



Swiss perfection for your home



V-ZUG Sustainability Report

2018 / 2019



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Interview with Dirk Hoffmann*



Dirk Hoffmann, V-ZUG is known for its durable, high-quality products and innovative solutions. It is also committed to sustainability. Is this paying off?

For us and for our customers, innovation and quality are inseparably bound up with sustainability. The “longevity” that is typical of V-ZUG, coupled with innovative product features which inspire and simplify daily life, are key decision-making criteria when purchasing household appliances. What could be more valuable than a product that not only lasts a long time, but also adapts to changing needs? It is our ambition to always be the best in both these respects. Our customers reward us for these efforts and are happy to invest in products which have impressive longevity.

V-ZUG is constantly working to bring the most resource-efficient household appliances possible onto the market. At the same time, the company is synonymous with durable products. Isn't that a contradiction?

Neither we, nor our customers see this in any way as a contradiction. We consider it our responsibility to society and the environment to continually improve the water and energy efficiency of our household appliances, by investing sufficiently in research and development. But if we've found a better solution, should we force the customer to purchase a new appliance? We don't think so. That's why we're working on digital solutions which enable people who own our durable appliances to add additional functions to them. By networking appliances that are already on the market (RetroFit), we are capitalizing on the appliances' long service life and increasing the value of the investment already made. Although our products are normally in use for more than 15 years, at present the economic and technological limit for subsequent upgrades to products tends to be around 10 years.

In the last twelve months, V-ZUG has developed a sustainability roadmap. In what areas is action needed, and why?

Our goal is to embed a proactive sustainability mindset throughout the company and among all our employees. Sustainability is, by definition, something lasting and so is not a passing fad for us, but rather the compass for our long-term strategy. First and foremost, this strategy is founded on our conviction that, as a company, we have a responsibility to the environment and society. Secondly, it pursues the objective of financial success. To give an example that illustrates how seriously we take sustainability: in developing V-ZUG's core site, we want to build a new, successful district in the northern part of Zug and, going forward, be carbon-neutral in our operations. The internal modernization that goes hand in hand with this also enhances our competitiveness. But what we need to embrace even more is the knowledge that sustainability drives a continuous process of improvement and innovation. Today,

* CEO of V-ZUG Ltd during the reporting period.

the prospect of retaining microplastics in wash cycles is just a research project, but tomorrow it could become a development contract and eventually a standard feature of V-ZUG washing appliances, making a major contribution to clean oceans, waterways and soils.

Placing V-ZUG in the global context: can V-ZUG make a difference?

That's a legitimate question if you measure us solely against the scale of the global market and against international competitors. But here too, we should be aware of our personal responsibility and role. One good example is the standard for energy-efficient tumble dryers that was introduced by V-ZUG: when we began using heat pumps more than 15 years ago, V-ZUG created a new standard, initially for tumble dryers. Within a short space of time, this became compulsory for all providers in Switzerland and is now a requirement for manufacturers throughout Europe. As the Swiss market leader, with products in half of all Swiss households, we most certainly have the power to lead by example and make a difference. We are aiming for the same effect within the company: as part of the Metall Zug Group, we want to motivate our employees to commit themselves to a more sustainable world. And we're already seeing results: employees who are personally committed to avoiding plastics and printing paper in their day-to-day work or are developing more environmentally friendly concepts for motorized commuter traffic. These are the right signals: each and every one of us at V-ZUG can make a difference.

What, in your view, are the biggest challenges that V-ZUG will have to overcome in the next ten years?

Digital transformation with its almost infinite possibilities. For us, there's a big opportunity to build on our traditional strengths, such as the high quality of our products and services, by specifically using digital innovations to strengthen our customer proximity and develop our sophisticated products into even better, holistic solutions. We can then successfully face up to new competitors, survive in a dynamic market environment and withstand the threat of "uberization".

What does that mean, in concrete terms?

V-ZUG will evolve into a "hybrid", it will still be a strong provider of physical product solutions and services with a much higher share of digitally-supported solutions. It's conceivable, for instance, that in future we will make an appliance that not only gives you "washed fabrics" but "clean and dry fabrics". Or customers won't even buy the appliance, "just" the corresponding service. However, digital transformation calls for an internal rethink. We're already anticipating that economically successful production systems in Switzerland will, in future, allow less wage-intensive, repetitive work. As we see it, the challenge lies firstly in transitioning our industrial processes and services in an economically viable way and, secondly, in equipping our employees for the "digital age" ahead of the game.

Is V-ZUG ready?

We're working on it every day, and have been doing so for a number of years, at all levels. Having introduced the new ERP system (SAP), we now have in place a crucial prerequisite for adding new digital offerings for even better customer experiences. But there's still a long way to go before we

have fully integrated digital system solutions for seamless, uncompromising customer experiences. The physical transformation is the most apparent: just look at the structural changes in Zug and in Sulgen. The gradual remodelling of the site in Zug to create a verticalized and ultra-efficient factory can be seen and heard every day. By building the Multi-Energy Hub, we're developing an energy system with maximum autonomy, which satisfies ultra-stringent environmental criteria. However, by far the most important transformation is required of us, human beings. We love to talk about changing processes yet often forget that processes mainly affect the people who work together on a daily basis. So if we want to change the way we work together by introducing collaborative workspaces, for instance, we can only do this with the acceptance and skills of the employees concerned. For that reason, we're working with new organizational forms and new office environments which are intended to serve as an example and inspire. Our objective is to promote togetherness and diversity, to make our company stronger from within.

A large, modern building with a blue glass facade and a row of blue ZUC trucks parked in front. The building has a prominent blue glass section on the right side and a lower section with a dark facade and large windows. The trucks are blue with the ZUC logo and the text "Führend in Küche und Wasraum" on the side. The sky is clear and blue.

Company Profile

V-ZUG at a glance

Financial	
EBIT, in CHF millions (Household Appliances division*)	Gross sales, in CHF millions (Household Appliances division*)
2017/2018: 60,6	2017/2018: 605,5
Change: -47,5%	Change: -3,9%
2018/2019: 31,8	2018/2019: 581,9
Products and Services	
Appliance faults, under warranty, in percent, 2015/2016 = 100%	Rate of faults repaired on first visit, in percent
2017/2018: 94 %	2017/2018: 89,9%
Change: -16%p.	Change: +0,4%p.
2018/2019: 78%	2018/2019: 90,3%
Appliances supplied with energy efficiency label A or better, in percent	Number of supplier audits (quality, environmental and social standards)
2017/2018: 80,4%	2017/2018: 119
Change: -2,5%p.	Change: -26%
2018/2019: 77,9%	2018/2019: 88
Climate and Energy	
Energy consumption within V-ZUG per appliance produced, 2016/2017 = 100%**	CO ₂ emissions, energy direct and indirect, in t CO ₂
2017/2018: 96,4%	2017/2018: 4 589
Change: 5,6%p.	Change: +2,4%
2018/2019: 102%	2018/2019: 4 698

* As no individual EBIT figures are published for V-ZUG Ltd, the figure for the whole Household Appliances division is shown here.

** The base year has been changed to 2016/2017 due to the availability of data for the full scope of the report (V-ZUG Ltd, V-ZUG Cooling Technology Ltd, V-ZUG Changzhou Special Components Co.).

Employees	
Number of employees (incl. temporary employees)	Share of women in executive roles
2017/2018: 1777	2017/2018: 16,6%
Change: +1,5%	Change: +1,7% p.
2018/2019: 1803	2018/2019: 18,3%
Absenteeism rate due to work-related accidents, in percent	
2017/2018: 0,18%	
Change: -0,01% p.	
2018/2019: 0,17%	



“I want **V-ZUG** to help **Switzerland** achieve the **Paris climate protection targets**, through its products and its strategic direction. By developing our **Sustainability Roadmap**, we have taken an important first step in **the right direction**. I’m looking forward to implementing it.”

Daniel Frost

Employee at V-ZUG Innovation LAB

The company

V-ZUG, a successful Swiss company with a long tradition, has been developing, producing and distributing high-quality and resource-efficient kitchen and laundry appliances for over a century. As the Swiss market leader for household appliances, we have built our reputation on our outstanding service and support as well as pioneering innovations, thanks to which we have maintained and repeatedly demonstrated our technology leadership. With the premium range, we are pursuing selective growth in around 20 countries on four continents. Our company was founded in 1913 as Verzinkerei Zug. Today, it is a wholly-owned subsidiary of the Metall Zug Group. Together with its foreign subsidiaries and the operationally independent companies V-ZUG Cooling Technology Ltd, SIBIRGroup AG and Gehrig Group Ltd, V-ZUG Ltd forms the Household Appliances division of the Metall Zug Group (see Fig. 1, p. 11).

With the planned major project “Technology Cluster Zug” (TCZ), the aim of which is to develop the main site in the city of Zug, Metall Zug and V-ZUG are undertaking an ambitious and challenging project which reached a key milestone when the zoning plan became legally effective in October 2018. The marketing activities to attract third party users for the TCZ are now being stepped up. Consequently, Metall Zug decided to bring together the tasks involved in and responsibility for the industrial development of the main site in Zug, the creation of the TCZ and other planned infrastructure to form a dedicated division for Infrastructure and TCZ, with effect from 1 January 2019.

Metall Zug, a group of industrial companies headquartered in Zug, has six divisions and a workforce of around 5,000. Its management structure is essentially based on decentralized responsibility. The holding company Metall Zug Ltd, with head office in Zug, is the only listed company in the group (Swiss Reporting Standard of the SIX Swiss Exchange). The Metall Zug Group fulfils all the legal and regulatory requirements for corporate governance in Switzerland to which the group is subject, including the principles laid down in the *économiesuisse* “Swiss Code of Best Practice for Corporate Governance” dated 29 September 2014 (Swiss Code).

Metall Zug Group

Zug

Household Appliances	Infection Control	Life Science Solution	Wire Procession
V-ZUG Ltd Zug	Belimed AG Zug	Belimed Life Science Ltd Sulgen	Schleuniger Holding AG Thun
V-ZUG Cooling Technology Ltd (CH) V-ZUG Services Ltd (CH) V-ZUG Australia Pty. Ltd. (AU) V-ZUG Europe BVBA (BE) V-ZUG (Shanghai) Domestic Appliance Co., Ltd. (CN) V-ZUG (Changzhou) Special Components Co., Ltd. (CN) V-ZUG Hong Kong Co., Ltd. (HK) V-ZUG Singapore Pte., Ltd. (SG) SIBIRGroup AG (CH) Gehrig Group Ltd (CH) Hildebrand France S.A.R.L. (FR)	Belimed Sauter AG (CH) Belimed GmbH (DE) Belimed GmbH (AT) Belimed SAS (FR) Belimed B.V. (NL) Belimed d.o.o. (SI) Belimed Ltd. (UK) Belimed, Inc. (US) Belimed Medical Equipment (Shanghai) Co., Ltd. (CN) STERIFAST Sterilization & Disinfection Systems, Lda. (PT)	Belimed Life Science d.o.o (SI)	Schleuniger AG (CH) Schleuniger GmbH (DE) Schleuniger Test Automation GmbH (DE) Schleuniger, Inc. (US) Schleuniger Japan Co., Ltd. (JP) Schleuniger Trading (Shanghai) Co., Ltd. (CN) Schleuniger Machinery (Tianjin) Co., Ltd. (CN) Schleuniger S. de RL. De CV (MX) adaptronic Prüftechnik GmbH (DE) DiIT GmbH (DE)
Medical Devices	Technology Cluster & Infra	Corporate	
Haag-Streit Holding AG Köniz	MZ-Infra AG Zug	Metall Zug Ltd Zug	
Haag-Streit AG (CH) Haag-Streit Deutschland GmbH (DE) Haag-Streit Surgical GmbH (DE) Haag-Streit France SAS (FR) Haag-Streit UK, Ltd. (UK) Haag-Streit Holding U.S., Inc. (US) Haag-Streit USA, Inc. (US) Haag-Streit Far East Ltd. (CN) Spectros AG (CH) HS DOMS GmbH (DE) IPRO GmbH EDV für Augenoptiker (DE) Möller-Wedel GmbH & Co. KG (DE) MÖLLER-WEDEL OPTICAL GmbH (DE) Möller-Wedel Verwaltung GmbH (DE) Möller-Wedel Beteiligungen GmbH (DE) OptoMedical Technologies GmbH (DE) Clement Clarke (Holdings) Ltd. (UK) Clement Clarke International Ltd. (UK) John Weiss & Son, Ltd. (UK) Reliance Medical Products, Inc. (US)	V-ZUG Realty Ltd (CH) V-ZUG Infra Ltd. (CH)	V-ZUG Immobilien AG (CH) MZ Infra AG (CH)	

Fig. 1 Operational structure of the Metall Zug Group (as of June 2019)

Products and services

With over five million appliances currently in use, today half of all Swiss households have at least one of our appliances in operation. Our premium Swiss quality is synonymous with durable, innovative products and exceptional service throughout the appliance's lifetime, and ensures that our customers' environmental footprint is as small as possible when the appliance is in use. We only produce appliances to European energy efficiency class A and higher. With our RetroFit function, we reward buyers' trust: the networking of "old" appliances purchased from 2015 onwards enables access to digital add-ons and applications without purchasing a new product. V-ZUG is currently working on solutions to extend this offering to older appliances.

The world of **food** and **enjoyment**



The world of **fabric care**



Services

The world of food and enjoyment

Our FullFlex hob offers our customers maximum flexibility, because it does away with defined cooking zones entirely. Up to six pans can be positioned anywhere you like. With its 48 state-of-the-art inductors, the hob is able to automatically detect the position and size of the cookware used. In 2018, an expert jury of representatives from 25 different sectors awarded the FullFlex hob the Plus X Award.



FullFlex hob



The world of fabric care

V-ZUG's environmental commitment is also built into its washing machines: our new AdoraWash V6000 washing machine sets a new standard for energy consumption. By using an energy-efficient heat pump along with other technological aspects, it consumes around 55 % less electricity than washing appliances with conventional heating systems, making it the most environmentally-friendly washing machine that V-ZUG has ever brought onto the market. In early 2019 we launched DualDry, an innovation in the area of tumble dryers. This function enables appliances to be used either as conventional tumble dryers or as dehumidifiers. As a result, washing dries faster on the indoor line and our customers do not need to air their laundry rooms quite as often.



CombiAdoraDry V4000 DualDry

Services

We personally advise our customers on their purchase and on the use of our appliances. We are particularly proud of our service technicians, who respond quickly to faults, repairs and other service needs: with an average waiting time of around two working days for a first visit and just 3.5 calendar days of down time before an appliance is repaired (including at weekends), we enjoy the highest ratings from our customers for success and satisfaction.



Service and repair



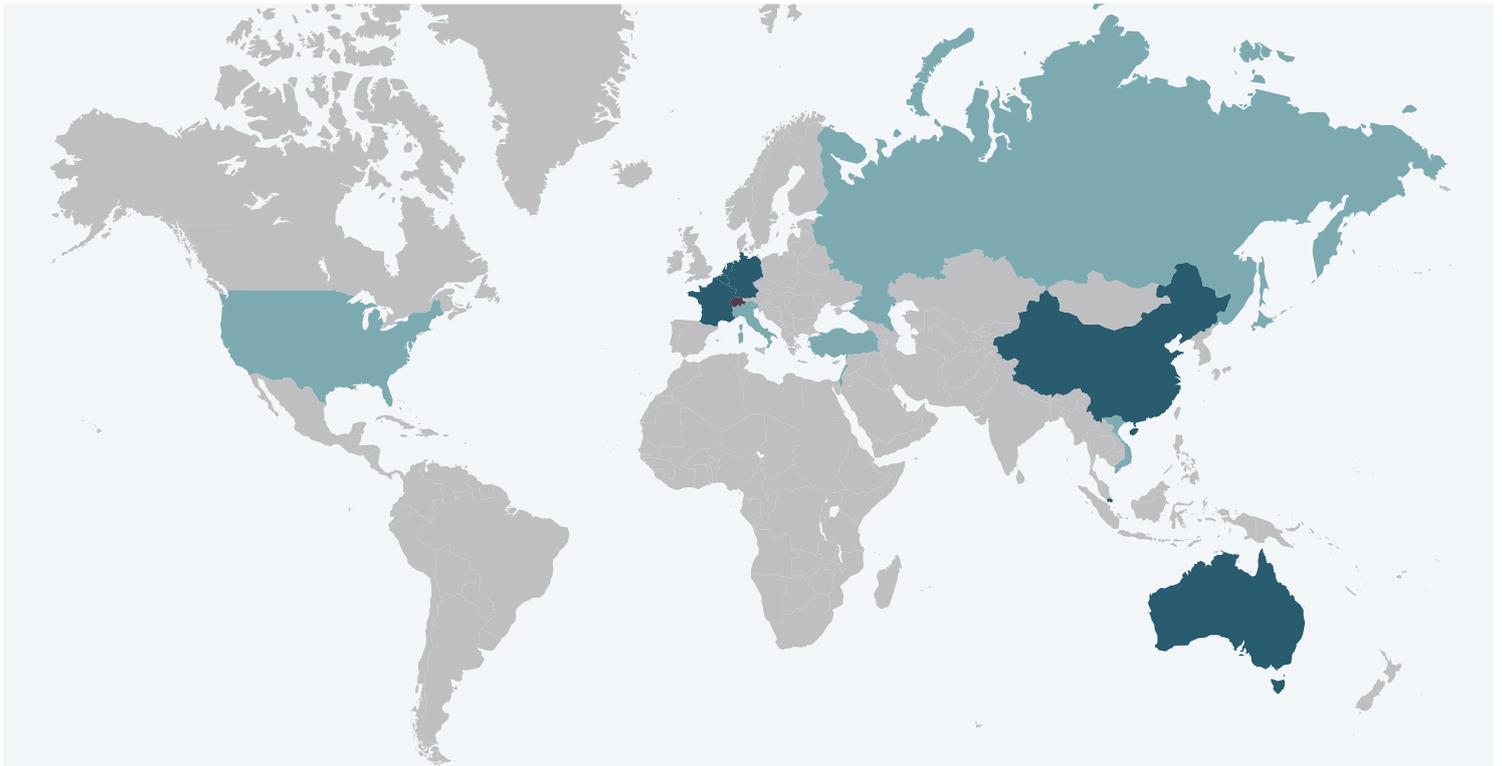
Personal advice



Troubleshooting service and warranty



Laundry and cooking advice



Markets

In Switzerland, V-ZUG has its head office in Zug, which is home to its administration, development, production and logistics as well as a showroom and advice centre (ZUGORAMA). We support our trading partners and customers with another nine ZUGORAMAs across Switzerland and a dense customer service network including 16 service centres. Abroad, V-ZUG operates in 19 countries. The key markets are Australia, Belgium, China and Hong Kong, Germany, France and the USA.

- V-ZUG partner/distributor
- V-ZUG branch
- V-ZUG head office

Fig. 2 Markets

Strategy and sustainability

The future development of our business will be shaped by the three megatrends of globalization, digitalization and demographic change (see [2016/2017 Sustainability Report](#)). We exploit the opportunities presented by globalization in our purchasing activities, with international supply chains and by producing our own semi-finished products such as heat pumps and fans in Changzhou. Swiss premium products, reliable, individual solutions and close customer proximity are the foundations of our profitable growth. Our customers reward this with great brand loyalty and rising market shares. Alongside this, however, we are successfully expanding our own brand business abroad, particularly in the European markets and in China and Hong Kong. In 2018, the foundation for further expansion in Southeast Asia was laid in Singapore. As a Swiss manufacturer with a history stretching back more than a hundred years, we believe in Switzerland as an industrial location. We are safeguarding our future in Switzerland, and in Zug in particular, by setting the bar high in terms of quality as we help shape the future of our industry and, as a reliable partner of the city of Zug, making Zug an attractive city of the future by providing space and culture.

Digitalization is changing all of our lives – and V-ZUG’s range of solutions – at an astonishing pace. We see this as an opportunity and are pushing technological boundaries when developing digital solutions, products and business models. Digital applications such as [V-ZUG Home](#) and [EcoManagement](#) (see [“Products and Services”, p. 26](#)) are adding a new dimension to our appliances, offering our customers individual solutions with greater ease of use as well as transparency in regard to each application’s energy consumption. Digitalization is also opening up new ways for us to cooperate faster and more efficiently in our production and development activities and to develop and manufacture new products and solutions (see [“Products and Services”, p. 26](#)). However, if we are to take our outstanding track record of innovation forward into the era of Industry 4.0 and achieve profitable growth in the long term, we must remain successful on the labour market. We are doing this by continually investing in what we offer as an employer, in the skills of our employees of all ages and in modern working conditions as well as flexible working models (see [“Employees”, p. 28](#)). We regard the cultural transformation which goes hand in hand with this as one of the biggest challenges of the next few years.

New “Sustainability@V-ZUG” strategy

Half of all Swiss households have a V-ZUG appliance. This means we have an influence on the environmental impact of Swiss households. We are conscious of this responsibility. At V-ZUG, we consider sustainability to be an integrated approach which involves our entire value chain as well as our responsibility to our employees, business partners, customers and society. Responsible and sustainable actions have been enshrined in our strategy for many years and this approach is supported by our parent company, Metall Zug.

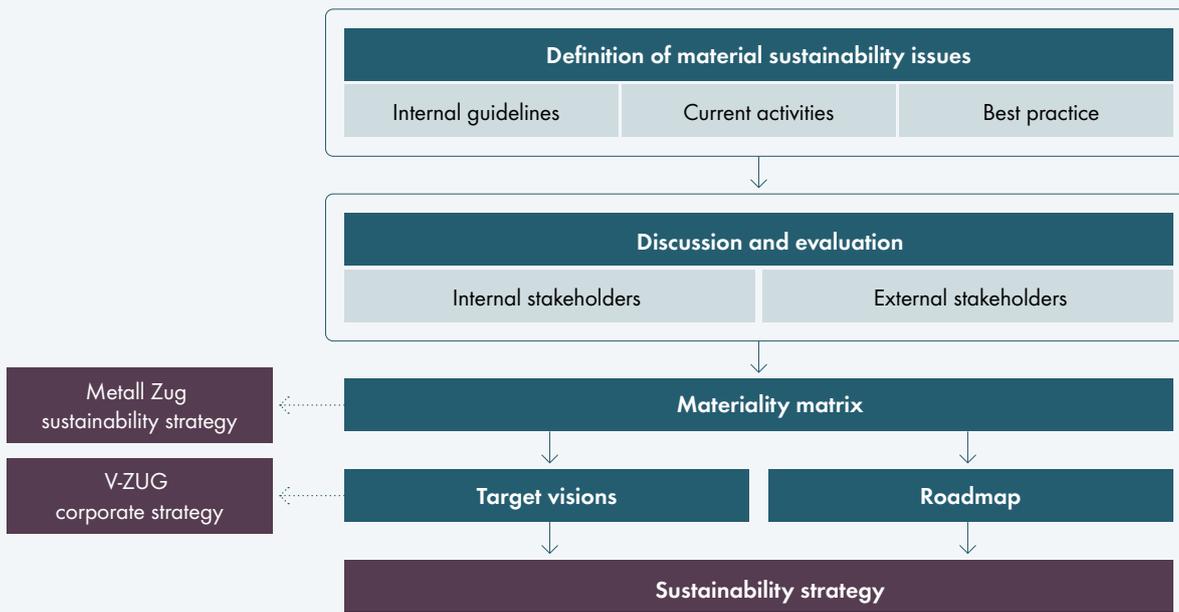


Fig. 3 Sustainability strategy process

We have been publishing a sustainability report and sharing our progress since 2012. To broadly embed ambitions within the company, refine our sustainability strategy and implement, quantify and communicate measures for sustainable actions in a more targeted way, Metall Zug has supported V-ZUG in its “Sustainability@V-ZUG” project by providing a sustainability team. This input has given a fresh focus and dynamism to our commitment.

With an internal working group made up of members of the Management of V-ZUG Ltd, V ZUG Cooling Technology Ltd and the SIBIRGroup AG as well as carefully chosen experts, we have worked with a consultancy firm to compare our performance with our internal guidelines, current activities and best practice examples, and to analyse sustainability issues that are of material significance to V-ZUG. We discussed the issues and assessed their relevance during in-depth interviews with six external stakeholders (customers, suppliers and academia) as well as six internal stakeholders from various areas. The materiality matrix derived from this process forms the strategic basis for developing, by the end of 2019, measurable targets for the medium (2022) and long-term (2030) horizon. To ensure that these targets are binding, starting in 2020 we will be incorporating them in our employees’ target agreements. Furthermore, the materiality matrix is to be included in Metall Zug’s consolidated sustainability strategy. Taking account of the materiality matrix, the working group held three workshops at which it devised a roadmap of around 90 measures, more than 60 of which will be undertaken as top priorities. We will be fleshing out this roadmap in more detail by the end of 2019, so that we can then take the specific measures.

The priorities in the materiality matrix have been merged into four thematic target visions. These target visions (see Fig. 5, p. 20) describe V-ZUG’s long-term sustainability vision. As part of the corporate strategy process, which will continue until the end of 2019, we are finalizing and refining the target visions with a view to appropriately incorporating them in our corporate strategy. This Sustainability Report, with its chapters entitled “Products and Services”, “Employees”, “Energy and Climate” and “Society”, is already based on the target visions.

We based our decision on which themes should be tackled as a high priority on the assessment by internal and external stakeholders. We assess the relevance of a theme to V-ZUG as very high (white zone) if the internal or external rating is at least 3.25 (> 80% of the maximum rating) on a scale of 1 to 4. This thematic weighting determines where the focus is placed in this Sustainability Report and the planned sustainability measures. Since compliance with the law by the company and our employees is crucial for our company and is therefore enshrined in Metall Zug’s Code of Conduct, we address the issue regardless of its rating in the materiality matrix. Our efforts also extend to all other non-priority themes.

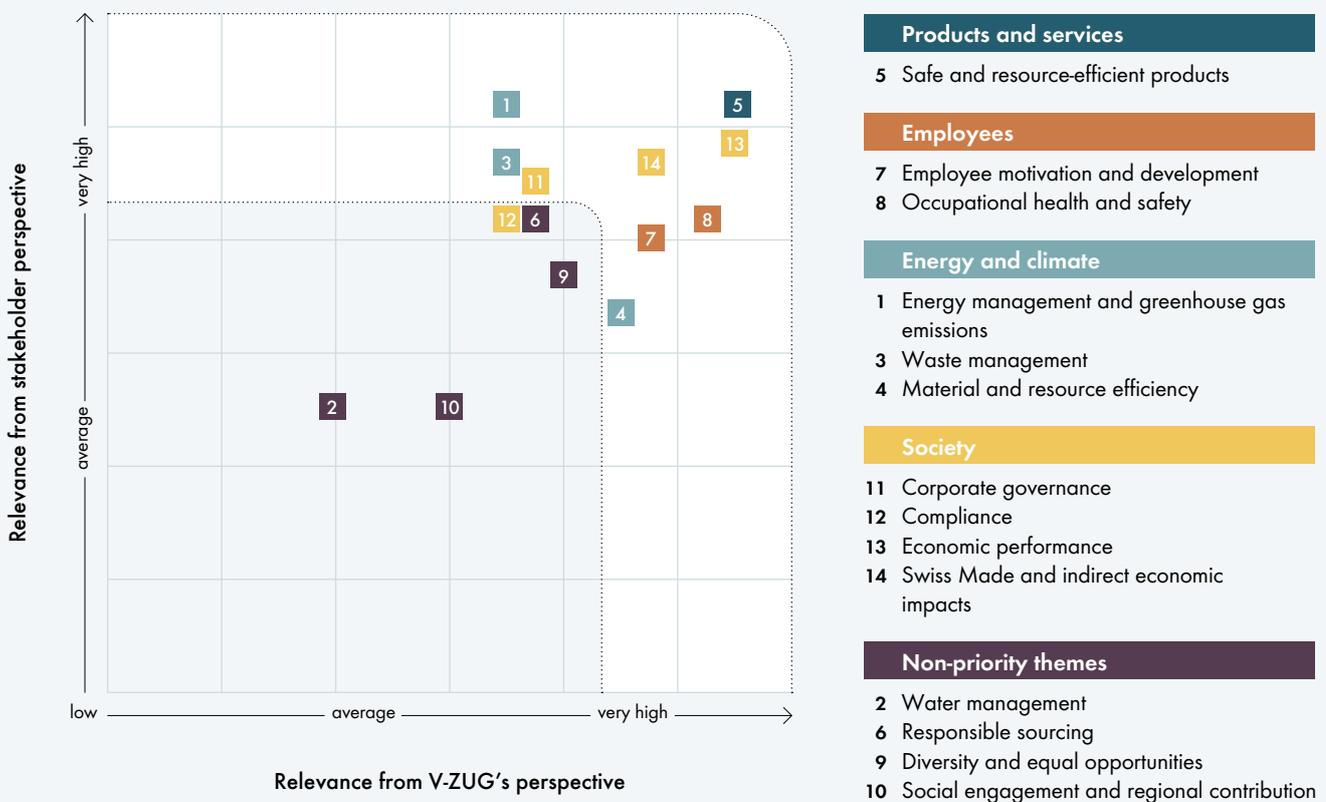


Fig. 4 Materiality Matrix

The table below shows our understanding of the themes. In-depth information about them can be found in the respective chapters.

Target vision	Relevant themes	Key aspects	Pages
Products and Services	Safe and resource-efficient products	Quality, service, energy and water efficiency, durability, recyclability	21-27
Employees	Employee motivation and development	Employee satisfaction, employee development and talent management, employee loyalty, work/family life balance, equal opportunities	28-38
	Occupational health and safety	Physical and mental integrity, accident prevention and health promotion	
Energy and climate	Energy management and greenhouse gas emissions	Energy efficiency and consumption, Energy sources, CO ₂ emissions	39-44
	Material and resource efficiency	Renewable, non-renewable materials in products, packaging materials, use of recycled materials	
	Waste management	Waste reduction, proper disposal, recycling	
Society	Corporate governance and compliance	Governance, Business integrity	45-49
	Economic performance	Commercial success	
	"Swiss Made" and indirect economic impacts	Commitment to Switzerland as a business location, direct and indirect regional economic impacts of the organization	

Fig. 5 Target visions for sustainability



**Products and
Services**

“That V-ZUG makes **high-quality products** is beyond doubt. But what particularly impresses me is that 100% of the appliances it manufactures itself fall in **energy efficiency class A or higher**. V-ZUG invests in the right innovations.”



Peter Hausheer

Head of Marketing & Category Kitchen, Sanitas Troesch

V-ZUG’s responsibility for its products doesn’t end at the time of delivery. Quite the opposite: our continual efforts to create more innovative, sustainable and future-proof solutions are focused on their entire lifespan. We know and manage downstream value-added processes, support our customers with their use of the products and take responsibility for their optimum environmentally-friendly disposal or recycling. To keep improving that recycling, we are working to reduce the number of composite materials and parts in our products and minimize the amount of controversial substances.

Appliances in use generate the most leverage

Energy and water consumption is far lower when producing our appliances than when using them. To exploit this leverage for a sustainable future, we want to develop and manufacture the most resource-efficient appliances without compromising on the end result or ease of use. As well as energy efficiency and minimum water consumption, this includes reducing noise emissions and protecting our customers’ everyday objects. This principle has been intrinsic to our innovation and development processes for many years. Consequently, V-ZUG has been able to significantly improve the efficiency of the Adora dishwasher, by improving the sensors and washing process and incorporating a heat pump and a tank. We encourage our customers to be sparing with resources, by informing them transparently about consumption and making tools available to them so that they can influence their own consumption. Some washing machines and dishwashers, for instance, have built-in **EcoManagement**, which informs the user of resource consumption after each wash cycle. Additionally, more environmentally sustainable programmes can be selected which use less energy despite their longer running time.

Premium Swiss quality

However, V-ZUG household appliances are designed not only to be sustainable in use, but also to provide many years of enjoyment. High-quality products are the cornerstone of this approach: V-ZUG appliances undergo an average of 600 function and safety tests, which we continually review and adjust. Quality management in our production facilities is certified to ISO 9001. Sustainable environmental management and high standards of occupational safety are also inherent in V-ZUG's integrated quality management system. For our Zug site, we are certified to ISO 14001 (environment) and OHSAS 18001 (occupational safety). As a traditional Swiss company, quality, precision and reliability are part of our DNA. The "Swiss Made" label is just one testament to this. We also support our customers with a fast, professional and flexible service (see "Facts and figures", p. 25).

Durable and up-to-date

Our durable household appliances are designed to generate added value in a modern household years after they are sold. The replacement part warranty of up to 15 years is the foundation of this. Furthermore, network capability is a key feature in the age of digitalization. Since February 2019, many of V-ZUG's products have been capable of communicating with smartphones, tablets etc. This integration makes it possible to design individual and flexible solutions for customers and V-ZUG, and to use cutting-edge technologies. Thanks to our RetroFit feature, households with appliances purchased from 2015 onwards have been able to take advantage of the latest product innovations without having to buy a new appliance. V-ZUG is currently working on solutions to extend this offering to older appliances.

Household appliances are integrated into the most private living spaces and have access to data on personal habits. In embracing digitalization, we acknowledge the attendant responsibility in the area of data protection and security. Since May 2018, V-ZUG has been compliant with the EU General Data Protection Regulation and, in addition, obtains customers' consent to store data even though there is no legal requirement to obtain that consent.



Facts and figures

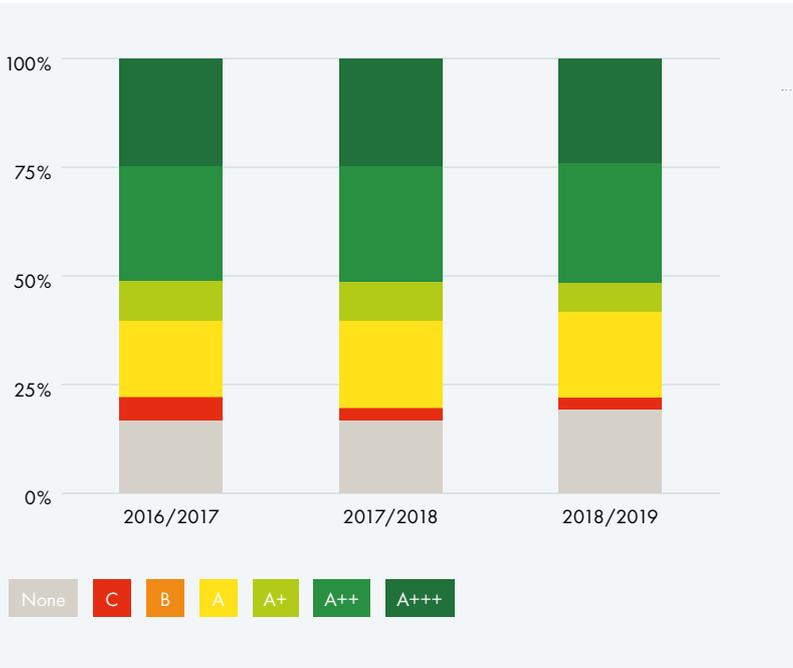


Fig. 6 Appliances delivered by energy efficiency class

Majority of appliances have energy efficiency class A and above

In 2018/2019, around 78% of our appliances delivered met European energy efficiency class A or higher. This is 2.5% fewer than in the prior period. However, this is due to the reclassification of data in connection with the switch to SAP: although appliances delivered to the USA satisfy energy efficiency class A or higher, since this reporting period they have been assigned to the “no energy efficiency class” group. Were it not for this reclassification, the percentage of appliances delivered which meet energy efficiency class A or higher would have risen by 0.5%.

It should be borne in mind that there is no official European energy efficiency classification for certain product categories. At V-ZUG, this mainly affects hobs, warming drawers and microwaves. Moreover, not every appliance category can be awarded a classification higher than A (i.e. A+ to A+++). The appliances in class C are hoods, usage of which is relatively low compared with other household appliances. Of the appliances we manufacture ourselves, 100% have the label A, A+, A++ or A+++.



Warming drawer 60 fully integratable

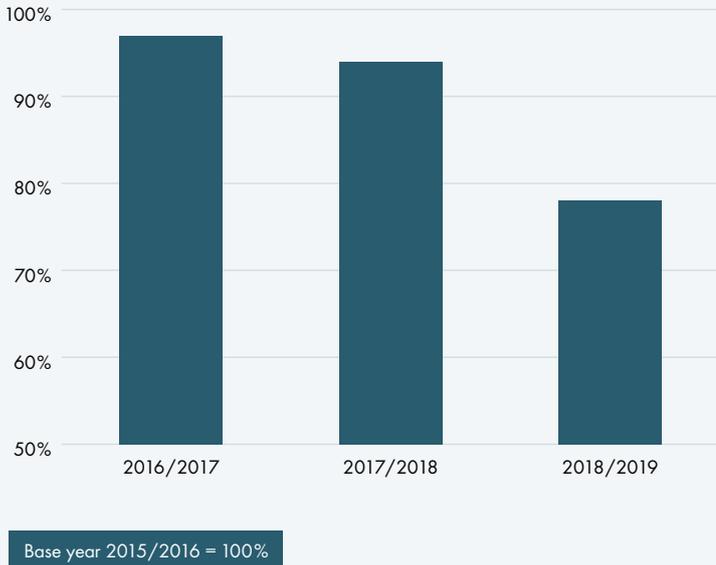


Fig. 7 Incidence of faults in Switzerland (indexed to 2015/2016 situation)*

Sharp fall in faults

For our customers, faulty household appliances are a nuisance. For us, they also have financial implications: repairs and maintenance services which we carry out under warranty or as a goodwill gesture incur quality-related costs. To counter this, we continuously invest in optimized products and manufacturing and logistics processes. Compared with 2015/2016, the number of faults recorded by us fell by 22 % p. during the reporting period.

Slightly longer response time

If a fault does occur, our aim is to respond swiftly and, if at all possible, resolve the issue on our first visit. Speed of response and successful repair on the first visit are therefore crucial statistics for our service and support. We have steadily reduced our average response time in recent years. In this reporting period, we were unable to do this because of the switch to SAP. However, the system issues which arose have now been rectified and stabilized. In this reporting period, the rate of faults repaired on first visit was once again around 90%, i.e. we are able to resolve nine out of ten faults on the spot.

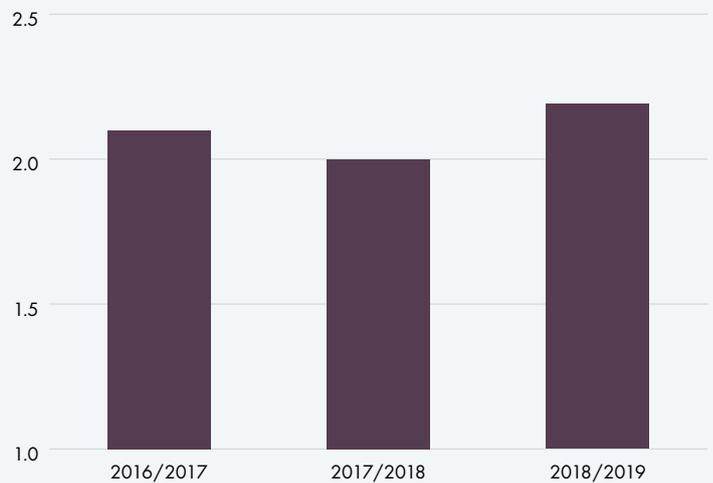


Fig. 8 Average response time in days (Switzerland)

* Note: the figures reported in the 2017/2018 Sustainability Report for 2016/2017 and 2017/2018 have been corrected due to a data processing error.

Intelligent machines

As users of V-ZUG appliances, customers can actively influence the impact of a wash cycle or cooking process on the environment. However, making these decisions all the time and correctly weighing up all the factors isn't always easy when you aren't au fait with the technical details. Does a washing machine need less or more energy on a short programme? Does water consumption increase on a longer wash cycle? And is it more energy-efficient to cook fried potatoes in a pan or jacket potatoes in the oven? We empower our customers to manage their environmental impact on a daily basis, both easily and accurately (see "It knows better", p. 27). The eco-programme feature, for instance, means that a standard programme on the dishwasher or washing machine runs more resource-efficiently, yet crockery and fabrics come out just as clean. And built-in **EcoManagement** tells you the predicted and actual energy and water consumption. V-ZUG is still in the early stages of the developments that will enable appliances to be used as "application consultants", but lots of ideas are in the pipeline. "Imagine your hob suggests turning down the heat because it knows that the recipe works just as well on a lower setting. And you can decide from the comfort of your sofa whether or not to follow the recommendation", suggests Stephan Keller, Director of the Technical Department. Our customers are the key players when it comes to more sustainability in the household. We are constantly working towards making caring for the environment enjoyable and something that happens without you having to think about it.

Listening to the dishwasher's heartbeat

Innovation gives rise not only to new appliances, but to better quality ones. A proof of concept is currently being prepared which allows us to listen in to a closed appliance. In this scenario, artificial intelligence doesn't give us eyes, but ears which enable us to listen to a machine's insides, much as a doctor listens to a patient's heartbeat. If, for example, the water starts making a different sound, this is a clear indication of a malfunction. The added value of artificial intelligence lies not just in identifying the faults and the solutions. On top of this, with each application the software learns more and gets better at giving feedback. "By refining the quality checks, we avoid unnecessary service trips, while at the same making V-ZUG fit for the future and forging valuable alliances", explains Stephan Keller, Director of the Technical Department at V-ZUG. Because for V-ZUG, innovation means working hand in hand with technology pioneers, making long-term investments and taking calculable risks. Testing out new technologies is part of this. It's a win-win for everyone involved: the partner firm has access to a "test object", while V-ZUG is able to trial exciting applications for nascent technologies at an early stage.

It knows better

Most people realize that a summer dress doesn't need a thorough wash after one wear in the same way as a beach towel after a weekend by the lake. However, many of us aren't sure what constitutes the right amount of detergent. And because we like to wear clean, nice-smelling clothes, we tend to use too much. "In terms of the environment, this isn't great, because the machine has to use more water to contend with the excessive foam in the drum", explains Ernst Dober, Head of Innovation, Services & Technology. Moreover, an unnecessary amount of detergent gets into the waste water. OptiDos, a product function that was launched at the start of 2019, makes the decision about the correct amount of detergent for you: enter the water hardness just once, enter the degree of soiling if necessary and select the programme, then the washing machine does the rest. Using this information and sophisticated sensors, the machine independently works out the optimum dose of our customers' favourite detergents. "This is a user-friendly tool which offers every household a simple way to save resources, benefiting the environment and their wallet. And we don't restrict customers' flexibility, because V-ZUG washing machines still allow manual dispensing", Ernst Dober is happy to add.



AdoraWash V4000

A man with short brown hair, wearing a grey polo shirt and a silver watch, is focused on working on a server rack. He is using a black and red power drill to work on the equipment. Several green cables are visible, plugged into the server. The background is a blurred server room with orange and grey panels.

Employees

Around 1,800 people from all kinds of professional groups work for V-ZUG in more than ten countries, spread over four continents. It is thanks to their personal skills, professional expertise and daily commitment that V-ZUG has been operating successfully for more than 100 years and is able to maintain the loyalty of its customers with its high quality, strong innovative flair and first-class service. The wellbeing of our employees is therefore paramount to us.

We regard fair and regulated [working relationships](#), an effective health management system (“[vitality](#)”), high standards of occupational safety (in line with OHSAS 18001) as well as a wide range of education and training opportunities ([V-ZUGacademy](#)) as key conditions for our employees’ satisfaction and motivation. Our HR department is operationally responsible for all personnel services and works with various internal and external specialist groups to deal with employee health problems. We use meaningful indicators (see “[Facts and figures](#)”, p. 31) to manage all employment-related aspects. We incorporate the information in an annual report on quality, the environment and occupational safety, as well as in a risk report. Both are published internally and discussed by the management. A comprehensive employee satisfaction survey is conducted every three years, most recently in the September/October 2018 period (see “[How satisfied are our employees really?](#)”, p. 34)

Healthy and fit for the future

Work has a major impact on wellbeing and performance. We want to support our employees in keeping fit and active, and therefore remaining successful in their jobs. V-ZUG’s health management system “[vitality](#)” turns the focus on physical and mental health. We are committed to prevention, by reducing risk factors and increasing protective factors, and to supporting people affected by such issues (see “[Getting back into the world of work](#)”, p. 35).

Moreover, in the era of digital transformation, we are in the midst of a complex change process which will greatly alter the demands placed on our skills and performance. Changed processes, dynamic occupational profiles and new technologies increasingly demand joined-up thinking, high flexibility and the ability to handle complexity, uncertainties and risks. Against this backdrop, the concept of lifelong learning is ever more important. We see it as part of our responsibility to empower employees to exploit change processes in order to broaden their own skills, so that they are in good shape to look to the future with confidence. Managers have an essential role to play here. Since May 2018, we have been training them in line with our future-oriented competency model and have implemented the first concrete measures such as [V-ZUGconnect](#) (see “[Dialogue replaces performance review](#)”, p. 34). We must also recognize that it isn’t enough to have an extensive professional development offering if it isn’t used. Instead, we must develop a culture of lifelong learning, which is shared by employees from all areas and at all levels. We run internal trainings at which we show all managers how they can promote this learning culture in their teams and throughout the company.

It's all about the mix

Our company is home to many different personalities with a wide range of specialist qualifications, cultural backgrounds and life situations. This ranges from trainees and unskilled employees right through to doctoral graduates. Our youngest employees are 16 years old, the oldest choose to work beyond normal retirement age. The generation mix is as important to us as the skills or gender mix, because we firmly believe that diversity is a key driver of innovation and motivation. Equal opportunities must be a given. By this we mean equal treatment of men and women, of people with disabilities, people of different origins or people with different educational backgrounds. To enable us to properly promote and develop the diverse talents at V-ZUG, we have established a three-tier career model which, as well as the traditional line hierarchy, accommodates specialist and project career development. After all, a highly specialized professional does not necessarily have the same skills as those required of a project manager, who must have a strong lateral leadership skills. Conversely, however, the project manager may be very well suited to a specialist career. This career model also allows promotion opportunities for employees who work part-time, helping them to balance work and private life (see interview "Dynamic duo", p. 36). As a cross-company platform, the ZUG Women's Network is committed to gender equality at V-ZUG. The network is a sparring partner and engages in regular dialogue with the HR department and the employee representative body. Reconciling family life with work presents a particular challenge to most parents. With this in mind, we are planning a "parents@work" scheme, designed to assist mothers and fathers in finding their feet during the challenging phase of starting a family. Not least, the intention is to help ease their return to work following paternity or maternity leave and offer employees a suitable working model and attractive work content for the long term.

Facts and figures

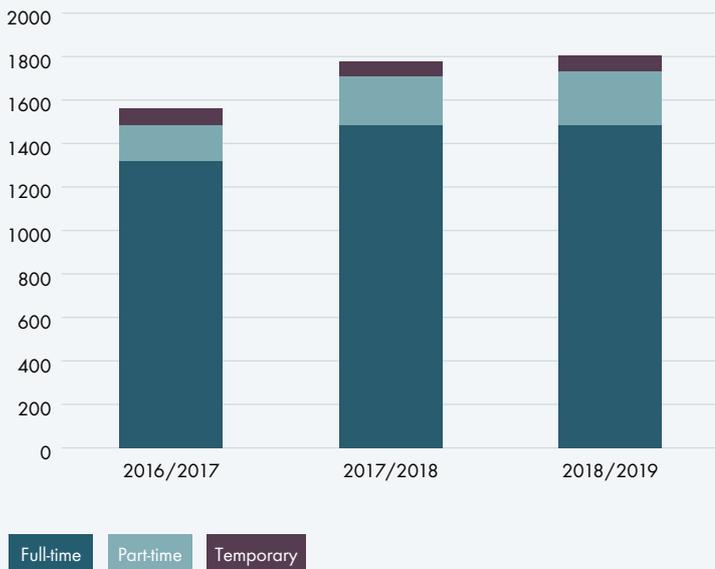


Fig. 9 Employees by employment contract

Part-time: a growing trend

In the 2018/2019 reporting year, 1,803 people were employed at V-ZUG (72 of them temporary workers). 82% of our employees work full-time. The percentage of part-time employees rose by 1.2% compared with the 2017/2018 reporting period. Part-time working is a very strong trend on the labour market. Reflecting this, we are receiving more internal requests and expressions of interest in applications. In Switzerland, around 17% of employees on permanent contracts are aged under 30, 52% between 30 and 50, and 32% over 50. We deliberately cover the full range of ages from 16 to 65. Furthermore, V-ZUG is actively involved in the awareness campaign “Age has potential”, run by the Canton of Zug.

Women still underrepresented

Last year, the percentage of women was around 22%, which was slightly higher than 2017/2018. With taster courses for school students, flexible working hours and models (see interview “Dynamic duo”, p. 36) and initiatives such as “parents@work” and the V-ZUG Women’s Network, we are shaping a corporate culture of equal opportunities. The share of women at executive level has risen further. However, at around 18%, women are still underrepresented at management level. We arrange external audits of equal pay every four years (most recently in 2016) and our certificate in accordance with L&M-Aba-24®, which is also valid for four years, confirms the non-discriminatory remuneration of our employees.

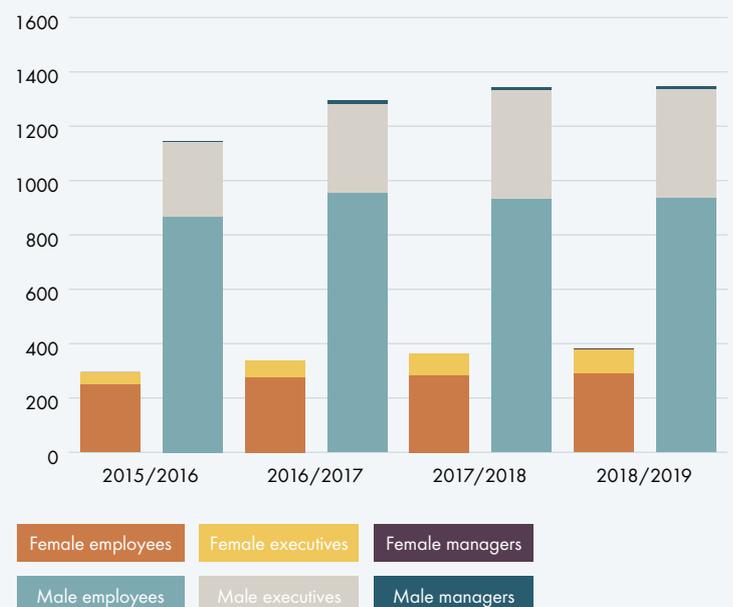


Fig. 10 Employees by gender and hierarchical level

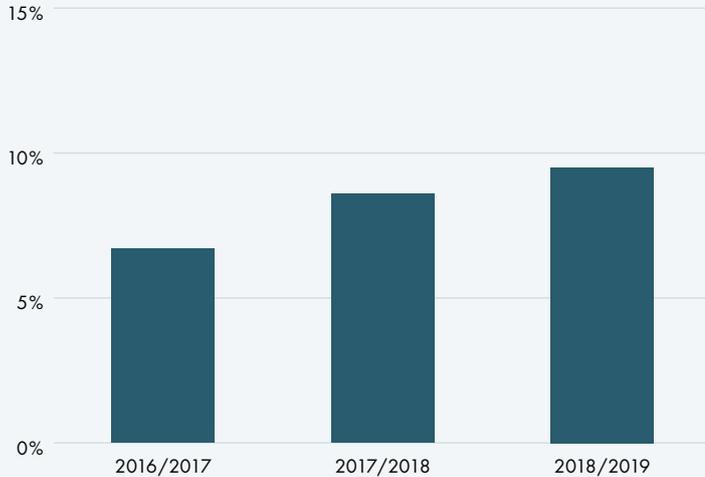


Fig. 11 Turnover rate

Rise in staff turnover

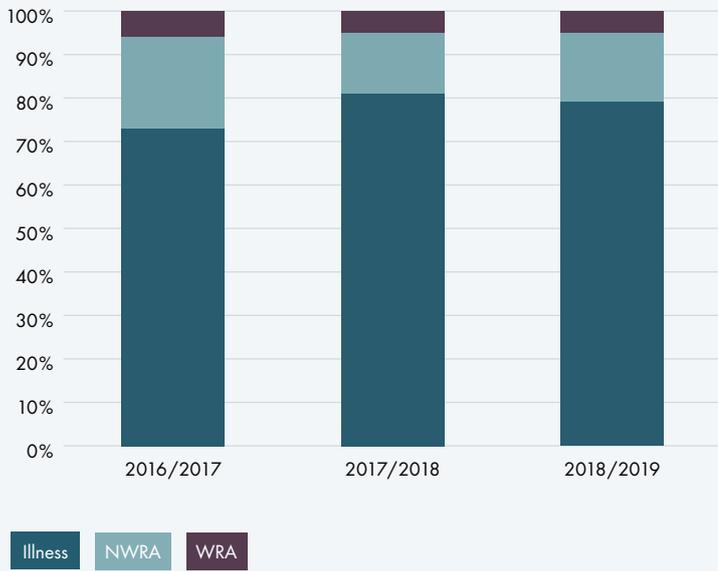
In 2018/2019 we welcomed 204 new employees to V-ZUG and 159 people left our company in the same period. This equates to a turnover rate (excluding retirements) of 9.5%. Turnover has increased by 0.8%p. compared with 2017/2018. Voluntary turnover, however, has remained consistently below 5% in recent years. We believe that the slightly upward trend in overall turnover over recent years is to do with the process of transformation at our company, as this impacts on work processes and organization, as well as areas and content of work.

Occupational accidents and absenteeism rate consistently low

We recorded 69 work-related accidents at V-ZUG during the reporting period. This is a fall of around 30% compared with the prior period, due to a sharp drop in minor accidents (e.g. bruises, cuts etc. entailing absence of less than three days). Accordingly, the share of minor accidents in work-related accidents has decreased to around 35%. The absenteeism rate, i.e. the hours lost due to work-related accidents as a percentage of all hours worked, decreased by 0.08%p. during the reporting year compared with the previous year. Minor accidents most commonly occur in production and service and are mainly due to carelessness or stressful situations. Occupational safety is and will remain one of our key quality concerns, as work-related accidents are a cause of both physical suffering and financial costs. Therefore, we remain committed to targeted information and training to raise awareness among our employees and encourage them to take personal responsibility.



Fig. 12 Number of hours lost due to work-related accidents



Slight decrease in hours lost

Hours lost due to work-related accidents, non work-related accidents and illness increased by 7.2% compared with the prior period. Around 80% of all hours of absence are attributable to illness. The sharpest rise has been in hours lost due to non work-related accidents (+19.0%). This general increase is mainly attributable to two causes: firstly, more people are working at V-ZUG, which automatically leads to more total hours lost. Secondly, 2018 and 2019 were both exceptionally challenging and difficult years for all employees, which can lead to more stress-related incidences of illness.

Fig. 13 Absenteeism rate by cause (WRA: work-related accidents; NWRA: non work-related accidents)



How satisfied are our employees really?

To increase the satisfaction of our employees, every three years we commission an external provider to conduct a survey at the Zug site. Between September and October 2018, 963 employees (61.5%) took part in the latest survey. Their overall satisfaction was evaluated based on their responses regarding the issues of job satisfaction, commitment and engagement. “We can also deduce from this to what extent employees support our strategic objectives, such as customer focus, innovation or cost awareness”, explains Rolf Jenni, Head of Human Resources. Encouragingly, job satisfaction is rated good overall. This is despite increased workload due to the introduction of SAP in 2018, and the high levels of noise caused by the site’s transformation (see “175 tonnes of innovation”, p. 43). The degree to which employees identify with V-ZUG and their above-average motivation and commitment are also very pleasing. However, Rolf Jenni adds: “Nonetheless, there are a few cultural factors we need to address. It is increasingly apparent that the way we work together is a key factor in job satisfaction. Many of us would like to work more for each other than with each other.” Christian Bärlocher, Head of Global Marketing, has also noticed this. Following the evaluation of the employee survey, he and his team held a workshop to identify concrete measures to improve their situation. The measures include clear prioritization of upcoming projects by team leaders and sourcing noise barriers. “In our team, as well as the increasing pressure of work, communication was a particularly big theme.” Dirk Hoffmann, former CEO of V-ZUG, confirms just how important smoothly functioning internal communication is. “Evidently we have scope to improve in this regard. The new internal communication concept is a first step. Now, we have to implement it.”

Dialogue replaces performance review

With the competency model in which we have trained all managers at the Zug site in the last two years, we are establishing a values-based leadership culture which is geared towards the changing work environment and the new expectations employees have of their employer. During the reporting period, we launched the pilot project “V-ZUGconnect” as an important accompanying measure. The chief objective is to manage employees in a respectful way, by connecting with them as equals. “V-ZUGconnect” marks a move away from a firmly established ritual, the formal performance review, towards continuous dialogue. With this concept, it is crucial that we share feedback with each other in the team, across all hierarchical levels, and focus on the question of how we can address the issue better in future. How will we benefit? “In a dynamic world, annual targets as a tool are too rigid and may divert employees away from themes which, in the near future, will become more relevant. Continual dialogue, however, enables continuous individual development, which in turn strengthens the culture of lifelong learning and trust between team members. Moreover, it places line managers in a better position to perform their role as facilitators and motivators”, explains Rolf Jenni, Head of Human Resources, adding that:

“People are better able to ignite their potential when they focus on their strengths and we try and show them how they can better exploit and develop them.” Rolf Jenni is a firm believer in the dialogue approach, and rightly so: the pilot project, developed with managers, was a success. So, in autumn 2019, “V-ZUGconnect” is replacing the performance review throughout the company.

Getting back into the world of work

In November 2017, Reto C.* began suffering mental health problems due to too much stress at work over several months. In cases such as this, when an employee needs support to resume their normal activity following an extended illness or accident, our Care Management (CRM) comes into play. “We held an initial meeting to discuss how I could resume my job and in what timeframe”, explains Reto C., adding that it was very important to him that he received an open and warm reception from CRM. As well as the care manager, a job coach arranged by the disability insurance scheme was involved. The job coach supported Reto C. throughout his reintegration and liaised between him, V-ZUG and the doctor. “Together, we set the target of getting back to a full workload, i.e. working full-time hours.” To enable this, the job coach, line manager, care manager and patient sat down together and regularly discussed attendance, performance and time worked, taking account of the doctor’s report, and decided the next steps. Reto C. also found the honest feedback he received in this setting extremely valuable, particularly the feedback from his line manager about his performance: “It gave me the sense of being in good hands and encouraged me to keep fighting my way back.” The first month was particularly tough, but things got easier over time. Since 1 December 2018, Reto C. has been back working full-time in his old job. In hindsight, what would he do differently? “These days, I’d get help sooner. For instance, I’d contact V-ZUG’s CRM to find out what can be done in those circumstances. Anyone who doesn’t want to seek their employer’s advice can contact the external employee advice line (Krisenintervention Schweiz) free of charge. V-ZUG offers this service to all its employees.”

* Reto C. is a pseudonym.

Dynamic duo



Daniela Arnold and Christian Roth are two of V-ZUG's innovation drivers. Since January 2017, they've been running the "Technology Development" team together and are proof that it is possible to combine a career, a personal life and specialist projects.

What's your latest crazy invention?

Christian Roth: I wouldn't say it's crazy, it was more of a response to the hot summer. We managed to chill a can of beer from 25 °C to 5 °C in 15 seconds.

Is that sustainable?

Daniela Arnold: The chilling speed has no significant influence on the fridge's energy consumption. But in our work, enhanced customer benefit and sustainability are the key drivers of technical innovations. One of our projects, for example, is focused on minimizing the release of microplastics during washing.

You're the only people at present to co-manage a team at V-ZUG. How did it come about?

Daniela Arnold: I used to work as Head of Innovation and it was my job to implement technology projects, working with lots of different departments. Eventually it became apparent that it makes more sense to create a team entirely dedicated to technological innovations. As I was heavily involved in setting up the team, it's kind of my baby. But as I work part-time and, alongside managing people, enjoy getting involved in projects, the idea of co-managing the team really appealed to me.

Christian Roth: I'm fascinated by all things technology-related and I enjoy being involved in developing at the frontline. But because I'm also very interested in people, I loved the idea of combining specialist work and management tasks. So Daniela and I submitted a proposal to our line managers explaining why we wanted to co-manage a team and how this would benefit V-ZUG.

And how does it benefit V-ZUG?

Christian Roth: We have the advantage of two perspectives and two opinions, which are taken on board in every important decision. To my mind, that's very valuable. It vastly improves the quality of our work.

Critics would call your decision-making processes inefficient.

Christian Roth: Efficiency is always about the cost-benefit ratio. Being co-managers, the decisions we make are very well thought-out so, although on first sight they cost more, they contain fewer errors and spare us the ensuing costs of, say, unnecessary projects. So I believe our model is efficient in the long run.

Daniela Arnold: In reality, the fact that we co-manage the team very quickly leads to huge quality improvements, as we are able to hold the analytical discussion at an unusually early stage.

Besides this improvement in quality: what does co-management bring to the company?

Christian Roth: A highly motivated team. We like the fact that, despite being managers, we can also implement specialist projects. Employees are happy since one of us is always there and, in case of doubt, they can get the input of two managers.

Daniela Arnold: As we're both involved in the employee representative body, our shared management role is highly visible and boosts V-ZUG's reputation as a progressive employer. Plus, by sharing management of the team, we demonstrate how a managerial role can be held on a part-time basis, which means parents aren't faced with a tough decision between time for kids or a career.

And what are the challenges?

Christian Roth: We have to routinely and frequently confer with each other. We've set aside an hour each week to do this. We also have a joint electronic notebook in which we always note the key information, so that we both know what's going on at all times. Plus, sometimes it's not clear whether we should make a decision by ourselves or agree it with the other person. So we rely on open communication and mutual trust.

Daniela Arnold: Our seven-strong team of specialists is highly interdisciplinary in nature, and the diversity of our projects reflects this. It can sometimes prove challenging keeping track of everything. It's important that we act as sparring partners for our employees and are able to make decisions. At the same time, we never lose sight of the fact that our employees are the experts. We're there to support them and back them up, so they can do their jobs as well as possible and keep developing on a personal level.

Would you recommend the co-management model, generally speaking?

Daniela Arnold: I think you have to consider what each team needs, what you expect of the team and the managers, and then decide on the possible management model. Plus, I'd never take on managing a team with somebody I didn't know.

Christian Roth: I would always recommend investigating co-management as an option. It may open up dynamics and potential which are less likely to emerge in traditional set-ups.

And how good do you think your shared management role looks on your CV?

Daniela Arnold: Good question. I think it can be really good – but that probably depends greatly on who the CV is aimed at. It looks good because holding a shared managerial role shows you have strong social skills and this is increasingly important, even in technical professions. Moreover, it makes it clear not only that we have leadership experience but also that our involvement in project work has kept us 'on the ball' technology-wise. That can undoubtedly make us more attractive on the job market.

A scenic landscape featuring rolling green hills under a bright, slightly hazy sky. In the foreground, a large, dark green tree stands on a grassy slope. Below it, a small white house with a dark roof is visible, surrounded by other smaller buildings and trees. The hills in the background are covered in lush green grass, and the overall atmosphere is peaceful and rural.

Energy and Climate

We enamel our ovens at over 800 °C, need energy to power our automated systems, use all kinds of different materials and cause waste in our value-added processes. Although our products consume far more energy when used by customers than during their manufacture (see “Products and Services”, p. 21), we are working constantly to reduce the environmental impact of our sites.

Carbon neutrality: our aim

Reducing CO₂ emissions is a focus of our commitment to sustainability and, in the long term, we want to become carbon neutral not just for our own operations at the Zug site, but for the whole [Technology Cluster Zug \(TCZ\)](#) (see “Society”, p. 45). Consequently, V-ZUG is a participant in the EnAW (Energy Agency Swiss Private Sector) and, together with the other Metall Zug subsidiaries, has signed a target agreement with the Confederation. In this, we commit to constantly reducing emissions and achieving CO₂-neutral production at the Zug site from 2020. Due to the switch to biogas, we will achieve this target with a slight delay, at the end of 2020. Owing to deviations from the ambitious schedule for reducing emissions, V-ZUG will probably have to pay a fine to the Confederation. And we continue to pay a voluntary levy to Metall Zug for CO₂ emissions caused, amounting to CHF 120 per tonne of CO₂. These funds are used to finance energy efficiency projects, such as the Multi-Energy Hub.

Autonomous and networked: the Multi-Energy Hub

The low-CO₂ and largely autonomous Multi-Energy Hub (MEH) is intended in future to supply the TCZ (see “Society”, p. 45) and surrounding users with as much locally renewable energy as possible from photovoltaics, groundwater and lake water. To increase energy efficiency, the MEH is being developed according to the principle of sector coupling. A multi-site converging network enables energy to be stored and transformed, for example by systematically using industrial waste heat and new processes such as power-to-gas. We are nearing the step-by-step commissioning of the MEH from 2020 onwards. The receipt of the licence to use two groundwater sources on the site and the ordering of a photovoltaic unit for the new Zephyr Hangar are the latest milestones.

Higher productivity on less space

Reducing our footprint on our main site in the city of Zug is enabling the TCZ to be created and goes hand in hand with an overhaul of our operating system. Both processes and infrastructure are being radically altered. Verticalizing production in the Zephyr Hangar and Zephyr Central and East buildings while also optimizing processes means that, in future, we will need only around 40% of the current space, can reduce the floor area used and double productivity per square metre. The new buildings meet stringent sustainability standards. The Zephyr Hangar has been fitted with LED lighting and we are planning a photovoltaic unit on the roof. Moreover, the new press will soon enable us to significantly increase energy efficiency in the production process (see “175 tonnes of innovation”, p. 43).

Our waste: 80% recyclable

Waste is generated in our production, development, logistics and administrative processes. Metal, cardboard and paper, as well as wood, make up around two thirds of this. Worn-out V-ZUG appliances are another major component. We can recycle 80% of the materials and the remaining 20% are professionally disposed of according to the conventional method. We are working to optimize the recycling of V-ZUG appliances and are rethinking our waste processes. The new V-ZUG operating system is a big step forward, as the press, which was installed in June, automatically sorts material residues into the appropriate containers and the software issues a notification when they need emptying. However, we are also implementing optimizations on a smaller scale: now, for example, V-ZUG employees stir their coffee with wooden sticks rather than plastic ones. By making such changes, we intend to raise awareness among our employees and encourage them to take account of environmental factors in their daily decisions.

“V-ZUG takes an **integrated approach** to the issue of sustainability. As well as **energy-efficient appliances** and **resource-efficient processes**, this includes developing sustainable innovations with partners such as ourselves, in this case in the NEST research building. This enables us to **achieve the climate targets** we have set ourselves and protect the environment for the long term.”



Prof. Dr. Gian-Luca Bona
Director Empa

Facts and figures



Fig. 14 Energy consumption within V-ZUG by energy sources (in Terajoule)*

Rise in absolute energy consumption

In 2018/2019, absolute energy consumption within the organization was 113.1 terajoules. That figure is made up of electricity (41.6%), natural gas and biogas (27.1%), diesel (23.4%) and petrol (0.03%) for our own fleet of vehicles (including trucks), and heating oil (7.9%). Energy consumption rose by 3.0% compared with the prior year, but fell by 3.2% compared with 2016/2017. This is because, in 2017/2018, we lowered the temperature in the manufacturing halls in Arbon, on a trial basis. However, as the lower temperatures were very unpleasant for employees and also impaired the bonding properties of the adhesives, the heating system was turned up again during this reporting period.

CO₂ emissions increasing

In 2017/2018, our business operations caused 4,698 tonnes of energy-related CO₂ emissions. These are comprised of diesel (41.4%), natural gas (32.3%), heating oil (14.0%), petrol (0.05%) and electricity (12.2%). At the Zug site, electricity (which we have sourced entirely from Swiss hydroelectric power since 2014) causes zero emissions. CO₂ emissions have therefore risen by 2.4% compared with the prior period. This development is due in part to heating oil consumption in Arbon.

* Note: the figures reported in the 2017/2018 Sustainability Report for 2016/2017 and 2017/2018 have been revised due to an accounting error made with natural gas and biogas consumption.

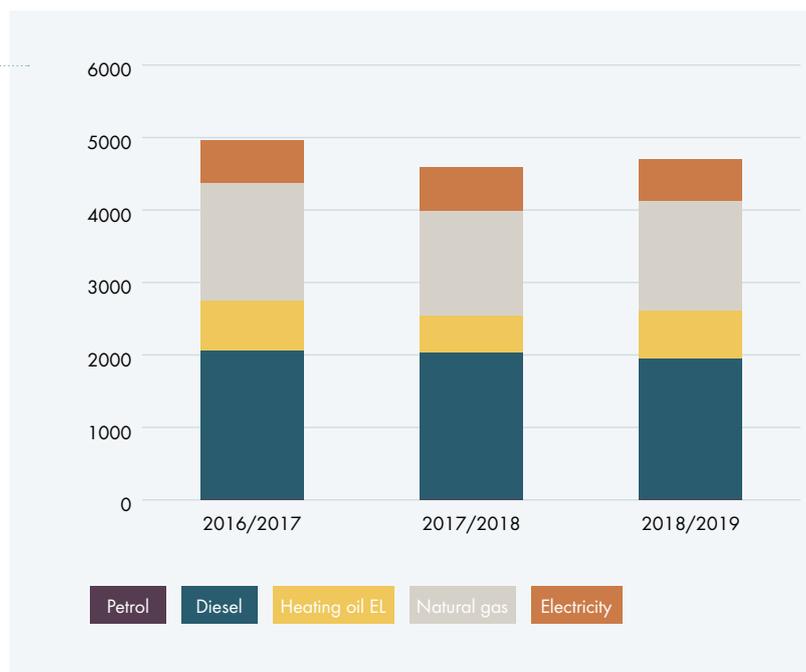


Fig. 15 CO₂ emissions
Direct site emissions (Scope 1; diesel, gas, heating oil EL) and direct off-site emissions (Scope 2; electricity) in tonnes of CO₂*

175 tonnes of innovation

The night of 12 to 13 June 2019 was a busy one at our head office in Zug. The new press, a centre-piece of the future production facilities, had arrived on time after one week in [heavy haulage](#). The press is extremely innovative in many respects and replaces a combination of several presses and robots in the existing production plant. Relocating the pressing plant to the north site frees up space for the [Technology Cluster Zug \(TCZ\)](#). Some production steps, such as tool changing, will soon be much faster and enable smaller batch sizes and highly efficient working methods. "The new press is all-singing and all-dancing. The built-in servo motors enable energy efficiency to be increased by up to 30%", Roland Häfliger explains with pride. The electric servo motors replace the hydraulic drive and allow optimized energy consumption. This is because the transfer bars, which are similar to the part that connects the wheels of a locomotive, transport the parts for processing through the production process. The faster up-stroke of the ram and slower forming process itself mean that the production step is both faster and more controlled overall. "The new press affirms a bold commitment to Zug as an industrial location, expresses our innovativeness and marks a milestone towards sustainable production – for the economy, society and environment here in Zug", Roland Häfliger concludes.

Print-2-me: central, shared yet private

Since early 2019, a new printing system has been helping us to save paper and electricity in our daily routine. Print-2-me temporarily saves print jobs, which can then be printed with a personal badge on any printer at almost all V-ZUG Switzerland sites. "This safeguards confidentiality when handling sensitive information, which in the past has often been an argument against central printers", explains project manager Ernst Stecher. Moreover, as part of the switch, V-ZUG has reduced the printer fleet by 30%. The use of cutting-edge devices makes for more energy-efficient printing processes with lower CO₂ emissions. According to estimates, Print-2-me reduces paper consumption by 5 to 10%, because if somebody forgets to limit the number of pages or switch to black & white, employees can create a new print job without the incorrect one having already been carried out. Moreover, double-sided printing is standard. "Of course there are always sceptics. We've tried to involve them from an early stage. It was also nice to see that a few employees approached the project team as early as the analysis phase and told them about opportunities they had identified in their department for reducing the number of printers", Ernst Stecher says with obvious pleasure. Furthermore, the new system provides V-ZUG with important information for a better understanding of printing behaviour, which can be used as a basis for further incentives to design more resource-efficient processes.



As much as necessary

We can learn a lot from history. Today, for example, the milkman's logistical concept of only bringing as much milk to households as was needed to replenish stocks is used in industry. The objective of this is to keep warehouse stock as low as possible, yet still stable, and to optimize the cost to benefit ratio of all journeys made by drivers. Following lots of groundwork, the first "milk run" was made at V-ZUG in the summer of 2019: instead of each supplier transporting its product to us as an entire truckload, we now travel with one vehicle to several suppliers in the vicinity. We only collect from them the parts that V-ZUG will soon be processing. In this way, we reduce stocks in our warehouses and save on space and energy. At the same time, we motivate our suppliers to review how they manage their stocks and to make changes. In future, V-ZUG drivers will be visiting suppliers more frequently and collecting smaller quantities of various products. "A good way to think of it is this: latterly, each delivery has contained a complete set of tableware, rather than just knives or forks. In this way, V-ZUG reduces stocks and increases certainty in regard to availability of materials", explains project manager Stefan Weitz. And V-ZUG compensates for more frequent delivery intervals with fewer unladen journeys, thanks to optimized route planning and an intelligent combination of delivery and collection. Furthermore, the system involves the use of returnable packaging, reducing packaging waste and enabling further efficiency improvements.



Society

We put down roots in Zug in 1913, when Verzinkerei Zug was founded, and over more than a century of shared history we have become an integral part of Zug's society. Our adopted home has moulded our identity. We fully embody Swiss values such as innovation, perfection, reliability and sustainability and, with our name, our products and our service concept, take those values into households in Switzerland and abroad. Over our company's long history, we have formed sustainable relationships with our neighbours, civil society organizations and the municipal and cantonal authorities. We participate in local and regional initiatives and associations covering the issues of water consumption, energy efficiency or healthy eating. For instance, we support the WERZ competence centre for energy and resource efficiency and are a founding member of the "Innovationspark Zentralschweiz" association. We are also committed to cultural and charitable organizations in Zug. For example, as a key sponsor of the Swiss Wrestling and Alpine Festival (ESAF), which was held in Zug in 2019, we were closely involved in its planning and staging, and we heavily supported the running of the event with 67 volunteer V-ZUG helpers (see "Key sponsor of the Swiss Wrestling and Alpine Festival (ESAF)", p. 49). Our regular "Open Days" and almost daily visitor tours give the outside world an insight into what we do. V-ZUG's terms of employment explicitly allow the performance of public duties, to enable our employees to get involved in society and politics. This close-knit network of contacts is a cornerstone of a business-friendly climate that will continue allowing us to compete on the international stage and take the "Swiss Made" label out into the world from our base in Zug.

Technology Cluster Zug – an innovation quarter

In order to ensure the continued success of our research, development and production at the Zug site, we are making our workplace and scientific hub fit for the future. A brand new district is being built on our main site which will create new opportunities for V-ZUG as a company, Zug as an industrial location and Switzerland as a manufacturing base. With the launch of the [Technology Cluster Zug \(TCZ\)](#), we are modernizing our site in Zug with the added intention of attracting more companies, start-ups and institutions to set up here. We believe that the diverse relationships and synergies between these future users offer great potential. The zoning plan, which entered into force on 24 October 2018, was the first milestone. A networked, high-quality, urban eco-system is being created on eight construction fields, with jobs in innovation, production and training. At the same time, V-ZUG is investing in an intelligent infrastructure which can be used by third parties. In this way, the site can become a landmark for the canton, the city and the brand Zug. Implementing a construction project like this relies on close cooperation with the local authorities and open dialogue with the local population. At the start of 2019, in partnership with the Zug Chamber of Commerce, we launched the event series "Zug: City of the Future", which looks at urban development topics with renowned experts and enables dialogue with interested parties and local companies, politicians and residents. We also provide an annual update on the progress of ongoing projects at the "TCZ – From the horse's mouth" information event. Implementing the TCZ is a complex process of transformation for our organization: while we continue operating, a new digital, vertical factory is being created, which will be finished by 2025 (see "[Energy and Climate](#)", p. 39).

Living up to our fundamental values

Our fundamental values, which have been enshrined in the Metall Zug Group Code of Conduct since mid-2016, lie at the very heart of everything we do as a business and in society: sustainable and long-term value creation, excellence and integrity in our business operations. The Code applies to all employees and directors. Employees have a duty to report to their line manager or the in-house legal department any matters which appear to be contrary to our fundamental values or specific principles, such as anti-bribery rules. Crucially, any such reports are treated in confidence. Employees who report in good faith a potential violation of the Code of Conduct need have no fear that reporting their suspicions will have negative repercussions for their employment at the company. We also champion these fundamental values and principles in our dealings with our suppliers, in this way taking them beyond our organization and into society and the economy.

We are all contemporary witnesses to growing digitalization, which opens up infinite possibilities and will increasingly shape our society on all levels. The aim of the V-ZUG Innovation LAB is to creatively explore those possibilities. Together with our partners, the team is creating an environment in which it constantly develops new ideas, experiments and pioneering innovations, without ever losing sight of the potential risks. Data security is one topic which is becoming more and more relevant as the interconnectivity of our household appliances increases. Household appliances are integrated into the most private living spaces and have access to data on personal habits. We take our customers' need for integrity and privacy and the attendant responsibility in regard to data protection and security very seriously. Since back in May 2018, V-ZUG has been compliant with the EU General Data Protection Regulation and obtains customers' consent to store data even though there is no legal requirement to obtain that consent.



“In V-ZUG, we have a **motivated** and **reliable partner** for the further development of Zug as an **economic and cultural space**. With the planned Technology Cluster Zug, V-ZUG is creating space for **vibrant, enterprising creativity**, which will be a magnet for exciting start-ups and creative artists who will **inspire** the city.”

Heinz Tännler

Member of the governing council, Canton of Zug

Creative North Pole

In March 2019, the people of Zug celebrated the opening of a new facility in the north of the V-ZUG site: the “Nordpol” (North Pole) project, through which V-ZUG is enabling the interim use of the empty building at Industriestrasse 61. As well as cultural and social projects, such as the Waldstock Bar and the “Verein mit Herz” (Club with a Heart), “Nordpol” is also home to the FabLab Zug. When the initiators of the project, Luz Maria Molinari, Moritz Hassler, Rouven Küng and Michael Hobbins, approached Lukas André, Head of Marketing Technology Cluster Zug at Metall Zug, with the idea of a FabLab workshop, he was instantly impressed. These are public, digital workshops where the consumer becomes the producer and can develop, programme and create his own ideas using 3D printers or laser cutters. “We thought it was a terrific project idea”, says Julia Häcki, Project Leader Corporate Development, Metall Zug. “It fits with the concept of the innovative, sustainable eco-system that is being implemented with [Technology Cluster Zug \(TCZ\)](#).” “Nordpol” is temporary and is expected to run until September 2019, with the option of extending it. FabLab will then move to a new location. There will be more interim use opportunities over the course of the 20 years that it will take to redevelop the site. Incidentally, the project is called “Nordpol” because the building is right in the north of the TCZ; in fact, with the exception of the tennis club, it is the most northerly building in the city of Zug. The TCZ will continue to revitalize the burgeoning “Zug North” district. Our intention behind the “Nordpol” interim use project is to enter this new era together with the city.

80 metres off the ground: Project Pi

Living in Zug is expensive. So, as part of our large-scale “[Technology Cluster Zug](#)” (TCZ) project, we have set ourselves the goal of creating affordable, attractive and sustainable living space for employees. Hence the “Pi” project, in which V-ZUG is involved: a wooden high-rise building which is probably the only structure of its kind in Switzerland – and not just because of its record 80-metre height. “We don’t just want to create living space in the sense of accommodation, but a space for living which will adapt to the changing residential needs of modern families over time”, says Beat Weiss, CEO of V-ZUG Realty Ltd. The family apartments in the high-rise building will boast lots of extra features such as live-in studios, guest studios and other spaces for rent. “It’s conceivable, for instance, that residents could share a workshop or a music room or that a pop-up gallery will be available for exhibitions”, Beat Weiss continues. The “Piazza”, which is the entrance to each of the ten vertical neighbourhoods, offsets the strict vertical separation of the floors and provides a social space: residents can use their Piazza in any way they wish, for things such as cultural events, drinks or a library for relaxed browsing and reading. One of our priorities is to facilitate social and community integration and counteract anonymity. With this in mind, right at the top of the building there will also be a communal area with roof garden, affording far-reaching views over Lake Zug and the surrounding mountains. The first tenants should be able to move in in 2024.

Key sponsor of the Swiss Wrestling and Alpine Festival (ESAF)

“Once it was announced that Switzerland’s biggest recurring sports event, the Swiss Wrestling and Alpine Festival (Eidgenössisches Schwing- und Älplerfest), would be coming to Zug from 23 to 25 August 2019, it was clear that, as a traditional and deeply rooted Zug company, we would support this event”, says Christian Bärlocher, Head of Global Marketing, with obvious enthusiasm. The festival attracted over 420,000 visitors, making ESAF 2019 one of Switzerland’s biggest public festivals. The people of Zug are rightly proud. “It was the first time I’d been to a wrestling festival and I absolutely loved the peaceful and cosmopolitan atmosphere at the festival”, enthused 31-year-old Jacqueline Mangarelli from Menzingen, one of the many visitors. As a key sponsor, V-ZUG had a strong presence at the national wrestling festival, including the V-ZUG Arena which featured a big screen for 8,000 spectators. There was also the V-ZUG Wöschgang Arena, where visitors could refill their water bottles for free and take part in a competition. But this wasn’t the only reason for our involvement; we wanted to make use of this unique opportunity to celebrate, together with the canton, the city and the general public, a three-day public festival which is all about tradition, sportsmanship and fairness – values which we share. “Of course we also used the event to strengthen customer relations. Our field sales employees could invite customers to the wrestling festival every day”, Christian Bärlocher adds. We held a staff draw for more than 300 of the coveted tickets and raffled another 160 to external people via social media and the dedicated wrestling festival microsite. Christian Bärlocher wasn’t the only V-ZUG employee who was gripped by ESAF fever. “Lots of us registered as volunteer helpers and helped make the festival a great success over its three days”, adds Bärlocher happily.



Creator: Andreas Busslinger / Copyright: Swiss Wrestling and Alpine Festival 2019 Zug

About this Report

This is V-ZUG's seventh sustainability report. It covers the period from 1 July 2018 to 30 June 2019 (reporting date 30 June 2019) and deals with the main economic, environmental and social impacts of V-ZUG's operations. Unless specified further, the management approaches described in the four sections on our priorities include V-ZUG Ltd with its head office at the Zug site, V-ZUG Cooling Technology Ltd with head office in Arbon and the foreign subsidiaries, in particular V-ZUG (Changzhou) Special Components Co. Ltd., west of Shanghai. Unless otherwise indicated, the key sustainability figures refer to the Swiss production sites in Zug and Arbon and the site in Changzhou. They cover the period from July 2016 to June 2019 (three years). Key figures which relate to the Swiss market, irrespective of the organizational unit, are indicated as such.

This report has been prepared in accordance with the GRI standards. As part of its continuous strategy process, V-ZUG also takes account of the various factors involved in the cross-sectoral issue of sustainability, monitors current and new trends and works out solutions to challenges or new opportunities. The key figures, activities and impacts discussed in the report are selected on the basis of the 2019 materiality matrix (see Fig. 4, p. 19) and on a series of interviews with V-ZUG managers and experts over the period from May to July 2019.

We regard this report as essential to a constant and systematic dialogue with our various stakeholders, the purpose of which is to provide greater transparency with regard to our sustainability performance and enable our stakeholders to verify and assess our claims. For the sake of legibility, in some parts of the text only the male gender is used. The information of course applies to members of both genders.

GRI index

General standard disclosures

Indicator	Description	Comment/reference
Strategy and analysis		
GRI 102-14	Statement from the company's senior decision-maker on the importance of sustainability for strategy and the organization.	See "Interview with Dirk Hoffmann", p. 4-6.
Organizational profile		
GRI 102-1	Name of the company	V-ZUG Ltd
GRI 102-2	Key brands, products and services	See "Company Profile", p. 12-15, "Products and Services", p. 21-27
GRI 102-3	Company's headquarters	Zug, Switzerland
GRI 102-4	Name and number of countries in which V-ZUG operates or has significant operations	See "Company Profile", "Markets", p. 16
GRI 102-5	Ownership and legal form	Company limited by shares under Swiss law, wholly owned by Metall Zug Ltd
GRI 102-6	Markets served	<p>V-ZUG has its own sales companies or branches in Australia, Belgium, China, Germany, France, United Kingdom, Hong Kong, Luxembourg and Singapore. V-ZUG products are also available via distributors in Israel, Italy, Lebanon, Malaysia, the Netherlands, Russia, Turkey, the USA, Ukraine and Vietnam. Including its home market, Switzerland, a total of 20 markets are served.</p> <p>Sectors supplied: private customers, specialist trade, property management companies and real estate owners</p> <p>Types of customers and beneficiaries: V-ZUG's products are sold on the one hand through the trade. The trade sells them to installers and presents them in various settings, including showrooms where end consumers can obtain information about the products. In addition, V-ZUG operates ten display showrooms and advice centres across Switzerland, where the products are sold directly to end customers. The primary customer groups, beside pure commercial firms and kitchen designers, are property management companies and real estate owners and their agents (such as architects and general contractors).</p> <p>Private customers are served via the specialist trade, kitchen designers, general contractors and architects.</p>

Indicator	Description	Comment/reference
GRI 102-7	Size of company (number of employees; total number of operations; net sales; total capitalization broken down in terms of debt and equity; quantity of products and services provided)	<p>Number of employees (incl. temporary employees): 1803 (reporting date: 30.6.2019)</p> <p>Number of operations: 33</p> <p>Net sales: confidential</p> <p>Total capitalization: confidential</p> <p>Quantity of products and services provided: confidential</p>
GRI 102-8	<ul style="list-style-type: none"> ▪ Number of employees by employment contract and gender ▪ Number of permanent employees by employment type and gender ▪ Total workforce by employees and personnel bound by instructions and by gender ▪ Total workforce by region and gender 	<p>See "Employees", p. 31</p> <p>See "Employees", p. 31</p> <p>See "Employees", p. 31</p> <p>Employees in Switzerland (excl. temporary employees): 1701</p> <p>Employees in China: 30</p>
GRI 102-41	Percentage of total employees covered by collective employment agreements (CEA)	All employees in Switzerland are subject to the collective employment agreement (CEA) of the Association of Swiss Engineering Employers (ASM). The current CEA was revised according to schedule on 1 July 2018 and is valid for five years, until 30 June 2023. The employers' associations Angestellte Schweiz, Unia, Syna, Swiss Association of Commercial Employees, Schweizer Kader Organisation (SKO) and the ASM are involved as negotiation partners.
GRI 102-9	Description of the company's supply chain	V-ZUG buys directly through its suppliers.
GRI 102-10	<p>Significant changes to the size, structure and ownership of the company</p> <ul style="list-style-type: none"> ▪ Changes of location or changes in business operations ▪ Changes in the structure of the supply chain 	No change.
GRI 102-11	How is the Precautionary Principle (the handling of potentially negative impacts on the environment) applied at the company?	The Precautionary Principle is enshrined in V-ZUG's ethical principles and management guidelines and is monitored by an integrated management system (quality, environment, occupational safety). The certifications to ISO 9001, 14001 and OHSAS 18001 also contribute to the Precautionary Principle, in the shape of preventive measures within the company's operations.

Indicator	Description	Comment/reference
GRI 102-12	List of externally-developed economic, environmental and social charters, principles or other initiatives to which the company subscribes, or which it endorses	V-ZUG is committed to the following partnerships: <ul style="list-style-type: none"> ▪ Chairmanship of the Innovationspark Zentralschweiz association ▪ Leading Partner of MINERGIE® Schweiz (voluntary) ▪ Cooperation with the Foundation aha! Swiss Allergy Centre ▪ Member of the executive board and Chair of the "Industry & Technology" committee of the Zug Chamber of Commerce ▪ Member of the executive board of tfz (Technologie Forum Zug) ▪ In its production, the company works with the zuwebe sheltered workshop, enabling people with disabilities to integrate into the work process
GRI 102-13	Membership of associations and national or international advocacy organizations	V-ZUG is a member of, among others, SWISSMEM, the Swiss association of the mechanical and engineering industries, and the FEA (the Swiss association for household and commercial appliances). V-ZUG is represented on the executive committees of both these associations.

Identified material topics and boundaries

GRI 102-45	<ul style="list-style-type: none"> ▪ List of all entities included in the company's consolidated financial statements. ▪ Disclosure of the companies covered by the sustainability report. 	<p>See "The company", p. 11</p> <p>See "About this Report", p. 50</p>
GRI 102-46	<ul style="list-style-type: none"> ▪ Process for defining the report content and the topic boundaries. ▪ Implementation of the reporting principles for defining report content. 	The sustainability issues relevant to V-ZUG were identified in 2018 and 2019, as part of the sustainability strategy process. In dialogue with internal and external stakeholders and in consultation with external consultants, V-ZUG has evaluated material sustainability issues and devised a materiality matrix. See also Company Profile "New 'Sustainability@V-ZUG' strategy", p. 17-20.
GRI 102-47	List of all the material topics identified in the process for defining report content.	See Company Profile "New 'Sustainability@V-ZUG' strategy", p. 19.
GRI 102-48	The effects of any restatements of information given in previous reports, and the reasons for such restatements	In 2018/2019, in dialogue with internal and external stakeholders and in consultation with external consultants, V-ZUG evaluated material sustainability issues, devised a materiality matrix and identified target visions. The structure of the 2018/2019 Sustainability Report is based on those target visions. See "New 'Sustainability@V-ZUG' strategy", p. 20.
GRI 102-49	Significant changes from previous reports to the list of material topics and topic boundaries	The report structure has been altered. It is based on the newly developed target visions. See also "New 'Sustainability@V-ZUG' strategy", p. 20.

Indicator	Description	Comment/reference
Stakeholder engagement		
GRI 102-40	List of stakeholder groups engaged by the company (e.g. civil society, customers, employees etc.)	The stakeholders engaged in the 2018/2019 sustainability strategy process were: employees, customers, retailers, investors as well as stakeholders from the research and education sphere.
GRI 102-42	The basis for identifying and selecting stakeholders with whom to engage	The key stakeholder groups were defined in dialogue with departments, with a strong focus on proximity to the market. Therefore, the external relationships maintained by Sales and Purchasing played a particularly important role when identifying stakeholders. The Purchasing department is actively engaged with our suppliers, while the Sales department and the Marketing department are responsible for sales to retailers and tradespeople as well as for informing them about new products.
GRI 102-43	The company's approach to stakeholder engagement (including frequency of engagement by type of stakeholder group) and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process	V-ZUG's stakeholders are engaged as follows: <ul style="list-style-type: none"> ▪ Customers: customer surveys, customer contacts (around 300 service technicians in the field service and customer service); to avoid misuse, free appliance demonstrations are also offered by V-ZUG customer advisors; customer magazine ("Zuger Röteli"), guided tours of the Zug production site ▪ Employees: Employee survey, employee magazine "BLUELine" and online platform "BLUEonline" ▪ Investors/shareholders: Family company ▪ Suppliers: Supplier audits ▪ Retailers: annual product presentation and 15 symposia per year, Swissbau and around 15 other trade fairs ▪ Trade unions: within the context of the collective employment agreement (CEA) ▪ Authorities: Involvement as an energy consultant in the Zug Energy Network ▪ Media: Information provided by Head Corporate Communications & Investor Relations ▪ Research and education: Activity on the board of the Innovationspark Zentralschweiz association, lecturing activity by senior executives, participation in working groups with educational institutions, advisory board of WERZ competence centre for energy and resource efficiency in Zug
GRI 102-44	Key topics and concerns that have been raised through stakeholder engagement, and how the company has responded to those; disclosure of the stakeholder groups that raised each of the key topics	None.

Reporting practice

GRI 102-50	Reporting period	July 2018 to June 2019, reporting date: 30 June 2019
GRI 102-51	Date of most recent previous report	December 2018

Indicator	Description	Comment/reference
GRI 102-52	Reporting cycle	Annual. Publication every autumn from 2018 onwards
GRI 102-53	Contact point for questions	Dirk Hoffmann, info@vzug.com (V-ZUG CEO during the reporting period from 01.07.2018 to 30.06.2019).
GRI 102-54 to 56	Claims of reporting in accordance with the GRI Standards	V-ZUG's 2017/2018 Sustainability Report was drawn up in accordance with the GRI standards. This index contains references to the corresponding information and data in the report. The report has not been externally audited.
GRI 102-56	The company's policy and current practice with regard to seeking external assurance for the report	No external assurance

Governance

GRI 102-18	<ul style="list-style-type: none"> ▪ Governance structure of the company (including committees of the highest governance body) ▪ List of all committees responsible for decision-making on economic, environmental and social topics. 	<p>The management's operational leadership structure is divided into the following positions:</p> <ul style="list-style-type: none"> ▪ CEO: HR, Strategic Project Portfolio Management, Global Marketing Services, Product Management and Corporate Design ▪ International Division ▪ Finances and Controlling ▪ Technical Division: Operations, Engineering Appliances, Engineering Electronics Software & Shared Services, Global Quality Management, Infrastructure & Maintenance ▪ Swiss Market: Marketing Services Switzerland: Sales Swiss Market, Global Service & Support ▪ Business Development: Digital Products & Services, Market Project Management Office, IT, Innovation Services & Technology, Innovation LAB <p>Committees responsible for decision-making on environmental and social topics:</p> <ul style="list-style-type: none"> ▪ Sustainability conference at Management and BD level ▪ Committee of Internal Auditors Quality, Environment and Occupational Safety ▪ Legal Compliance Committee ▪ Strategy Meeting of the company management (twice a year)
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Indicator	Description	Comment/reference
Ethics and integrity GRI 102-16	<ul style="list-style-type: none"> ▪ Description of the company's values, principles, standards and norms of behaviour (Code of Conduct and Ethical Code) 	<p>V-ZUG's key mission statements, codes of conduct and principles are:</p> <ul style="list-style-type: none"> ▪ Metall Zug Group Code of Conduct ▪ the terms of employment (TOE) ▪ Annex 1 to the TOE (ethical principles) ▪ Management Guidelines of V-ZUG Ltd ▪ ISO Certificate 9001 and 14001 (incl. annex) ▪ OHSAS Certificate 18001 (incl. annex) ▪ EU General Data Protection Regulation <p>"Ethical Principles" ethical guidelines (annex to the V-ZUG Ltd Terms of Employment)</p> <ol style="list-style-type: none"> 1. Compliance with laws and standards 2. Autonomy of decisions 3. Incorruptibility and anti-bribery provisions 4. Impartiality and fairness 5. Observance and preservation of human rights and dignity 6. Observance and preservation of property of V-ZUG Ltd and of third parties 7. Confidentiality and ban on the use of insider information 8. Avoidance of conflicts of interest 9. Protection of natural resources

Specific standard disclosures

Topic	Indicator	Description	Comment/reference																								
Economy																											
Economic performance	GRI 103-1 to 3	Management approach disclosures	See "Company Profile", p. 10.																								
	GRI 201-1	Direct economic value generated and distributed	Financial key figures cannot be published, due to their relevance to the stock market. We refer to the 2018 Annual Report of Metall Zug Ltd.																								
Environment																											
Materials	GRI 103-1 to 3	Management approach disclosures	See "Products and Services", p. 22-23, and "Energy and Climate", p. 40-41																								
	GRI 301-1	Materials used by weight or volume	<table border="1"> <thead> <tr> <th>Material</th> <th>Unit</th> <th>2018 / 2019</th> </tr> </thead> <tbody> <tr> <td>Iron</td> <td>1000t</td> <td>6.62</td> </tr> <tr> <td>Stainless steel</td> <td>1000t</td> <td>1.72</td> </tr> <tr> <td>Aluminium</td> <td>1000t</td> <td>0.14</td> </tr> <tr> <td>Non-ferrous metal</td> <td>1000t</td> <td>0.07</td> </tr> <tr> <td>Oils, fats, lubricants</td> <td>1000t</td> <td>0.02</td> </tr> <tr> <td>Hazardous substances</td> <td>1000t</td> <td>0.46</td> </tr> <tr> <td>Total</td> <td>1000t</td> <td>9.01</td> </tr> </tbody> </table>	Material	Unit	2018 / 2019	Iron	1000t	6.62	Stainless steel	1000t	1.72	Aluminium	1000t	0.14	Non-ferrous metal	1000t	0.07	Oils, fats, lubricants	1000t	0.02	Hazardous substances	1000t	0.46	Total	1000t	9.01
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GRI 103-1 to 3	Management approach disclosures	See "Energy and Climate", p. 40-41.																									
GRI 302-1	Energy consumption within the organization	See "Energy and Climate", "Facts and figures", p. 42.																									
GRI 302-3	Energy intensity	See "Energy and Climate", "Facts and figures", p. 42.																									
GRI 302-5	Reductions in energy requirements of products and services	See "Products and Services", "Facts and figures", p. 24.																									
Energy																											

Topic	Indicator	Description	Comment/reference
Emissions	GRI 103-1 to 3	Management approach disclosures	See "Energy and Climate", p. 40-41.
	GRI 305-1	Direct GHG emissions (Scope 1)	<p>For Scope 1, the following emissions were taken into account:</p> <ul style="list-style-type: none"> ▪ direct emissions of greenhouse gases from all sources that are owned by V-ZUG or are controlled by V-ZUG. The following processes do not take place at V-ZUG and have therefore been excluded: combustion processes, such as flaring of gaseous waste substances ▪ emissions from combustion processes and sources in accordance with the reported direct primary energy. <p>Thus far, direct non-energy greenhouse gas emissions have not been taken into account. These include, for example, coolants which escape into the atmosphere during production.</p> <p>See "Energy and Climate", "Facts and figures", p. 42.</p>
	GRI 305-2	Energy indirect GHG emissions (Scope 2)	<p>For Scope 2, the following emissions were taken into account:</p> <ul style="list-style-type: none"> ▪ Indirect greenhouse gas emissions resulting from the generation of purchased electricity at the head office in Zug (Scope 2). This corresponds to the reported electricity consumption. <p>See "Energy and Climate", p. 42.</p>
Supplier environmental assessment	GRI 308-2	Number of suppliers assessed for environmental impact	See "Company Profile", p. 8.
Products and services	GRI 103-1 to 3	Management approach disclosures	See "Products and Services", p. 22-23.

Society

Employment	GRI 103-1 to 3	Management approach disclosures	See "Employees", p. 29-30.
	GRI 401-1	Total number and rate of newly hired employees and staff turnover	<p>Number of newly hired employees: 204</p> <p>Rate of newly hired employees: 12,1 %</p>
Occupational safety	GRI 103-1 to 3	Management approach disclosures	See "Employees", p. 29-30.
	GRI 403-9	Work-related accidents, work-related illnesses and lost days	See "Employees", "Facts and figures", p. 32-33.

Topic	Indicator	Description	Comment/reference
Training and education	GRI 103-1 to 3	Management approach disclosures	See "Employees", p. 29–30.
	GRI 404-2	Programmes for skills management and lifelong learning	As a tool for enhancing employability, professional development is in the interests, and is the responsibility, of both V-ZUG and its employees. As such, it is encouraged. With the three-tier competency model and "V-ZUGconnect", V-ZUG specifically supports the promotion of individual talents and a culture of lifelong learning. Employees have the right, on request, to be released from their work for professional development within or outside the company, provided certain conditions are met. V-ZUG will pay all or part of the costs of the further training on request. For more information, see "Employees", p. 29.
Diversity in governance bodies and among employees	405-1	Percentage of people in governance bodies and among employees, by gender and age group	See "Employees", p. 31.
Supplier social assessment	GRI 103-1 to 3	Management approach disclosures	See "Company Profile", p. 8.
	GRI 414-2	Number of suppliers assessed for social impact	See "Company Profile", p. 8.
Customer health and safety	GRI 103-1 to 3	Management approach disclosures	See "Products and Services", p. 22–23.
	GRI 416-1	Percentage of significant product and service categories whose impact on health and safety is assessed	All operating instructions for our appliances contain information on safe use, proper disposal of packaging materials and of the appliance, as well as tips for saving energy (and water, in the case of washing machines). Our appliances satisfy standard IEC 60335-1 (Safety of electrical appliances for household use). Furthermore, our appliances also satisfy the RoHS and the WEEE directive of the EU. For the WEEE directive, this means in particular that all V-ZUG appliances are labelled according to the standard and the operating instructions contain information about proper disposal. In addition, in the installation instructions for the appliances, which are aimed directly at installation professionals, we describe what needs to be taken into account when installing our appliances for them to function as well as possible, with maximum energy efficiency.
	GRI 416-2	Total number of incidents of non-compliance with regulations and voluntary codes concerning customer safety	No incidents in 2018 or 2019.

