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SUSTAINABILITY REPORT 2018

FAMILY BUSINESS SUCCESS FACTOR

FAMILY BUSINESS SUCCESS FACTOR

SUSTAINABILITY IN PRACTICE 2018



The substantial core of sustainability involves acting and working in such a way that the economical, ecological and social fundamentals of life remain for future generations.

Witzenmann, like many family-owned businesses, has taken this motto to heart.

Past, present and future

Shaping the future and family history is closely interrelated in a family business. Experiences and values are transferred and perpetuated. This forms the foundation for reformulating strategies and adapting the company orientation in context time and again.

Hence, the permanent idea was already established with the founder, Heinrich Witzenmann, – without him having even described it as such at that time. For him it was simply a matter of replacing the fast-wearing fabric hoses used for sprinkling the dusty streets by considerably more sturdy and durable metal hoses. Later it was then the invention of the expansion joint that increased the operational reliability of pipelines significantly.

Today, we develop and produce components for regenerative energies. With our piping systems we are represented in alternative drive forms, such as e-mobility.

We utilise the opportunities of digitisation

Our ideas: Intelligent IoT- expansion joints (Internet of Things) should ensure optimised running times in industrial plants. All these applications are characterized by continuity and long-term strategic orientation.

Family businesses such as Witzenmann are thus ideally prepared for the future

In this report, we study the driving forces for our sustainable development. Yesterday, today and tomorrow

Witzenmann was and is about:

- personalities
- expertise
- decisions
- learning

Dr. Andreas Kämpfe
Chairman
of the Board

Philip Paschen
Dipl.-Ing./
Dipl.-Wirtsch.-Ing.,
Managing Director

Dr. Gerhard Flöck
Managing Director

Dr. Eberhard Wildermuth
Managing Director



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SUSTAINABILITY REPORT 2018

FAMILY BUSINESS SUCCESS FACTOR



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VISIONS

A number of characteristics makes up the personality of a person. These include temperament, intelligence, creativity, power of persuasion and assertiveness. The personalities in the company are always characterised by their foresight.

PERSONALITIES



PERSONALITIES

In 1854, the trained merchant Heinrich Witzenmann together with Louis Kuppenheim opened a jewellery factory on the market square in Pforzheim. He operated this with some success because he was always working on new processes and machines with his friend and business partner Eugène Levassieur.

From the basic production principle of the goose throat necklace the two partners developed the flexible metal tube, which they registered for patent approval in 1885 and thus founded an entirely new industrial sector.

The flexible metal tube became his life's work

Heinrich Witzenmann was already 60 years old when he decided to give up his

successful jewellery manufacturing business to concentrate on a completely new business segment.

Additional inventions followed. His spirit and attitude are still cultivated in the group of companies to this day.

His sons, Emil and Adolf Witzenmann, managed the company as he would have wished and shaped it with their personality.

New beginning

In the postwar years, the sons of Emil Witzenmann, Herbert and Walter Witzenmann, took over the task of rebuilding the destroyed flexible metal tube factory. Active in the board of management since 1938, it was new inventions and patents that assured the continued

existence of the company. Within three decades they managed to establish Witzenmann as a medium-sized company and global brand.

International partner

The decision to develop a globally active group of companies was made in the early 1970's under the management of Walter Witzenmann the grandson of the company founder. Today, the Witzenmann Group has 24 sites worldwide with more than 4,600 employees. The fifth generation of the Witzenmann family is active in the Executive Management and Supervisory Board. The continuous and sustainable growth confirms the sustainability of the decision to become international.

Heading to new markets

Even today the company is facing a great change once again. Digital transformation, increasingly customized products and changed drive technologies in the automotive industry all demand answers, which will guide the company safely into the future. The Managing Directors of the Witzenmann Group have recognised, among other things, the significance of the digital transformation and have initiated an extensive change program in this area.



Interview with Managing Director Philip Paschen

A LOOK TO THE FUTURE



Shaping a family business into a global group, which on the one hand is modern and professional, but on the other hand preserves its humaneness – that, in my opinion, is something visionary in this day and age.



What is special about family businesses from your point of view?

In the first place, they think more on a long-term basis than many companies. Short-term profit is at not at the core of the company's purpose. Investments take more time to develop. Family businesses possibly take fewer risks as well. This does not necessarily have to be negative, however. Family businesses have an aversion to risks in a positive sense.

Family businesses distinguish themselves by often having a distinct business culture over long periods of time. This is sometimes not immediately accessible to outsiders. They are

also certainly more strongly oriented towards people and employees than group companies. And finally, we can observe many characteristics and behavioural patterns that we can also observe in our families.

For this reason, some family businesses have started family academies. This strengthens solidarity as well as competence as shareholders. Hence, the disputes in family businesses are one of the greatest destroyers of values in German medium-sized companies. For this reason, active "management" of the family is becoming increasingly important.

Please outline the importance of the owner family particularly with regard to the imminent challenges.

The family is aware of the fact that the Witzenmann Group is facing a major turning point.

Supervisory boards, advisory boards and shareholders are particularly important in phases involving major changes.

Shareholders and supervisory boards must be active especially in such times. We have often been very successful with this in the past. During its 165-year history, the company has already

proved a number of times that it can withstand major changes. That was initially the step from jewellery production into industry and then the development to the production of automotive components.

The board of management has been commissioned by the family to make the company fit for the future. The family is primarily keeping an eye on the future generations. It expects strategic plans and programmes on the main challenges, e.g. regarding the issue of E-mobility or digitisation. The current developments in the company are vitally important for the family. Almost more important, however, is the question as to whether or not we are prepared for the challenges that will face us in the future.

Since about 2015, the family has been conducting a vigorous discussion on the direction of our company – also with regard to our 165-year company history – that always comes to mind.

Our family is active and is initiating changes; and that is – alongside all the work involved – good for us – good for Witzenmann.

Are there – in a family business perhaps to some extent – things that are not up for discussion; "irrefutable matters"?

Since family businesses are generally a very distinctive business culture, this often exists. Long-term thinking probably applies to most family businesses. Likewise, the viewpoint regarding the company. It is usually more than just a source of income, but – this possibly

sounds a little strange – a family member that also sits at the table during dinner, for example.

One of the most deeply-rooted values in the DNA of Witzenmann certainly includes customer focus. It is written on page 14 of our corporate mission statement. We want to offer our customers intelligent and superior solutions. Anyone in contact with any kind technology group might possibly experience what the opposite to our approach is.

The positive image of the family business is linked very strongly to traditional values: On the other hand, if the family image changes in the present day society and in the world of work, one tries to meet the challenges with parental leave and flexible working-hour models. Is a family-run business nostalgia or a vision for the future?

A family business with German roots is something unique in the world. And it does not exist everywhere in this form. Family life and a company that aims to make profits – these are two different worlds for one thing.

The German middle class with its high identification of a family with a company is unique in the world.

The model family business has proven to be astonishingly robust compared to large corporations for centuries. There are – not many, but they do exist – family businesses that are even older than Witzenmann. Family businesses – like all businesses – must change, however, in order to continue to exist. At the same time, the culture is also changing.

Thirty or forty years ago people worked very differently than today. Even at Witzenmann. In this respect, the desire that everything should be as it was earlier is nostalgia, of course. However, this is also part of the Zeitgeist because we are living in a time, in which it is not quite so clear how the world will look tomorrow: politically, socially as well as in the area of technology. We have to take peoples' aspiration for safety and perspective seriously. For this reason, we will change some things but not everything. As long as we are a family business, we will not do anything to change our values laid out in our guiding corporate principles.

How informal can a company be? Which attributes are beneficial or obstructive?

Family businesses are set up very differently indeed. These range from companies, in which the patriarch makes every decision, to family businesses that are organized in holdings. In holdings, the family has withdrawn from operative affairs and has left the management to external professionals. A lot also depends on the size of the company, of course. In a company with 30 employees, people go skiing together with the bosses – the hierarchies are very shallow. One is unpretentious and not vain. In my opinion by the way, this is also what makes start-up companies, which function in a similar manner, so appealing among other things. At some point, however, it is no longer tenable. In place of the single boss, guiding principles or mission statements appear, which should preserve the character of the family business. →

If this is successful, family members do not even have to be active in the company to ensure that a family business remains a family business. Such companies often have family members in supervisory boards or advisory boards. This is currently the case at Witzenmann – here they meet various family members who are not involved in the operative side of the business, however.

According to my own observations, it is important for every shareholder to always first have the opportunity to participate in family businesses. In the family business it makes no difference whether they own 1% or 10% of the company – this is unimportant within the family at first. Counterexample: a corporation. Here, the small shareholder is often a disruptive factor, who asks questions at the general meeting, which the executive board only reluc-

tantly answers. This cannot be compared with family businesses. Anyone who wants to participate generally can as well.

The important question is, who can participate in the family business. Smart family businesses do not exclude anyone.

There are successful family members in family businesses who have done something completely different at first in their education and only find their way later into the family business. They then appear to be rather inclusive here towards the employees, who generally identify themselves strongly with the family. Thus, family members possibly also compensate for anything they are initially lacking in adequate training.

How difficult was it for you to decide to join the family business?

I know many owners from other family businesses. It is not as easy as one might possibly imagine. I had other vocational plans originally and I actually wanted to stay in the company for about two or three years.

I realise today that this was exactly the same for very many employees in the company. The Witzenmann family business must have something special that makes us want to stay a long time. I would like to keep that certain something in the family so that Witzenmann continues to be a good employer for its staff in the future as well. It is also important to us that Witzenmann is a "good citizen" towards the Pforzheim community. This also means that we meet the current challenges and make ourselves fit for the future. This is exactly what we are currently doing.

WITZENMANN WORLDWIDE



1854



Vision of a metallic pipeline

- 1885 invention and patent application of flexible metal tube
- 1889 another flexible metal tube in a second wound design
- 1894 patent application of metal traced hose

1999



Vision of Witzenmann in Asia

The business was increasingly extended. After India, followed China, Korea, Japan ...

2025



Vision of a worldwide operating group with 1 billion Euro turnover.

"A visionary looks past the present in a dreamlike trance." Willy Meurer, aphorist and publicist, M.H.R

1971



Vision of Witzenmann in Europe

The automotive industry gave the impetus for founding Witzenmann subsidiaries throughout Europe.

2000



Vision of Witzenmann in America

After jumping across the big pond, Witzenmann was now represented in the USA as well and thus in all relevant automotive markets.

AREAS OF COMPETENCE

The indisputable basis of a company is its expertise and it grows with experience. Solutions for ever new challenges arise upon this basis. Expertise combines experiences and innovation. This is particularly noticeable in the field of energy.





1970s

Program technical building equipment (TGA)

- Residential building ventilation
- Heat exchangers
- Gas hoses
- Fire protection

2009

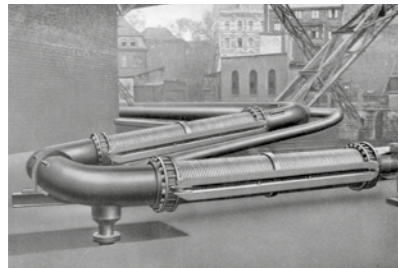


CERN

The special feature of these specially developed expansion joints: absolute tightness and high flexibility at temperatures near absolute zero (minus 272 °C).

“Energy is never lost.” Hermann Ludwig Ferdinand von Helmholtz, Germany physicist and physiologist

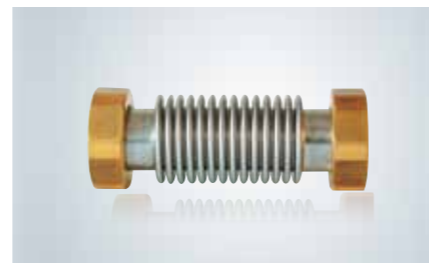
1921



Flexible metal tube district heating expansion joint

Diameter 25 cm, wall thickness 4 mm. Maximum “outward bend” from 25 cm at an overall length of 2.5 m

1990s



Regenerative energies

Flexible connecting element between the solar panels for compensation of thermally induced movements. Minimum service life: maintenance-free 20 years.

2015



Experimental reactor Wendelstein 7-X

400 different components (bellows and hoses) made of all sorts of materials. All surfaces must be absolutely clean and free from the smallest cracks, pores or tarnishes.



ENERGY



Emil Witzemann
Managing Director
1890–1944

At the start of the 20th century, Emil Witzemann followed in the footsteps of his father, Heinrich. The invention of the double-walled, welded flexible metal tube (1909) and flexible metal tube expansion joint opened up new opportunities in industrial piping engineering. This includes, among other things, the compensation of large thermal expansions in district heating pipelines.

The issue of energy is still an important business segment for the Witzemann Group. Flexible, metallic components perform valuable services in solar thermal power plants, in tidal power stations or off-shore wind farms.

The CERN research centre near Geneva, the German electron synchrotron of the Helmholtz community in Hamburg, the Wendelstein 7 X test reactors at the Max-Planck institute in Greifswald and ITER in Cadarache France serve basic research in physics. One of the distant goals is power generation from fusion energy. In all these research facilities, the Witzemann group makes a valuable contribution with specially developed and assembled components as well as its valued technical expertise in the field of science. Just as Emil Witzemann opened up new fields of application 100 years ago, this still continues to this day.



DECISIONS

Anyone who runs a business is subject to constant change. It is constantly necessary to encounter all sorts of changes and to recognise them as a challenge. Decisions must be made regardless of the type of changes. We demonstrate this in the field of mobility.

||| MOBILITY |||||

|||||

MOBILITY

The components of Witzemann ensure safe, comfortable and environmentally friendly mobility. Today, the automotive components business division with a 50% sales share of the group sales turnover is a supporting pillar of the company's success. The business relationships to the vehicle industry go back a long way to the beginnings of the flexible metal tube factory in Pforzheim.

Today, the Witzemann Group has become the global market leader for flexible metallic elements and the preferred development partner in the automotive sector. This success story was ushered in by the decision at the beginning of the 1990s, when the automotive components business division was launched under the management of Walter Witzemann.

From the outset, the group concentrates on customer and market-oriented production in Spain, Brazil, India and the USA. In the 1990s, Walter Witzemann oversaw the international expansion of the company. To this day, this strategy is bearing fruit and provides the Witzemann Group with a special "global footprint".

The future of the automobile is already in the development stage at Witzemann

Thanks to the dynamic developments associated with the mobility transformation, new requirements are constantly emerging. In close cooperation with new and established customers, innovative development scenarios are being created for promising, new drive forms. Witzemann is already developing solutions for these new applications, such as battery degassing pipelines as well as low pressure hose assemblies for vehicles with fuel cells.

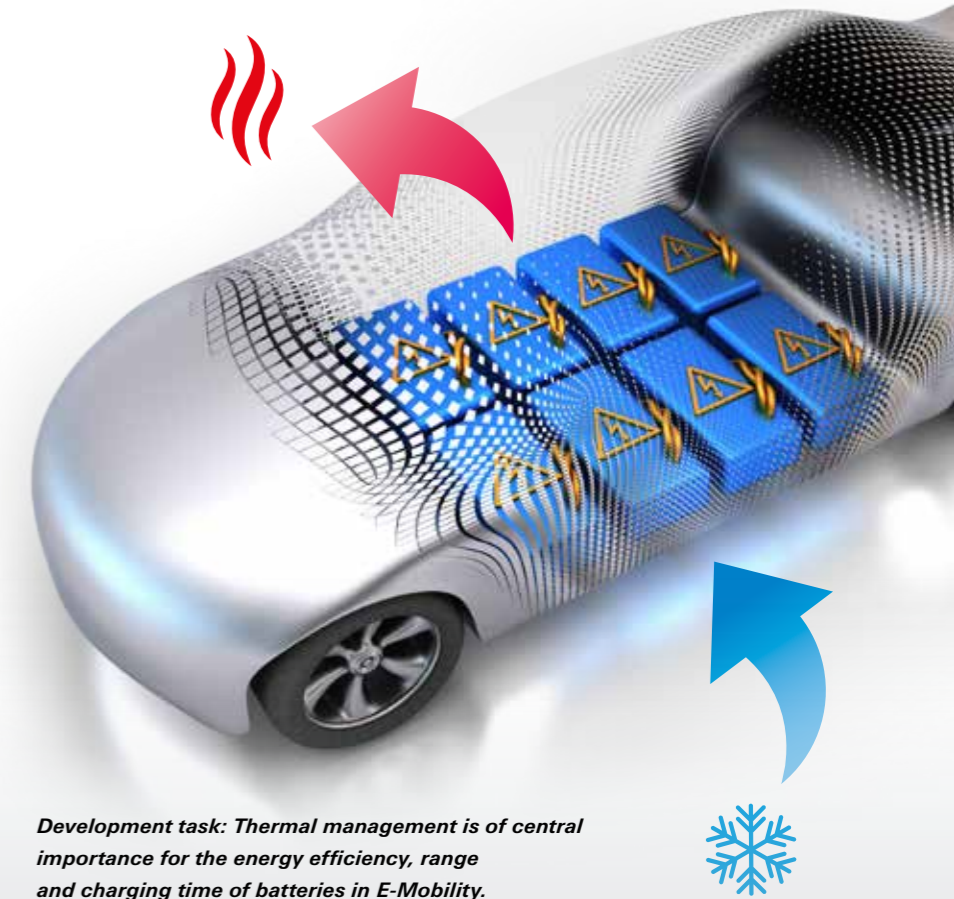
Engineering Network

Together with universities, institutes and customers the Witzemann Group is in continuous dialogue concerning the development of new product ideas. Current issues are thermal management in electrical vehicles, the cooling of electric motors, fuel and arrester cooling as well as battery housing. The sound basis of this is shaped by our expertise in

- Materials technology
- Metal-forming
- Connection technology
- Inspection
- Validation

of thin-walled metals.

It is this that allows Witzemann to make substantive data and test material available at an early stage. In this way, the group of companies is achieving fast-paced development cycles and rapid prototyping.



Development task: Thermal management is of central importance for the energy efficiency, range and charging time of batteries in E-Mobility.

1927

Mercedes SSK 500 drives with Witzemann exhaust pipes



1941

Volkswagen AG

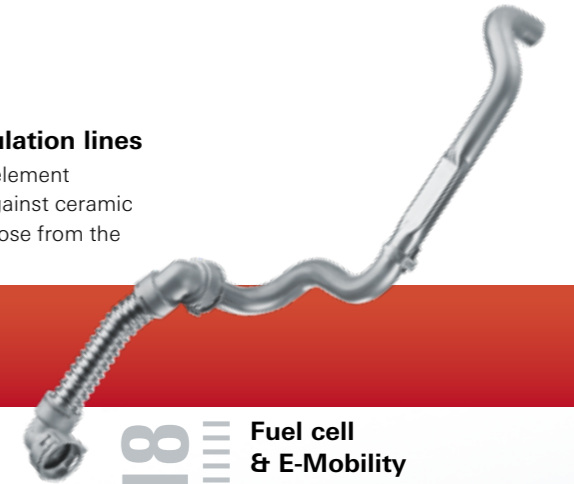
On 10.11.1941, the Volkswagen factory ordered 300,000 flexible metal tubes as a heating element for the KdF car.



2012

Exhaust gas recirculation lines

with an integrated filter element turbochargers protect against ceramic particles, which break loose from the catalytic converter

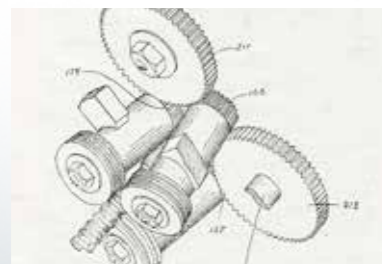


"If I had asked people what they wanted, they would have said faster horses." Henry Ford

1916

Specialist lecture

Association of German Engineers: "The flexible metal tube and its production"



1935

Standard

The first standard tube programme for the automotive industry emerges

1991

Automotive components business division

The automotive components business division is launched. A new facility for mass production emerges in Remchingen



2018

Fuel cell & E-Mobility

Battery degassing pipelines, pipelines for fuel cells and prototypes in the thermal management of E-vehicles

COMMITMENT

Learning is a process that challenges us all throughout our life. Two essential aspects are vital: Learning how to use new knowledge and appreciating that the learning process is based on reciprocity.

LEARNING



LEARNING

Witzenmann's special corporate culture is largely attributable to the grandchildren's generation of the founding family. Herbert and Walter Witzenmann were representatives of those diversely interested and extensively educated entrepreneurial personalities, who always saw beyond the proverbial ends of their noses.

Walter Witzenmann studied economics, sociology, history and philosophy and graduated at the University of Heidelberg in 1935 as doctor of philosophy.

In 1935, Herbert Witzenmann submitted his dissertation in Heidelberg. Owing to a tendon weakness he could not achieve his desire of becoming a pianist. He experienced a pivotal moment in his life through an encounter with Rudolf Steiner. From this time on, he became

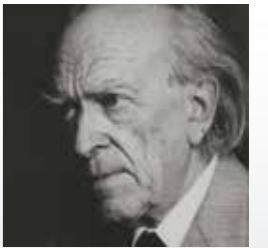
involved in the Anthroposophical Society and published numerous scientific works and books from 1947.

During their roles in the management of the company, both remained committed to their liberal and humanistic conviction and maintained a dialogue between politics, economy, art and society. They regarded a comprehensive technical as well as cultural education as a requirement for the personality development of individual.

Based on this tradition, Witzenmann attaches great importance to education and training at the Witzenmann Group. Numerous employee activities in the field of music, culture and sport underline the importance that a diversified education had for him. This spirit is also reflected in his social commitment.



Dr. Walter Witzenmann
Managing Director, 1935–2003



Herbert Witzenmann
Managing Director, 1937–1966

1890

Heinrich Witzenmann

Founding member and 1st Chairman of the General Gold and Silver Refinery (AGOSI).

1964



University of Pforzheim

The Witzenmann family was the sponsor and forceful advocate of the technical studies facility. The main lecture hall bears the name Walter Witzenmann Hall.

2000



Expert forums & development programmes

- Division-related forums: Structured and moderated exchange of experiences of staff from the same fields of work.
- Start of the High Potential Programme: Support programme of talented employees in preparation for managerial tasks.

"You cannot teach anyone anything, you can only help him to discover it in himself." Galileo Galilei

1926



German Alpine Association

Heinrich Witzenmann was a founding member of the Alpine Association. His sons, Emil and Adolf Witzenmann, were the founders of the Pforzheim Hütte of the German Alpinist Association, Pforzheim Section.

1990



Pforzheim Theatre

Great commitment of the family for maintaining the Pforzheim Theatre as a 3-division-house, support of the new venue in Pforzheim.

2011

Witzenmann Kita

Ruth Witzenmann initiated and enabled the building of the Witzenmann kindergarten.



2017

Learning Management System

2017 Start of the group-wide, interactive learning management system with online seminars and self-learning contents.

The personnel strategy is designed to ensure that the Witzemann group has the required number of best qualified employees at its disposal at all times, who are highly motivated, effective and thus achieve goals as independently as possible and work towards the success of the Witzemann Group with commitment.

To this end, the company is investing in establishing a "Witzemann Academy", a performance-oriented incentive and remuneration scheme, the education of junior employees and is also taking measures to ensure a better balance of family and working life.

From the Guiding Corporate Principles of the Witzemann Group



JOB PROFILE OF THE FUTURE



WITZENMANN
managing flexibility

At the earliest possible date –
but no later than 02.01.2030 – we are looking for a

**QUALIFIED
PRODUCTION EMPLOYEE**
(M/F/D)

Your duties

- Plant setting, control and management (including equipping and troubleshooting)
- Web-supported monitoring of the value stream flows
- Collaboration in the group-wide Efficiency Management Board with regular video conferences
- Remote support of the worldwide active Witzemann maintenance team via the internal video channel
- Close collaboration with the Witzemann customer service team in the Witzemann service blog
- Documentation and Reporting

Your profile

- Successfully completed course of studies as machine and equipment operator, industrial mechanic or similar.
- Experience in web-supported service and maintenance, (customer) platforms is desirable
- High level of communication readiness, social skills, resilience
- Knowledge of current web-supported shopfloor apps and willingness to be trained in WiSurround® software
- Good knowledge of English

Our offer

- Exciting tasks with lots of freedom and individual responsibility
- Secure job for the future in an innovative, growth-oriented company
- Above-average compensation and social benefits
- Unique further education and training program
- Intensive support of your professional and personal development
- Flexible working hours schemes and a company daycare facility for children
- Multiple employee activities

www.witzenmann/jobs.de

RESPONSIBILITY FOR THE FUTURE

As a leading company in the industry of flexible metallic elements, the Witzemann Group feels a particular degree of responsibility to stand up for the protection and conservation of natural resources. Early on, Witzemann committed itself to corporate management based on the careful use of resources. Continuously striving to avoid or reduce damage and stress on the environment to a minimum through the production and use of the manufactured products. Thus, Walter Witzemann as President of the IHK Nordschwarzwald (Chamber of Commerce) has pursued the idea of the "green chamber". He had already considered issues such as "active prevention" with regard to environmental protection and the reduction of environmental damage 20 years before the founding of the "Green" party.

The Witzemann environmental guidelines

- We see the conservation of natural resources for future generations as an important part of our social responsibility.
- We regard environmental protection as an important component of corporate governance and formulate concrete goals and rules of conduct for its implementation.
- We recognise the importance of each employee in the implementation of environmental protection measures and provide training opportunities and decent working conditions.
- We identify and assess the environmental impacts of our business processes through continuous analysis. New processes and materials were examined for their environmental compatibility before use.
- We are committed to continually improving our environmental performance and take all necessary measures to prevent, eliminate or at least reduce our environmental impact to a minimum.
- We publish a regular sustainability report to keep our customers, the general public and the relevant authorities informed about our social and ecological engagement.



100%



WASTE

Objective: Reduction of scrap costs in Remchingen by 1 % p.a. based on the number of produced parts

- Determining the scrap volume of special materials and defining possible measures for reducing this
- Reduction of scrap/material usage per bellows by 39 grams for material number 1031924

Implementing defined measures:

- Tube welding runs until 2020
- Bellows presses runs until 2018
- Assembly runs until 2019
- Liner division runs until 2018

ENVIRONMENTALLY HAZARDOUS SUBSTANCES/MIXTURES

Objective: Reduction of exhaust emissions and energy consumption

- Discontinuation of in-house lorry tours Remchingen and subsidiary plant Nord
- Diesel forklift (3 to) is replaced by electric forklift from stock

FULFILLED ENVIRONMENTAL PROGRAMME 2017

ENVIRONMENTALLY RELEVANT DATA

Witzenmann GmbH		2015	2016	2017
Procurement turnover	Millions of €	102.4	110.5	114.9
Plates/tubes/wire	%	15	14	15
Parts/components	%	77	78	78
Energy/auxiliary materials	%	8	8	7
Waste management				
Total volume of waste	t	2,953	2,450	2,623
Recycling rate	%	99.5*	99.5*	99.3
Water consumption	1,000 cbm	23.9	24.3	26.9
HCl solvent balance				
Disposal	t	2.89	2.32	2.5
Emissions	t	0.53	0.28	0.5
Space utilisation	%	148	145	145
Energy				
Electricity draw	MWh	15,417	16,013	16,264
Electricity draw/1 million € of turnover	MWh / €	50.5	55.2	65
Building heating				
District heating	MWh	8,886	9,619	8,509
Natural gas	MWh	1,985	840	594
Energy requirement/1000 employees	MWh	6.6	6.3	5.4

No environmentally relevant incident occurred in 2017!

EMISSIONS

Objective: Reducing developer concentrate (lye) and fixer concentrate (acid). Hazardous waste materials are reduced.

Objective: Existing X-ray unit replaced by a modern, digital X-ray unit.

- Select a suitable supplier. 2015 100%
- Procure X-ray testing equipment and put into operation. 2017 100%
- Application of other products 2018

Objective: Reduction of transport-related fuel consumption and CO₂-emission per transported component for production in the subsidiary plant Nord

WATER

Objective: Reducing water consumption

- Replacing a provisional cleaning line (after fire) by an efficient plant
- Rinsing cascades increased from 2 to 3 levels
- Fresh water consumption from 40 to 20 litres/hour
- 2017 work in progress until 2018

PLANNING

INCREASED ROOF INSULATION
IN THE AREA OF THE ADMINISTRATIVE WING

LOW THERMAL TRANSMITTANCE VALUE
OF THE SKYLIGHTS

PHOTOVOLTAIC
PLANT

3-FOLD GLAZING
IN THE ADMINISTRATIVE WING

PLANNED ENVIRONMENTAL PROGRAMME 2018

ENERGY

- Reduction of emissions by 2 % by 2023 through the use of electricity (base year 2016 with 7622t CO₂/CLICC)
- Replacement of 300 fluorescent lamps in exchange for LED tubes with presence circuit and daylight evaluation
- Savings of 75,000 KWh/per year
- Photovoltaic plant with 81 kWp (approx. 600 m²) at Buchbusch plant
- Equipping of Buchbusch plant with LED lighting
- New building at Buchbusch plant: Designed for energy-efficient house 55

EMERGENCY SUPPLY

- Improving fire protection
- Upgrading of missing fire alarm lines

WASTE

- Reduction of scrap costs in Remchingen by 1 % p.a. based on the number of produced parts

ENVIRONMENTALLY HAZARDOUS SUBSTANCES/MIXTURES

- Hanging up instructions according to AwSV for company regulations and codes of practice when handling water-polluting substances on the relevant plants

EMISSIONS

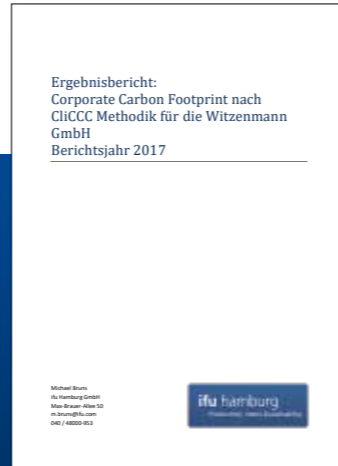
- Reducing developer concentrate (lye) and fixer concentrate (acid). Hazardous waste materials are reduced.
- Reduction of transport-related fuel consumption and CO₂-emission per transported component for production in the Buchbusch plant

WATER

- Reducing water consumption
- Replacing a provisional cleaning line (after fire) by an efficient plant



GOOD PERFORMANCE



This report shows the results from the Corporate Carbon Footprint calculation of the Witzenmann GmbH for the year 2017 according to the CiCCC method.

In addition to the physical CO₂ emissions (Scope 1) and indirect emissions caused by the energy supply (Scope 2), the CiCCC method (Climate & Carbon Calculator for Companies) takes the climate impact into account due to the purchase of preliminary work and fixed assets (Scope 3), estimated on the basis of purchasing data. The estimation of emissions from the costs of the individual goods categories is determined by infinite upstream chains with the aid of national accounts.

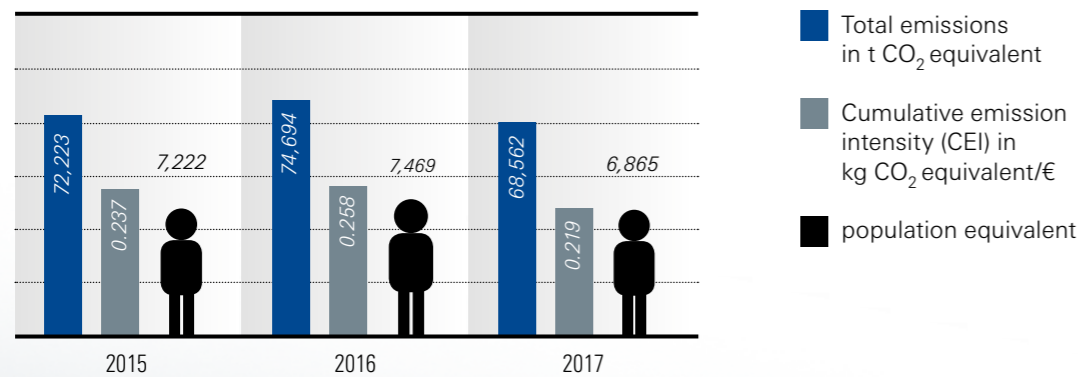
The ifu Hamburg GmbH has traced, reproduced and validated all calculations and has thus carried forward the calculations for the year 2017 on this basis. Fur-

thermore, the values for the comparison years (2012, 2013, 2014, 2015 and 2016) were calculated as comparative values and necessary corrections were made.

The results are printed in the summary based on three indicators:

- total emissions
- cumulative emission intensity (CEI)
- Population equivalent

The total emissions reveal the sum of all emissions from the individual categories.



Source: Result report of Corporate Carbon Footprint according to CiCCC methodology for Witzenmann, report year 2017, ifu Institute for Environmental Informatics Hamburg GmbH

Major proportion in the initial processing of pig iron and steel

From the composition of the results for the 2017 reporting year, it is clear that most of the 88.4% of the emissions come from scope 3. Most of the emissions are in the goods category comprising pig iron, steel and semi-finished iron and steel products, which makes up 36.2% of all recognised emissions with 24,839 t CO₂ equivalent. This is followed by the metal products commodity group, which with 16,881 t of CO₂ equivalents, constitutes 24.6% of all emissions considered. It would therefore be wise to offer incentives to suppliers in this goods category in order to encourage them to disclose their specific emissions in order to make alternative decisions for low climatic impacts. The current KEI in these sectors is at 1.73 kg CO₂-eq/€ or 0.47 kg CO₂-eq/€.

Emission intensities of suppliers

Below, the commodity group of foundry products that causes climate-impacting emissions of 6,142 t CO₂ equivalents should be mentioned and is therefore already below the emissions from scope 2. When investing in fixed assets in the future, and for machines, it would be wise to obtain information about the specific emissions. The present KEI in this sector is at 0.31 kg CO₂-eq/E. The presentation on the composition of the scope 3 emissions considered concerns a hot-spot analysis on the largest contribution from states and sectors. This can suggest which areas should be prioritised with regard to incentive systems to encourage the disclosure of specific supplier emissions. The accumulated emission intensities of the suppliers can be requested and considered for this purpose. Supplier specifications (e.g. according to the CiCCC methodology or as a product carbon footprint) can also be considered directly in the analysis thereby resulting in increased accuracy of future emission calculations.

Emissions reduced by almost 40 percent

Within scope 2 with 7,553 t CO₂-equivalent (7.8 % of total emissions) electricity dominates with 5,335 t CO₂ equivalent. The current product could be reduced here by different factors even in the emissions (including a reduction in the percentage of coal-fired power) thereby achieving emission reductions of 30% compared to 2017. That alone brought about 37.3 % of the entire reductions of emissions of the Witzenmann GmbH.

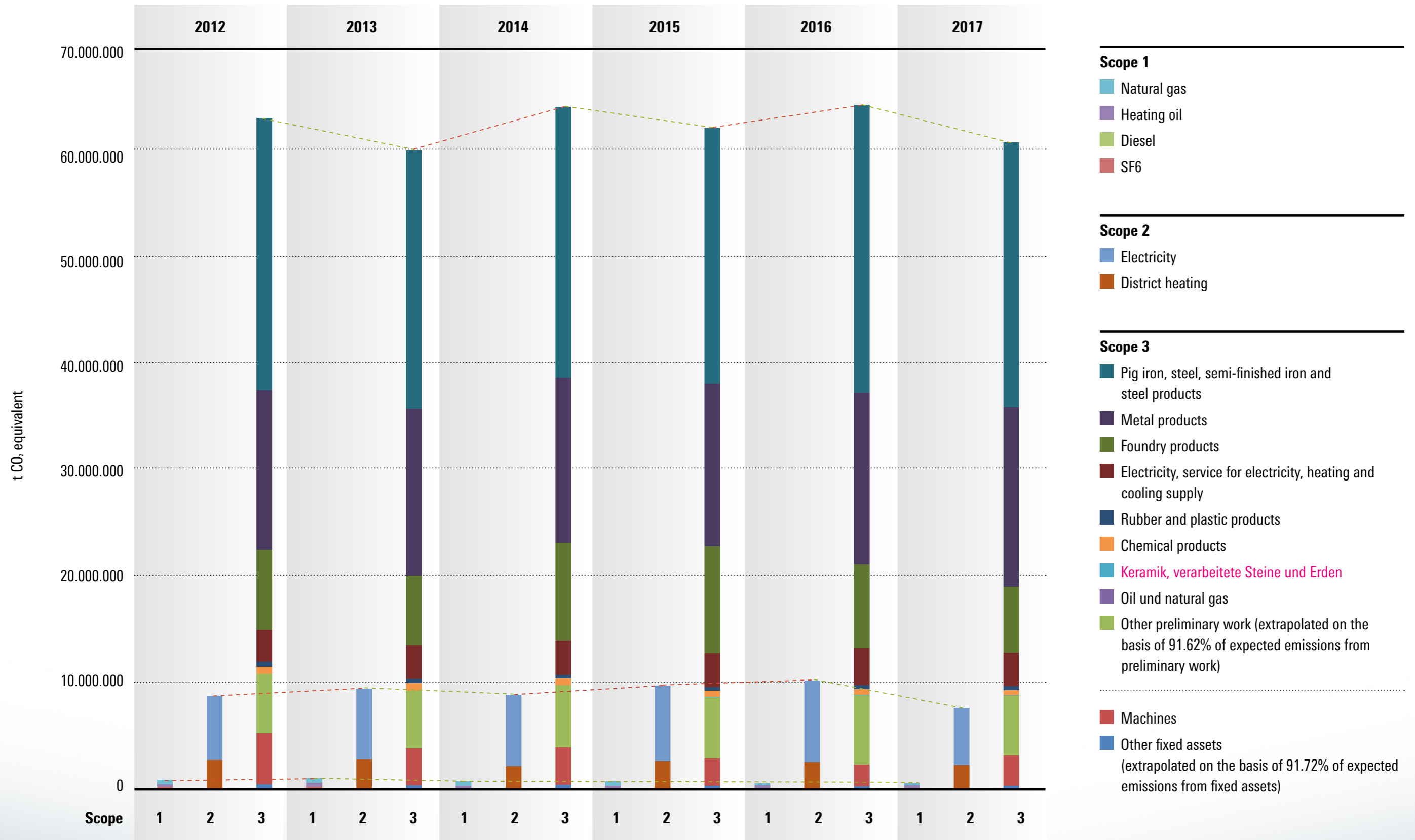
With 373 t CO₂ equivalent, scope 1 with 0.5% carries little weight. Through the direct connection to the company, however, there may be potential here to implement measures to reduce emissions more quickly and easily. It should be emphasised here that the natural gas consumption from 2016 to 2017 could be reduced by 30%.

Improvements in all Scopes

Compared to the results from 2016, improvements have been made in all scopes. The improvements amount to 16.5 % in Scope 1, 25.4 % in Scope 2 and 5.4 % in Scope 3, which brings about an overall reduction of 8.2 % of the total emissions. Since the turnover increased by 8.3 % during the emission reduction, a total reduction of 15.3 % resulted in the CEI. Last year, Witzenmann GmbH managed to achieve a greater decoupling of added value and resource consumption by reducing the climate-impacting emissions with an increased turnover. This development can be followed further by additionally checking whether the material intensity of the production processes can be reduced in addition to the recommendation for considering supplier values previously mentioned.

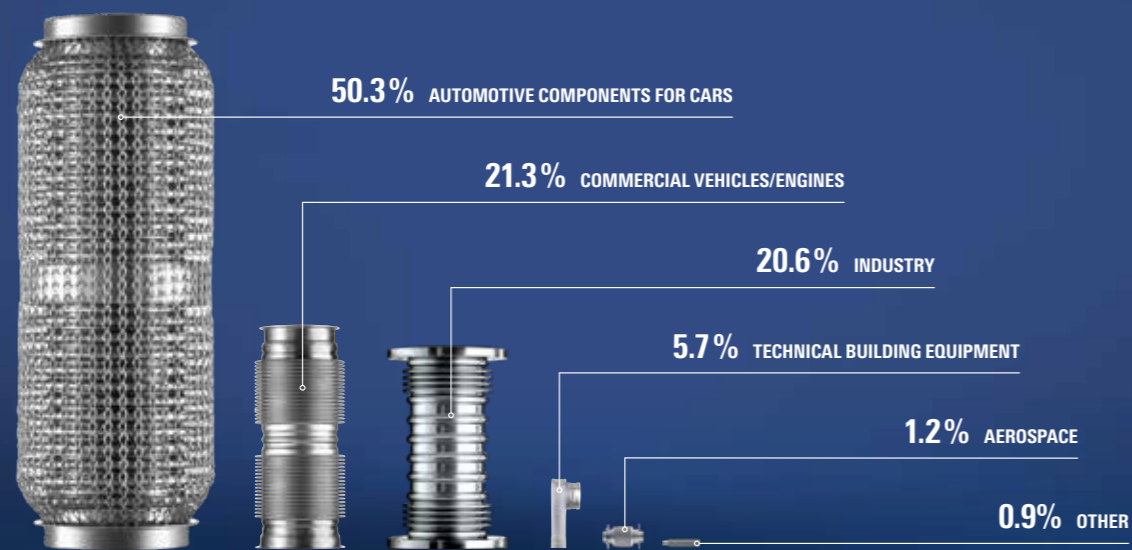
In relation to the comparison factor of 0.470 kg CO₂-eq/€ for the metal products sector the accumulated emission intensities of the Witzenmann GmbH at 0.219 kg CO₂-eq/€ represents a relatively climate-friendly production and are thus a reflection of the ongoing environmental efforts.

CLICCC – COMPOSITION OF THE RESULTS

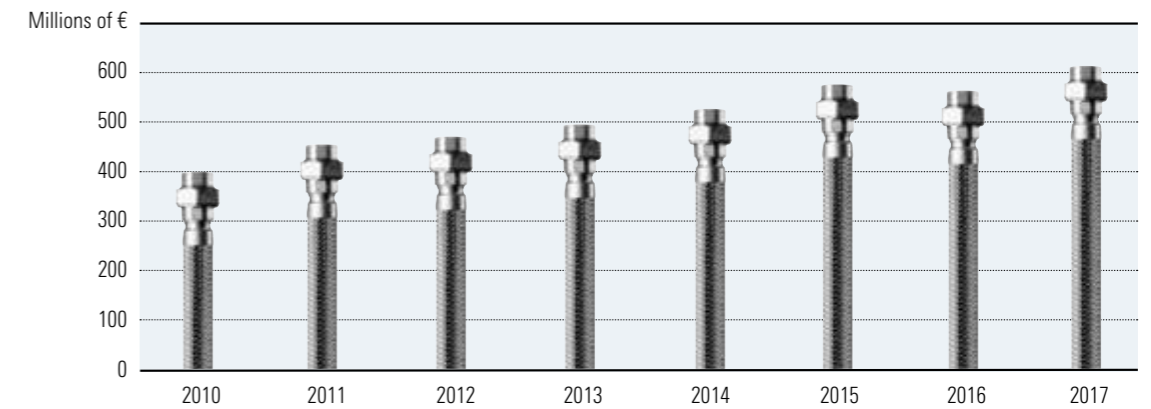


FIGURES

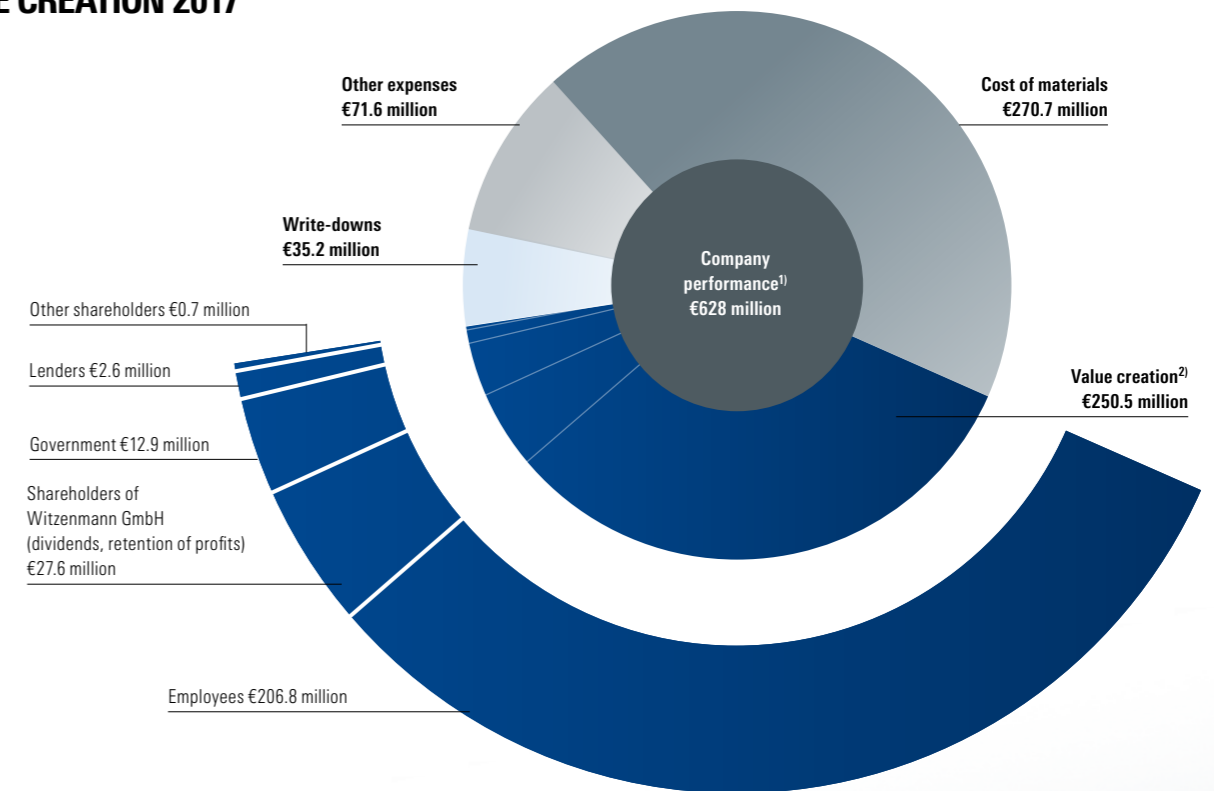
TURNOVER BY SECTOR 2017



TURNOVER TREND 2010 – 2017



VALUE CREATION 2017



¹⁾ **Company performance:** Apart from the turnover, the company performance also includes the changes in stocks of finished and unfinished products as well as other capitalised assets.

²⁾ **Value creation:** Value creation is produced from the company performance minus expenses, write-downs and costs of material. It quantifies the Witzemann Group's contribution to private and public income.

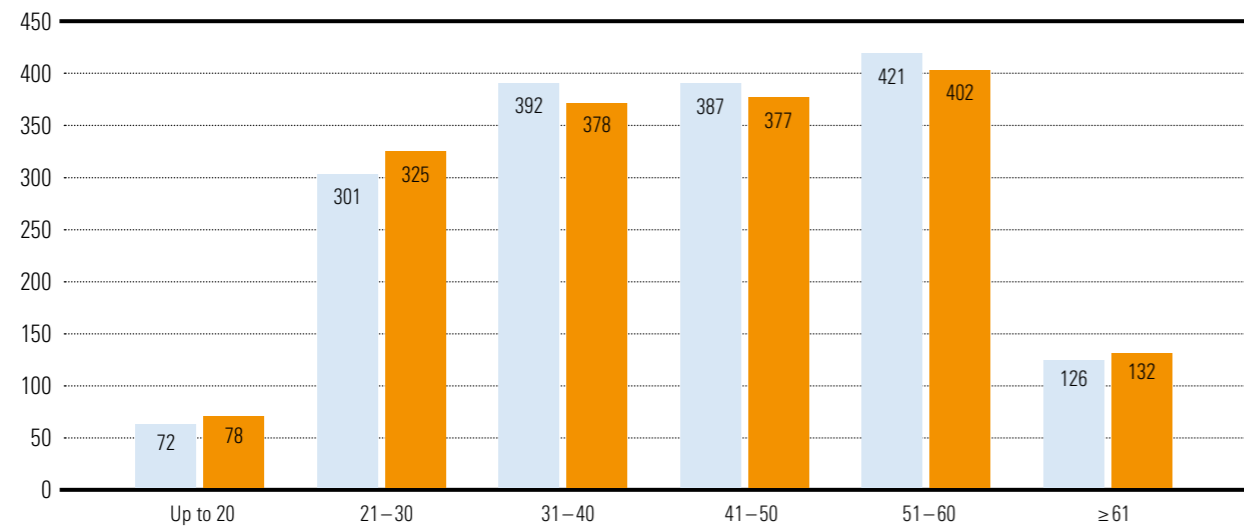
Turnover		2015	2016	2017
in total	Millions of €	577.9	570.0	614.1
Germany	%	30.4	31.9	31.9
Europe excl. Germany	%	30.8	31.6	31.9
America	%	21.5	19.1	19.8
Asia	%	17.0	17.1	16.0
Africa	%	0.3	0.3	0.4

Turnover by sector		2015	2016	2017
Automotive components for cars	%	46.2	51.1	50.3
for commercial vehicles/engines	%	24.2	20.2	21.3
Industry	%	21.9	20.8	20.6
Technical building equipment	%	6.2	6.1	5.7
Aerospace	%	1.0	1.2	1.2
Miscellaneous	%	0.5	0.7	0.9

Investment & Equity		2015	2016	2017
Investments	Millions of €	37.5	36.3	42.8
Write-downs	Millions of €	34.5	34.2	34.5
Equity ratio	%	58.8	60.2	61.1

EMPLOYEES OF THE WITZENMANN GMBH

Age distribution at Witzemann GmbH



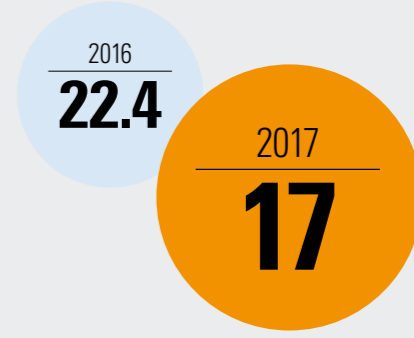
Number of employees: 2016 2017

Years of service for Witzemann GmbH		2016	2017
< 1	People	120	175
1 - 3	People	208	171
4 - 7	People	288	298
8 - 10	People	217	129
11 - 20	People	448	510
21 - 30	People	311	295
31 - 40	People	96	103
≥ 41 years	People	11	11

Witzemann GmbH workforce		2015	2016	2017
Total number of employees	People	1,658	1660	1689
Non-manual workers	People	658	663	671
Manual workers	People	926	926	957
Apprentices/trainees	People	74	71	61
Proportion of women	%	19.7	19	19
Proportion of men	%	80.3	81	81
Number of part-time employees	%	7.4	9.8	6.5
Severely disabled persons & persons regarded as such	People	80	80	87
Average age	In years	42	42.2	41.7
Average length of service	In years	13	13.4	13.3
Participants in employee activities	People	396	335	347

HEALTH MANAGEMENT

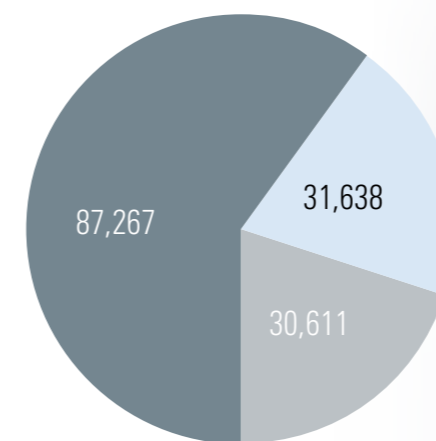
Accident frequency rate of the Witzemann Group in accidents per 1 million hours worked



Witzemann GmbH		2015	2016	2017
Occupational health checks	number	612	589	378
Non-reportable accidents (1-3 days uw*)	number	11	14	11
Reportable accidents (>3 days uw*)	number	29	33	27
Reportable accidents (per 1,000 employees)	number	17.4	19.9	15.6

* uw = unable to work

Meals sold at Witzemann GmbH 2017

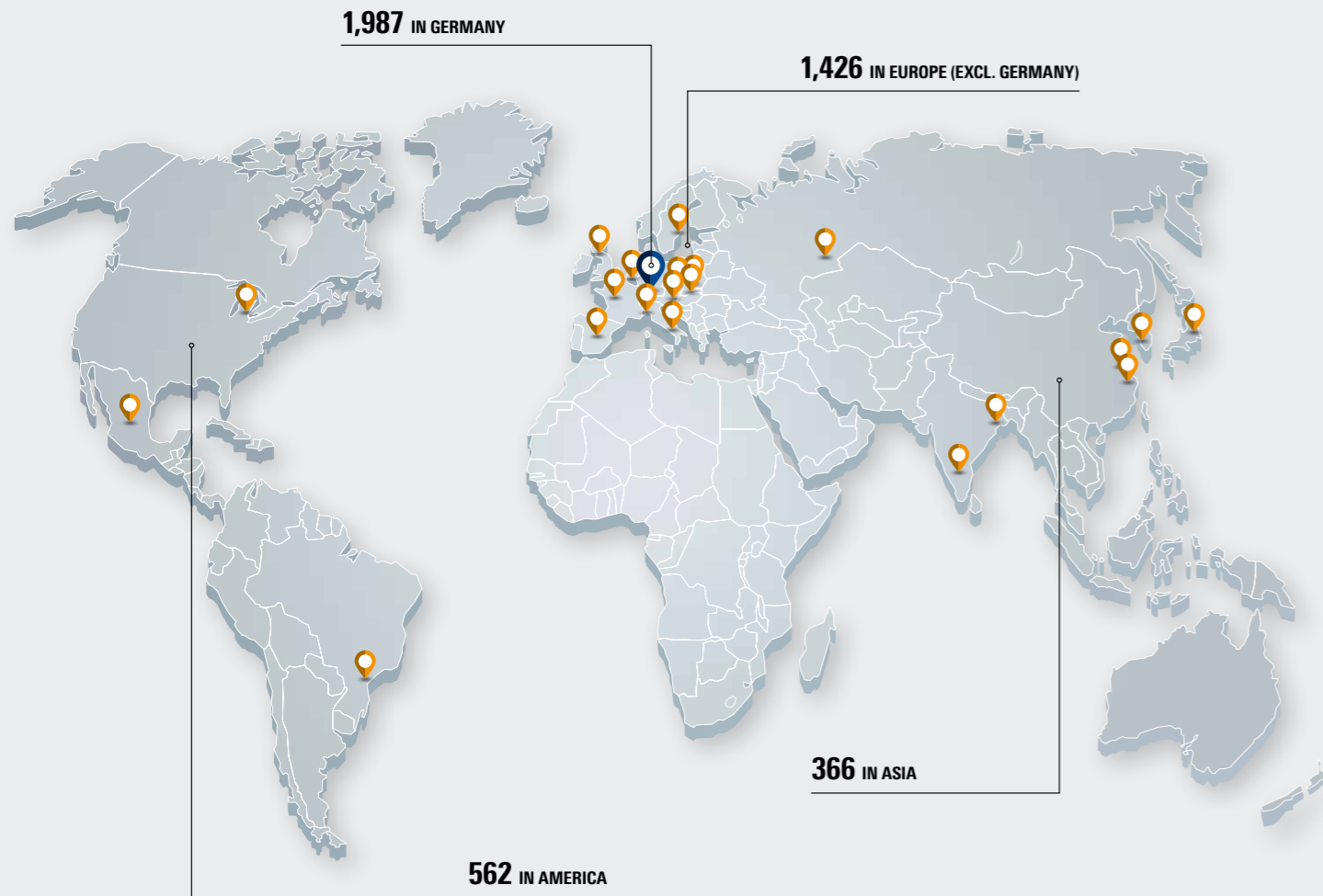


A total of more than 400 meals every day!

- Daily specials and takeaway meals
- Soups, salads, etc. from the counter
- Hot snacks



4.341 EMPLOYEES WORLDWIDE



Witzenmann Group		2015	2016	2017
Total number of employees	People	3,941	4,139	4,341
in Germany	People	1,931	1,957	1,987
in Europe excl. Germany	People	1,200	1,300	1,426
in America/Asia	People	810	882	928

Witzenmann Academy		2015	2016	2017
Employees on the High Potential programme	People	11	14	14
External costs for training and professional development	€K	519	565	490
Number of seminars	number	224	282	238
Participants in training and professional development seminars	number	450	539	502
Traineeships/Apprentices	number		50	56

COMPLIANCE

*/kəm'plaiəns/.**

Apart from the corporate vision and corporate objective, the mission statement of the Witzenmann Group also includes corporate guidelines and management principles that serve as guiding principles for our activity. These emphasise the social and corporate responsibility of the Witzenmann Group, lawful conduct as well as fairness and integrity in the internal dealings with each other and in relation to customers, suppliers and other business partners, as well as in relation to competitors.

With the Compliance Guideline the group of companies emphasises the expectation that all Witzenmann employees of the group comply with the statutory regulations, corporate guidelines and basic ethical principles and international standards.

The Witzenmann Code of Conduct describes the essential areas of action and outlines the conduct it expects from its employees.

Further or more specific contractual employment provisions and agreements shall remain unaffected thereby. The regulations are mandatory for all employees of the Witzenmann Group worldwide.

Infringements of these regulations will not be tolerated. The management is expected to "set a good example" and ensure that the Witzenmann Code of Conduct is understood and complied with.



* Noun, feminine [the].
Business jargon:
regularly, prescribed,
ethically correct behaviour.

#10



The United Nations Global Compact is the global compact agreed between companies and the UNO in order to shape globalisation in a more social and environmental way.

Different organizations are involved on the side of the UNO. These include among others:

- the High Commissioner of the United Nations for Human Rights UNHCHR
- The International Labour Organisation ILO
- The United Nations Environment Programme UNEP

Different networks have joined together at national level. Meanwhile, there are more than 80 national networks worldwide. In Germany, the participants have been organising themselves in the German Global Compact Network foundation since 2000. This includes 20 of the DAX-30 groups, small and medium-sized enterprises as well as scientific facilities and non-governmental organisations such as Amnesty International and Transparency International.

The Witzenmann Group is expressly committed to the ten principles of the Global Compact.

We want to ...

- #1 ... support and respect the protection of internationally proclaimed human rights.
- #2 ... ensure that they are not complicit in human rights abuses.
- #3 ... uphold the freedom of association and the effective recognition of the right to collective bargaining.
- #4 ... uphold the elimination of all forms of forced and compulsory labour.
- #5 ... uphold the effective abolition of child labour.
- #6 ... uphold the elimination of discrimination in employment and occupation.
- #7 ... pursue the precautionary principle when dealing with environmental problems.
- #8 ... take initiatives to create a greater awareness of the environment.
- #9 ... help speed up the development and spread of environmentally friendly technologies.
- #10 ... work against corruption in all its forms, including extortion and bribery.

CONTACTS



Philip Paschen

As a managing partner, Philip Paschen is responsible for the business process management, logistics and production as well as sustainability division. His areas of responsibility include, among other things, production and industrial engineering, IT/digitisation, plant design, building management, logistics and sustainability.



René Pflittner

In his role as the Environmental Protection Officer for environmental protection and data protection in the "Legal Affairs and Compliance" department, he is the person to contact with regard to all internal and external questions relating to the environment and Witzenmann GmbH.



Jochen Geiger

The Head of the Marketing and Public Relations department at the Witzenmann GmbH is responsible for editing the sustainability report. Jochen Geiger performs many strategic tasks in the group of companies. Marketing includes, for example, sales support, public relations work, event management as well as market research.

IMPRINT

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