

Palas[®] GmbH finds a partner for the future in Brockhaus Capital Management



■ Palas[®] company founder and CEO Dipl.-Ing. (FH) Leander Mölter has decided to enter his well-deserved retirement after 35 years and sell his company shares to Brockhaus Capital Management AG (BCM), an independent technology holding with a focus on holdings in innovation and technology leaders.

With the withdrawal of Mr. Mölter, Dr.-Ing. Maximilian Weiß becomes sole CEO of the company. Dr. Weiß, since 2008 Head of Development and Production, acquired the shares of the company co-founder Fritz Munzinger in 2015 and since then headed the company together with Leander Mölter. Find out more about the Palas[®] success story on the following pages.

„A successful succession plan offers optimal conditions for continuing our extraordinary growth story,” explains Leander Mölter. „In the selection of the new majority shareholder, it was crucial for us that BCM is not only thoroughly familiar with the needs of rapidly growing medium-sized technology leaders and can support us with a broad network of industry experts, but moreover, as a technology holding, BCM is committed to long-term partnership and, contrary to conventional financial investors, is not subject to a prescribed investment horizon.“

„BCM’s outstanding network enables us to continue driving forward our hitherto very successful expansion, above all by opening up new

international markets and additional application areas,” adds Weiß, who presented the company vision to his employees at the Christmas party at the beginning of December. One of the main objectives for the coming years is, for example, to forge ahead with the pioneering role and globally propagate Fidas[®] – the optical fine dust measurement device.

„As an experienced technology investor that has accompanied companies like Wirecard and 360T in their success stories, we are convinced that Palas[®] is a technology leader in a class of its own,” says Marco Brockhaus, CEO of BCM. „The company has at its disposal a worldwide unique technology for optical particle measurement and is ideally positioned in a niche whose impressive growth is driven by global megatrends. This means that Palas[®] not only stands for extraordinary dynamics, associated with high profitability, but also for top growth perspectives in the long term. Taking up a share in Palas[®] is an important milestone in building up our BCM portfolio and in preparing for our planned IPO,” Brockhaus continues.



Dear readers,

■ The end of the year is always a good opportunity for taking stock. What changed last year, what innovations will there be still in the coming year?

The Palas year 2018 was extremely turbulent in many ways. Particularly in the field of fine dust, we were able to record the most successful year in our company history. Here we had to realign ourselves both in terms of personnel and structure in order to keep abreast of high demand and enhanced requirements. This year alone, we welcomed 20 new employees to our team. This is how we restructured our production and formed competence teams. We have also expanded our production and storage space to be in a position to service demand faster.

And – last but not least – far-reaching changes also took place in executive management. The last company founder still active, Dipl.-Ing. (FH) Leander Mölter, bid farewell and entered his well-deserved retirement after 35 years in executive management. He sold his shares to Brockhaus Capital Management AG (BCM) and thus found a partner for us with whom we can continue to forge the path into a successful future.

This change process made great demands on my employees’ energy and commitment. So it was all the more gratifying to end the year together with my team with a wonderful Christmas party.

I look forward to the year ahead and wish you and your families relaxing Christmas holidays and a good new year.

Your

Dr.-Ing. Maximilian Weiß
CEO of Palas[®] GmbH

A celebration with good friends

Palas® celebrates its 35th anniversary with many companions from its company history

■ In bright sunshine on 28 September, the party tent was filled to the very last seat to celebrate the company anniversary. Many wayfarers, partners and customers from science and industry gathered at the company headquarters on Greschbachstrasse in Karlsruhe to toast to 35 years with the 70 or so Palas® employees.

After the welcoming address by managing partner Leander Mölter, Head of Sales Ralf Emberger summarized the company's history. Amusing and original greetings followed, before Leander Mölter took a trip back in time through the 35-year company history before opening the buffet.

In the afternoon the company premises were open for visiting and the Fidas® Fly mobile fine dust measurement device could be experienced live. A balloon competition in favor of the German Society for the Preservation of Nature (NABU) rounded of the day of celebration.

Images and a detailed company history may be found at www.palas.de/blog.



Company founder Leander Mölter during the 35th anniversary festivities

„It wasn't always easy“

The Palas® founder on the beginnings of the company

■ „Back then all three of us were bachelors, we only had to look after ourselves and we simply got going,“ Leander Mölter remembers the beginnings of Palas® in 1983. The graduate precision engineer managed to convince his colleague at that time, Fritz Munzinger, along with his brother Wolfgang who had just graduated in Physics, to become fellow combatants for the company foundation in the completely new field of particle and aerosol measurement technology.

Of course there was also a business plan, with which Leander Mölter had in fact won third prize in a competition from ‚Capital‘ magazine. The prize money of 10,000 Marks was invested in the equity capital of the GmbH. „You must have a business plan, but eventually reality catches up with you. Then you have to invent and develop devices and build devices such that others can operate them. That is a long haul,“ Dr. Wolfgang Mölter-Siemens recalls the beginnings.

Fritz Munzinger too still has clear memories of the first difficult years. It was impossible to simply „go straight ahead as you had once imagined.“ To find lucrative business fields you „also have to sometimes chart a different path.“ And this flexibility, Leander Mölter adds, developed into one of the company's greatest strengths: „That we always had an ear and an eye for the market and looked at what we could

perhaps even produce multiple times, that was what mattered.“

„But there were times when we could no longer believe in success,“ says Fritz Munzinger, and there also came a time when dialog with the bank got tougher, Leander Mölter recounts. „When it was very tight, then the message was: Mr. Mölter, if you don't sort it now and then go

„And if the devices can then also be sold, then building and developing them becomes much better“

on vacation, not one more bank transfer will go ahead.“ The family vacation was canceled, we worked day and night two weeks long „and then we had a grip on things again.“

The breakthrough came with the idea of building filter test rigs around the welas® aerosol spectrometer, which was called PCS at the time, together with optical fiber technology and T-aperture technology, which enabled measurements with coincidence detection. „And if the devices can then also be sold, then building and developing them becomes much better,“ explains Fritz Munzinger. „The brilliance of the T-aperture was not understood by many to begin with. Once they realized the advantag-



The founders: Leander Mölter, Wolfgang Mölter-Siemens and Fritz Munzinger

es, we could say that it is already patented,“ Leander Mölter goes on, and laughs.

„Later, with the arrival of Dr.-Ing. Maximilian Weiß and his father Karl-Heinz, came the electronics. That was another step in the right direction: This made us the only ones who could measure in very high concentrations“, Leander Mölter proudly explains. The development of the nanoparticle measuring devices followed and the very successful Fidas® series of fine dust measuring devices. „Because I no longer wanted to be dependent on banks, we didn't pay out any dividends, but reinvested the money instead. This way we could completely finance these developments ourselves without a single euro from the bank.“

As he switched to the University of Duisburg in 1991, his brother Wolfgang only experienced these ‚good times‘ in the early stages. „If you look today how the company stands, you can only take your hat off, it's really fantastic“ he is just as proud of the development of ‚their‘ company - Palas® as the two co-founders.

Mobile application of the Fidas® 200 in London

Campaign „Breathe London“ monitors the air quality in the metropolis

■ Starting in late 2018, a novel, close-meshed network of measuring stations will monitor air quality in the British capital for a period of twelve months, as part of the ‚Breathe London‘ project.

Within the scope of this initiative the operating consortium, involving industry, academia, and a non-profit organisation, also conducts mobile measurements using two „Google Street View Cars“ equipped with monitoring equipment. Air Monitors Ltd, sales partner of Palas® GmbH, is responsible for the technical equipment employing a comprehensive set of analyzers for air pollutants.

„The monitoring network will provide data with high spatial resolution down to individual roads“

Mr. Jim Mills, managing director of Air Monitors, stated that the importance of the project can hardly be overestimated. The monitoring network will provide data with high spatial resolution down to individual roads, which is of highest interest to the public and will allow assessment of the effectiveness of measures to improve air quality. These measures include the introduction of a fleet of electric double-decker buses, announced by London’s Mayor Mr. Sadiq Khan, and the expansion of London’s proposed ultra-low emission zone.

Onboard the two „Google Street View Cars“ Fidas® 200 aerosol spectrometers, which have been specially manufactured by Palas® GmbH



Photo: Air Monitors Ltd.

The Google Street View vehicle equipped with the Fidas® fine dust measurement device

to run on the vehicles’ 12 V electrical system, are used for monitoring ambient PM2.5 levels. The Fidas® 200 can determine PM values every second and thus makes it possible to transmit the current PM load from the moving „Google Street View Cars“ via mobile network connection to the data management system at intervals of 30 meters. This supports the project goal of creating a new approach to controlling and improving air quality in heavily polluted cities using real-time data.

Fidas® systems also EN 16450 certified

■ The Fidas® 200 series products are certified in accordance with European Standard EN 16450:2017. This currently makes Palas® the only manufacturer of fine dust monitors based on optical scattered light measurement certified in accordance with European Standard EN 16450:2017.

Further measurement networks equipped with Fidas® 200 fine dust monitors

■ Following the federal state of Baden-Württemberg, in other German federal states too, state measurement networks are now also equipped with certified Fidas® 200 fine dust monitors for monitoring air quality. In 2018 a large number of units were delivered to the monitoring network operators.

Furthermore, Palas® and its sales partners have also succeeded in winning tenders in other European countries. For instance, the national environmental protection agency in Poland orders 16 Fidas® 200 fine dust monitors. These are installed in mobile measuring stations with which all administrative districts in Poland are equipped.

Following a tender in 2016, the Environmental Protection Agency (EPA) in Ireland also decided for the Fidas® system. The successful bid was submitted jointly by the Palas® sales partners - EMS Environmental Monitoring Systems

Ltd. (Dublin) and Air Monitors Ltd. (UK). The existing measurement network in Ireland is to be expanded with up to 44 Fidas® 200 measurement devices. This is a significant part of the new National Ambient Air Quality Monitoring Program (AAMP) from the British EPA.

In England too, Air Monitors Ltd. won the contract to supply fine dust monitors for the environmental agency measurement network. The Fidas® 200 fine dust monitor is certified by both TÜV and MCERTS. So all Fidas® 200 variants fulfill the requirements for certified, continuous monitoring of PM₁₀ and PM_{2.5} in ambient air.

As Jim Mills, CEO of Air Monitors, explained, besides the performance advantages, the client was also convinced by the low operating costs and further advantages in practical operation.



Fidas® 200 E



„New knowledge and exciting insights“

The politicians Daniel Caspary (MEP) and Steffen Bilger (German MP) Palas® found out from Palas® about fine dust measurement

■ On 8 August, the Christian Democrat (CDU) politicians Daniel Caspary and Steffen Bilger informed themselves at Palas® GmbH in Karlsruhe about fine dust measurement. Daniel Caspary comes from Weingarten in the region of Baden and is chairman of the CDU/CSU group in the European Parliament. Steffen Bilger has his constituency in Ludwigsburg and is the parliamentary secretary of state in the Federal Ministry of Transport and Digital Infrastructure in Berlin. The background to the visit was the current discussion on driving bans in certain German cities in view of the high level of dust pollution.

After a brief introduction to the company by the company founder and CEO Dipl.-Ing. (FH) Leander Mölter, new CEO Dr.-Ing. Maximilian Weiß showed the implications of positioning fine dust measuring devices to determine representative measurement results taking the examples of Germany and the USA. According to a recent study from the US environmental agency EPA, in fine dust and nitrogen oxide measurements in road traffic, increasing the distance of the measuring device from the source of emission by a few meters has a significant effect on the values measured. These factors should be considered when comparing measurement data. Ultimately it is important,



Daniel Caspary (MEP, left) and Steffen Bilger (German MP, right) with the Palas® CEOs Dr.-Ing. Maximilian Weiß and Leander Mölter

according to Dr. Weiß, that, as shown from the long-term comparison of measurement data, e.g., also at the locations in Stuttgart (Neckartor and Hohenheimer Strasse), the environmental pollutants in the air are dropping continuously and the trend is therefore in the right direction. It is just as important that measurement is undertaken with high quality and certified measuring devices such that the data can be relied upon. Here Palas® offers proven and reliable measurement technology for particles down to the nanometer range.

Both politicians expressed their thanks for the presentations and discussions on “new knowledge and exciting insights.”

New to the team in 2018

■ The Palas® team has also grown further during the current year. Here we would like to briefly present our new employees:



As shown in the picture (from left to right) in the back row **Alexander Rausch** (Production Mechanical Engineering), **Timofej Sapoznikov** (Production Electronic Engineering), **Simone Brecht** (Sales) and **Annette Neuner** (Documentation & Technical Editing). In the middle row **Markus Dages** (IT), **Jasmin Polz** (Production Optics) and **Alexander Stingl** (Warehouse). In the front row **Hannah Horn** (Marketing) and **Katrin Herrmann** (Production Electronics).

Missing: **Melissa Braun** (Order Processing) and **Ann-Kathrin Goßmann** (Development).

Congratulations to our loyal employees:

Jürgen Kußler has worked in Mechanical Engineering for 34 years, **Manfred Schappacher** for 25 years in Electronic Engineering and **Martin Schmidt** for 20 years in Sales.

Network meeting: „PM_{2.5} Monitoring - What's Next?“

Successful opening to the new series of events

■ As previously reported, we have converted the successful seminar series Palas® ATS into a new format. Now every other year we invite participants to the Air Filtration Seminar (AFIS) with topics related to filter testing and in the years in between to a network meeting on diverse topics. Following last year's very well-attended AFIS, the premier of this new seminar series on 18 September was also extremely well received.

Entitled „PM_{2.5} Monitoring – What's Next?“, over 50 participants discussed with international experts and speakers from industry, universities, networks and certification bodies, how the next stage of monitoring air quality might look. The seminar was moderated by Prof. Achim Dittler, Head of the Working Group on Gas-Particle Systems at the Karlsruhe Institute for Technology (KIT).

The presentations ranged from the current debate on fine dust pollution in urban centers and its implications for human health to the limits and possibilities of the measurement technology to be used. Other topics of interest included the examination of nanoparticle release and air quality at the workplace, investigation of the issue of ultra-fine dust at airports

and in automotive technology, as well as the initial concepts for inner-city fine dust filtration and mobile vehicle and drone-based fine dust measurement.

We would like to thank the attendees for their active participation and look forward to the next Palas® Seminar with you.



Network meeting “PM_{2.5} Monitoring - What's Next?“ on 18 September in Karlsruhe

■ PALAS® DATES

You will find the dates of the trade shows and exhibitions at which Palas® is represented up-to-date on the Internet at www.palas.de/exhibition.

Here is a small extract of our current trade shows:

- **AFS Spring Meeting FiltCon, Philadelphia**
1 - 3 April 2019
- **Powtech und Partec, Nuremberg**
9 - 11 April 2019
- **Filtech, Cologne**
22 - 24 October 2019
- **SINCE, Shanghai**
1 - 3 December 2019

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