

PROFESSIONAL system

Magazin für AV-Systemintegration

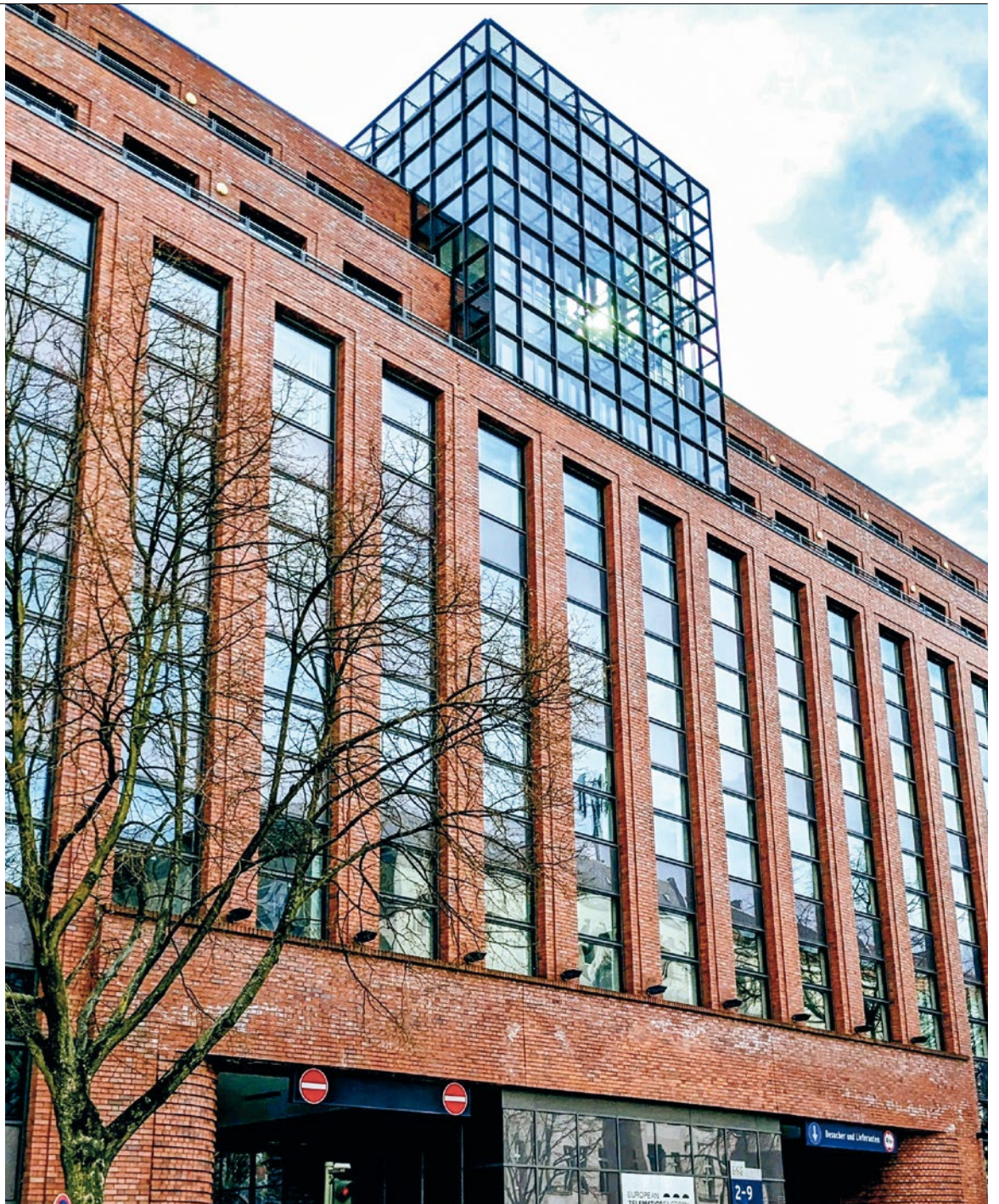
3 | 2023
April



20 years of DSPECIALISTS

Special print from Professional System 3-2023

The company premises on the grounds of the former Siemens&Halske light bulb factory Osram, where DSPECIALISTS occupy a floor space of around 500 square metres. There are a number of companies in the close vicinity that are part of the hi-tech and creative sectors, as well as parts of the TU Berlin.



From bearing monitoring to audio DSPs

Berlin's specialists for digital audio and measurement systems celebrated the 20th anniversary of the company's founding in January 2023. Today, the company operations strike a balance between audio technology and industrial solutions, for example for wind turbines.

Text: Matthias Fuchs | Fotos: Dspecialists

The Berlin company has mainly become so well-known thanks to its audio DSP Harvey. The first version of Harvey was presented to the market in 2009, and it has been continuously optimised and upgraded since then. The second Harvey generation (Harvey Pro) is currently on the market and has established itself extremely well. Harvey can now be found in numerous buildings and installations of very different kinds worldwide. As the long form of the company name (Digitale Audio- und Messsysteme) reveals, the Berliners are not only professionals in the audio sector. Developing hardware and software for industrial measurement technology is also part of their field of activity. The twentieth company anniversary is the perfect opportunity to take a closer look at the interesting history of DSPECIALISTS. To find out more we spoke to CEO and founder Dr. Jochen Cronemeyer.



The company founders Jens Kolupa, Jochen Cronemeyer and Stefan Schmitt (l. to r.)

Start-up phase with audio and measurement technology

After five years of research and development work at the TU Berlin, followed by a doctorate in the area of medical image processing, Jochen Cronemeyer spent five years working for a Japanese semi-conductor company. 1999 then saw him join a start-up financed by venture capital, but the business closed when the dotcom bubble burst. At the beginning of 2003, he founded DSPECIALISTS Digitale Audio- und Messsysteme GmbH as the principal shareholder together with the Co-founders Jens Kolupa and Stefan Schmitt; the company was financed exclusi-

vely with private equity capital. Equipped with an abundance of know-how, a customer base and solid financing, they were able to pick up on their previous project business and generate profitable and long-term prospects for the future.

DSPECIALISTS started off by providing development services, but this was soon followed by small-batch solutions for measurement technology customers from the industrial sector. Their first, cautious forays into the audio business came soon after with the prototype of an audiomatrix that was presented at trade fairs as a colourfully flashing prototype. According to Jochen Cronemeyer, however, it was not yet possible back then to develop and successfully market complex audio products using their cashflow.

The young company initially carried out project-related developments in the area of audio and measurement technology, most of which were for industry clients. This meant that, in addition to several medium-sized companies, they were also able to attract large corporations as new customers, including Deutsche Bahn, TÜV Rheinland and Thales. This was an area where "classic engineering work" was in demand. Attributes like precision, reliability and durability played an important role.

Jochen Cronemeyer explains that one of the main reasons for deciding to start the serial manufacturing of audio products parallel to the project business was not only the high affinity all employees had to the area of audio, but also the fact that – compared to measurement technology – it provided a broader market with easier ac- →



The staff in 2021.



Jochen Cronemeyer and Sylvia Lehnert

The current Harvey Pro



cess. The installation sector was so attractive, because that was exactly where the company's strengths lay: "We were not the company that could build an analogue synthesizer or a tube amplifier. But modern signal processors in solid 19-inch technology, certified systems that would run for years and years – those were our strengths."

Some initial ideas and concepts were worked out in around 2006. And in 2008, development work started one of the first audio products. It began at that time with an own DSP card that was integrated into the multi-channel amplifier of a customer. Their very first software bits can still be found in the Harvey DNA today.

Another reason for the decision to launch the serial manufacturing of audio products was the desire to create a second area of business that would bring a constant source of income. "Projects for large corporate groups can, of course, really boost a company. But they also bear

the risk of making us reliant on one revenue source that we would not be able to control, and we prefer to remain independent of that," Jochen Cronemeyer explains. "We still develop projects for industrial customers, but at the same time invest every free minute we have in further developing our Harvey product family. That doesn't mean we want to cut down or even give up the project business in any way. Both areas profit from one another, and the entire customer spectrum is important to us."

Two divisions, the same basis

Jochen Cronemeyer explains that the hardware requirements for audio installations are very similar to those for measurement technology. The signal processing potentials are comparable in both, and the customers rely on a long lifecycle of the delivered systems in both areas – audio installation and measurement technology.



Industrial technology at the front of a trade fair stand in 2019



The demo-case for demonstrations of the first Harvey generation

While operating parallel in audio and measurement technology might require some explanation at first, it soon became very much welcomed by customers. Industrial customers regularly approach DSPECIALISTS, because they are explicitly looking for providers of audio technology. As an example, Jochen Cronemeyer tells us about a situation in 2004, when he was contacted by a customer in the power station surveillance sector who found the combination of audio technology and order development interesting. They have been working with DSPECIALISTS ever since. Both audio and measurement systems do nothing else than continuously record digital measurement values and process them with algorithms. While this is used in measurement technology, for example, to detect harmonic waves that indicate wear and tear in a bearing, the algorithms in the audio system calculate the appropriate volume level for announcements and adapt to the ambient noise.

A first version of Harvey – the core product in the audio section – came onto the market in 2009, and demand for it has been increasing steadily ever since. According to Jochen Cronemeyer, things are looking very promising at the moment. The audio customers appreciate being able to buy technology from a manufacturer that has also made a name for itself in security-relevant sectors and is in a position to supply very reliable and durable hardware. On the

other hand, industrial customers also like to take a look at the audio technology range, because they can find the tight hardware there, meaning they can avoid having to develop highly specialised stand-alone solutions.

Ups and downs

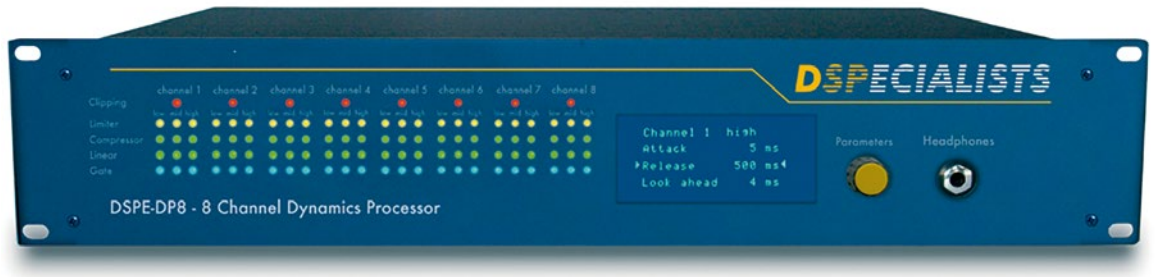
The product business with the audio DSP Harvey now has so much potential that it will soon replace project development as the main revenue source.

While Harvey already offered high performance in its first version, it did not yet attract a great deal of attention at the time. The system was too inflexible and therefore too expensive. The second product generation, completed in 2018, solved this problem. The mistakes of the past were remedied, a modular concept developed, and the hardware was optimised in terms of production costs. And a product now exists that Jochen Cronemeyer rightly describes as “an absolute hit”.

At first, the shutdown of the distribution in the US because of the pandemic slowed down Harvey’s success a little. But, in 2022, the sales figures exceeded those of 2020 – and now demand is continuously climbing. The current partnership with the top-performing sales company WMA plays a role in this development.

Solutions have also already been found for challenges still facing many areas of industry. The worldwide lo- →

First prototype
Dspecialists
19" audio matrix



gistics problems have led to components shortages – and so no longer available DSPs are exchanged for successor models. Amused, Jochen Cronemeyer remembers how they were even thinking of bringing out a “Corona edition” of Harvey – without phantom power on the mic inputs in order to save the required but unavailable voltage transformer. It is possible to come up with such flexible adjustments because the team at DSPECIALISTS is both highly specialised and creative. For Jochen Cronemeyer, a positive aspect that has emerged from the past years is the realisation “that things always go on, as long as we look for creative solutions together.” He has certainly not lost his sense of optimism.

At the moment, a large batch of Harvey Pros are waiting to be completed. The boards are being assembled by service providers in Berlin and the surrounding area. Development, purchasing, administration and the warehouse are located on DSPECIALISTS’ centrally situated Berlin premises. Final assembly and quality controls of the devices are also carried out there. To allow them to operate as globally as possible, the current Harvey Pro

has both CE and UL certification. DSPECIALISTS’ sales network is currently being expanded for this purpose.

All roads lead to Harvey

Harvey’s gradual upgrading with features from the project division has attracted the attention of very different customers. Harvey has proved its worth at event locations in particular, from bars to hotels and right up to multi-functional venues. The system is also being used more and more often in public buildings. The move to establish a long-term product alongside the project business is now bearing fruit. Jochen Cronemeyer mentions one example where a Taiwanese court building was fitted with almost 50 systems. He emphasises that all DSPECIALISTS employees – from development to purchasing, marketing and sales – are excited and motivated by HARVEY. Jochen Cronemeyer himself appreciates the direct feedback he gets from customers, interested parties and potential business partners. The most important sales channel is trade fairs, and the company regularly attends of number of them.

Further software enhancements are planned for the Harvey Pro in future. First of all, the two algorithms Isystem and CLC, which are already on the market, will be ported from a proprietary hardware platform to the unified Harvey platform. Isystem converts stereo to 5.1 audio and 5.1 to stereo lossless. The product, which was launched in 2010, stems from a long-standing partnership with the French company Adocs S.A.R.L., belonging to founder and inventor Antoine Hurtado. Most of Isystem’s buyers can be found in the European radio world.

The CLC algorithm (Continuous-Loudness-Control) is based on the work of the then Institute for Broadcasting Technology (IRT). It is a very high-grade loudness algorithm that allows for a high-quality volume control both in radio and in live situations.

The Harvey platform has been equipped with AES-I/Os and a wordclock input for this purpose. As such, Harvey functions as a joint basis for all of DSPECIALISTS’ installation and broadcast applications.



Comos – a small batch product for condition monitoring wind turbines