist clients in their vehicle development processes with virtual test driving.

What trends do you see for future cars?

Clearly, the semi-autonomous or sometimes even autonomous driving functions will expand and develop. Here, the test and validation needs will be so strong that covering a large part of the development work with virtual test driving will become essential.

Going back to working in the company: How would you describe the spirit of IPG?

I perceive the staff at IPG Automotive as a great community where everyone helps each other. In addition, the ideas of our employees are what bring us forward. We have an open ear for everyone and are happy when they make their proposals and shape the company actively. This mentality could also recently be felt again at this year's Open House. Everyone contributes to our success.

Speaking of the Open House, since when and why does it exist?

Since 2005, Open House has been a platform to get in touch with our clients and users but also with all interested parties. We introduce new features and discuss the direction in which the development of CarMaker is to be driven further. The event is a result of the suggestion of a client who said at the time: "We need a community." In the first year, there were only 15 visitors. This has increased every year to up to 280 visitors at this year's Open House. This shows us that there is an increasing number of people who deal with virtual test driving. This fits our slogan "Taking you to the next level" - with each new level of our clients, we also always reach another level.

What do you say about your son becoming CEO last year?

I am glad that my life's work with IPG Automotive will continue. Therefore, I am very proud and happy to see that the company has been taken over so well by my son Steffen. In the next few years, we can work together on the many exciting topics that virtual test driving will bring with it. So nothing stands in the way of the next 30 years for the company.