

HIGHLIGHTS OF THIS ISSUE

HARMONIOUS BLEND OF MATERIALS. THE NEW SYNERGY.

INSIDE

02/2014





"OKW – STANDS FOR 30 YEARS OF PROGRESS AND INNOVATION."

EDITORIAL

DEAR READERS,

We are pleased to present another issue of our customer magazine.

This time, INSIDE reports on enclosure solutions on our standard basis, in which tablets and smartphones can be installed professionally and expertly. And of course... on our new SYNERGY. For OKW and its employees this is a very special project: an enclosure family as a fusion of plastic and aluminium, an unusual look and feel, and in 36 sizes more than just a product family — rather an entire range of enclosures.

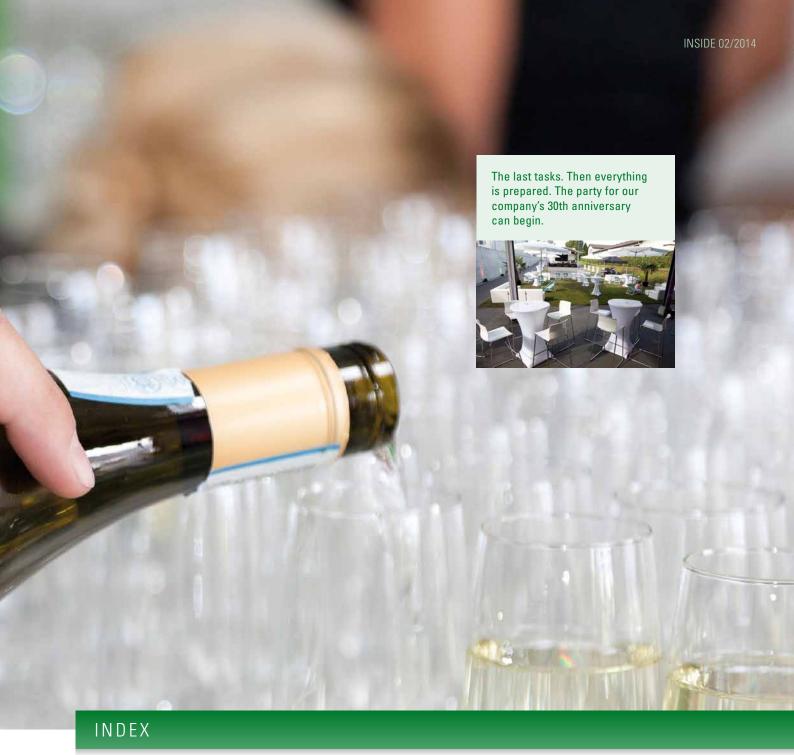
This is a more than adequate present that we have given ourselves and our customers on our 30th birthday, for on 19 July the OKW family with all of its employees, its worldwide

partners and friends celebrated a garden party in front and inside of our logistics centre. Would you like to glance back to the beginnings of the turtle — and to even earlier times?

I hope that reading our magazine will give you many creative ideas and suggestions!

Dipl.-Ing. Christoph Schneider, Managing Director





2 EDITORIAL

6 THE NEW SYNERGY

The name SYNERGY was chosen for the new range of products because the enclosure concept optimally combines the advantages of the attractive materials combination of aluminium and plastic.

12 NEW PRODUCTS/ENHANCEMENTS AND DATES

14 CUSTOMER APPLICATION

Rissfox-Mini — a data logger for analysing crack development, air temperature and humidity.

16 THE WWW.OKW.COM WEBSITE HAS A SPARKLING NEW DESIGN

18 INSTALLATION SOLUTIONS FOR TABLETS

In industrial equipment, tablets are more and more frequently assuming the functions of visualisation and data transfer. But how can one combine company-specific know-how in measurement and control engineering, reliably, elegantly and attractively packaged, with the features of a tablet?

22 30TH COMPANY ANNIVERSARY

On Saturday, 19 July 2014, OKW Gehäusesysteme celebrated its 30th anniversary in a festive atmosphere under the motto of "Family Garden Party".



"HARMONIOUS BLEND OF MATERIALS. THE NEW SYNERGY."

JOACHIM ALTMANN, RESEARCH & DEVELOPMENT

SYNERGY — an innovative enclosure concept, unique among standard enclosures and consisting of a silver-coloured anodised aluminium frame, sandwiched between top and bottom parts made of black plastic. This provides unusual stability coupled with very good heat dissipation and an extremely elegant design.



THE SYNERGY SERIES

Four enclosure shapes – square, round, rectangular and oval – are each available in three sizes and three heights, creating a range of enclosures with 36 standard versions.

These offer enough room for your electronics in an enclosure with a modern, high-quality appearance, allowing the universal use of computer peripherals, network technology, building automation systems and security technology, as well as medical and therapeutic applications, to mention only a few. The top and bottom parts, as well as the battery compartment cover of the new SYNERGY enclosures are made from the flame-resistant and UV-stable material ASA-PC-FR in black (RAL 9005), which meets the UL 94 V-0 requirements as standard. Between the top and bottom parts, is the aluminium frame, which has been blasted with glass beads and then anodised silver.

How others do it – the key word here is profile enclosures. These are ten a penny. An Internet search finds approx. 25,000 hits for the German term alone. Almost all of them have a similar design, and only differ by the type of cover, if you disregard the

profile form. An extruded and anodised profile, with integrated screw channels and often with guide ridges for PCBs, is sawn to the required length. After individual processing and installation of the electronics, covers are screwed onto the right and left-hand sides, and the product is finished. Depending on the manufacturer, the covers are sawn and drilled from laminated aluminium material, or they are injection-moulded plastic parts which then grip the profile from the outside. Occasionally you can also find covers made from die-cast aluminium. This design principle has several advantages: the enclosures can be produced in individual lengths. This is fairly low-priced for tailor-made enclosures, because the profile is sawn to length. So why not cut it to the right length from the start? Assembly is relatively simple, and there are only a few individual parts — one profile, two covers and screws. The screw channels and PCB guides are already integrated.

However, as everyone knows, bright lights cast dark shadows. And this is, their disadvantage. Due to the given guide rails, the installation of interfaces, operating elements and displays



THE SYNERGY SERIES

8 | 9

is fairly restricted. For example, how can encoders or potentiometers be installed when their axle has to go through the profile to reach the outside? Or a display whose readability deteriorates with every millimetre of distance from the inspection window. Usually the only option is to use membrane keyboards and to dispense with displays, which considerably restricts the range of possible applications. Most of the enclosures on the market have a horizontal orientation. This also restricts universal usability and the design of the profiles. Since these are mostly hand-held enclosures, a certain size cannot be exceeded.

Another problem in the use of aluminium profiles is production tolerance. With extruded press profiles, these are unfortunately pretty extreme due to the production process. In some cases, tolerances of plus/minus one millimetre are not unusual. This must be taken into consideration in the design. All parts gripping from the outside must be designed to cover the maximum size, and all internal parts must be designed to fit within the minimum dimensions. If this is not done correctly, unsightly projections and joints inevitably become visible, or the covers do not sit

straight on the profiles. Of course, this has an adverse effect on the appearance of the enclosure. And the fact that the screw heads are visible from both sides thoroughly ruin the otherwise high-quality appearance of the aluminium material. Since the profiles are sawn after the material has been anodised, the cut edges are bare, and saw marks and burrs become visible. But how should it be done properly?

This is how we did it with the SYNERGY.

First: the development of this range of enclosures was not an easy undertaking. As is normal with OKW, the most important requirement was a high-quality appearance, that is, good design. This meant dispensing with visible screwed connections. Covers gripping from the outside, partly concealing the length of the profile, would have spoiled the appearance and for this reason were strictly taboo. Snap-on connections between aluminium and plastic can only be produced by reworking the profile, and always cause problems during assembly. Sometimes a chip breaks off and gets stuck between the profile and the plastic. So this idea was also rejected. The cut edge of the frame was not to be bare,





Optional wall mounting with only one screw or covered using internal keyholes (mechanical processing).

but was also to be anodised, since, for aesthetic reasons, about one third of it was to remain visible under the edge of the plastic. Another point in the performance specifications was the option of installing displays, operating elements and interfaces. It was to be made possible for these parts to be installed on the profile as well as in the top part. Another requirement was that cables for charging devices or interfaces should be able to be routed out of the enclosure without the aluminium having to be processed. In addition, operation should optionally be possible with or without batteries, whether standard or rechargeable batteries, using the same bottom part. The units were also to be distributed with only



Easy assembly of components through the 3-part enclosure design.

one article number, to relieve customers of complicated configuration work. Of course, there also had to be a wall mounting unit. And all of this for all four profile forms already mentioned above. In order to allow a continuous assembly process and to keep the number of parts in affordable limits, a system that functions with round as well as with rectangular shapes had to be created. The common denominators in all profiles are four small guides, each of which accommodates one connecting part. The top side of these parts snaps into the cover, and the bottom side is screwed to the base. At the same time they centre the frame between the top and the bottom parts in such a way that an all-round, uniformly wide aluminium edge remains visible. This sounds easier than it is, especially since the connecting parts also have to serve other functions. The filed patent alone comprises 15 pages. At any rate, this was a great deal of hard work. Never of were so many experiments carried out, and never were more models made using the 3D printer, than for this range of products.

Perhaps a word about assembly. When the electronics have been installed in the top and/or bottom part, the frame can be



put in position. Begin on the side with the projecting parts, if there are any. When the frame has been put in position, push the four connectors onto the guides. Very important: first snap on the cover, then screw the base. The bottom part including the battery compartment cover is secured using four corrosion-free stainless steel screws with the reliable Torx drive. All components of the enclosure are now directly connected to each other, guaranteeing optimum stability. If the connectors have to be removed again, they can be loosened by a simple one-quarter rotation of the top part. The advantage of this assembly process and at the same time a further special feature of this range of enclosures is that the screw connections are only effected from below, so that no screw heads are visible on the surface of the cover. The four non-slip enclosure feet which are included also cover the stainless steel screws, giving the SYNERGY a stable position on the desk top. If it is necessary to install a PCB, this can be done with additional screw PCB pillars in the top as well as in the bottom parts, and mounting plates can be inserted from the side. There is also enough room for cable bushings. If cables of up to Ø 4 mm are required, they can be routed out of the bottom part through drilled

holes. Alternatively, it is also possible to remove a narrow ridge on the battery cover using side-cutting pliers and then to route flat cables up to a thickness of 1.5 mm under the battery compartment cover. These cables are meanwhile available as charger, interface or network cables. However, this is only possible in the version without a battery compartment. Alternatively, mechanical processing of the aluminium frame is possible, as it offers enough room, for example, for cable bushings or for USB plugs/SD cards. This means that the enclosure can be modified according to wishes and requirements. The recessed surface in the top part also offers a perfectly designed place for mounting a membrane keyboard or decor foil.

SYNERGY is available in four basic geometrical shapes: square, rectangular, circular and oval. Combining three sizes per shape with 3 heights each results in 36 enclosures, which guarantee plenty of room for electronics and operating elements, and at the same time offer optimum protection and sophisticated presentation. The smallest enclosures are the SYNERGY SQUARE (100 x 100 x 40 mm) and ROUND (Ø 100 x 40 mm); the larger SYN-



ERGY models OVAL and EDGE have the dimensions 200 x 100 x 100 mm. In addition to the standard sizes, the aluminium frames are available on request in special lengths, each in increments of 5 mm. The two materials can also be supplied in a different colour — the aluminium profile can also be anodised in black. Special colouring of the plastic parts is possible on request in any colour with Luran S, from only 1 unit. If a glossy surface or a different colour is required, the parts can be subsequently lacquered. Instead of being lacquered, the plastic parts can also be coated with a special foil using the water transfer printing process.

The SYNERGY has been primarily designed as a table top enclosure. As optional installation versions, battery compartments with battery clips are available with 2, 3 or 4 x AA batteries, depending on the size of the enclosure. However, it is also possible to mount the enclosure on the wall. This can be done with a wall suspension element made of polyamide, which is fixed with only one screw. Alternatively, conventional keyholes can also be milled in the bottom part or in the battery compartment cover. In addition,

an extender kit is available from stock to extend the PCB pillars. The SYNERGY appeals to customers who would like to present their products in a sophisticated and contemporary way, and at the same time require optimum protection of the electronics inside.

Thanks to the variety of enclosure shapes and the harmonious material combination of aluminium and plastic, this range of enclosures is suitable for many different applications, depending on usage and requirements. The aluminium frame can very quickly and above all very easily dissipate any heat that may be generated. One great advantage of this range of enclosures is the logical geometrical expansion of the family of enclosures, since different versions of similar products are no problem.



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SMART-BOX NEW SIZE 130 X 220

The robust SMART-BOX series of wall-mounting and desktop enclosures is characterised by an elegant design concept with gently rounded corners and many technical refinements. This opens up many different application options in electrical installation or in classic fields of electronics. This range of enclosures is made of ASA+PC-FR material (UL 94 V-0) in light grey (RAL 7035) and is protected up to classes IP65/IP66. Another enclosure size with the dimensions of 130 x 220 x 60 mm (B x L x H) will be available from January 2015.



CARRYTEC M FLAT VERSIONS

A functional carrying handle is the main design feature of the CARRYTEC range of enclosures. It makes high-volume equipment handier – for example in medical technology or machine control systems – then rotated by 180°.

The three versions available S, M and L, are dimensioned so that even large-volume installations can easily be accommodated. If, however, less room is required, for example for holding tablets, there is now a flat version of enclosure size M. The dimensions are 270 x 247 x 42 mm (W x H x D) in the two standard colours of off-white (RAL 9002) and lava. The protection class is IP54. Available from January 2015.

"WE ALWAYS HAVE A LOT TO OFFER."

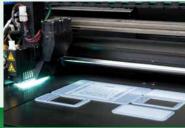
RAPID PROTOTYPING

You too can visualise your ideas in the concept/ development phase and make them accessible, e.g. for presentation purposes in meetings and at trade fairs. Prototypes make an important contribution here.



Individual pieces and design samples, including enclosures from the standard range with individual modifications, customer-specific variants etc.





NEW PRODUCTS/PRODUCT ENHANCEMENTS

WE ARE LOOKING FORWARD TO YOUR VISIT.

11th-14th November 2014

Fair Munich, Hall B1, Booth 143 www.electronica.de

The electronica exhibition in Munich is the electronics exhibition for components, systems and applications. At the electronica exhibition in Munich, numerous exhibitors present their products, services, trends and new products that are used for the development, quality control, inspection and maintenance of electronic assemblies, devices and machines.

12th-14th November 2014

Fair Duesseldorf, Hall 08b, Booth J08 www.compamed.de

The Compamed exhibition in Düsseldorf is the international trade fair for components, preliminary products and raw materials in the medical manufacturing sector. More than 500 exhibitors and suppliers present their products and services for all aspects of medical manufacturing at the Compamed exhibition in Düsseldorf. The Compamed Düsseldorf takes place parallel to the world's largest medical exhibition Medica.







"DATA LOGGER FOR ANALYSING CRACK PROGRESS AND CLIMATIC DATA."

The Rissfox Mini is one of the most modern miniature data loggers of our time. Its small impact-proof and waterproof enclosure combines high-resolution 12-bit crack analysis electronics, an air temperature sensor and humidity sensor, a RISC microcontroller, memory for up to 64,000 measured values and a real-time clock to form an enormously powerful analysis system.

CUSTOMER APPLICATION

Rissfox Mini – The fully calibratable crack sensor can be connected to the system and is characterised by its easy handling, its compact dimensions as well as its high degree of precision. After the uncomplicated installation of the analysis sensor above the crack, the measuring system either fully automatically starts the measuring task previously programmed in the PC, or is activated by means of a non-contact electromagnetic switch. The data logger then records the measured data at freely adjustable intervals.

Thanks to the integrated high-speed crack monitoring system, even very brief crack vibrations can be detected reliably and accurately. This means that, together with the climatic sensors, comprehensive and reliable measured data are available after only a short time. The fully calibrated, intelligent CMOSens® sensor for temperature and humidity is especially characterised by its optimised long-term stability, its high degree of precision, reliability and its extremely fast response time of less than 3 seconds. No complicated recalibration is required, since the

sensor can simply be replaced directly on site if necessary. The batteries integrated in the data logger (AA) supply the system with energy for up to two years, and are user-replaceable at any time.

The data logger can be programmed and evaluated using the universal software SoftFOX under Microsoft Windows® 98, NT, Me, 2000 or XP. After the Rissfox Mini has been connected to the computer by means of a PC interface cable, the system can be read out or configured immediately.



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"OUR WEBSITE HAS A SPARKLING NEW DESIGN."



WWW.OKW.COM

OKW Gehäusesysteme has relaunched its website www. okw.com. Permanent future development in favour of customer friendliness is part of the OKW corporate concept. OKW has accordingly revised its website, which has been online in its present form since 2004. It now uses the latest state of the art technology to inform and support users. In keeping with the motto "To each his own enclosure", the new website places the main focus on OKW Gehäusesysteme's range of services. The overview of our range of products and services is as important as our advisory service and a wide-ranging presentation by the enclosure specialist from the Odenwald region.

The new portal interface has now been given a clear, userfriendly design with many new features, for example OKW offers its customers the option of downloading CAD drawings or 3D models of the enclosures to help you plan your installations or electronic components. To do this, you only need to register once. In addition, you can use the personalisation function to select and get in touch with your direct contact person, whether national or international. The enclosure and tuning knob portfolio, including all options for the customerspecific supplementary processing of standard products, is shown in a simple and easy-to-read manner, listing the possible applications in question. The process for requesting quotations and samples has also been significantly simplified, an extensive download area has been installed, and much, much more.

In the section "About OKW", the interested reader can find out everything about the company and its 30-year history, its social commitment and, for young talents, everything about traineeships at OKW Gehäusesysteme.



"THE TREND WITH THE TREND."

FRANK WAHLANDT, HEAD OF SALES & PROJECT-PRODUCT-MANAGEMENT

In industrial equipment, tablets are more and more frequently assuming the functions of visualisation and data transfer. But how can one combine company-specific know-how in measurement and control engineering, reliably, elegantly and attractively packaged, with the features of a tablet? Very easy: integrate both in a modern enclosure solution by a packaging specialist!



INSTALLATION SOLUTIONS FOR TABLETS

Modern packaging for standard tablets

In the past it was always a great challenge and a huge undertaking for companies to develop new measuring instruments. Besides the electronics, a visualisation, device protocol or data transfer interface also had to be worked out and programmed. This is why more and more companies are putting their money on the many different uses of tablets in the development of new products. These assume the functions of visualisation and data transfer, and combine standards with their own core competence. High-resolution multi-touch displays as well as the options of WLAN access and GSM are intended to meet the desired requirements. All of this requires a suitable enclosure, but this is usually easier said than done. The necessary interfaces like USB, mini-USB or micro-USB have to be accessible from the outside, and access for charging must also be made available. The tablet should also be reliably and safely held in the enclosure.

No standardisation of tablets on the market

The external dimensions as well as the height present further problems. Although the sizes of the displays are often the same, many different switching and operating interfaces are mounted in many different positions. In other words, all tablets have individual and different designs, and there is no form of standar-disation. So how can all of these various requirements be met with one single enclosure? A packaging specialist is needed to provide a modern, secure and at the same time elegant enclosure solution — OKW Gehäusesysteme.

Installation solution for iPads and other tablets

From a comprehensive standard range of plastic enclosures, OKW offers a wide range of product lines as mobile, desktop or wall-mounted applications. In particular the INTERFACE-TERMINAL range of products is ideally suited for the installation of large-volume operating elements, graphics displays and touch



screens. Thanks to the different enclosure sizes, tablets with 10" screens and mini-tablets with up to 7" screens have sufficient space to be fitted and installed. For example, the front panel of size L has a suitable cutout for the easy and reliable installation of the iPad 2, 3, 4, as well as of the iPad Air. With the size M enclosure, a suitable solution was also found for the iPad mini. During installation, the tablet is simply "jammed" between the two enclosure shells. Besides the plastic top part, an anodised aluminium panel has also recently been made available as an elegant alternative. The cutouts are designed for the size of the iPad Air. Depending on requirements, the INTERFACE-TERMINAL can also be used vertically or horizontally. As well as the installation solution for iPads, variants for other tablets are also possible. In order to be able to use the enclosure with integrated tablet effectively for all applications, accessories such as stations or wall suspension elements are available. It can also be integrated in the wall with the help of an installation assembly kit. The required panel is available from stock in the enclosure colour off-white (RAL 9002) – depending

on requirements, special colours or surface finishes (e.g. stainless steel, wood etc.) are also possible for seamless integration into the environment in question.

Many different installation options for large volume

The CARRYTEC range of enclosures offers an alternative to the INTERFACE-TERMINAL. These enclosures have a handle, making them ideal for mobile devices in which a very large volume has to be packaged. The existing electronics are thus easily and neatly connected to the tablet within the enclosure. A soft TPE insert in the handle also ensures a perfect, non-slip grip. Depending on the tablet and on its size, fixing and support elements can be inserted and fitted at the required points in the enclosure. Other interfaces, such as USB or access for a battery charger, are no problem either, thanks to a protected area located at the side of the enclosure. The tablet is thus safely and reliably held in the CARRYTEC enclosure. Any necessary operating interfaces can be adapted to meet requirements by means of subsequent processing. This makes it easy to integrate tablets of different



sizes, from 7" to 10", as well as their operating elements, into the enclosure. A wide range of accessories, such as a station, a holding clamp for hanging onto round tubes and rails or a shoulder strap, allow the enclosure to be used for many different applications. The protective pockets, which are available from stock, offer a good way to store any charging cables or other accessories needed for the tablet, and to have them within immediate reach. The enclosure can also be used as a support arm application or as a tripod by turning it through 180°. The CARRYTEC range of enclosures is thus ideal for both indoor and outdoor applications (protection class IP 54).

OKW provides professional solutions

To implement an ideal and at the same time modern solution with integrated tablets, OKW is available at all times as your competent specialist partner for all advisory and development services. The enclosure solution you need is discussed with you right down to the smallest detail, and exactly adapted to meet your wishes. Our in-house Service Center allows us to modify

the INTERFACE-TERMINAL as well as the CARRYTEC enclosures thanks to the various processing and finishing options at our disposal. OKW can adapt these enclosures to meet your individual requirements, for example by means of mechanical processing, various paint finishes, printing, EMC vapour plating and much more. These solutions are carried out professionally, cost-effectively and at the same time in top quality. If these solutions should still not suit, or if your iPhone/smartphone needs a special housing, OKW can offer you many other standard enclosures and/or individual enclosure solutions (from the development phase to serial production).



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"FAMILY GARDEN PARTY."



On 19th July, the Buchen-based OKW Gehäusesysteme celebrated its 30th anniversary in festive surroundings.

The motto of the party was "Family Garden Party" — this alone emphasises that this anniversary would differ significantly from comparable events.

The atmosphere was relaxed and casual. The location (in the entrance area of the OKW logistics centre "Im Krötenteich 2b") was decorated accordingly: with an outdoor bar, artificial lawn, stand, lounge areas and much more that you only know from cocktail bars or holidays on the beach. The weather played along too, and so Managing Director and owner Christoph Schneider with his family was able to welcome all guests personally at the beginning of the event.

The 350 party guests included suppliers, friends, representatives of the other companies in the worldwide OKW group, international marketing companies from over 40 countries and the entire staff of OKW with partners.

At the beginning, Christoph Schneider stepped up to the microphone and gave a brief review of the last 30 years at OKW. In his welcoming speech, district administrator Dr. Achim Brötel, also on behalf of Alderman Dr. Wolfgang Hauck, remembered the "Made im Odenwald, which turned out to be a highly important motor for the economic development of the entire region." Chairperson of the Works Council Daniela Dittmann pointed out that the personnel turnover at OKW Gehäusesysteme was low and that very many employees had remained faithful to the company for years, and often for decades.



30TH COMPANY ANNIVERSARY

Dr. Volker Schneider looked back at the founding years, thanked his nephew Christoph Schneider for his commitment, and reminded those present of his brother and former OKW Managing Director Dieter Schneider, who passed away in 2008. Before Anne Schneider, the sister of Christoph Schneider, related her childhood memories, Sean Bailey (Managing Director of the US subsidiary) and Alessio Hofmann from Italy described their personal experiences in their many years of cooperation with OKW Gehäusesysteme.

Anne Schneider also mentioned that on that very day, an exhibition on the history of the company had been opened in the annex. The late Dieter Schneider had provided the initiative to set up this historic archive, at the request of his father

Dr. Herbert Schneider. She also thanked Wladimir Mitronin, who had provided substantial support in the implementation and completion of the archive.

After the meal from the churasco barbecue, the informal part of the evening began with live music from the band "Prime Session". The atmosphere was relaxed and everyone celebrated the 30th anniversary of OKW Gehäusesysteme GmbH until the small hours.

You can find the complete photo album at: http://www.okw.com/en/New_enclosures_tuning_knobs/30_years_OKW



Historic archive of the OKW group

On the occasion of the 30th anniversary of OKW Gehäusesysteme, the newly established historic archive of the OKW group has opened the exhibition "Who turned the knob?" The exhibition deals with the company's history, which began in Buchen 66 years ago.

The main focus in theme room number one is the establishment of Odenwälder Kunststoffwerk, from its modest beginnings in the post-war years. A film with interviews by contemporary witnesses describes the background and development of the plastic vision of the founder, Dr. Herbert Schneider, whose radio knobs successfully rolled off the production line for decades.

In the second room, the visitor finds out more about the era after 1970, the increasingly colourful range of products, the developments in computers and the first crises after the initial boom. The exhibition culminates in a theme room about OKW Gehäusesysteme, providing information about the "off-the-peg products", the standard enclosures — which have won design awards worldwide.

This small exhibition is open to all interested parties. It is also designed for English-speaking visitors, booklets are available in English. Please make an appointment: Tel. + 49 (0) 171 3786864, Im Krötenteich 2b, 74722 Buchen, Germany.











IMPRESSUM

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