



SUSTAINABILITY REPORT

» Issue 2019/2020

zedler-Gruppe
Technology and Passion for Bicycles



The present first elaborated sustainability report is not yet based on a reporting framework. It is based instead on facts and issues relevant to the Zedler-Group. It was important to us to evaluate the measurements and countings made on our own as well as the bills of the service providers and not to rely upon the prospected parameters of the manufacturers.

For the elaboration of the second sustainability report which will follow, various frameworks will be considered before selecting among them the one matching perfectly the Zedler-Group issues.

Dear Readers,

Sustainability in the cycle industry - isn't that a matter of course?

It is correct that many sustainable properties are attributed to the actual product (bicycle), but it doesn't mean automatically that its production is actually eco-friendly and resource-saving. Our understanding of sustainability goes beyond!

Our target is not only to make bicycles and e-bikes more user-friendly, more durable and thus safer, but also to operate a business that takes as little from nature as possible.

Freely based on the originally Swabian motto "Don't talk, just do it" we have lived the topics conservation of resources, recycling and internal mobility from the early days of the Zedler loss adjusting agency in 1993. The new KFW 55 company building that was projected with a clearly visible cradle-to-cradle approach from 2014 on and which was occupied in 2017 makes the resource-saving management at Zedler-Group visible to the outside with plenty of wood and rough materials. No fossil fuels, but electricity from hydropower or an own photovoltaic system instead as well as recycling paper and re-using of packaging materials are basic topics that we have long since settled and implemented.

Nevertheless, we do not rest on the current status quo, but continue improving for example the use of the process waste heat of our compressors and minimising still available leakages in our compressed air supply system. In percentage terms we are already significantly below the average but aiming at the least possible loss.



Our approach to our new building including innovative technology and the entire monitoring was made with the same precision and passion with which we perform tests, establish technical documentation and expert's reports.

The present sustainability report is the beginning of visualising and monitoring our concepts and their realisation in the company in a transparent way. There is still a lot to be done for us!

With the regular preparation of sustainability reports we therefore hope to obtain important impetus for improving ourselves even further and to render our employees still more enthusiastic about comprehensive sustainability.

Graduate Engineer Dirk Zedler
Founder and Managing Director

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www.zedler.de

Lea Heinle is a student intern of the dual studies programme realising the practical part of her studies at Zedler-Institut. As a sustainability representative, she is among other things responsible for the issues environment and data recording as well as for the monitoring of the more than 70 measuring points in the building.

This field also includes the present first sustainability report which was elaborated together with managing director Dirk Zedler, because environmental consciousness has top-level priority at Zedler-Group.



The graphic presentation of the present sustainability report was made by Kirsten Krümmel, media designer at Zedler-Institut.

The entire team is responsible for the realisation of social commitment and the observance of ecological and sustainable regulations.

The team’s supporting contribution of knowledge and data also rendered possible the elaboration of the present sustainability report.



0% of photos, texts made available by agencies and brochure values

100% Zedler-Group team work

MILESTONES OF THE GROUP

1987

Construction of the first disc wheel cover made of GFRP (glass-fibre reinforced plastics).

1989

Thesis on carbon. Optional subject during the studies: non-conventional energy engineering.

1991

Completion of studies as a graduate engineer. Dirk Zedler is employed business manager of a large cycle shop.

1993

Foundation of Ingenieur- und Sachverständigenbüro für Fahrradtechnik in Ludwigsburg.

1994

Public appointment and swearing in of Dirk Zedler as an expert for bicycles at the CCI Stuttgart. Construction of the first stiffness test stands for bicycles.

SINCE 1995

Drawing up of trend-setting instructions for bicycles and bicycle components.

SINCE 1996

Critical bicycle technology journalism.

2007

20th TV shooting: The German channel Kabel 1 brings Dirk Zedler as a bicycle expert and thus as an expert on German TV.

2004

First company in Baden-Wuerttemberg to take on trainees for the job as bicycle mechanics.

2001

Recruitment of the first full-time employee.

2009

Extension of the production capacities for bicycle test stands due to an increasing demand for zedler.de test stands by customers in Germany, Europe, the USA and Asia.

2010

Foundation of Zedler – Institut für Fahrradtechnik und -Sicherheit GmbH. Proof of research and teaching established, therefore permission to use designation institute.

2012

Development of specific testing systems for pedelecs.

2013

The first Zedler-Institut newsletter is sent to more than 1,000 specialists from the bicycle industry.

2017

Move into the new building, partly still in construction

2014

One of the first companies to take on trainees for the job as two-wheeler mechatronic technicians, subject bicycle, in Baden-Wuerttemberg, Germany. Extension of the public appointment and swearing in of Dirk Zedler as an expert for bicycles and electric bicycles.

1997

Development of test methods for the testing of bicycle frames made of carbon after accidents.

2018

Official inauguration of the innovative company building with Transport Minister Winfried Hermann, Mayor Werner Spec, Bernhard Lange (Presidium Member of the German bicycle association ZIV), Albert Herresthal (Managing Director of VSF e.V.), Dr. Gudrun Zuehlke (Chairwoman of ADFC e.V. Baden-Wuerttemberg) and Thomas Musch (Chief Editor of road bike magazine TOUR and MY BIKE).

2019

All in all 26 permanently employed team members and up to 40 freelancers work for Zedler-Group.

2016

Foundation of GDFS – Gesellschaft der Fahrrad-Sachverständigen mbH. Ground breaking ceremony for the construction of the new, energy-efficient and employee-friendly company building.

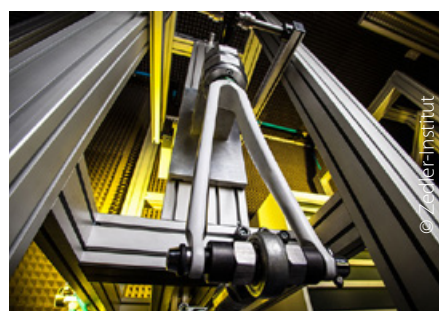
Third trainee position is created within the Zedler-Group for the job of a digital and print media manager.

COMPANY PRESENTATION

Zedler-Group is active in the fields:



Technical documentation



Testing technology and services



Expert's reports/loss analyses

The business fields are subdivided as follows, whereas the loss adjusting agency is exclusively active in the field of expert's reports for the courts:

zedler-Institut
Technology and Passion for Bicycles

Zedler – Institut für Fahrradtechnik und -Sicherheit GmbH

GDFS
Gesellschaft der Fahrrad-Sachverständigen mbH

GDFS – Gesellschaft der Fahrrad-Sachverständigen mbH



Sachverständigenbüro für Fahrradtechnik Zedler

Sachverständigenbüro für Fahrradtechnik Zedler (Loss adjusting agency)

Since the foundation of the company in 1993 we have set the pace for progress in the cycle industry and for the perception of the bicycle as a serious means of transport and asset. In those days, company founder Dirk Zedler was a pioneer in this field. Sustainability with regard to bicycles was not an issue in the 1990s. As a successful triathlete in his age group and everyday cyclist since 1984, Dirk Zedler knew about the advantages of the bicycle in the full spectrum and believed in its potential as a sustainable means of transport of the future.

Zedler – Institut für Fahrradtechnik und -Sicherheit GmbH is part of Zedler-Group which has accompanied the technical development of the bicycle in terms of comfort, safety and user-friendliness as well as the perception of the courts and the insurers for 25 years and more. We want to bring more people on the bicycle by better bicycles and to make the bicycle a product avoiding as much waste as possible by a longer service life.

For this purpose we operate in the 5 business fields:

- » Preparation of bicycle reports, accident reconstructions and loss analyses for the courts, insurers, manufacturers and private individuals not only in Germany, but all over Europe, in the USA as well as worldwide.
- » Development and building of scientifically-based, practice-oriented testing systems (test stands, control and analysis software) for bicycles, pedelecs, cargo bikes and individual components for our own laboratories and for manufacturers worldwide.
- » Testing services as consultancy for bicycle and component manufacturers. In our own test laboratories we accompany the development of bicycle frames and components from the prototype to the market launch. With our testing systems we perform this by going beyond the currently incomplete and - from our objective point of view - insufficient international standards (DIN, EN, ISO).
- » Technical documentation, e.g. concept, preparation and (stipulated) printing of EN and ISO-compliant user manuals for bicycle and pedelec models of all kinds in more than 40 languages. Several times, the user manuals were awarded test winner, e.g. by the German foundation for comparative product testing (Stiftung Warentest). Risk analyses, declarations of conformity etc. for pedelecs from the Zedler-Institut passed the state authorities of many countries without initial suspicion.
- » Publication of findings from expert's reports about defective component principles, insufficient manufacturing processes, incompatible assembly groups or mounting deficiencies in the leading special-interest press (such as for example BIKE, EMTB, Eurobike Daily, Freeride, MY BIKE, TOUR etc.)

Presentation of research findings during lectures and speeches at the leading conferences of the industry as well as during professional training, e.g. the German federal school for two-wheel technology, and further training of employees of bicycle manufacturers, wholesale companies and specialist retailers.

With these publications we provide a continuous increase in the quality awareness of the cycle branch and their users. We herewith not only raise the bicycle's safety level, but also its user comfort level and ensure an improved exploitation of its potential. Bicycles and pedelecs are thus recognised and used as attractive mobility alternative for the broad population.

In short: We offer (almost) everything with and around bicycles except from building, repairing and selling them.

AWARDS AND PRIZES



2020

Certification building in operation is currently passed by aiming at the highest "platinum" award level. The building is climate-positive and even the business operation is climate-neutral! Official valuation and awarding of the certification is scheduled for the weeks to come.



2019

City Cycling campaign: "Most kilometres per employee" and fifth place for "Total kilometres", presented by Mayor Michael Ilk, City of Ludwigsburg



2018

Prize winner "Grand Prix of Small and Medium Business" of Oskar-Patzelt-Foundation under the patronage of Baden-Wuerttemberg's Minister for Economic Affairs, Work and Housing Dr. Nicole Hoffmeister-Kraut



2018

Prize winner of VSE.Ethics Prize of the cycle industry for the future-oriented, ecologically well thought out new company building in the Swabian city of Ludwigsburg



2016

Award as one of 5 finalists from Baden-Wuerttemberg in the competition "Grand Prix of Small and Medium Business" 2016 of the Oskar-Patzelt-Foundation



2016

Award as Top Ten Company within the state prize for young companies of L-Bank, presented by Baden-Wuerttemberg's Minister President Winfried Kretschmann

2015

Award as a "Hero of the new mobility" for graduate engineer Dirk Zedler by Baden-Wuerttemberg's Minister of Transport



2014

Finalist at the "Business Award for the Environment" in the category "Trade and services", Baden-Wuerttemberg's Ministry of Environment, Climate and Energy Economy



2014

Prize winner "Medium-Sized Company Award for Social Responsibility" Baden-Wuerttemberg's Ministry of Finance and Economy and Caritas



2011

Prize winner: Statewide competition award "Baden-Wuerttemberg's most bicycle-friendly employer" of the German Environmental Management Association (B.A.U.M. e.V.), presented by Baden-Wuerttemberg's Ministry of Transport and Infrastructure

2nd place in same-named nationwide competition



2009/2013

Award by German health insurance company AOK in their "Bike to work" initiative

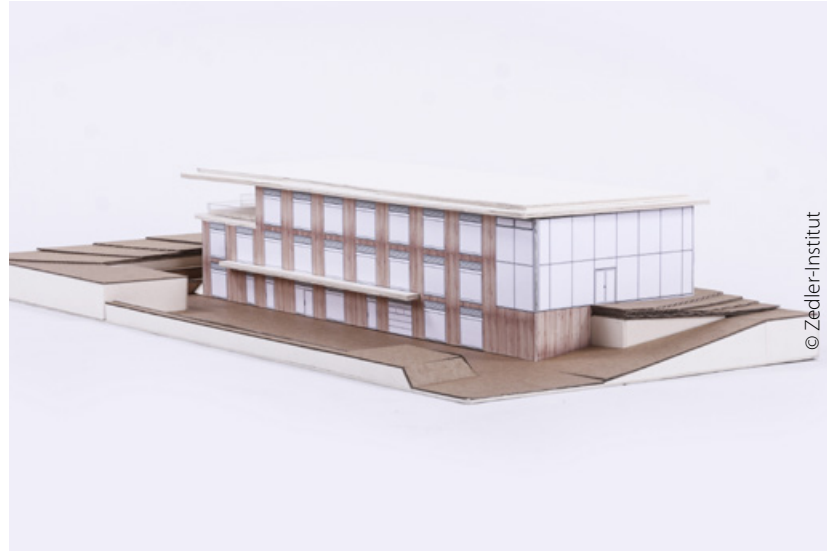


OFFICIAL INAUGURATION 29 JUNE 2018



From left to right: Gudrun Zühlke, Chairwoman of ADK Baden-Wuerttemberg;
 Werner Spec, Mayor City of Ludwigsburg;
 Albert Herresthal, Managing Director VSF;
 Thomas Palus, CEO Volksbank Ludwigsburg;
 Winfried Hermann, Member of the Landtag, Baden-Wuerttemberg's Minister of Transport;
 Dirk Zedler Managing Director Zedler-Institut;
 Bernhard Lange, Managing Partner of Paul Lange & CO. OHG and executive board of ZIV;
 Thomas Musch, Chief Editor of TOUR and MYBIKE

ENERGY-EFFICIENT BUILDING



The start of the construction of the new energy-efficient company building in 2016 was another huge step forward towards the issue of sustainable management. With the new building Zedler-Group intended to set an exclamation mark for (electric) bicycles and the smart merger of real estate and movables in the automotive region.

The company building reflects the holistic approach of the environmental protection and adds the final sustainable touch to the company.

The new future-oriented energy-efficient building of Zedler-Group represents what is yet to come. With its details, such as pedelec and car service station and a photovoltaic system on the roof, the new company building stands exemplarily for a change in energy and mobility. Electricity must be generated in a decentralized way and stored in the batteries of the electric vehicles and e-bikes.

» **26.5%** of the total area of the company premises is covered by the roof area with a photovoltaic system. The rainwater collected in this area is channelled into the cistern



Everyone knows that you never stop learning, but for us in the rapidly developing world of bicycles it is more topical than ever. For this very reason we created a platform for training events and seminars in a bicycle-friendly atmosphere in Ludwigsburg. This seminar area is used to pass on bicycle-relevant topics as well as to explain and inform about the aspects of sustainable working at Zedler-Group.

The seminar facilities including an integrated museum with more than 200 historic bicycles covers nearly one third of the total building area. Pauses and discussions about what has been learned are held on a 150 sqm large terrace with a view on nature.

FRIENDLINESS TOWARDS INSECTS



During the construction of the building it was important for us to create the area as closely to nature as possible. The garden around the new company building was planned and realised as an orchard meadow with native crop plants and an insect-friendly NABU-certified meadow.

Right in the middle of the orchard meadow a big insect hotel was built in 2018. It offers space to various species.

» The green area of the company premises covers **49.5%**

» The courtyard area including parking spaces covered with water-permeable open joint paving blocks covers **24%** of the total area

» Excluding the bicycle parking with green roof no more than **26.5%** of the total area is built on



Roof drainage into the cistern.

» **0%** of rain water into sewerage

CRAFTSMEN – LOCAL



For the construction of the new company building we chose nearly exclusively craftsmen in our region located at distances of max. 25 kilometres.

One of the craftsmen involved in the interior fittings of the building cannot be marked in the above map. Schäfer Trennwandsysteme GmbH is located in Horhausen (Westerwald).

- 1 Ludwigsburg**
Elektro Negele GmbH
Kelzenberg + Jahnke Freie Architekten
Kirmbauer Bau- und Möbelschreinerei GmbH
Eberhard & Manfred Kuch Gartengestaltung
Gebr. Lotter KG
S. & B. Massa Brandschutz
NOZ Elektrotechnik GmbH
Raumausstattung Jung
Yli Osmani
- 2 Asperg**
Gutjahr Service GmbH + Co KG
KEE Klima- & Elektrotechnik Erdmann GmbH
Negele Küchenprofi GmbH
- 3 Remseck**
Rossi GmbH
- 4 Benningen a. N.**
Schlosserei Klein
- 5 Bietigheim-Bissingen**
Geotechnik Südwest Frey Marx GbR
Schäuffele Büro für Vermessungswesen
- 6 Ingersheim**
Esposito Isolierungen GmbH
- 7 Pleidelsheim**
Gustav Schüle Bauunternehmung GmbH & Co. KG
- 8 Erdmannhausen**
Sanitär Stiegler GmbH
- 9 Korntal-Münchingen**
W. Arnold Stuckateur GmbH
- 10 Waiblingen**
Mehne Bauphysik Ingenieurgesellschaft mbH
- 11 Stuttgart**
ED Stuckateur GmbH
QUBUS – Planung und Beratung Oberflächentechnik GmbH
Wulle Lichti Walz GmbH
Mayer Zeltwanger GmbH
- 12 Leonberg**
Neunaber Fliesen GmbH
- 13 Bönningheim**
Hagenlocher GmbH
- 14 Beilstein**
Egon Hägele GmbH
- 15 Ilsfeld**
Fischer + Weimar Holzbau GmbH
Soyez Stuckateur GmbH
- 16 Neuhausen a.d.F.**
Thyssenkrupp Aufzüge GmbH

SUPPLIERS – AWARDED

When selecting our suppliers it is important to us that their business management is ecological and socially compatible. Many of our suppliers have already been awarded for their sustainable and ethical business management.

For example:

Ensinger Mineral-Heilquellen

Among others regional prize winner "Business Award for the Environment"; "Medium-Sized Company Award for Social Responsibility", both in 2014



Interstuhl-Büromöbel

I. a. regional prize winner "Business Award for the Environment" in 2010

interstuhl

Luchterhand Bio-Catering

I. a. also member of UnternehmensGrün e.V. and also signatory of WIN-Charta, certified organic cooking



Mader Druckluft

I. a. regional prize winner "Business Award for the Environment"; Top 3 German Sustainability Award in 2015 and 2018



Olymp

Zedler corporate wear, i.a. climate-neutral company headquarters and only at 5.5 km airline-distance from Zedler-Group



Sick-Messinstrumente

I. a. regional prize winner "Business Award for the Environment" in 2014



Vaude

Zedler corporate wear, i. a. no. 1 in the ranking of sustainability reports 2019, regional prize winner "Business Award for the Environment"; German Sustainability Award 2015



Gmähle-Scheel Print-Medien GmbH

We select print shops on the basis of ecological criteria. Our print shop is located in the region and uses eco-friendly paints, lacquers and printing processes (FSC-paper). The print shop is located in Esslingen which is in the vicinity and therefore from the region. We do not plan any changes, even if this means higher costs compared to other suppliers, e.g. from the Far East.



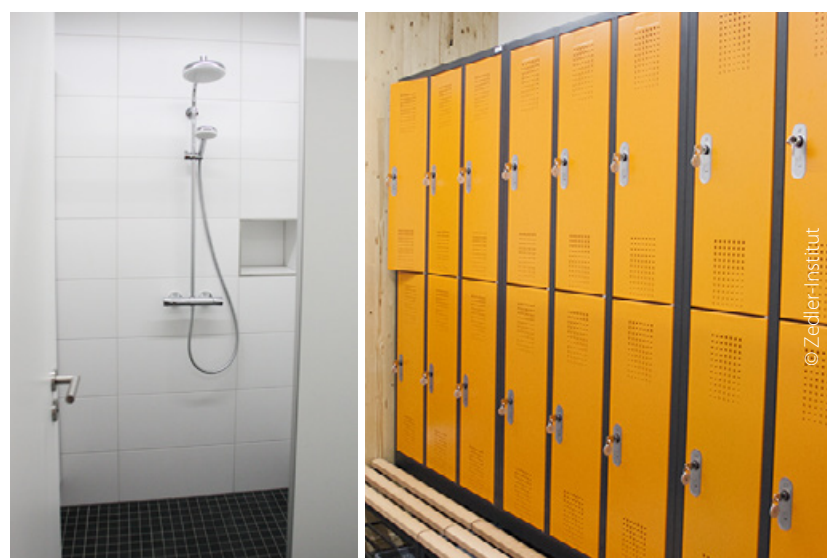
BICYCLE PROMOTION – A SUCCESSFUL CONCEPT



Cycling of the employees has been promoted and optimized by the infrastructure since the foundation of the company. When designing the new company building particular importance was paid to providing an optimum cycling infrastructure. It starts with a bicycle parking located directly adjacent to the entrance of the company building. Besides its high bicycle capacity the bicycle parking also provides numerous charging possibilities for e-bikes. In the parking which is also chip secured there are tyre pumps, chain oil and cleaning rags.

Just a few steps from the entrance adjacent to the bicycle parking there are two spacious change rooms with many high-quality showers, lockers as well as towels. The change rooms and one well-aerated drying room for the clothings heated by the compressor exhaust air are further elements in the building to lower the barriers of commuting by bike.

For this reason most of our employees commute by bike throughout the year.



In addition, the building includes a spacious bicycle workshop where the employees can have their bicycles checked in regular intervals and repaired, if necessary.

Especially in winter everyone has the opportunity to make their bicycle winter-proof.

Either the employees do it on their own or they ask the apprentice to do it.



The increased use of the pedelecs leads to a significant reduction of CO₂ and particulate emission, a particularly important measure in the metropolitan area of Stuttgart.

For this reason new space for cargo pedelecs was created with the new building and the bicycle parking and a company cargo bike was purchased with the move into the new building. With this cargo bike courier journeys can be performed yet more consequentially by bike. Our cargo bike as a matter of fact replaces a company car.



Company bikes/pedelecs are available on loan to all employees. There are also several different types of bikes for short trips into the city, for example during the break. The company bikes that are available to our employees are always current, state-of-the-art products. Particularly in the case of e-bikes this means a high motivation for the employees, as technology is developing at a rapid pace presenting a still more efficient alternative in mobility.

When buying individual bicycles, employees also benefit from the favourable purchase prices of the company.

But we not only motivate our own employees, but also convince our stakeholders of the alternative in terms of mobility by taking several measures.

Besides the already described seminar area created in the new building for bicycle-related seminars, a tandem was also purchased. Visitors are picked up by this tandem from the railway station. On the occasion of events we inform the organisers and the participants about sustainable alternatives in terms of mobility, such as the availability of bikes and pedelecs at rental stations close to the railway station.

MOBILITY – BICYCLE WINS

The share of cyclists and pedestrians was **63%** even from November to January

71% of the employees commute without car (bicycle, pedestrians, local public transport)

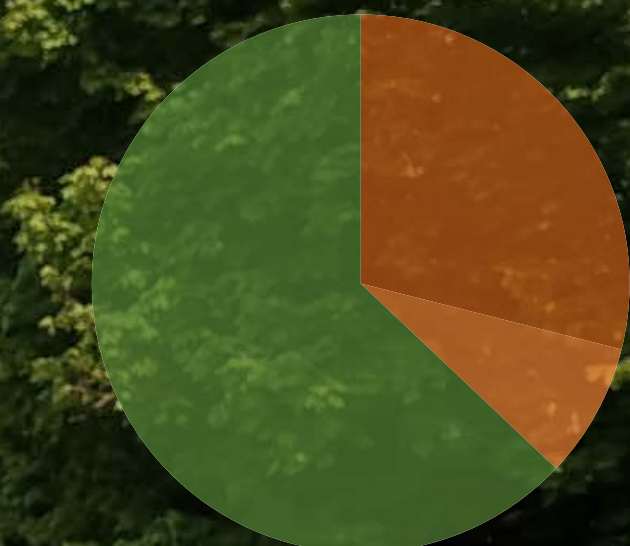
In the summer months the share of cycle traffic is significantly above **75%** (will be registered in future)

Average kilometres per day of the employees by bike **19.6 km**

About **14,960 kg CO₂** were saved by our employees by the annual kilometres commuted by bike in 2019 (ADFC calculator)

One-way distances up to **27.5 km** are commuted by our employees by bike

MODAL SPLIT – COMMUTE



■ cars ■ local public transport ■ bicycle / by foot

75% of the business trips are made with German Rail, i.e. with green electricity

70% of local business trips are made by bicycle, pedelec or e-cargo bike

No more than **16,752 km/year** by the car fleet including private trips of the management in the past 20 years

Employees of Zedler-Group during the annual cycle tours through the surrounding region of Ludwigsburg

WATER CIRCULATION – FRESH WATER HALVED

48% of rain water in the total water consumption

100% of rain/cistern water for toilet flushing, bicycle cleaning, garden watering and corporate fountain

0% of fresh water supply into the cistern

83,160 litres of cistern water use

The rain water of the entire roof surface is collected in the cistern to supply the toilet flushing, the garden watering, the bicycle cleaning and the corporate fountain.

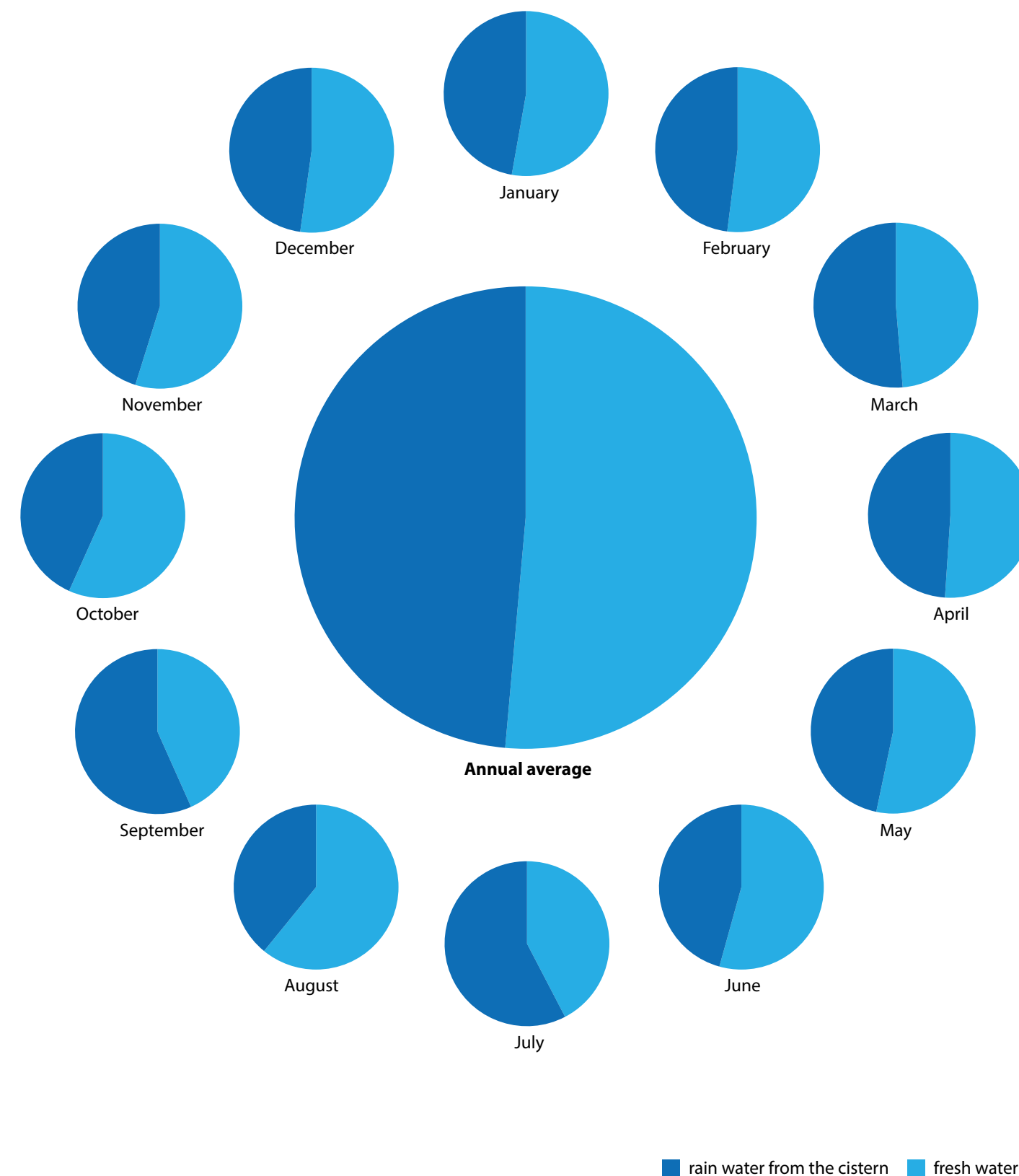
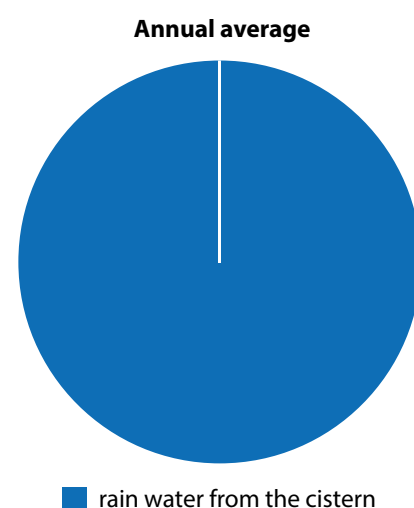
The court yard and parking of the company building are covered with Stuttgarter Sickerstein, i.e. open joint paving blocks. They allow rain water to seep away slowly into the ground. In case of excessive quantities of seeping away water through the open joint paving blocks there are additional infiltration ditches under the parkings. In this area the water running through the ditches is guided into the ground and added to the ground water.



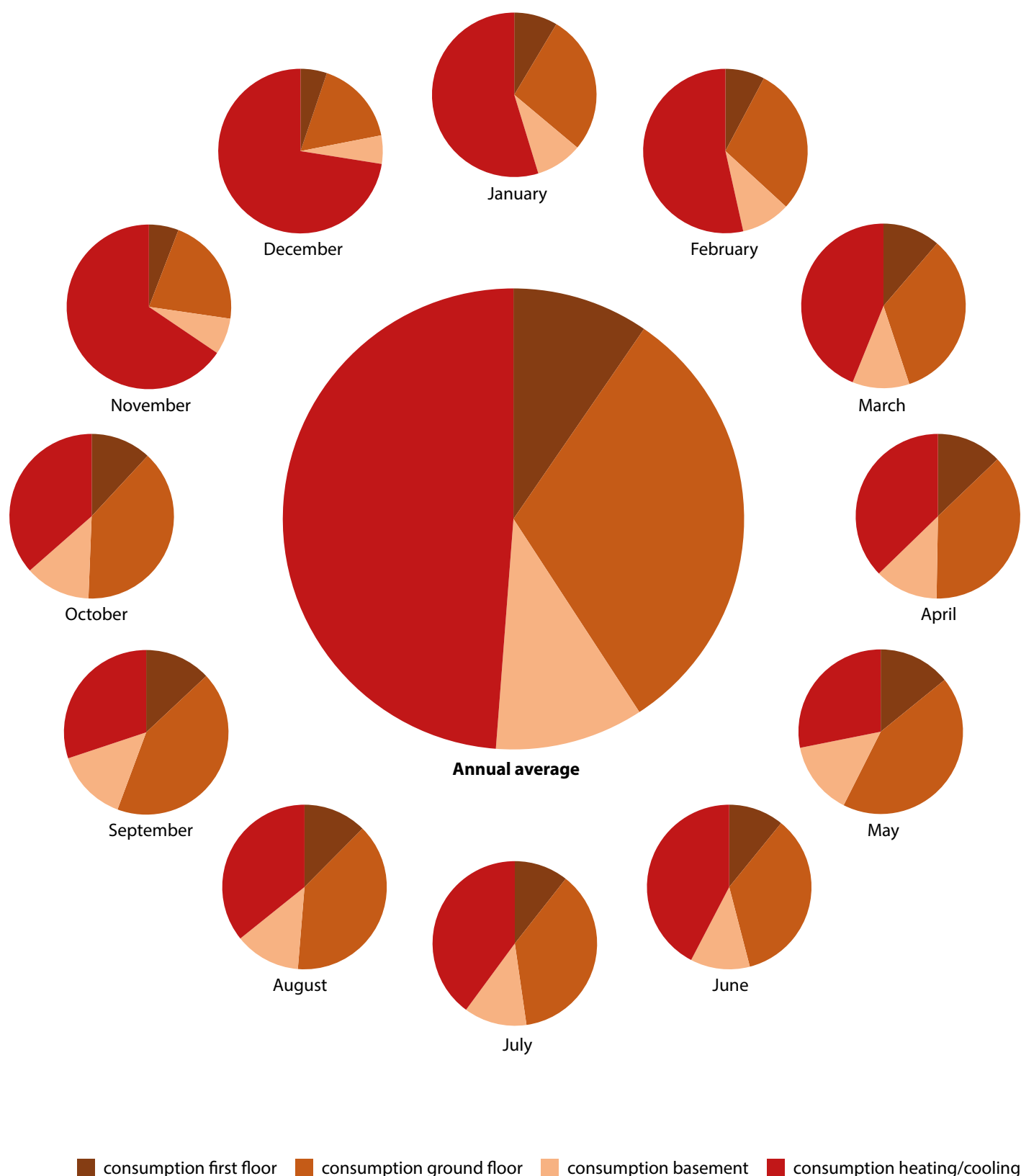
Rain water cistern (two times 5,000 l) prior to installation



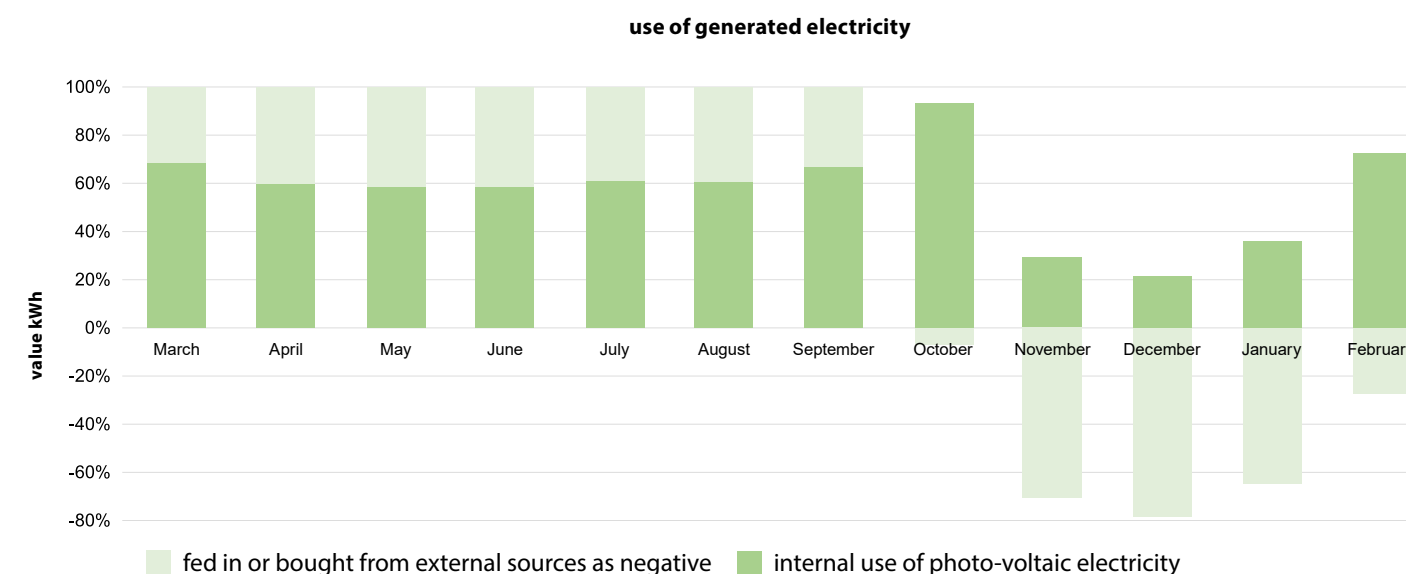
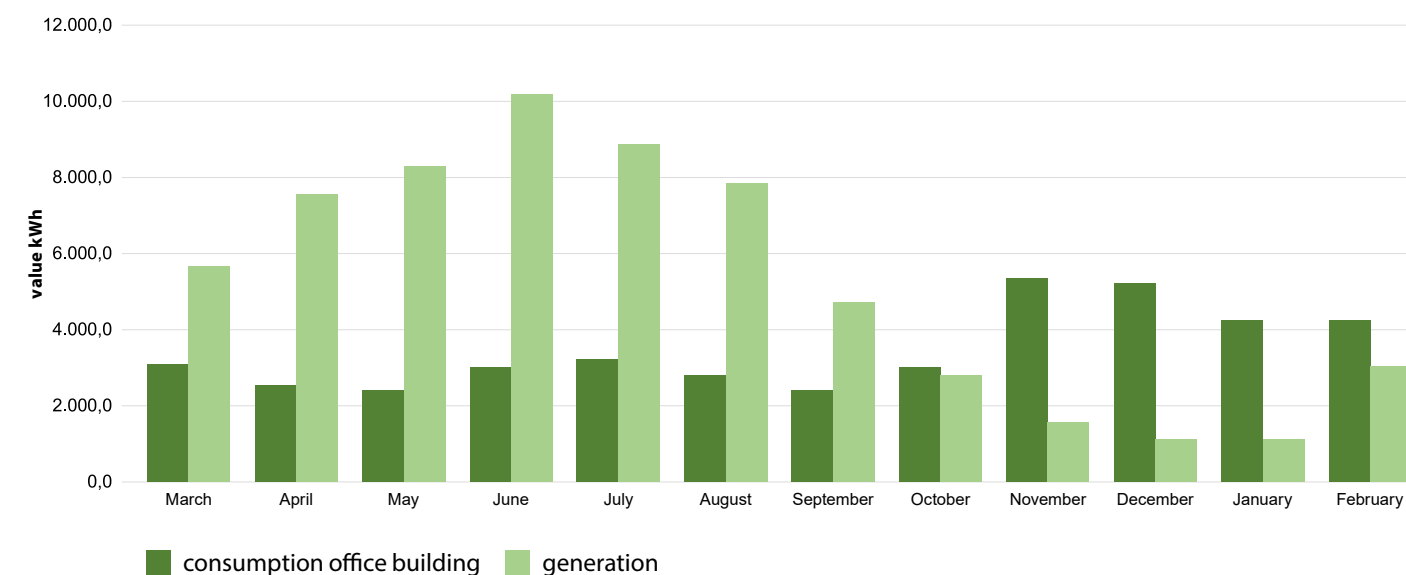
Rain water cistern after installation



ELECTRICITY EXCLUSIVELY IN THE BUILDING –



CLIMATE-POSITIVE



Following the first data recording further dial gauges were installed to enhance a more detailed recording and analysis. The analysis therefore starts from March 2019 on and ends in Februar 2020.

The building itself excluding test operations is climate-positive, as the excessive company-generated photovoltaic electricity is fed into the power grid.



PHOTOVOLTAICS – WORKS AND IS PROFITABLE

0% fossile fuels

47% photovoltaic-generated electricity of total building electricity

71% use of the electricity company-generated by photovoltaics (realised by east-west-orientation)

100% green electricity

ORIGIN OF ELECTRICITY FOR BUILDING AND BUSINESS OPERATIONS

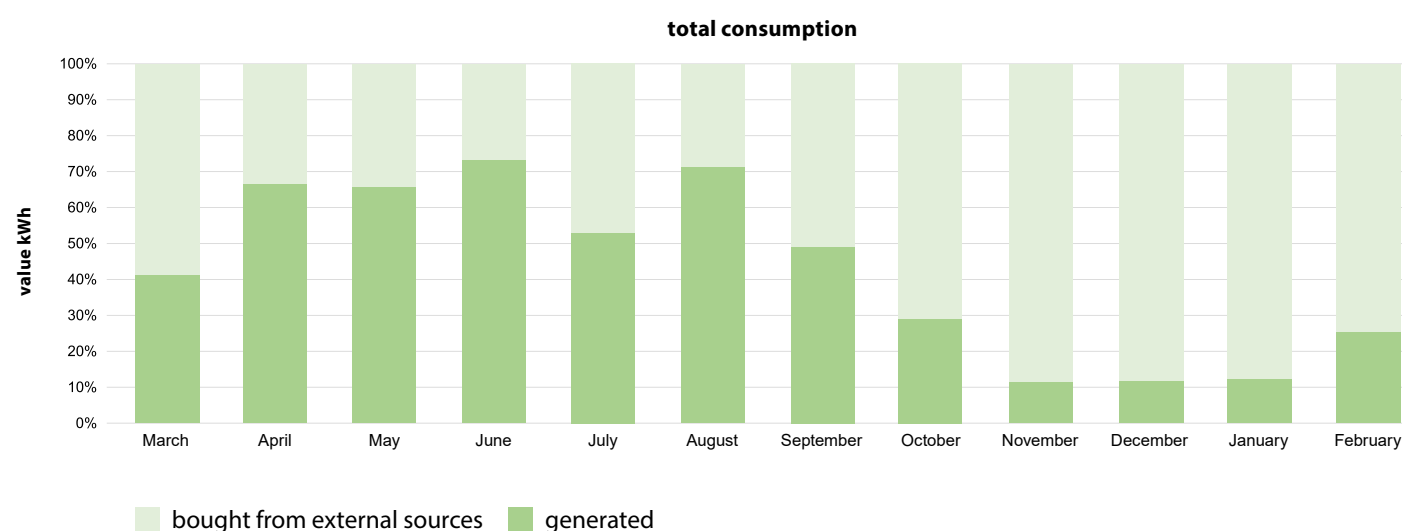
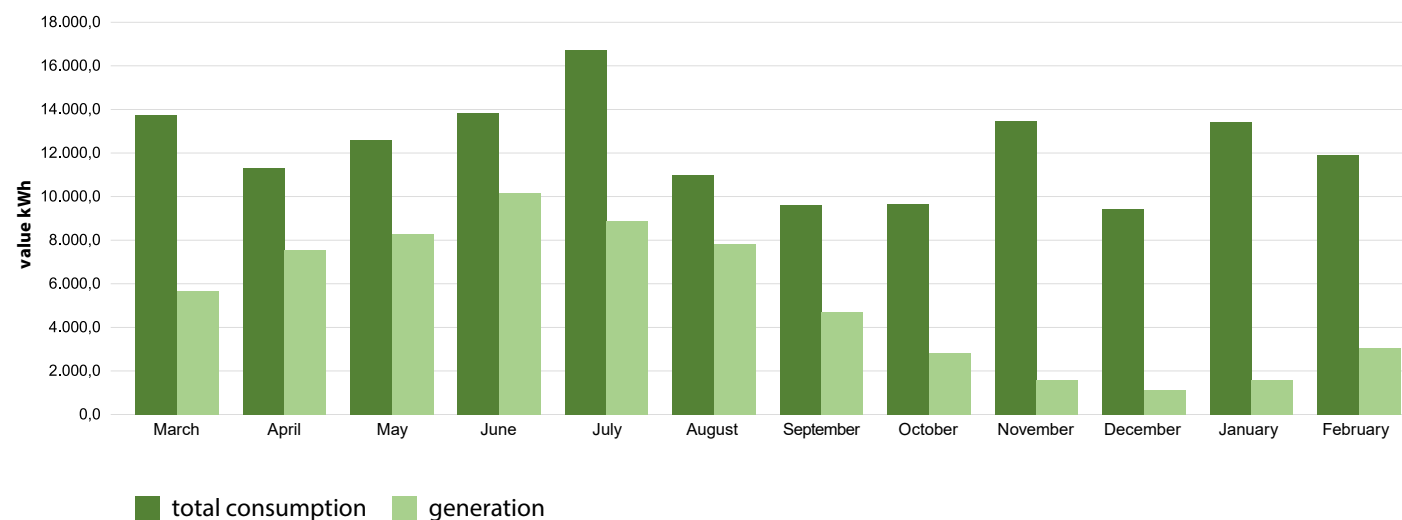
-32.5% operating costs per sqm building surface compared to the previous building



■ electricity from hydropower (bought from external sources) ■ photovoltaics

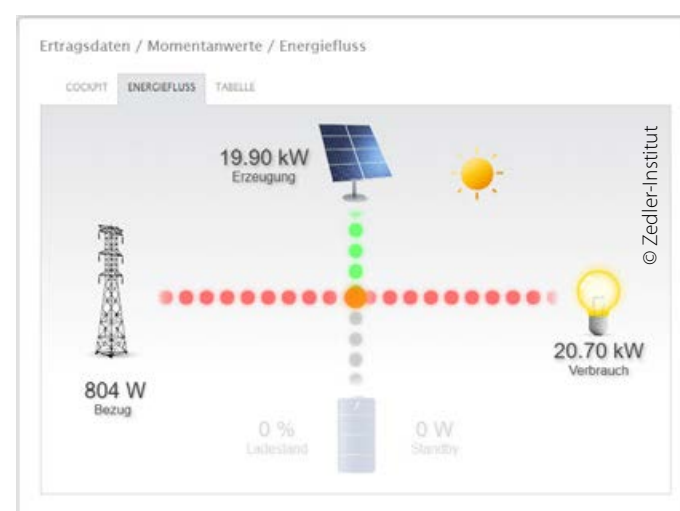
The photovoltaic system on the energy-efficient building of Zedler-Group directly before its completion.

The Zedler-Group: climate-neutral already today without trading of certificates

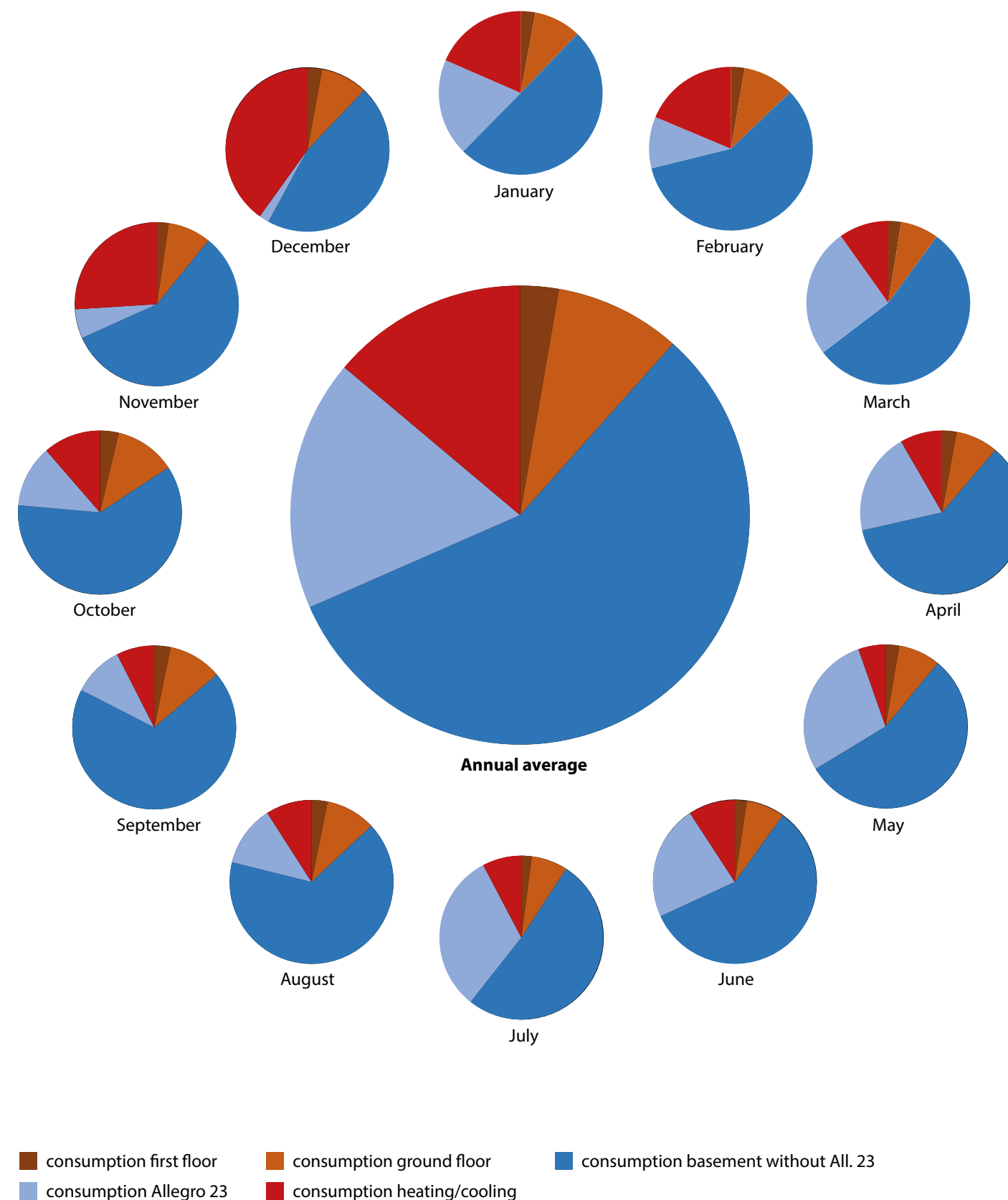


Following these first data recordings further dial gauges were installed to enhance a more detailed recording and analysis. The analysis therefore starts from March 2019 on and ends in Februar 2020.

The building including test operations and test laboratory with compressed air processing is climate-neutral, as the electricity required in addition during days with less sunlight and bought from external sources is also CO₂-free. It is obtained from the electricity plant EWS Schoenau generating their electricity mainly from hydropower.



OPERATIONS – CLIMATE-NEUTRAL



consumption first floor consumption ground floor consumption basement without All. 23
consumption Allegro 23 consumption heating/cooling

COMPRESSORS – LEAKAGES MINIMIZED

In performing our regular internal leakage detections by means of a specific ultrasound unit we were able to significantly reduce the leakages by about 90% with the initial scan of the network in the entire building alone.

Due to the fact that there are static as well as dynamic testing systems loosening in the compressed air system may occur during the test operations. For this reason this system is checked by employees every 3 months. The static ring line is checked every 6 months.

Compressed air check every **3 months**

Loss in the network less **10%**
(common value throughout Germany 15–80%,
source: Fraunhofer-Institut)

Compressed air supply with a central, higher-level control actuating the need-based or the individual torque-controlled energy-efficient screw compressor(s).

100% of controlled
compressed air supply.

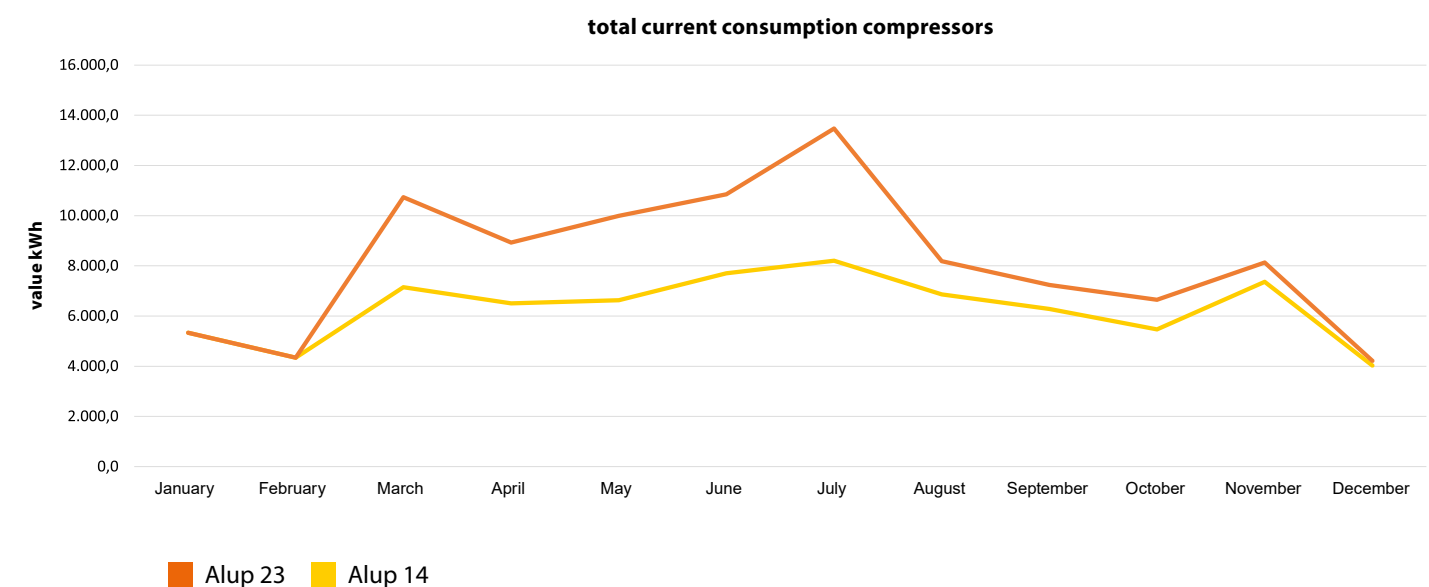
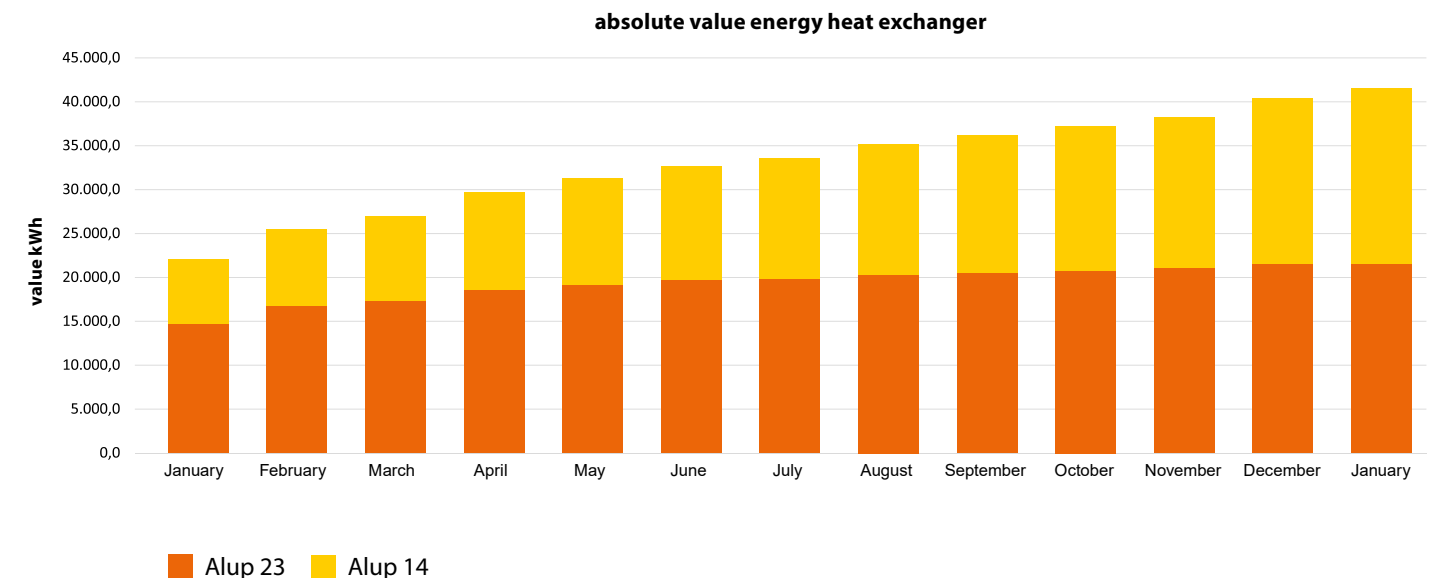
Savings of energy definitely great, however not quantifiable.

Heat exchangers cool down the compressors and heat dish washer and service water as well as the heating.

Up to **50%** of re-collected energy
during the winter months



COMPRESSORS – PROCESS WASTE HEAT USED



MILESTONES TESTING

1994

Construction of the first test stand for bicycles for TOUR – Europas Rennrad-Magazin Nr. 1 (Europe's road bike magazine no. 1), sparking off the stiffness tests for sports bicycles, coining the term STW (stiffness-to-weight factor).

1997

Development and use of zedler.de testing systems for the testing of bicycle frames made of carbon involved in accidents for the drawing up of expert's reports.

2002

Extension of the Zedler test laboratory by further test stands: fork stiffness, test stand frame precision, test stand hardness, roller type test stand.

2006

A new frame testing system measuring comfort is developed and presented in TOUR Europe's road bike magazine no. 1 thus changing bicycle development.

2007

Re-equipment and extension of the test laboratory of Delius Klasing Verlag (Europe's leading bicycle magazines) with zedler.de test stands.

2009

Extension of the production capacities for bicycle test stands due to an increasing demand for zedler.de test stands by customers in Germany, Europe, the USA and Asia.

AS OF 2010

Development and construction of dynamic testing systems as well as establishing and setting up of a large dynamic test laboratory for testing services for customers.

2011

TOUR – Europe's road bike magazine no. 1 perform seat post tests on testing systems in the lab of Zedler-Institut. Initial operation of further testing systems of the SAFETY series (fatigue (durability), impact (crash test) and overload).

2012

Development of specific pedelec testing systems. Completion and initial operation of further testing systems for luggage carriers and pedals. Extended service in the field of SAFETY testing services: Customers in the field testing services obtain Zedler-Institut test seals in the categories EN, Basic, Advanced and Advanced Plus.

2013

Extension of testing capacities by doubling the number of testing systems successively. Development of the block program: mixed Multiload tests for handlebars.

2014

Presentation of the new BCS-testing system. For the first time, the three major parameters of the riding behaviour in the case of a full-suspension bicycle chassis can be put into figures with one testing system. Initial operation of the first dynamic fatigue testing system for the overall system handlebar-stem and bicycle fork.

2015

The test lab of Zedler-Institut meanwhile comprises 37 static and dynamic testing systems that are in operation around the clock (24/7).

2016

From now on BIKE, Europe's mountain bike magazine no. 1, rely on the BCS testing system for the evaluation of chassis and affectionately call it Triceratops.

2017

The test lab space alone in the new company building of Zedler-Institut covers 600 sqm, including show lab.

2018

The 48 hour promise until test start is given

2019

Four test labs are fully equipped. The dynamic testing systems are available at least twice, most of them four-fold. 18 frames can be tested at the same time.



SOCIAL SUSTAINABILITY

Instead of Christmas cards and presents to business partners and customers we donate a considerable amount (at several times the costs of Christmas presents) to non-profit organisations every year.

In fact, Zedler-Group donate **10%** of their expected profit every year



Aktion Deutschland Hilft



Doctors Without Borders



Greenpeace



SOS Children's Village



Unicef



WWF



World Bicycle Relief

- » Since 2014 we have donated 30 Cent per kilometre cycled by the “Zedler team” at the cycle tours Ludwigsburg and Sachsenheim.
- » In 2014 10 bicycles that are especially designed for African conditions were financed and delivered.
- » In 2015 even 21 robust Buffalo bikes for Africa were donated.
- » In 2016 11 bicycles and numerous accessories were donated.
- » In 2017 another 1,100 € were donated the sum being doubled by World Bicycle Relief (on the occasion of a special action), i.e. as a result 16 bicycles and further accessories were donated in 2017 as well.
- » In 2018 and 2019 the “proceeds” were on a similarly high level.

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VOLUNTARY WORK



AGFK – Work Group Cycle and Pedestrian-Friendly Communities in Baden-Wuerttemberg e.V.; founding member promotion circle



BdFS – Bundesverband der Fahrrad-Sachverständigen e.V. (German association of bicycle experts); founding member and board



BVZF – Bundesverband Zukunft Fahrrad e.V.; (German cycle association); founding member and extended board



DIN – Deutsches Institut für Normung e.V. (German Institute for Standardisation); cooperation



DVM workshop Bicycles & e-bikes; member of programme committee



Chamber of Commerce and Industry CCI – Stuttgart; founding member of board of examiners “Bicycle mechanic”



Climate Alliance – City of Ludwigsburg; Cooperation at alliance of entrepreneurs

MEMBERSHIPS/PARTICIPATION



BVMW – Bundesverband mittelständische Wirtschaft, Unternehmerverband Deutschlands e.V. (German Confederation of Small and Medium-Sized Enterprises); membership and participation in research project “Der Mittelstand.Ressource” (Medium-sized companies. Resource) sustainability benchmarking for medium-sized companies



DGNB – Deutsche Gesellschaft für Nachhaltiges Bauen e.V. (German society for sustainable construction); member



UnternehmensGrün e.V.; member



VSF – Verband Service und Fahrrad e.V. (German service and bicycle association); supporter



Baden Wuerttemberg's WIN-Charta; signatory

MILESTONES JOURNALISM – LECTURES



1994

Start of cooperation with most important European bicycle magazine TOUR – Europe's road bike magazine no. 1.



fahrrad.markt.zukunft.
Die Messe rund ums Fahrrad

1998

Future-oriented lecture on the Product Safety Act, topic "Instruction – product safety" at the Fahrrad.Markt.Zukunft conference.



1997

From now on, consultancy contract with the German publishing house Delius Klasing Verlag, market leader special-interest bicycle magazines. At the beginning "bike" and "TOUR", lateron also "FREERIDE" and "Trekkingbike".



2002

Publication of the first edition of the second book "Das Rennrad im Selbstaufbau" ("How to assemble your road bike by yourself").



2001

The first edition of the first book "Die Rennradwerkstatt" ("Road bike Maintenance and Repair Manual") is published and turns out to be one of the most successful bicycle repair books on the market.



SINCE 1996

First article about safety deficits of bicycle components, many will follow.



SINCE 2010

Every year, several critical articles for the Eurobike Show Daily.



2011

Publication of the first edition of the third book "Die Rennrad-Werkstatt für Profis" ("Advanced Road Bike Maintenance").



2013

Consultancy contract is extended for newly published magazines "e-bike", "EMTB" and "Mybike" of Delius Klasing Verlag.



2017

Dirk Zedler is honoured for 250 series of the workshop section in the TOUR magazine



2020

Dirk Zedler presents four lectures at "Infotech" in Switzerland.

PROMOTING YOUNG PEOPLE

THREE FIRMLY ESTABLISHED PARTNERSHIPS

- » Uhlandschule (school for children with special needs),
- » Tobias-Mayer-Schule (common school) and
- » Anne-Frank-Realschule (middle school)

Set up of a bicycle workshop with equipment, tools and practice material at the charge of Zedler-Institut at the school for children with special needs in Marbach in 2013.

Operation of the workshop by a master mechanic cycle craft from the Zedler company together with the social worker of the schools once a week.



EDUCATIONAL PARTNERSHIP

With Lichtenstern-Gymnasium in Großsachsenheim – “Junior-Engineer-Academy”

Charity partnership with the Ludwigsburg cycle association RSC-Komet and Lichtenstern-Gymnasium in Sachsenheim. Both of them organise one cycle tour per year. We invite employees, customers and business partners to participate in these events and assume the costs of participation. The incurring participation fees as well as our additional donations are to support the youth work of RSC Komet and the high school.



SCHOOL CLASSES

Supervision of pupils in the introductory internships BOGY from high school and BORS from middle school.

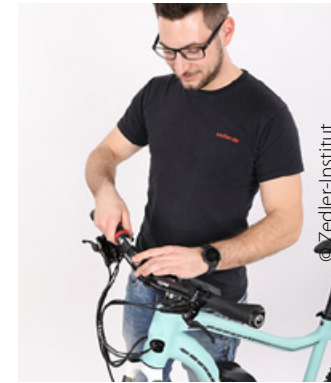
We frequently offer guided tours for school classes with the possibility to visit the workshop, the laboratory as well as the museum with the historical bicycles. We regularly welcome for example classes of bicycle mechanics of the professional training school BBW Waiblingen and of the vocational Heinrich-Kleyer school from Frankfurt/Main.

Furthermore, we always offer internships for pupils, apprentices and students.

MASTER SCHOOL

Two days per year Dirk Zedler is the lecturer of a master class at Bundesfachschule für Zweiradmechanik (federal school for two-wheel technology). The training days in Frankfurt/Main are held at highly reduced fees.

In addition, the masters to be get the opportunity on another date to attend three further special presentations at Zedler-Institut about the state of the art in testing technology. This date includes a visit of the bicycle museum.



TRAINING

Since 2004 we have trained young people in various professions. Currently we have one apprentice.

Training of bicycle mechanics, in most cases socially disadvantaged adolescents with special needs.

First company in Baden-Wuerttemberg to take on apprentices for the job as bicycle mechanics in 2004.

One of the first companies to take on apprentices for the job as two-wheeler mechatronic technicians, subject bicycle, in Baden-Wuerttemberg, in 2014.



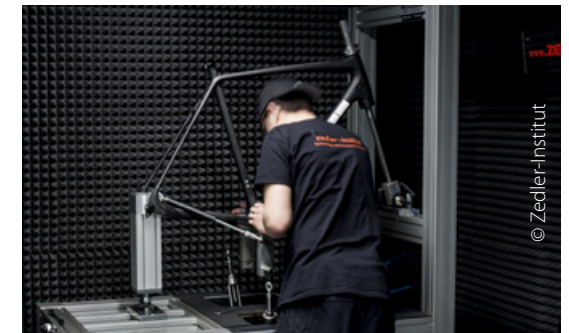
PLACE TO STUDY AT BADEN-WUERTTEMBERG COOPERATIVE STATE UNIVERSITY, STUTTGART (DHBW)

As early as in 2018 a further new training place was created.

Since autumn 2018, the team of Zedler-Institut has been supported by a permanently employed student of the study programme International Business at Baden-Wuerttemberg Cooperative State University, Stuttgart (DHBW). Among other things, she is responsible for the topics sustainability, the training and seminar area as well as for the catering of the events.

PROMOTING YOUNG PEOPLE IN GENERAL

In particular, promotion of socially disadvantaged adolescents with special needs. One of our educational partnerships is a school for children with special needs and one of our employees graduated from such a school. We offered him an apprenticeship, accompanied him to a successful exam and employed him as an assistant to technology. And what is more, he makes a great job in his field.

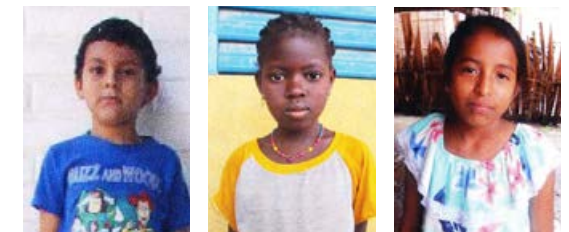


SPONSORSHIP OF CHILDREN

Sachverständigenbüro für Fahrradtechnik Zedler has sponsored godchildren since 2005. Currently, this is Edgar from El Salvador.

Zedler – Institut für Fahrradtechnik und -Sicherheit GmbH has supported godchildren since 2010. At present, this is Rasmata from Burkina Faso who obtains support.

Gesellschaft der Fahrrad-Sachverständigen mbH (GDFS) has supported our godchild Milady from Ecuador since 2016.



SOCIAL CORPORATE MANAGEMENT

FAIR TERMS

All employees are permanently employed on fair terms. Temporary work contracts, temporary employment agencies etc. are no alternative for us.

PART-TIME EMPLOYMENT

Since the foundation of the company we have offered part-time jobs to make it easier for job-returnees to re-enter into working life.

WORK PLACES

All office work places have meanwhile been equipped with two low-radiation monitors. Bright work places with many plants and mainly real wood desks ensure an agreeable working climate.

PROTECTION

There are extensive personal protective equipment and other auxiliaries (sack truck, lifting carts etc.) available for the daily work routine in the test laboratory, to reduce physical stress or health risks as far as possible.

All laboratories are noise-damped with targeted noise prevention measures.

The involvement and further training of employees into the work organization, into ergonomics and process planning as well as into worker and health protection in order to meet the individual needs and to enhance the motivation go without saying in our company.



Sick notes of our employees,

no more than **3.75 days**
(German average: 10.6 days, source: destatis.de)



BARRIER-FREE AND DISABILITY-FRIENDLY

The building was designed in consideration of barrier-free and disability-friendly aspects. This includes among other things the lift with disabled access, the barrier-free hallway and a barrier-free toilet.

ERGONOMICS

One of our employees is permanently further trained in the field of ergonomics and ergonomic work place design and implements the gained findings in the company.

High-quality furniture and the possibility of changing again and again between various seats and standing positions are inherent component of our work place.

HEALTH

Zedler-Group has long since attached great importance to promoting cycling. Change rooms, shower facilities, corporate towels and a drying room have been provided for quite a long time. The new water dispenser as well as the coffee machine are available for free to all employees.

No temporary workers

Wages clearly **above minimum wage**

No temporary work contracts



EMPLOYEES

PROPORTION OF WOMEN

We do not need gender diversity or other buzz words. Women and men have always been welcome on equal terms as employees and as apprentices. Currently 12 of the 26 permanently employed team members are female.

RELIGIOUS DIVERSITY

At Zedler-Group Protestants and Catholics as well as Muslims, members of the free churches and atheists work constructively together.

AGE STRUCTURE

The age structure at Zedler-Group is as shown on the right. The high columns are due to a few long-term employees who have reached a respective age as well as to various students who were taken over following the successful completion of their bachelor/master theses.

This structure also reflects the average period of employment.

PERIOD OF EMPLOYMENT

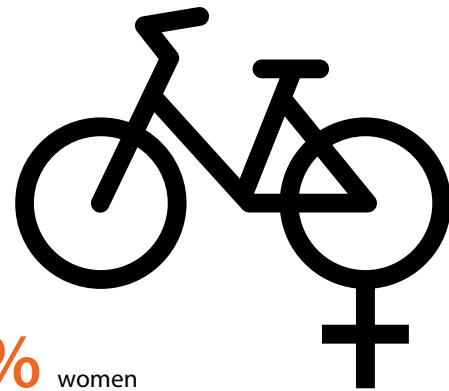
The average period of employment of the present employees is 6.77 years.

This rate is however not higher due to the considerable growth of the company in particular in the past 10 years, as the team was joined by a few new colleagues. Many of them are bachelor or master students who had written their theses at Zedler-Group before.

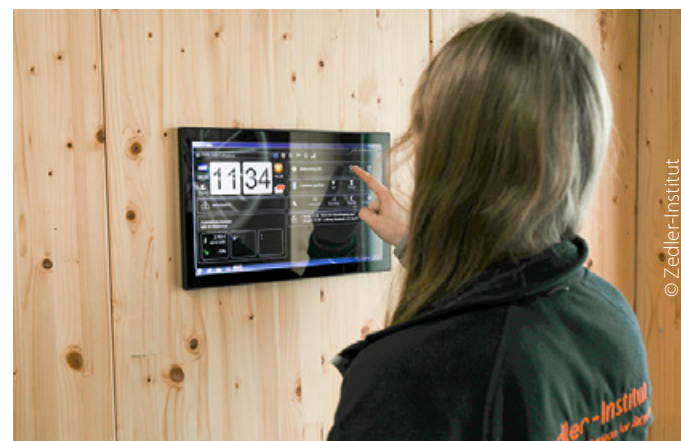
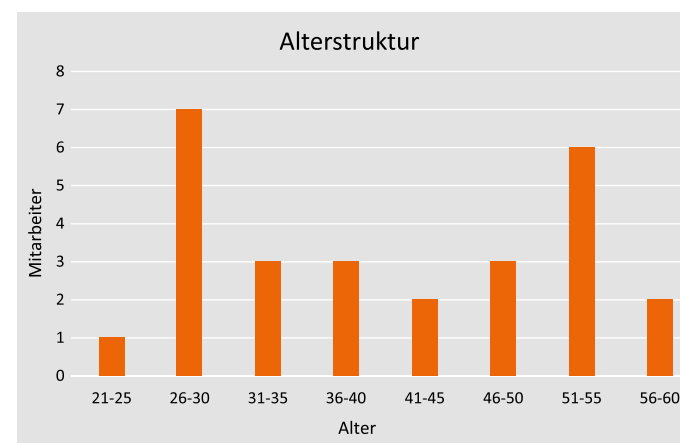
INFORMATION OF EMPLOYEES

Visualisation for all employees and visitors with direct access to the company computer mounted close to the entrance. It displays the regularly updated data relating to energy consumption and generation as well as the water values and information on waste and recycling. In addition, the relevant facts from the monthly evaluated data recording are communicated regularly.

- » Smarthome
- » Data recording
- » SolarLog



46% women



OFFICE OPERATION

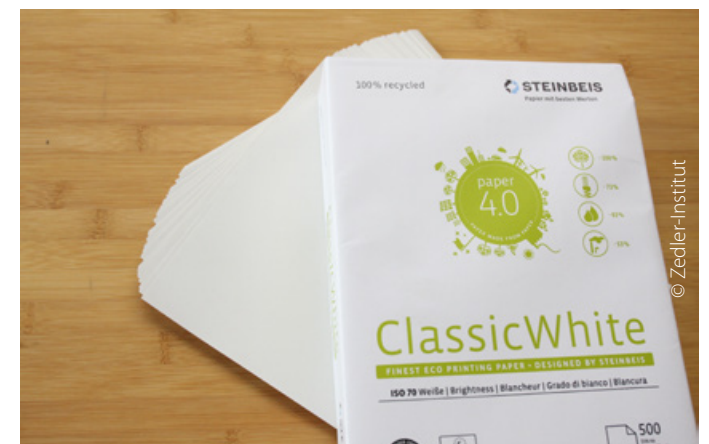
MATERIAL CONSUMPTIONS

No purchase of cardboard cartons since the foundation of the company. We re-use cardboard boxes of the shipments received as well as used excess cardboard boxes of the bicycle retailer in the vicinity.

PAPER

We have been promoting the paperless office with customers and partners, e.g. insurers in the expert's report department, since the beginning of the technical possibilities. Today, 98 % of the correspondence is conducted electronically. Necessarily, one exception are the expert's reports for the courts.

- » Recycling paper
- » FSC-paper
- » Double-sided printing: if printing at all, efficient paper use is standard in our everyday routine in the office. Misprints from forced one-sided printings of expert's report for the courts are re-used by us as scratch paper.



98% of electronic correspondence

0% of additionally purchased packagings

Climate-neutral dispatch with DHL



MILESTONES TECHNICAL DOCUMENTATION

1995

First and at the same time trend-setting user manual. Concept, photography and texting by Dirk Zedler.

1997

First customers from other European countries order user manuals.

1998

Lecture about user manuals and liability "Instruction – product safety" at the fahrrad.markt.zukunft. conference.

2002

First steps to build up a pool of translators with a high affinity to bicycles for the common European languages.

2006

From now on, the technical documentation department accompanies recalls and draws up relevant documents in several languages.

2008

The language offer becomes exotic: the 16 languages offered include among others Arabic, Chinese, Japanese and Korean.

2009

German product testers (Stiftung Warentest) test 14 bicycle user manuals (test 05/2009):
4 x VERY GOOD –
of these 3 from Zedler.de
3 x GOOD –
of these 1 from Zedler.de
7x SATISFACTORY –
of these 0 from Zedler.de

2010

Development of the modular user manual system: The customers can choose between Basic, Brand Basic, Individual and Premium manuals.

2012

The regular customers ordering user manuals from Zedler-Institut include more than 100 bicycle brands and component manufacturers.

2013

The user manual offer meanwhile comprises more than 30 languages for customers worldwide. Supply of the one millionth Basic and/or Brand Basic manual.

2014

Extension of the portfolio to the needs of pedelecs and bicycle fleets. Risk analyses, declarations of conformity and type plates complete the portfolio.

2016

Pedelec accompanying documents pass the tests by the trade supervisory authorities and comparable authorities repeatedly without initial suspicion, not only in the D-A-CH-region, but also for example, in France and Poland.

2018

The Stiftung Warentest balance remains flawless. Since 2009, the manuals made by Zedler-Institut have been rated 5 times "very good", 9 times "good" and only once "satisfactory". None of the manuals was rated "adequate" or worse.

2019/2020

FSC-paper for all customers as standard

WASTE MANAGEMENT

Sorting by type into the collection waste containers of external disposal companies (cardboard/paper container, organic waste collection bin, Ludwigsburg's "round" and "flat" waste collection bins, separate containers for alu scrap and steel chips as well as further waste metals, glass, electronic scrap, batteries)

Sorting by type for a reasonable recycling



Emptyings		2017 (from 08/2017)		2018		2019	
Waste containers	Litres	Emptyings	Litres	Emptyings	Litres	Emptyings	Litres
Organic waste	60	17	1020	34	2040	25	1500
Residual waste	120	14	1680	21	2520	13	1560
Waste paper	1100	2	2200	26	28600	26	28600
Total	1280	33	4900	81	33160	64	31660

FLACH

Das darf rein:

- Briefumschläge (Info: Umschläge DIN A4 werden gesammelt und im Gutachtenarchiv verwendet)
- Kunststoffen
- Verpackungsfolien (außen)
- Plastikteilen
- Styropor

Info: Bäckertüten werden gesammelt und als Biomüll genutzt.

RUND

Das darf rein:

- Kunststoff- und Getränkeverpackungen
- Shampoo- und Spülmittelflaschen
- Getränkeflaschen
- Joghurt-, Sahne- und Quarkbecher
- Vakuumverpackungen
- Kartondeckungen von Milch, Saft oder Tomatensäften
- Verpackungen von Butter, Kaugummi
- Verpackungen (Schmierung)

Info: Verpackungen sollen leer oder löfelfrein sein - nicht extra ausspülen. Nicht in Plastiktüten verpacken.

GLAS

Das darf rein:

- Einwegflaschen
- Konservengläser
- Sonstige Verpackungsgegenstände

Info: Glas sollte leer oder löfelfrein sein und ohne Deckel. Behälter stehend sammeln.

ALTPAPIER

Das darf rein:

- Shredderpapier
- Kartons (verbraucht)
- Schachteln (verbraucht)
- Wellpappe (verbraucht)

Info: Sammlung noch verwendbarer Verpackungsmaterialien in der Warenwirtschaft.

BIOMÜLL

Das darf rein:

- Gemüse-, Salat-, Obstabfälle
- Eier- und Nusschalen
- Kaffeebohnen
- Teebeutel
- Pflanzen-, Gras- und Heckschnitt
- Laub- und Unkraut
- Speisereste (roh und gekocht)
- Käse-, Fleisch-, Wurst- und Fischreste
- Brot- und Backwarenreste
- Papierküchentücher, Handtücher, Taschentücher, servietten

Info: Nicht in Plastiktüten verpacken. Stattdessen alte Bäckertüten sammeln und für den Biomüll benutzen.

METALL ALLGEMEIN

Das darf rein:

- Konservendosen
- Leere Spraydosen
- Deckel
- Stahlisoliert
- Metallspäne

RESTMÜLL

Das darf rein:

- Klebricht
- Staubsaugerbeutel
- Porzellan und Keramik
- Spiegel
- Kaputtes Spielzeug
- Musik- und Videokassetten
- Glühbirnen
- Zigarettenschalen (ausgeglüht)
- Textilien und Schuhe
- Tapeten
- Kassettenkassetten
- Ordner und Bücher mit festem Einband

ALU
(keine anderen Metalle)

Das darf rein:

- Alufolien
- Aluspäne
- Alulegen

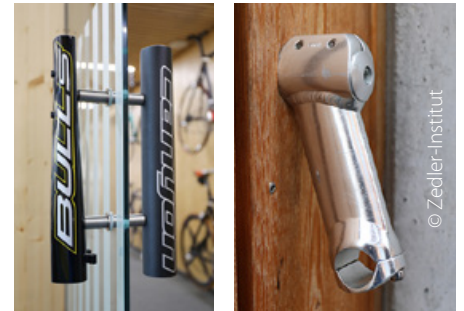
GESONDERTE SAMMLUNG

Das wird separat gesammelt:

- Elektroschrott (Recycling-Station)
- Reifen und Schläuche (Recycling-Station)
- Batterien und Akkus (Fahrradwerkstatt)

UPCYCLING

With creativity and technical skills useful things (or is this already art?) can be created from bicycle components which not only fascinate bicycle enthusiasts. In our company building we refrained from buying door handles, coat hangers, toilet paper holders, pen holders, towel holders, watches and key tags and made them from bicycle components. This not only saved resources and energy in our company, but has meanwhile fascinated many hundreds of visitors in the building and in particular in the seminar area and inspired them to copy. Instead of disposing of irreparably damaged bicycle components (some of which are made of non-recyclable carbon), we re-use them.



MILESTONES OF EXPERT'S REPORTS

1993

Foundation of Ingenieur- und Sachverständigenbüro für Fahrradtechnik in Ludwigsburg.

1994

Dirk Zedler is publicly appointed and sworn in as bicycle expert by the CCI Stuttgart.

1997

Development and use of zedler.de testing systems for the testing of bicycle frames made of carbon involved in accidents for the drawing up of expert's reports.

2000

Courts from the Higher Regional Court Hamburg to the District Court Schoenau (Blackforest), from Regional Court Saarbrücken to the Higher Regional Court Dresden commission Dirk Zedler to draw up expert's reports.

2007

The archives comprising data on department store bicycles exceed the number of 10,000 data sets.

2008

The Expert's Report division draws up more than 400 reports on material failure, accident reconstructions, motor and personal liability claims as well as household claims (burglary/theft).

2013

The Expert's Report division with four experts draws up more than 750 reports for courts, lawyers, insurers, companies and private individuals.

2016

The foundation of GDFS – Gesellschaft der Fahrrad-Sachverständigen mbH accounts for the growing division and the growing number of team members.

2017

The explosive order growth calls for raising the profile. "Simple" expert's reports with claims less than 2,000 € are mainly replaced by telephone consultation to regain capacities for material analyses, accident reconstructions etc.

2014

The public appointment and swearing in of Dirk Zedler is extended upon another examination by the CCI Stuttgart to the field of electric bicycles.

2018

Expert's reports ordered on material failures with severe consequences of accidents placed from Israel, all over Europe and the USA are daily business for the bicycle experts.

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OUTLOOK

In practise, everything is actually “done” for us: With a climate-positive building including the aim of achieving the platinum DGNB e.V. certification, in fact climate-neutral business operations we have overfulfilled all postulated targets of politics and industry since quite a long time.

Nevertheless, we intend to realise internal improvements. These are mainly documentary improvements. That is to say we will lay down bindingly the rules already in place for all employees in the weeks to come. These are in detail the purchasing guidelines subdivided in consumables and investment goods as well as the materials management of each work place and the central collection place.

In the energy management we will push further the

manufacturers of the heating, ventilation and compressor components to achieve still better results for the coordination of the different technical systems. Respective dates for a mutual coordination have already been made, one of the targets has been established.

From now on we will issue a monthly internal newsletter to improve the communication with the employees. This newsletter will mainly deal with the sustainability topics.

With the additional dial gauges installed in December 2019 we will be able to analyse and report in a still more precise way.

The sustainability report 2020/2021 will then be established on the basis of an internationally recognized framework.



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zedler-Gruppe
Technology and Passion for Bicycles