

Sustainability Report
2015/16

How will we
live and work
in the future?

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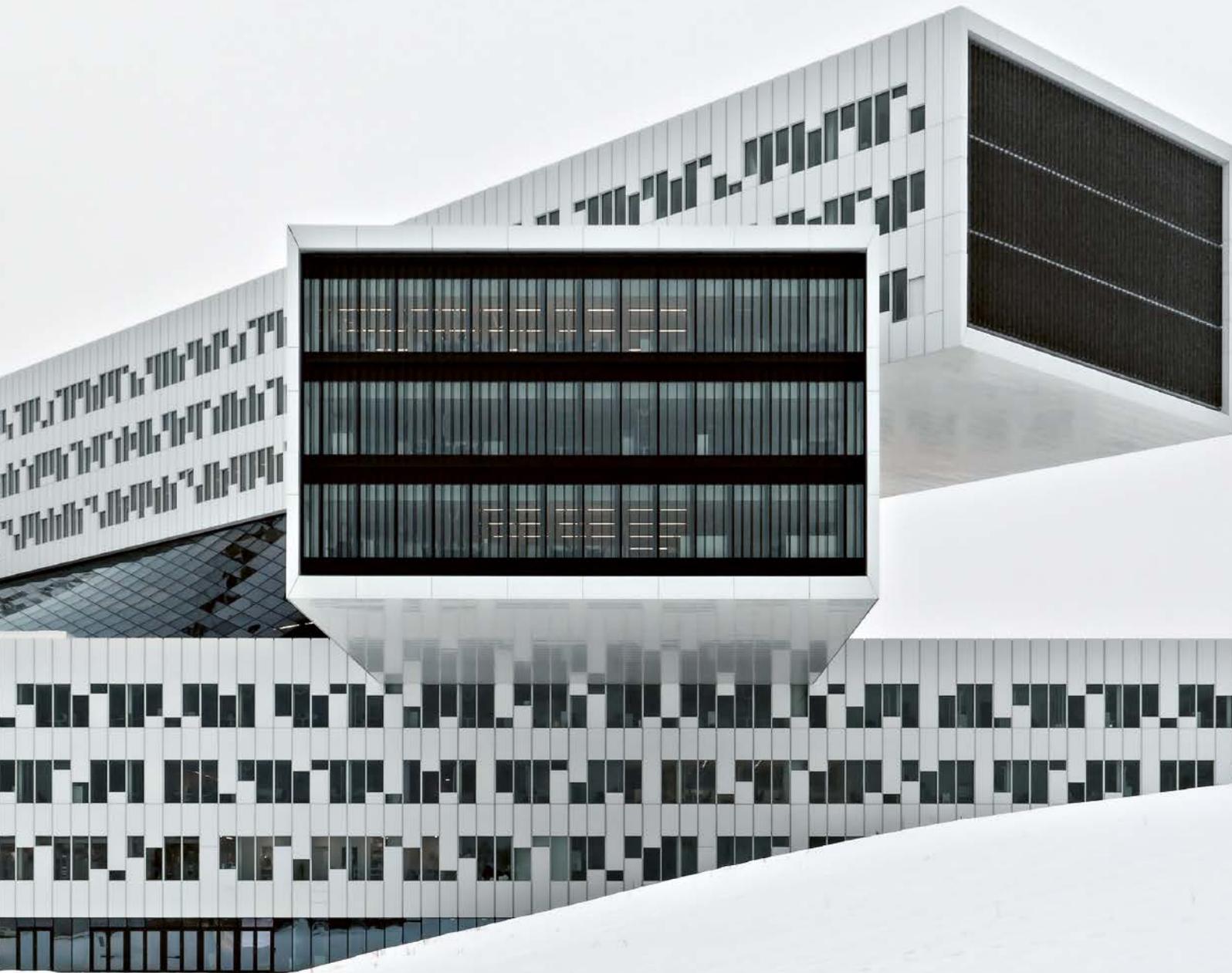
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Healthy.
Comfortable.
Environmentally friendly.

+ Supply of natural light

+ Solar shading and glare protection

+ Temperature and air quality

+ Noise and acoustics

+ Intelligent automation

+ Security and
functionality

KEY THEME: HEALTHY LIVING AND WORKING

The buildings of tomorrow

Whether in the office or at home, our individual sense of wellbeing depends heavily on the conditions in the room. As early as the 1960s, American researchers at the Buffalo Organization for Social and Technological Innovation (BOSTI) found that, in relation to work performance, the ideal temperature, air quality and lighting can increase people's productivity and job satisfaction by 15%. This finding seems more pertinent than ever, given the growing interest in sustainable building concepts. Schüco already offers numerous well-being solutions for a systematic, health-oriented method of constructing the building envelope. Together with other building specialists, we are working on the office of the future.

1

Temperature and air quality

An end to sticky rooms, concentration problems and a lack of oxygen. Sensors continuously measure the temperature and the carbon dioxide content of the ambient air. As soon as the programmed limit values are exceeded, the ventilation units open the windows automatically or start the decentralised, artificial ventilation. For this, the air coming in from the outside is cleaned by means of fine filters. Used air, by contrast, is directed outside, whereby a heat recovery system allows a large proportion of the heat contained therein to be kept inside the room.

2

Solar shading and glare protection

When the sun shines brightly, an anti-glare blind provides protection, or the window tints automatically. The special glass can be tinted flexibly and silently to suit requirements. Best of all, the view to the outside is retained. Sun-shading systems prevent the room from overheating and let in a pleasant amount of natural light.

3

Supply of natural light

Three-dimensional façades can be designed to make optimum use of natural light in the room. When combined with the narrow face widths of the window frames, the amount of light penetration increases.

4

Intelligent automation

Simply relax and let the house do the work – that is the principle of tomorrow. Smart windows

and doors are highly automated, intelligently networked and offer maximum convenience. Sensors react to the weather conditions, for example, by closing the windows automatically when the weather becomes unfavourable. Sun shading and glare protection follow the natural movement of the sun and the weather conditions.

5

Noise and acoustics

Street noise and other sounds from outside can be easily blocked out. Disruptive noises are therefore kept outside. This is made possible by new-generation sound reduction windows with intelligent frame and glass combinations.

6

Security and functionality

Aesthetics meets high security. Thanks to their narrow, concealed fittings, the windows and sliding doors are not only attractive, but also particularly robust when designed to meet the respective burglar resistance classes – and are a major obstacle for burglars when combined with building automation systems. If, for example, a window is left open when you leave the house, a signal is automatically triggered by an integrated device, which monitors opening and closing. Furthermore, the systems fulfil the highest requirements in terms of fire protection, bullet resistance and blast resistance.

7

Antibacterial surfaces

An antimicrobial surface made from pure metallic micro-silver on frames and handles ensures highly sanitary conditions, where germs will no longer find a breeding ground in future.

+ Antibacterial
surfaces

At a glance

Based in Bielefeld, Schüco International KG is a systems provider for windows, doors and façades. With more than 4,600 employees worldwide, we strive to be the technological and service leader in the industry today and in the future. In order to achieve this goal, we consistently orient ourselves to the needs of our customers. We offer solutions for all phases of a building project – from the initial idea and design through to the construction and use of residential and commercial buildings worldwide.

Founded
1951

Heinz Schürmann founded the company "Heinz Schürmann & Co." in Porta Westfalica. He started with six employees in a small back courtyard producing display windows, awnings and roller shutters.

Network
12,000

Architects, developers, fabricators and investors around the world work together with Schüco and use our products.

Countries
43

With locations in 43 countries, Schüco sets standards in more than 80 countries with its groundbreaking products and outstanding service.

	Compared to the previous year	2015	2014	2013
Turnover	+0.35%	1.43 billion EUR	1.43 billion EUR ¹	1.50 billion EUR ¹
of which				
– Metal	+3%	1.20 billion EUR	1.17 billion EUR	1.12 billion EUR
– PVC-U	+2.4%	231 million EUR	225 million EUR	235 million EUR
Investments	+10%	32 million EUR	29 million EUR	35 million EUR
Equity ratio	+7.8%	73.1%	65.3%	55.2%
Employees worldwide	–3.5%	4,630	4,800	4,800

¹ Including the "New Energies" business division, which was transferred to Viessmann Photovoltaik GmbH on 1 June 2014.

Dear Readers,



It takes around 1.5 days for the world population to grow by 330,000 people. That is the same as the number of people living in Bielefeld – the home of our company. Since our foundation in 1951, the world's population has almost tripled. More people means greater demand for energy and food – and space to work and live, of course. At the same time, ongoing climate

change poses an enormous challenge to us globally to use our natural resources more efficiently. As a developer and supplier of high-quality window, door and façade systems, the question which arises for us is: how can we use our products, our services and our daily work to contribute to preserving the livelihood of future generations?

As we see it, our biggest contribution to sustainability is the support we provide to our partners when constructing sustainable building envelopes – from planning and implementation through to recycling. To this end, we use our 360° sustainability approach, which covers the entire life cycle of a building project.

Our range of services goes beyond the provision of energy-efficient products. We aspire to be the technological and service leader. This is why we provide advice on sustainability aspects in the early planning stages. We do this because we know that the initial investment has a significant influence on the subsequent operating costs. With us, clients can rest assured that their construction projects are economical, resource-friendly and future-proof – that is, they retain their value in the long term. Using this business model, we strengthen our market-leading role and secure our economic success. We see the increasing number of legal regulations in construction and a growing awareness of sustainability issues as a chance to continue expanding our range of sustainable products.

Today we provide our customers with high-grade, recyclable products. Our aluminium systems, for example, are almost 100% recyclable. The PVC-U used in our windows can also be recycled. In 2016, we were awarded the Silver Cradle to Cradle certificate for three of our products – confirmation of the high level of eco-effectiveness of our outstanding systems. We will continue to follow this path and continue to develop and certify further products.

Here we are rising to the challenge of also considering the beginning of our value-added chain: the origin of our raw materials. This applies in particular to the extraction of aluminium. In order to ensure that the aluminium fabricated in our products has been sourced and processed further in an environmentally and socially acceptable way, we founded the Aluminium Stewardship Initiative (ASI) together with other companies and non-governmental organisations. Our objective is to develop a roadmap with rules, standards and certificates, and successively implement it from 2017 onwards.

To us, however, acting sustainably also means taking responsibility for social issues. For many years, climate protection has been a subject close to our hearts. As a founding member of the 2° Foundation, we are involved in addressing the climate targets adopted at the global climate summit in Paris within the economy and developing practical recommendations for action. Furthermore, we are supporting young scientists. We are convinced that we can only overcome the huge challenges of our time with close cooperation between business, science and politics. We are looking to establish a dialogue with budding architects and city planners, as well as the other stakeholders who are important to us. We invite you to get involved with us in developing sustainable construction. The fact that we are already considered to be particularly sustainable today in an industry comparison makes us proud – and spurs us on.

You can find out more about our commitment in this first sustainability report from Schüco International KG.

Best wishes,

Andreas Engelhardt,
CEO and Managing Partner
Schüco International KG

BUSINESS MODEL AND MARKETS

Schüco – ideas for the future

At Schüco, we aspire to develop the window, door and façade systems of the future. Products which meet the needs of diverse construction and modernisation projects and climate zones. That is why we work in close cooperation with an international network of metal fabrication, PVC-U and electrical

Schüco products distinguish themselves by meeting the highest standards in terms of design, comfort, security and energy efficiency. We offer advanced system solutions and services which allow our customers to plan and implement complex construction projects by themselves. We also create individual special construction projects in cooperation with our partners. We perform product development, quality checks and environmental simulations in our independent and accredited technology centre, which is one of the world's leading test centres for windows, façades, doors and accessory components.

Schüco has subdivided its activities into the business areas of Metal – aluminium and steel – and PVC-U. In both areas, we offer our partners and customers sophisticated system technology in a variety of designs. Our core competencies lie in development, procurement, distribution and consulting. This includes consultation on certification, planning with sustainable systems and environmental product declarations.

As of 1 January 2016, the strategically important PVC-U division became independent under the umbrella of the Schüco Group. The wholly owned subsidiary Schüco Polymer Technologies KG, with its headquarters in Weißenfels, will further expand this area in the future.

Corporate management of Schüco International KG

Executive management Board	Central functions
Andreas Engelhardt Managing Partner and CEO	<ul style="list-style-type: none"> ▪ Corporate strategy ▪ Corporate communications
Philipp Neuhaus Chief Financial Officer (CFO)	<ul style="list-style-type: none"> ▪ Finance and Controlling
Dr Walter Stadlbauer Chief Operating Officer (COO) Chief Technology Officer (CTO)	<ul style="list-style-type: none"> ▪ Organisation processes and procedures ▪ Technical director

12,000

architects, developers, fabricators and investors work with Schüco worldwide.

partners, as well as with architects, developers and investors. We have 43 locations worldwide and our products are present in more than 80 countries. Since 1964 our company has been part of Otto Fuchs KG, a company of the Otto Fuchs Group.

Our performance

→ **Research and development**

We develop and test products, services and innovations for the entire building envelope. For this, we take into account current market trends and engineering standards.

→ **Procurement**

On behalf of our customers, we provide individually tailored profiles, fittings and accessories.

→ **Storage and distribution**

We guarantee a professional logistics service by means of a state-of-the-art distribution centre and a flexible transport network. We ensure a high product availability and on-time delivery.

→ **Consulting and services**

We are professional contact partners for all stages of a construction project, from planning and fabrication to installation and operation. We advise architects on the execution of special constructions and support investors with regard to planning and operating costs. Private customers can contact us quickly via a hotline. For our direct customers, the fabricators, we provide software and automated solutions. We also offer extensive specialised training courses and support them with documentation, as well as with advertising and marketing.



Our locations can be found in

Armenia
Azerbaijan
Belarus
Belgium
Brazil
China
Czech Republic
Denmark
Estonia
Finland
France

Georgia
Germany
Greece
Iceland
India
Israel
Italy
Kazakhstan
Latvia
Lithuania
Luxembourg

Moldova
Morocco
Netherlands
Norway
Poland
Portugal
Russia
Senegal
Singapore
Slovakia
Spain

Sweden
Taiwan
Thailand
Turkey
Ukraine
USA
United Arab Emirates
United Kingdom
Uzbekistan
Vietnam

STRATEGY AND ORGANISATION

Shaping the future

We are unlocking new potentials for growth with our sustainability strategy, which is based on the core business.

Construction means thinking years ahead. After all, buildings which we design today determine how future generations will live and work. This consideration forms the foundation of our corporate strategy. We develop solutions that focus on people and their needs. Products that preserve and shape the livelihood of future generations, because they pollute the environment as little as possible during production, leave behind a positive footprint in terms of energy balance, and the materials can be recycled again and again. But also because they consider social changes – demographic change, digitalisation, urbanisation – and provide suitable answers to these.

It is from this strategic focus that we derive our aspiration to be technological and service leader. Products from Schüco are trailblazers in terms of comfort, durability and energy efficiency – and this has been the case since our company was

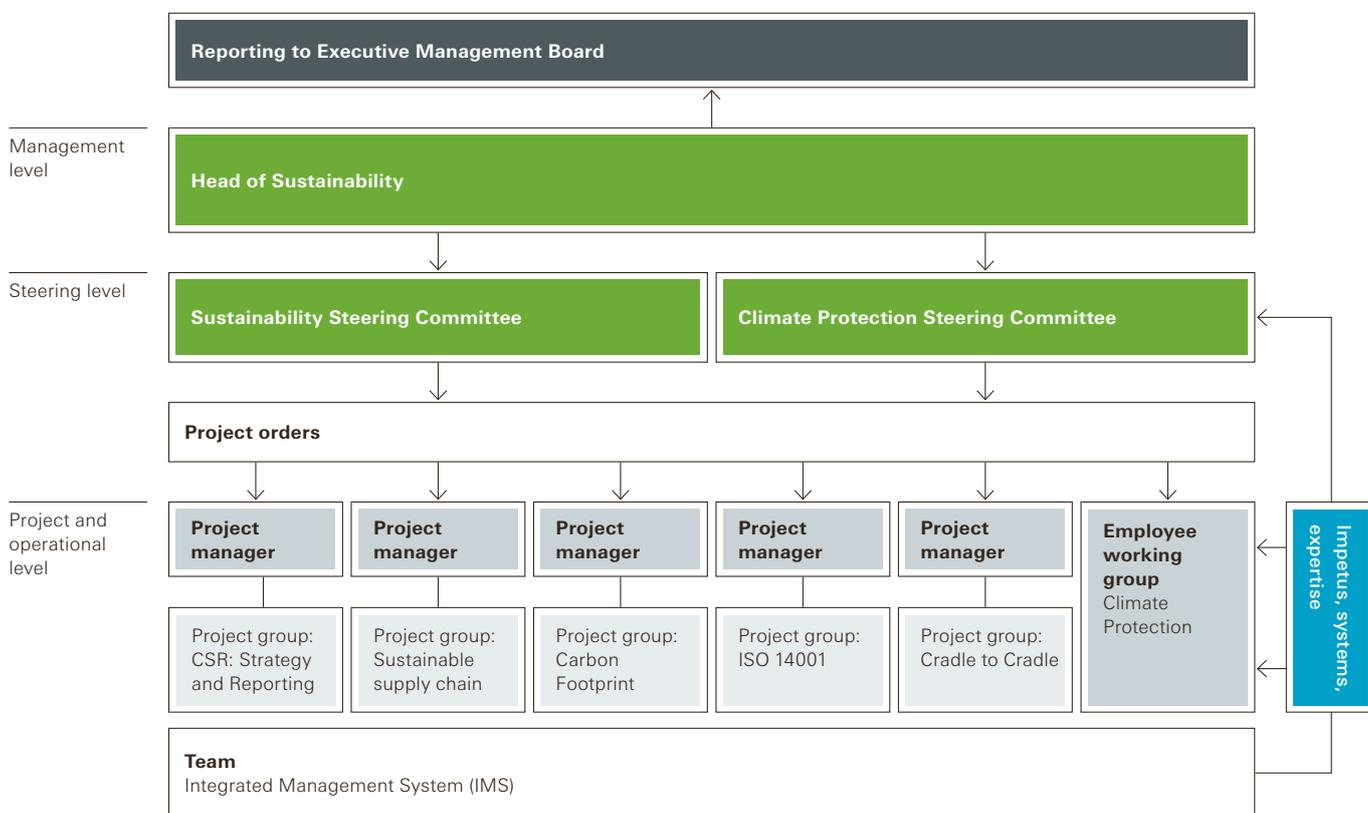
founded in 1951. Of course, we will not settle for that. We develop solutions that think ahead in terms of sustainability – from the use of recyclable raw materials and Cradle to Cradle concepts through to digital consultation services for customers and business partners. One of our aims is to systematically build on the success achieved by us and our customers with sustainable solutions.

We are taking a clear position alongside this economic approach to sustainability. As a trendsetter for ecological and social action, we want to drive the change to an environmentally and socially acceptable construction industry – and with it initiate a social change in thinking. To this end, there is our involvement in associations and initiatives such as the 2° Foundation, as well as our collaborations with universities which promote the exchange of knowledge and experience.

Our sustainability strategy: central factors and key elements



Responsibilities



We consider sustainability to be an integral, cross-discipline function which should be actively taken up by all areas of the business. The following committees are supporting this process:

The Head of Sustainability highlights issues relevant to the company and the resultant need for action. They are the central point of contact for questions regarding sustainability and represent Schüco externally in this area. Their tasks also include maintaining contact with key stakeholders and organisations. They report directly to the Executive Management Board.

At the control level, the "Sustainability" and "Climate protection" steering committees take on central roles. Together in project groups they drive forward various sustainability and climate

protection topics, such as strategy and reporting, our carbon footprint and Cradle to Cradle. Members include the Company Spokesperson, the Head of Corporate Building Excellence, the Head of Sustainability and representatives from the areas of HR, Product Management, Technology, Purchasing, Logistics, Marketing and Quality, Environment and Security Management. The concepts developed in the project groups and the Climate Protection working group are approved by the Executive Management Board and implemented in the specialist areas.

On the operative level, employees from the Integrated Management System (IMS) support the project teams with specialist knowledge and ideas. The maintenance of non-financial key figures is also carried out by IMS.

Our action areas

In 2016, as part of a process lasting several months, Schüco analysed which short-term, medium-term and long-term requirements would arise from the presented understanding of sustainability. What are the relevant action areas for us? Where can we make significant contributions as a company, and what do our internal and external stakeholders expect from us? (See also Materiality chapter, → page 14)

A strategic superstructure has emerged from this which defines five central action areas:

	Pages
Supply chain	→ 16–19
Products	→ 20–29
Environment	→ 30–37
Employees	→ 38–45
Social engagement	→ 46–49

The strategy takes into account that sustainability takes different forms in the markets relevant for Schüco. The market relevance of sustainability aspects in construction in the core European markets, for example, is heavily determined by legal requirements. Moreover, there is a strong, active customer demand for green buildings in the Netherlands, the UK, Scandinavia, the USA and Singapore – all for different motivations. Our adaptive sustainability strategy allows those responsible for the issues in the subsidiaries to utilise the process developed by Schüco Germany for determining the specific market and stakeholder requirements. On this basis, from 2017, regionally adapted sustainability programmes are to be implemented with corresponding measures and aims that conform to the global corporate strategy.

36%

By 2018, the number of sustainable construction projects (“green buildings”) will double worldwide – to 37%.

Source: Dodge Data & Analytics

From 2017, Schüco will integrate its global sustainability strategy in regional sustainability programmes.

Our stakeholders

Schüco is represented on all five continents. This results in vast practical knowledge – not only of local conditions, but also of differences between societies and business cultures. Our aim is to maintain and expand this extensive knowledge by means of regular dialogue with the stakeholders who are key to our business.

In addition, we include our employees, whose hard work and motivation make a decisive contribution to our leading position on the market. Central stakeholder groups are also our direct customers – fabricators from metal, PVC-U window and electrical industries – as well as our indirect clients: investors, architects and developers. It is equally important to us to maintain a dialogue with representatives in politics, which we do through active cooperation in associations, initiatives and networks.

With our value-added chain in mind, suppliers are also one of our key reference groups. Moreover, we seek to actively exchange ideas with various non-governmental organisations. Our aim is to understand these stakeholders in order to support their needs, inform them and learn from them accordingly.

Our key dialogue formats:

Internal communication

Ideas are exchanged with our employees by means of continuous dialogue and regular feedback meetings with managers. Other channels include our employee magazine and the intranet. In 2016, the latter was updated to include comment and feedback options as further return channels. With the aim of increasing our own responsibility towards climate protection, we also hold the Schüco Climate Day every two years with lectures, discussions and opportunities to get involved.

Façade days

An important platform for dialogue are the annual Schüco façade days, for which we invite around 200 architects and developers to Bielefeld. Here we foster the exchange of professional expertise with our stakeholders.

Metal Fabrication conference days

This event takes place every two years and is aimed at fabricators. It includes workshops, presentations and live demonstrations, and has also been established as a platform for networking.

Exhibitions

We regularly take part in the world-leading exhibition BAU in Munich and are also represented each year at around ten other exhibitions, including Fensterbau (Germany), Batimat (France), Fenestration (China) and Windows, Doors & Façades (Dubai).

Specialist advice

With specialist workshops for fabricators and consultancy services for architects and investors, we are in close professional contact with these reference groups central to us.

Online communication

Target-group-specific information and contact options for fabricators, architects and investors can be found on our website.

Customer hotline

Commercial and private customers can contact us via a hotline to receive advice.

Visitor days

To supplement our appearance at university fairs, we regularly give applicants the opportunity to get to know our company personally and talk to employees from different specialist areas.

University conferences

In collaboration with colleges and universities, Schüco sets up specialist exchange forums for students, such as the recent university conference "Future City 2050" with the Ostwestfalen-Lippe University of Applied Sciences (see also "Social engagement" chapter, → page 46).

Our memberships

We also maintain a regular dialogue through our active involvement in various initiatives and associations. These include in particular:

AGPU

Working Group for PVC and the Environment, see "Products" chapter, → page 27

ASI

Aluminium Stewardship Initiative, see "Social engagement" chapter, → page 19

A|U|F e.V.

Aluminium and the Environment in Window and Façade Construction, see "Environment" chapter, → page 34

DENEFF

German Corporate Initiative for Energy Efficiency, see "Social engagement" chapter, → page 49

EA European Aluminium Association

The European association for the aluminium industry represents its members in political bodies. It is currently working to implement a "sustainability roadmap" for 2025. Schüco is represented on the "Building Board" of the EAA, as well as in various working groups.

EPPA

The European PVC Window Profiles and Related Building Products Association is the political lobby for European PVC-U window manufacturers. Schüco is active in the "Regulation" working group, among others.

ift Rosenheim

The ift Rosenheim is a scientific service provider for systems companies and manufacturers of windows and façades. It provides various testing services as a manufacturer-independent institution. Schüco is a member of the organisation's advisory board.

Rewindo

Window recycling service, see "Environment" chapter, → page 34

2° Foundation

German entrepreneurs for climate protection, see "Social engagement" chapter, → page 49

VFF

The Window & Façade Association represents the interests of around 350 companies in the industry. It also provides its members with consultation services for all materials. Schüco is represented on the executive committee of the association and various other committees.



NETZWERK · WISSEN · DIALOG



MATERIALITY

This is our focus

What our stakeholders say ...

We have drawn up our first sustainability report in accordance with the guidelines of the Global Reporting Initiative (GRI). The current internationally recognised reporting standard GRI G4 forms the basis for this, giving the company the chance to structure its key sustainability issues and substantiate them with relevant key data. The process required for this began in November 2015 with an internal workshop for the CSR project group – a cross-departmental team, which focuses on the ecological and social responsibility of Schüco. There we have analysed our current sustainability activities along the value-added chain – from fabrication of the supplied materials and the product usage phase through to dismantling and recycling.

Over the following months, the resultant topics were supplemented with internal surveys, compared to external sustainability focus areas and developments, and assessed in terms of their relevance for various target groups. This preparatory work formed the basis of an online survey lasting around 15 minutes, which we carried out in early 2016 and sent via email to selected addresses. Some 100 internal and external stakeholders completed our questionnaire, among them managers and employees from Schüco, fabricators, architects, investors, suppliers, representatives from authorities and non-governmental organisations.

Materiality matrix: these topics are important to our stakeholders



... and what we can infer from this

In the weeks which followed, the project group analysed every aspect raised in the materiality process on the basis of the following criteria: what valuable contribution can Schüco make in order to promote the issue? What does or what would systematic processing look like? Are there measurable success criteria and, if so, what goals is Schüco pursuing in this area?

We have started to tackle the sometimes very complex questions in a systematic manner. Our aim in 2017 is to create a roadmap for the next five years, in which we will assign goals and measures for our medium-term sustainability focus points across products, the environment, employees, social engagement and supply chains.

In our first sustainability report we specifically highlight the topics which are regarded as "very relevant" by our internal and external stakeholders. We are doing this alongside our action areas, which are set out as follows (see table on the right).

We see the provision of sustainable products – windows and façades that are particularly energy-efficient – as an important lever. We want to use our systems to support complete solutions which enable healthy living and working. These topics are the focus of the Products action area, in which we also make statements on the relationship between construction and usage costs. In the Environment action area, we also consider the areas of production and recycling. We show how we sustainably plan, develop and implement a product across its entire life cycle. At the same time, we address most of the issues raised by our external stakeholders as part of the materiality process.

Fair treatment of our employees is an important topic for our internal stakeholders. It is presented in this report and examines the aspects of occupational health and safety, career opportunities and a leadership culture based on cooperation.

Action area

Action area	Key issues	Assigned GRI aspects
Products	<ul style="list-style-type: none"> ▪ Sustainable building solutions ▪ Usage costs ▪ Life cycle costs 	<ul style="list-style-type: none"> ▪ Customer health and safety ▪ Product and service labelling ▪ Marketing ▪ Products and services
Environment	<ul style="list-style-type: none"> ▪ Sustainable materials ▪ Recycling 	<ul style="list-style-type: none"> ▪ Energy ▪ Emissions ▪ Products and services ▪ Separate indicator: C2C certificates
Employees	<ul style="list-style-type: none"> ▪ Health ▪ Cooperative leadership culture ▪ Career opportunities 	<ul style="list-style-type: none"> ▪ Occupational health and safety ▪ Employment ▪ Grievance mechanisms ▪ Training and education ▪ Separate indicator: working models
Company	<ul style="list-style-type: none"> ▪ Promotion of young scientists ▪ Commitment to climate protection 	<ul style="list-style-type: none"> ▪ In the development stages
Supply Chain	<ul style="list-style-type: none"> ▪ Origin of raw materials 	<ul style="list-style-type: none"> ▪ In the development stages

Our activities in the areas of sustainable building solutions and climate protection are of public interest and we will list these in the Company action area.

In certain areas we cannot provide a complete answer at this point in time. This applies in particular to the "Origin of raw materials" topic, the intensive processing of which is seen as highly relevant by us and our external stakeholders. As a provider of aluminium profiles, we are actively tackling the challenges this material brings with it. To this end, as a founding member of the global Aluminium Stewardship Initiative (ASI), we are working on the sustainable value-added chain together with other players in the market. What we have already achieved and how we see our goals are integral parts of the stakeholder dialogue, which is representative of the Supply Chain action area in this report. We would therefore like to state that we have accepted the task from our stakeholders and are ready to carry it out with due diligence.

40%

of energy consumption in Europe can be attributed to the building sector.

Source: European Commission

Corporate sustainability is at its most effective when it takes into account all stages of the value chain. As a founding member of the Aluminium Stewardship Initiative (ASI), we therefore advocate industry-wide applicable standards in the aluminium supply chain. We are also working towards the implementation of corresponding standards within our own company – as well as taking other materials into account in the process. We are generating impetus by holding detailed discussions about this issue with the World Wildlife Fund (WWF) and the BMW Group.

WORKSHOP SUPPLY CHAIN

From sustainable material to sustainable raw material



Schüco, BMW Group, WWF – on this morning in November, a workshop in the Schüco Competence Center brings together a group of individuals to discuss a range of different views and perspectives on aluminium; a material that is both durable and extremely versatile. These characteristics can be exploited to manufacture functional, energy-efficient windows and façades that offer excellent recycling properties. The challenge is that negative environmental impacts at the very start of the value chain stand in the way of a good environmental footprint in the usage and recycling phases. At present, the mining of primary aluminium consumes vast amounts of energy, and even today, sometimes produces a large carbon footprint. There is also the potential for conflict regarding land use rights and the issue of environmental damage in the mining countries.

The workshop participants are aware of the ecological and social challenges associated with the mining and production of aluminium. They are active members of the ASI, a multi-stakeholder initiative that aims to improve transparency and sustainability in the value chain (see info box on → p. 19) or, in their line of work, they address



Shining a light on aluminium from all sides: the twelve workshop participants.

the demands on sustainable supply chains. How this looks in commercial practice is what Schüco is now planning to explore. The key questions are: what specific contributions can we make ourselves? How can processes be designed and changes measured? And what would medium-term objectives for greater sustainability in our supply chains actually be?

We are holding detailed discussions on these questions with WWF Germany. This NGO is giving us its experience, especially with respect to climate protection, biodiversity and the management of conservation areas. These aspects are then to be incorporated into a medium-term sustainability roadmap at Schüco. Dr Alexander Nick, Head of Sustainability Strategy and Management at the BMW Group, also reported on this issue in practice. BMW had already begun to introduce sustainable supply chain concepts several years ago.

The participants in the “Sustainable Supply Chain” workshop (in order as pictured to the left)

Jörg Andreas Krüger
Head of Biodiversity,
WWF Deutschland

Jörg Warning,
Project Manager
for Sustainability/CSR,
Schüco International KG

Ingo Ryll
Quality and Environmental
Manager, Schüco International KG

Benjamin Gabel
Head of Integrated
Management System,
Schüco International KG

Rolf Brunkhorst
Head of Sustainability,
Schüco International KG

Dr Alexander Nick
Head of Sustainability
Strategy and Management,
BMW Group

Andrea Dreifke-Pieper
Head of Sustainable
Business & Markets,
WWF Germany

Henning Jünke
Marketing Manager –
Corporate Communication,
Schüco International KG

Justus Kammüller
Manager Sustainable
Business & Markets,
WWF Germany

Stefan Rohrmus
Sustainability Manager,
Schüco International KG

Christian Rosemeier
Head of Aluminium
Purchasing – International,
Fire Protection and Machinery,
Schüco International KG

Dr Bernhard Bauske
Senior Manager Sustainable
Business & Markets,
WWF Germany

Leading by example

Thanks to the “ASI Chain of Custody Standard”, a globally valid trading concept is now being created, based on the responsible handling of the resource of aluminium, which targets all stages – mining, manufacturing, purchasing, usage and recycling. In November 2016, we invited two members of the ASI to assist us with the practical implementation of the standard. The following pages cover some of the key complex topics that were discussed during the initial “Sustainable Supply Chain” workshop.

What is a sustainable supply chain?

Stefan Rohrmus: We could consider our aluminium supply chain to be sustainable when we fulfil the ASI standard.

Jörg-Andreas Krüger: I would prefer to call it a responsible supply chain. Sustainability in the classic sense in fact means that we manage something in such a way that resources are then able to renew themselves. This is not the case with mineral raw materials, which involve considerable sustainability risks right from the start of the chain. Biological diversity can be damaged by the mining of these raw materials, impacting the availability of clean water and living conditions for entire regions. This must be excluded in a responsible supply chain.

Dr Alexander Nick: Personally, I see sustainability in the supplier network as encompassing the competence of and demand for sustainability standards for all tier-1 suppliers, as well as the penetration of critical n-tier supply chains. From my perspective, the ASI standard covers all aspects which are fundamental to a responsible supply chain. The so-called Chain of Custody, in other words certification of the product chain, also creates transparency. I feel this is an important aspect, as it allows us to make adjustments as required.

What kind of influence can Schüco have on the design of a sustainable supply chain?

Dr Bernhard Bauske: The mining industry is highly concentrated in the aluminium sector. There are around 20 to 30 mines, 20 companies that carry out further processing and 200 smelting

plants that are assigned to around 100 operators. Given this situation, we believe that a transparent supply chain should absolutely be guaranteed. Schüco could then opt for production with low greenhouse gas emissions, thereby significantly reducing the carbon footprint of their own products.

Dr Alexander Nick: It is a logical step for any business to demand sustainability standards from its tier-1 suppliers. Schüco can also exert an influence on uniform standards along the n-tier supply chain and on Chain of Custody certification through its work within the ASI.

How do companies handle the conflict of interest, given that tighter sustainability requirements placed on suppliers will lead to additional purchasing costs?

Dr Alexander Nick: Naturally it would be impossible to implement these requirements in purchasing overnight. We need to retain a sense of proportion. We have already begun to clarify certain sustainability risks with our suppliers using a questionnaire, and are now discussing these risks. So we have involved our business partners right from the outset, giving them sufficient notice to adjust to specific demands. Then a sustainable way of doing business does not necessarily need to involve higher costs. Very often, the focus is on more efficient processes with greater transparency.

Christian Rosemeier: I think this is a really important point. I find when talking to our suppliers that many of them have not yet tackled the topic of sustainability in such great depth. Here I also see another task for the ASI, that of helping its members and any interested third parties by introducing them to topics in a targeted way before detailed issues are discussed. We are also working with medium-sized extrusion companies, whose supply chains can often break off into a number of different branches, hence it can be very difficult for many downstream companies to pinpoint the sources of individual raw material components.

Andrea Dreifke-Pieper: So it is in fact all the more important that, as far as possible, you work to ensure that your



Dr Alexander Nick of the BMW Group sees the ASI standard as comprehensive.



Christian Rosemeier (left) and Stefan Rohrmus are striving to fulfil this standard at Schüco.



Benjamin Gabel of Schüco would like to cooperate closely with suppliers.

Andrea Dreifke-Pieper of the WWF is convinced it is possible to reduce the environmental footprint.

suppliers are able to minimise their own business risks. Firstly, by the companies increasing their own sustainability performance and secondly, by making sure that their own suppliers are fulfilling specific sustainability criteria.

What initial measures should Schüco instigate on the road to greater sustainability in the supply chain?

Stefan Rohrmus: I agree with the suggestion that we at Schüco should initially formulate a compact sustainability standard for suppliers, to set out our requirements. Then we would need to consider how we could support our suppliers in meeting those requirements. At the same time, we must work to make our suppliers more aware of the standard and its content.

Andrea Dreifke-Pieper: However, Schüco should also take advantage of its influential position in the construction industry to bring about a change in the market. We would recommend that Schüco develops a roadmap focused on the medium term and based on ambitious sustainability targets. This includes showing that the company has a climate objective that matches the ambitious equivalent of the “2° climate target” level. Equally important in the pioneering role of Schüco are targets that ensure supply chain transparency, which then contribute to further reductions in the environmental footprint of aluminium production,

especially at the start of the supply chain. This can include the purchase of ASI-certified aluminium and the continuous expansion of the Cradle to Cradle portfolio.

For greater sustainability in the aluminium supply chain

Schüco is a founding member of the Aluminium Stewardship Initiative (ASI) and, to date, is the only company in the construction industry involved. With the objective of achieving a sustainable aluminium industry, the ASI develops globally applicable standards for the entire value chain – including a certification process via independent third parties. As a result, by 2018, certified and sustainably obtained aluminium will be available on the market for the very first time.

A large number of players are involved in developing the standards within a transparent process. These are companies that are active in bauxite mining, in the transformation or production of aluminium products, but also civil society organisations such as the WWF, the International Union for Conservation of Nature (IUCN), and representatives of indigenous populations. The participants focus in particular on the selection of mining areas, the reduction of greenhouse gases in mining, transformation and production, and on recycling that conserves valuable resources. Further working focal points address the need to conserve

biodiversity and to protect communities living close to bauxite mines, the renaturation of mining areas, compliance with international working regulations, and guaranteeing transparent materials management.

For this purpose, the ASI has drawn up two key guidelines: the “ASI Performance Standard”, a performance catalogue for sustainable business, and the “ASI Chain of Custody Standard” for materials management. The guidelines for companies along the aluminium value chain contain clear requirements and some detailed regulations on their implementation. For example, they define new threshold values for the emission of greenhouse gases in aluminium smelting plants. The ASI Performance Standard has been in force since 2014. The Chain of Custody Standard is currently undergoing finalisation and the ASI certification process should be launched at the end of 2017.

It is anticipated that many players in the aluminium industry will accept and apply the criteria developed, voluntarily exceeding the requirements of all earlier legislation.

Those who like working in an office rarely mean the place itself. Schüco wants to change this. Together with professional, experienced partners, we are working on the office of the future. "My Future Office" is a concept that focuses on the health and comfort of the user in order to increase the cost effectiveness of investments in buildings.

SUSTAINABLE PRODUCTS

The office of the future





Offset levels open up sight-lines and house different configurations of workspaces and meeting rooms.



Working environments of the future are researched at the Center for Virtual Engineering (ZVE) of the Fraunhofer Institute in Stuttgart.



Completed in 2012, the ZVE office building is a showpiece in terms of workplace design. For many workers, things are much different in reality. Older buildings and even modern office complexes are either no longer up to date or are equipped rather sparsely. Investment in a comfortable office environment therefore pays off in the long run, as fewer employees take sick days and productivity increases.

In order to reap the economic benefits of health-enhancing building concepts, aspects such as air quality, temperature, supply of natural light, sun shading and a sense of space need to be taken into account during the planning stage. Evidence of this is shown by the Sentinel Haus Institut and TÜV Rheinland in collaboration with various companies in the construction industry in their model

project "My Future Office". From the quality of the windows and the room structure through to the arrangement of individual workstations, the partners bring their practical expertise to the design of sustainable office concepts. Initiated with the help of Schüco, the project will set up test rooms collectively from 2017 and put the health benefits of various construction products to the test there.

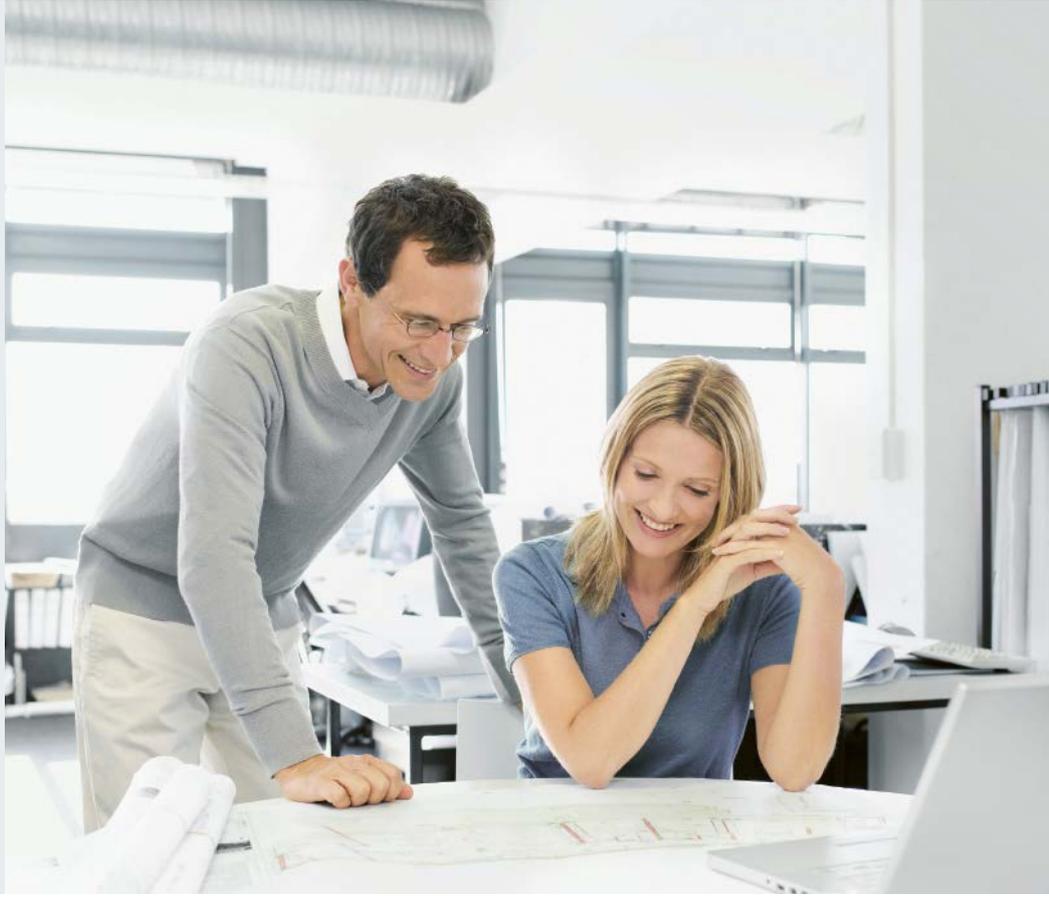
The aim of the project is to increase the specific indoor pollution in differently designed office rooms in order to prove the benefits of health-oriented construction methods and the corresponding projects. The next step will be to carry over the results to real projects. Information events for clients and training for investors and architects are planned for 2018 onwards.

90%

People from industrialised societies spend 90% of their time in buildings.

Our management approach: 360° sustainability – from the idea to recycling

As far as we are concerned, sustainable building solutions are characterised by being ecologically, economically and socially future-proof. This makes it necessary to incorporate the entire life cycle of a building: from planning and construction to operation, demolition and recycling. To this effect, we have systematically and consistently aligned our services to the different phases in a construction project. In this way, we provide support for our customers, for example during the planning stage for a sustainable building with digital tools such as BIM (see also → page 35) and SchüCal. Environmentally certified product solutions are just as much a part of our range as façade and window systems, which are fed back into the recycling process following the usage phase. Schüco calls this holistic approach, which is oriented around the building life cycle, “360° sustainability”.

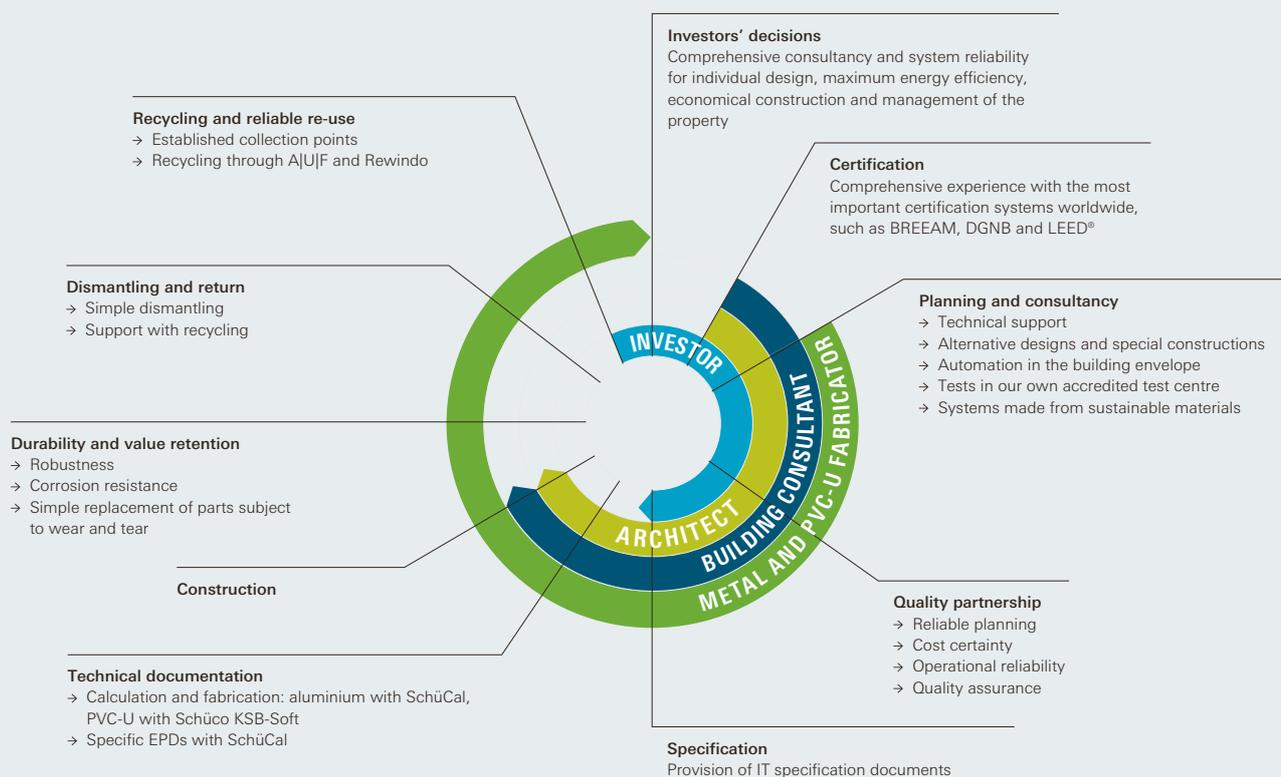


Focus on usage costs

The “My Future Office” project is an example of an integrated approach (see also our management approach on → page 23 and 32), on which the development of sustainable products at Schüco is based. For us, sustainability does not end with the construction of energy-efficient buildings that conserve resources. Starting with the premise that buildings last for many decades, we place a particular emphasis on the usage phase. We aspire to design spaces in which people feel comfortable. After all, these kinds of spaces promote health and – if it is an office building – productivity, too. The construction of uniform, sustainable properties therefore has both social and economic benefits, which we want to quantify together with our project partners. Using this parameter, we will provide clients and investors with a solid basis for decision-making in the construction of sustainable buildings.

Sustainable buildings offer measurable economic benefits

On the basis of these considerations and together with a renowned institution, we have developed an application, which is currently in the test phase. The “renovation calculator” is intended to show the profitability of modernisations to clients. To do this, it uses empirical studies, which determine the efficiency of the measure while taking account of factors such as the building size or the year it was constructed. In this way, users of the application receive an estimation for increasing the efficiency, which they achieve with an energy-efficient and health-enhancing building method. The calculator then balances the data with the investment costs to calculate the returns for the renovation project.



Environmental Product Declarations (EPDs)

The so-called “Environmental Product Declarations” (EPDs) form the basis for the full consideration of sustainability aspects at product level. These declarations contain information on the environmental impact of our products, which has been ascertained with the aid of eco-balances in accordance with DIN ISO 14040 ff. and DIN EN 15804. This makes it possible for the required resources, the emissions and the consequent effect on the climate to be shown for each product – across the entire manufacturing process. By using EPDs, we are laying the foundations for making specific environmental effects identifiable.

In the area of metal fabrication, the EPDs cover the entire product range. Their creation is integrated in our SchüCal planning and calculation software. Fabricators who use the program receive EPDs, which are calculated for individual dimensions and construction of the selected units. The declarations can also be used as proof that our products meet the level of sustainability required in the

Construction Products Regulation. With a view to future clarification of the legal specifications, we provide a service that supports the future-proof planning of building projects and reduces the work involved in meeting the specification requirements.

At present, we use two association EPDs, which correspond to double- and triple-glazed PVC-U windows, for our PVC-U window systems. An updated EPD for triple-insulation glass is currently being verified. The declarations were developed in a working group of the European PVC Window Profiles and related Building Products Association (EPPA). Schüco was actively involved in this process. Based on these association EPDs – and taking account of the certificates still to be verified – around 80% of our systems are covered.

At the moment, our most popular systems are represented in the DGNB Navigator (www.dgnb-navigator.de). Following publication of the updated EPD, our new Schüco Living system range will also be incorporated into the DGNB Navigator.

100%

of all Schüco aluminium products have individual EPDs (PR 3).

Promotion of health included

In the following text, we will go into more detail on product and service innovations that underline our need to push for healthy living and working solutions.

Decentralised ventilation

Indoor air quality is critical for the health, well-being and productivity of people who spend time in buildings. If it deteriorates, it can cause headaches, lapses in concentration or tiredness, amongst other things. A sufficient supply of fresh air is therefore very important. In residential buildings, regular ventilation should also prevent the formation of damp and condensation in rooms. A solution that ensures a pleasant indoor climate even without manual ventilation is "Schüco VentoPlus". Available since 2015, the self-regulating ventilation system is attached directly

to the window and provided with a mechanical humidity sensor. In this way, it always adjusts the amount of incoming air to suit the current requirement.

Ventilation is also intended to reduce the CO₂ concentration in the ambient air, especially in offices and commercial buildings. In terms of energy efficiency, warm energy must be prevented from escaping outside, despite the regular supply of fresh air. The sensor-based "Schüco VentoTec" and "Schüco VentoTherm" ventilation systems meet these requirements. Taking up the smallest space, they combine the functions of incoming air, outgoing air and heat recovery, and also have a filter for pollen and particulate matter. Using an integrated air quality and humidity sensor, they ensure that air is exchanged based on requirements. The devices are concealed in spandrel units, fixed lights, roller shutter boxes and window units.

60 dB

Most people perceive normal sound to be 60 decibels. At 120 decibels, sound waves which can be painful are produced.

Schüco VentoTherm advanced

Fresh air without opening the window: the ventilation system that is integrated into the window ensures optimum air exchange without heat loss.





Antibacterial surfaces

Germs can survive on window handles and frames for a long time, harbouring a risk of infection. "Smart Active" prevents this. The antimicrobial surface coating for Schüco aluminium window systems and handles contains incorporated micro-silver particles, which achieve a reduction in germs of almost 100% within 24 hours. Available since 2016, the active shield is primarily used in hospitals, nursing homes, nurseries and public buildings.

Sound reduction

The quality of sound reduction cannot be attributed to the frame system alone. After all, the glass used also plays a role in protecting against street, aircraft and background noise. To achieve an optimum result, both window units must be matched perfectly. This is why Schüco tests each of its window and façade systems in its own Technology Center. The independently accredited manufacturing laboratory also takes building acoustic measurements in accordance with DIN ISO 10140 for customer projects, including tests for noise emissions or room acoustics on-site. Since 2011, demand has increased such that we will be expanding our capacity by 2020 to include a new building acoustics hall with two further test rigs. In addition, our engineers are currently working on the development of a program, which can help developers and architects to derive sound insulation values for specific window and façade units in future.

Schüco VentoLife

Healthy indoor climate: the automatic air purification and oxygen supply system that is integrated into the window rids the air of pollutants.

1,200

The Schüco Technology Center performs 1200 tests each year.



Staying safe: using product markings

We are using various measures to ensure that our products are also safe to use at all times during their service life.

CE marking:

Since July 2013, European construction products have to be uniformly tested, marked and supplied with corresponding documents in accordance with the specifications of the Construction Products Regulation. For windows, doors and façades, these are CE marking and Declarations of Performance, which the end customer receives together with the safety instructions, maintenance instructions and instructions for use. As a systems supplier, Schüco is generally not responsible for product markings. We do, however, support our fabricators in meeting this obligation. To this end, we have the performance characteristics of our products tested by a recognised body. Our customers can find the test reports, order and fabrication manuals and guidelines for the Factory Production Control online. Moreover, it is possible to automatically create CE markings and Declarations of Performance for selected product systems using our SchüCal planning software.

Marking in accordance with Schüco standard:

In order to guarantee the traceability of our articles over the course of production and to the supplier, we mark our products with batch numbers, article numbers or signatures, depending on the type.

Risk assessment:

All products developed and bought in for Schüco are run through the prescribed manufacturing process and subjected to a risk analysis during the early development phase. Various testing and approval stages ensure that all prescribed requirements are adhered to in the subsequent construction process.

Handling substances subject to marking

Metal:

In addition to the legally banned substances and restrictions on use, we oblige our suppliers to adhere to Schüco standard SN 175. This stipulates which substances we exclude from application, allow to a limited extent or treat as declarable in the Metal division.

0 reports

During this reporting period, Quality Management did not receive any reports stating that regulations and voluntary codes of conduct regarding product health and safety had not been followed (PR2).

The Schüco standard also contains a list of substances which our products absolutely must not contain, including heavy metals and various flame retardants. This list was created as part of the Cradle to Cradle certifications. It is intended to ensure that all newly developed Schüco products are free from potentially dangerous substances – and should pave the way for further C2C certifications. In this regard, we also use systematic pollutant screening, which helps us to uncover and evaluate potential risks and take action accordingly. Screening has not uncovered any immediate dangers, but does show potential for improvement, which is systematically taken into account during product development. For example, there are still products that contain flame retardants, as construction standards require this. In cases like these we replace the flame retardants we consider to be critical with safer alternatives.

PVC-U:

In the area of PVC-U, too, our suppliers are obliged in accordance with the current regulations and provisions to adhere to bans on substances and point out the use of declarable substances. We have no reports of banned substances.

As a matter of principle, we have not used additives containing lead and cadmium in our calcium/zinc-stabilised window profiles since 2009. Recovered PVC-U window profiles represent a special case, whereby we fabricate the recycled material in the internal core of new profiles. Contained in this recycled waste material are small amounts of heavy metals, which must be marked in accordance with the REACH regulation. The corresponding substances are, for example, lead compounds, which are fixed in the material and

cannot be released through exposure to the weather or by household chemicals. Companies, including Schüco, therefore support the position that the closed cycle idea for substances which cannot be released and are hence hygienically safe is to be ranked higher than the alternative of incinerating or dumping old profiles. We actively support this line of argument in the corresponding national and international industry associations such as the Working Group for PVC and the Environment (AGPU), the recycling initiative Rewindo or the political association EPPA. Our aim is to use closed material cycles to make a significant contribution to the sustainability of PVC-U profile systems.

In places where we exclude or replace critical substances, we pave the way for further C2C certifications.

For products subject to a marking, such as the above recycled profiles, we have established a process that takes effect from the product launch through to the documentation of proof. Substances which are subject to corresponding regulations in their application are not used here.

We test in-house product developments and carry out project-specific tests for customers in our independent, accredited Technology Center.





When building the energy-efficient head office for Statoil in Oslo (Norway), prefabricated Schüco façade units and customised standard parts were used.

Energy-efficient solutions for all building types

From 2021, new buildings must implement the nearly zero-energy standard across Europe – this is prescribed by the EU Building Directive. With that in mind, it is clear why our stakeholders see the issue of energy efficiency as incredibly important (see also → page 14). For decades, we have ensured during development that our products systematically contribute towards improving the energy balance of buildings. The so-called U value, which measures the thermal performance of a building component, provides a useful guide. For a window, it is composed of the thermal transmittance values of the frame (Uf value) and the window glazing (Ug value). In both cases, the lower the value, the better the level of insulation. Taking our highly insulated AWS aluminium window series as an example, it is possible to see the progress we have achieved over the past ten years in terms of energy efficiency. In 2005, the best product in this regard with a face width of 117 millimetres had a Uf value of 1.4 W/m²K. We now offer an aluminium window with a value of 0.8 W/m²K. As the first window in the world with a face width of 120 millimetres, it fulfilled the strict passive house criteria.

Energy efficiency is a hot topic for our stakeholders.

More energy efficiency can also be achieved through automation of window and façade systems. To this end, we integrate motorised ventilation functions using a system platform with sensors that measure the temperature, humidity or CO₂ content of the air, for example. With the “night-time cooling” function, we couple integrated sensors with internal and external temperature sensors. Depending on the temperature differential, the window is then opened or closed automatically. During the summer months, this natural air conditioning helps to significantly reduce the energy consumption of the building. The Schüco system platform and our mechatronic fittings can be integrated in the building automation system by means of various interfaces.

While energy efficiency in offices and private homes has been systematically improved for years, the potential for saving in industrial production has not been boosted for a long time. In this case, with ever-increasing energy costs, low consumption values can even be turned into a competitive advantage. The “factory of the future” was opened on the campus of the TU Darmstadt in early 2016 with the aim of reducing energy consumption by up to 40% compared to a standard production hall. Schüco is also involved in the research project. Our “Schüco Parametric System” three-dimensional façade solution was installed for the first time on the building. Its parametric glazed units direct the sun perfectly, reducing air conditioning and lighting costs. The special feature of the system is that the individual façade modules can be variably adjusted using planning software and equipped with different functions, such as opaque infills or integrated photovoltaic units.

Tested sustainability: building certificates

Sustainability aspects are becoming more important in the valuation of property, too. Evidence of this can be seen in sustainability certificates which are increasing in demand, particularly in the commercial sector. The evaluation systems LEED and BREEAM dominate internationally, while in Germany the DGNB certificate is also widespread. What all the systems have in common is the fact that further aspects are defined in addition to resource and energy efficiency, such as the breakdown of life cycle costs or the promotion of health and well-being.

When preparing for building certification, the developers must prove that the individual units in the building envelope – windows, façade, roof – meet the stipulated sustainability criteria. To this end, we have tested how well our systems are suited to meeting the requirements of different certificates. The result is that our range fully complies with the requirements of the certification systems. We also support architects, investors and fabricators with detailed documentation on the current certificates. Furthermore, our design software can be used to create documents for certifications, for example Environmental Product Declarations and Uf value calculations. From mid-2017, it will also be possible to generate C2C verifications using SchüCal.



Certified buildings with the involvement of Schüco: Center for Virtual Engineering (ZVE) in Stuttgart (Germany), Alliander head office in Duiven (the Netherlands), and Siemens City in Vienna (Austria), clockwise from left.

Overview of the most important certifications

BREEAM:

Building Research Establishment Environmental Assessment Method. The British sustainability certificate was developed in 1990 and is the oldest test certificate in the field of sustainable construction. The levels which can be achieved are Outstanding, Excellent, Very Good, Good and Unclassified.

DGNB:

German Sustainable Building Council. The following are certified: the fulfilment of various sustainability criteria in terms of ecology, economics, socio-cultural and functional aspects, technology, processes and location. If the criteria of the standard have been exceeded, the organisation awards the DGNB certificate in platinum or silver. Existing buildings can also be certified in bronze.

LEED:

Leadership in Energy and Environmental Design. Compared to BREEAM and DGNB, this system is geared more strongly towards ecological sustainability. It was developed by the U.S. Green Building Council and comprises the classifications Platinum, Gold, Silver and Certified.



LEED®, and its related logo, is a trademark owned by the U.S. Green Building Council® and is used with permission.



100%

coverage: Schüco products meet the requirements of current certification systems.

Just 25 years ago, the chimneys here spewed out smoke. Today, on the “Zollverein” in Essen, a building has emerged that sets standards for environmentally conscious construction methods. It is largely geared towards the sustainable “Cradle to Cradle” principles – in part thanks to C2C-certified window systems from Schüco.

ENVIRONMENT

Preserving what's precious



Coming full circle

Scarcely any other place symbolises the restructuring of the Ruhr as much as the erstwhile Zollverein coal mine and coking plant in Essen, which has been a UNESCO World Heritage Site since 2001. It is precisely here that new, sustainable workstations have been created with Schüco products for around 220 employees of the venerable RAG Group and RAG Stiftung (RAG Foundation).

We have therefore come full circle in many respects. First a former industrial site is recycled and used again for commercial purposes. With the move to Zollverein in 2017, RAG AG and RAG Stiftung are also returning to their roots. Above all, however, the new building follows the innovative

“Cradle to Cradle” concept, which is geared towards efficiency. The individual window units are designed such that they can be fully recycled if the building is demolished or converted. In short, the material cycles are largely closed. The building is likely to receive the Platinum DGNB certificate.

The process and product expertise of Schüco is making a significant contribution to this. As a provider of C2C-certified aluminium window systems, we are on hand to provide advice to all those involved – including clients, the team of architects and the façade consultant. Our AWS 75.SI+ system will be installed. From a sustainability point of view, it has impressed the most because it fully meets the demanding certification criteria.

100%

of the aluminium used and 85% of all the material used in the window system can be recycled after the usage phase without any loss of quality. The selected Schüco window system has been awarded the Silver C2C certificate.



Environmental protection at Schüco: our management approach

Active environment and energy management is a key part of our management policy. Protecting the environment and preventing ecological damage are part of the Schüco identity.

PRODUCTS: confronting the scarcity of raw materials with material cycles

This is why we develop products that are primarily resource-friendly. After all, it is already clear today that the demand for building materials will become ever more difficult to meet in future. The scarcity of raw materials will intensify in the long term for materials such as aluminium, steel and PVC-U, too. This will pose even bigger challenges than the energy question for many companies in the construction industry.

One solution when designing buildings is to select materials that do not contain harmful substances and can be fully recycled. Schüco is therefore developing products that are systematically "Cradle to Cradle" (C2C) certified. In the development process and when selecting materials, we use our "Checklist for quality product design" (QGP) as standard. We check whether a product contains materials which are hazardous to the environment or health and how we can replace them. Recyclability and disposal are also standard parts of the check. In addition, using the internal Schüco standard SN 175, we oblige our suppliers to refrain from using or to declare a defined list of potentially dangerous materials (for more on harmful substances tests, see "Products" action area, → page 27).

PROCESSES: environmental management system in accordance with ISO 14001

The second focal point of our commitment is to entrench ecological topics in our corporate processes. We have introduced an environmental management system, which was certified for the first time in December 2013 in accordance with international standard ISO 14001. We therefore have recognised proof for construction products that are produced in an eco-friendly way – a requirement that can be used to positively evaluate our systems as part of building certifications such as BREEAM (see also → page 29).

For certification in accordance with ISO 14001, not only do we need to adhere to statutory regulations, we also have to follow additional, voluntary environmental targets. These concern in particular emissions and consumption of resources. Our resultant environmental programme includes the focus areas of transport logistics, journeys to and from work, use of the building, business trips and paper consumption. Furthermore, we are currently developing a waste management system.

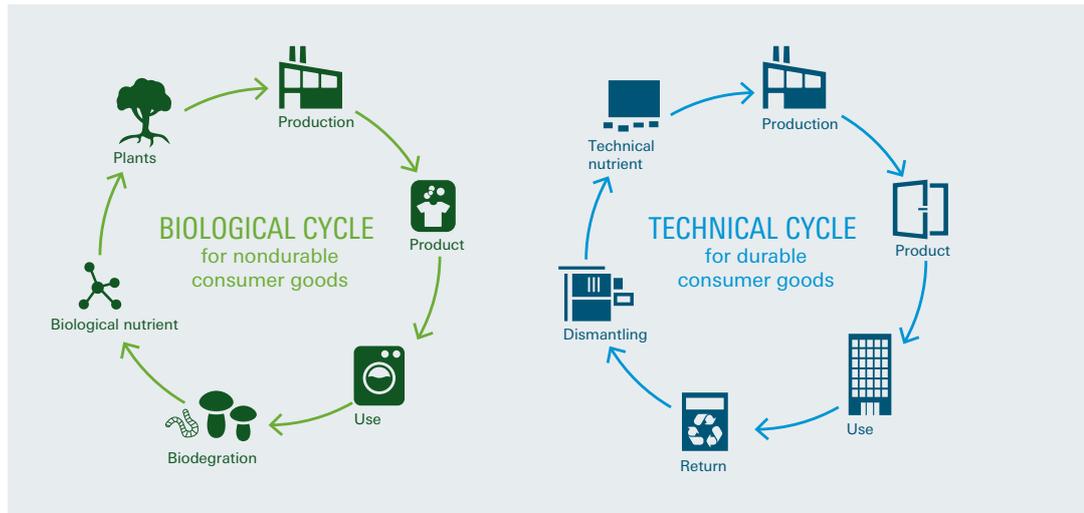
In order to estimate our expenditure for environmental protection measures and to compare it to the resulting cost benefits, we are recording the tasks for our environmental management system, the environmental liability insurance and our waste management system. Moreover, we have implemented lighthouse projects in Logistics during this reporting period, such as training for energy-efficient driving. In the procurement of capital goods such as machinery or installations, energy efficiency also has an important influence on the purchase decision. At this point, we are not reporting in terms of a comprehensive cost calculation system for the environment, as we already cover significant expenditure for improving our environmental performance with our management approach.

All those responsible for questions regarding the environment follow clear, company-wide rules. Processes are defined and managed by means of the integrated management system. The company's Technical department carries out product tests in close collaboration with the Technology Center and Quality Management. Purchasing is responsible for communicating with suppliers. Furthermore, we are involved in a series of ecologically oriented initiatives such as A|U|F, Rewindo and the Aluminium Stewardship Initiative (ASI). They will be introduced later in this chapter.

75%

of the waste at the Bielefeld site was recycled in 2015.

The Cradle to Cradle principle



Schüco products are durable consumer goods and are therefore part of the technical cycle of C2C.



Sustainable materials – for maximum eco effectiveness

The Cradle to Cradle principle

The “Cradle to Cradle” (C2C) design concept by Professor Michael Braungart is an approach that pays strict attention to the effectiveness of resources and sustainability.

The C2C philosophy understands all materials as valuable resources, which return fully to biological or technical cycles without any loss of quality. This means there is no waste. Products and production processes are hence designed “from cradle to cradle” – from production and the usage phase through to dismantling, recycling and reuse. Recyclability without any loss of quality becomes a key factor here. C2C products are tested as pollutant-free and are created using renewable energies. All in all, the concept creates space for sustainable innovation and creativity – and turns buildings into raw material stock for the future.

C2C products from Schüco

Schüco is one of the pioneers in the construction industry in the development of C2C-certified products. We expect that the need and hence the demand for these certificates will increase significantly. After all, no other system covers sustainability at product level so extensively and consistently.

Three Schüco systems have already been tested by the EPEA Institute in Hamburg and certified in accordance with the standard of the Cradle to Cradle Products Innovation Institute (C2CPII) in the USA (see box). The evaluation examines the harmlessness of the materials used to people and the environment, the processes for reusability in

technical cycles, energy and water management in production and the social standards at the production site.

C2C products can be recycled without any loss of quality, are pollutant-free and can be used in a variety of ways.

We have also developed a so-called C2C modular system. With the help of the SchüCal design software, this enables the C2C verification of our window, door and façade systems. For in practice, the choice of Schüco products varies depending on the building project. A modular system makes it possible to use certified articles to put together entire products, so that they receive C2C verification. In December 2016, Schüco received Bronze C2C certification for this modular system.

C2C certificates for Schüco products

2014	2015	December 2016
C2C Bronze certificate for the FWS 50 SI façade system and the AWS 75 SI+ aluminium window system	C2C Silver certificate for the FWS 50 SI, AWS 75 SI+ and AWS 65 NL systems	Implementation of the modular system principle and C2C Bronze certificate for all AWS systems (windows), all FWS systems (façades) and the ADS 75 SimplySmart and ADS 90 SimplySmart aluminium doors

Cradle to Cradle® is a registered trademark of McDonough Braungart Design Chemistry, LLC (MBDC). Cradle to Cradle Certified™ is a certification mark licensed exclusively for the Cradle to Cradle Products Innovation Institute. Additional information: <http://epea.com/en/content/cradle-cradle>

100%

Up to 100% of aluminium and PVC-U can be recycled.

RECYCLING: industry systems support closed material cycles

Aluminium construction products are ideally suited to reuse. Once extracted, they can be recycled any number of times without any loss in quality. Even the swarf can be recycled. In the construction industry, 98% of old aluminium windows and façades are fed back into the recycling process (see also → page 49 as well as our involvement in the Aluminium Stewardship Initiative (ASI)).

In addition to suitable materials, efficient return and processing structures are also key to successful recycling. Schüco is a founding member of the A|U|F Initiative (Aluminium and the Environment in Window and Façade Construction). It ensures that there are suitable, industry-wide processes throughout Germany. Recycling companies shred, clean and melt old profiles, so they can be fabricated into new profiles. This is possible to an unlimited extent and across generations, using just 5% of the original energy consumption and without any loss of quality. This means that 95% of the energy originally used remains stored in the material and available for reuse.

Old PVC-U windows can also be recycled in this way, creating almost pure PVC-U. Schüco PVC-U profiles are 100% recyclable. Similarly to metal fabrication, there is an industry-wide solution for the return. The Rewindo Initiative of which Schüco is also a member is responsible for this. Rewindo organises the recycling of PVC-U windows, doors

and roller shutters and subsequently makes the material available to us again. Furthermore, the leftover PVC-U which accumulates in the production of window profiles is already ground down at the plant to make PVC-U granules and reused. The return of our products following their service life is also regulated by means of an established, industry-wide process. As regards the aim of closing the material cycles, we see ourselves as better equipped than with a return system organised by ourselves. We exploit further opportunities to have an influence in our product design and when exchanging related ideas with our customers, the fabricators.

The proportion of recycled materials in construction products is generally limited by the amount of secondary material available on the market. In our aluminium and PVC-U profiles, this proportion is shifting to a level that is customary in the industry. For aluminium this is around 40%, and for PVC-U more than 10%.

Moreover, we are ensuring that our sales packaging is licensed by means of a dual system and disposed of appropriately. To this end, we are working together with service provider Zentek.



The A|U|F e.V. promotes the sustainable disposal and recycling of dismantled building components and profiles from windows, doors and façades made of aluminium, so that the material can be reused.



Rewindo is the association of leading German manufacturers of PVC-U profiles with the aim of increasing the recycling of dismantled windows, roller shutters and doors made from PVC-U, and fostering economies which use resources efficiently.



EXTENSIVE SUSTAINABILITY ASSESSMENT: comparing aluminium, PVC-U and timber

Schüco uses materials that have a positive eco-balance in their manufacturing and usage phase. Where do our aluminium and PVC-U systems stand in comparison to a renewable raw material such as timber? Published in 2015, the scientific material study "Sustainability assessment for window and façade units" provided new insights on this. It was carried out by consultancy firm Drees & Sommer and thinkstep, with the European aluminium industry as the client. The study considered the entire life cycle of products, from production through to "end of life". A key finding with regard to environmental impact is that timber, PVC-U and aluminium rank as virtually equal when it comes to energy-saving characteristics and their influence on global warming. Schüco therefore uses demonstrably sustainable materials for its systems. We are continuously working on further improvements and innovations.

Examples of environmental innovations in product development

1. ALUMINIUM: new generation of products integrates plastic materials made from renewable raw materials

At present, we use materials with a significant proportion of renewable raw materials in two Schüco products: the FW 50.SI Green façade system and the AWS 90.SI aluminium window. This contributes to a reduction in the use of fossil fuels.

For components such as gaskets and pressure plates, we specifically use plastics produced from the seeds of the castor oil plant (*ricinus communis*). The oil from the seeds is processed for the foams in the insulating bars without the need for chemical processing. Synthetic rubber (EPDM) is also integrated in the gaskets of both profile systems in the "green" generation of aluminium products. It is made from sugar cane or bioethanol.

2. PVC-U: lead-free PVC-U since 2009

The PVC-U industry committed to replacing all materials containing lead by 2015. Schüco had already achieved this aim by 2009. Since then, we have stopped using lead stabilisers in PVC-U. Instead, we use heavy-metal-free products based on calcium-zinc compounds.

3. STEEL: EPDs in development

The steel industry has commissioned so-called Environmental Product Declarations (EPDs) in order to quantify the sustainability of materials in the building envelope and for interiors (see also "Products" action area, → page 23). They correspond to international standards and create a prerequisite for the increasingly important building certifications. Schüco will provide these new EPDs, as we already do for aluminium and PVC-U.

– 94%

The CO₂ footprint of recycled ground PVC-U is 94% lower compared to primary PVC-U.

Digital sustainability: Building Information Modeling (BIM)

Digitalisation opens up new perspectives for sustainable construction, too. In line with the Schüco basic principle of always considering the entire life cycle of a building, we are in favour of Building Information Modeling, or BIM for short. This digital tool helps when designing and realising building projects and enables a holistic consideration from the outset. Questions of sustainability can therefore be investigated earlier and quantified. This applies, for example, to the energy performance of a planned building.

Schüco supports users of the BIM method with planning modules and interfaces. Since March 2014, architects and developers have been able to insert Schüco BIM building components directly and digitally into their program environment. Changes are automatically sent to everyone involved in the construction. This increases transparency and efficiency during planning and helps to identify and solve problems at an early stage. For more information, visit www.schueco.de/bim



Building Information Modeling (BIM) is the digital tool for the planning and realisation of construction projects as well as the operation of buildings.

Environmental management and CO₂ balance

-6%

EN6: Our energy-saving measures are making an impact. Consumption was lowered by 6% (5,537,564 kWh) in 2015 compared to the previous year.

By energy type:
 Fuel for transport and logistics:
+151,662 kWh
 Electricity:
-5,307,984 kWh
 Heat:
-433,273 kWh
 District heating:
+52,031 kWh

Source: Schüco CCF database, base year 2013, standards in accordance with GHG protocol

The environmental objectives of Schüco focus on reducing pollution for people and nature as far as possible, for example, air and noise emissions at the Bielefeld site, discharges into bodies of water, stress placed on the ground, the generation of waste and the use of raw materials. We also help customers and suppliers to make corresponding improvements.

In order to reduce the ecological impact of our products, we increasingly use reusable load carriers for our profiles, amongst other things. Between 2013 and 2015, Schüco invested more than 7.3 million euros in steel stillages. Furthermore, in the same period we increased the proportion of half-size steel stillages from 11 to 16% (PVC-U) and 0 to 7% (aluminium). This means that we are using load carriers and HGVs to capacity better. The circulation of stillages also increased. In 2015, the return rate was 92% (2013: 86%) in the area of PVC-U and 95% (2013: 94%) in metal.

Focusing on climate protection

We pay particular attention to climate protection. Schüco is also prepared internally on many levels to reduce energy consumption and hence also the CO₂ footprint or corporate carbon footprint (CCF):

- Since 2012, throughout Germany we have purchased 100% certified green electricity, which bears the ok-power seal.
- We have introduced an environmental management system, which is certified in accordance with ISO 14001.
- We have calculated our carbon footprint since 2011 and have recorded it in a CCF database since 2014.
- In 2015, we carried out an initial energy audit in accordance with EN 16247.

Schüco is also a member of the 2° Foundation, an initiative for German businesses. As a “climate ambassador”, its representatives have previously campaigned for binding political measures to limit the effects of climate change and to decarbonise the economy (see also “Social engagement” action area, → page 49).

Corporate carbon footprint: footprint becoming smaller

Schüco Germany has been systematically recording the greenhouse gas emissions of the company: the so-called carbon footprint. It is certified annually by TÜV NORD CERT GmbH. In 2011, the total emissions still amounted to 74,292 tonnes of CO₂ equivalents. By 2015, this had sunk to 28,555 tonnes of CO₂ equivalents. This equates to a reduction of 62%.

EN5: specific energy consumption

	Energy intensity quotient ²
2013	34,158
2014	29,129
2015	28,811

² The quotient compares the absolute energy consumption with the number of full-time staff at Schüco Germany (kWh per employee).

Source: Schüco CCF database, base year 2013, standards in accordance with GHG protocol

Data from administration and production (energy consumption, water and waste water), transport logistics (internally and externally), business trips and journeys to and from work, as well as paper consumption and printing, is incorporated into the CO₂ balance.

Energy consumption within the organisation

	Total (in kWh)	Transport (vehicle fleet)	Stationary energy (total)	Stationary energy (heating oil)	Stationary energy (natural gas)	Current (total)	Electricity (conventional generation)	Electricity (“green” energy)	District heating	Self-generated energy
2013	110,773,981	16,998,713	26,348,047	545,209	26,433,786	61,156,692	1,183,469	59,973,223	6,270,528	1,593
2014	92,993,137	16,756,026	15,192,805	588,757	14,604,049	55,230,318	897,140	54,333,178	5,813,987	1,669
2015	87,455,573	16,907,688	14,759,533	373,420	14,386,113	49,922,334	348,769	49,573,564	5,866,018	149

Source: Schüco CCF database, base year 2013, standards in accordance with GHG protocol

Previous and planned improvements

Previous improvements have been achieved primarily through the changeover to green electricity and district heating. The phasing out of the Solar division in 2012/2013 and the associated shutdown of module fabrication also had a great impact. Further measures include new video conference technology, which reduces business trips, low-consumption lorries, new software in transport logistic, and driver training, as well as optimised printing processes and paper consumption. At present, a recalculation of the base year 2011 is being developed in order to calculate the precise decreases in emissions that are due to energy-saving measures in the proper sense.

We are also working on tapping into every identified opportunity for improvement. To this end, we are planning an extensive, energy-efficient renovation of the company buildings at the Bielefeld site by 2020. A new innovation and development center will also be built as part of this and is intended as a showpiece for sustainable construction. We will also continue to raise awareness among employees of the energy and resources they consume individually.

Raising awareness and galvanising employees

At the internal Schüco Climate Day in Bielefeld in 2013 and 2015, our employees have already been able to find out twice about all the initiatives and progress that Schüco has initiated for the climate, environment and sustainability. The subsidiaries were connected via video link – cutting out travel costs and emissions. The next Schüco Climate Day is planned for 2017.

The wide range of employee initiatives in this field are pooled in the “Climate Protection working group”. Their suggestions have led to the establishment of parking spaces with charging stations, for example. A particularly successful project is the bike leasing. Employees in Germany can lease e-bikes in order to remain carbon-neutral when on the move, even on longer journeys. 236 suggestions were approved in 2015 and interest remains high (see also “Employees” action area, → page 38).

EN18: intensity of GHG emissions at Schüco Germany

	Intensity quotient ³
2013	11
2014	9
2015	9

³ The quotient compares the GHG emissions (scope 1–3) with the number of full-time staff at Schüco Germany (tonnes of CO₂ per employee).

Source: Schüco CCF database, base year 2013, standards in accordance with GHG protocol

Specific CO₂ key figures and objectives for 2017

For certification in accordance with ISO 14001, our environmental management system must fulfil a range of criteria that go beyond adherence to legal standards. This includes an environmental programme, which is approved each year by the Executive Management Board. Following an amendment to the ISO standard in 2015, environmental performance must also be measured.

For this reason, in a first step in 2016, Schüco determined specific indicators for the CO₂ footprint, which will enable objective monitoring in future. Moreover, we have defined improvement measures for 2016. From 2017 onwards, we will formulate objectives for each environmental focus area, including responsibilities and timeframes.

57%

(49,573,564 kWh) of the energy sources consumed came from renewable sources.

62%

CO₂ emissions 62% lower since 2011.

EN15, 16, 17: gross volume of greenhouse gas emissions⁴

	CO ₂ equivalents (scope 1) in tonnes	CO ₂ equivalents (scope 2) in tonnes	CO ₂ equivalents (scope 3) in tonnes	Total
2013	– ⁵	– ⁵	– ⁵	37,034 ⁵
2014	7,595	814	21,314	29,722
2015	7,098	524	20,931	28,555

⁴ Standards: the corporate carbon footprint is calculated in accordance with standard TN-CC 020: 2013-10 from TÜV NORD CERT. This in turn is based on the GHG protocol and is influenced by standard ISO 14064.

⁵ In 2013, the emission values were not distinguished between scopes in the survey. In addition, the waste generated by the business operations was only taken into account for the emissions from 2014 onwards.

Source: Schüco CCF database, base year 2013, standards in accordance with GHG protocol

Leave the car at home and cycle to work – it sounds simple, and with Schüco it really is. Introduced in 2015, our JobRad scheme offers our employees attractive terms for leasing e-bikes and bicycles. Not only is it good for their health, but it's good for the environment as well.

EMPLOYEES

Schüco cycles to work





A total of over 420 JobRad agreements were concluded in 2015 and 2016.

Occupational health and safety are enshrined in our corporate management.



According to health insurer AOK and cyclist association ADFC, 30 minutes of cycling per day lowers the risk of sickness, reduces absenteeism and increases motivation at work. A fresh-air activity that promotes endurance, it perfectly counterbalances working in an office and, by swapping your car for a bicycle, you reduce traffic volume as well as CO₂ emissions. These are good reasons to encourage more colleagues to get on their bikes with the JobRad scheme. Launched by Schüco employees in the Climate Protection working group in 2015, the concept is simple. Schüco rents bicycles or e-bikes by means of a leasing agreement and loans them to employees for both work and private use. The leasing costs are deducted as a salary sacrifice from the employee’s gross monthly income and Schüco covers the insurance costs. After three years, the employees can acquire their bike for a reasonable buyout price. This idea of doing exercise, helping the environment and saving money is clearly a winner: in 2015, 236 employees switched to the company bicycles, and this trend is on the rise.

The JobRad scheme is a good example of how Schüco treats its staff, and the benefits are two-fold. Firstly, we focus on promoting the health, performance, motivation and satisfaction of our employees. By integrating their health and safety into our management approach and our corporate goals, we ensure continual development in this area (see also Values and Guidelines chapter, → p. 50). Secondly, we promote dialogue with our employees, create networks for them and take up their ideas. Colleagues such as the members of the Climate Protection working group serve as role models and contribute proactively to the corporate culture.

Occupational health and safety at Schüco: our management approach

SELF-IMAGE:

Schüco adheres closely to the statutory workplace health-and-safety guidelines and regulations of the Joint German Occupational Health and Safety Strategy (GDA). We regard the respective national, legal and regulatory provisions as minimum requirements and aspire towards safety, health and environmental policies which exceed these. This is because we at Schüco firmly believe that these matters are important for every one of us and for our company.

INFRASTRUCTURE:

Safe behaviour not only means complying with laws, regulations and procedures. It is also crucial that senior management in particular leads by example. Around 60 managers therefore undertake direct duties relating to occupational safety. Senior managers receive support from the “Company Security” team, which reports to the Head of Quality Management. In addition, the Occupational Health and Safety Committee (ASA) takes on an advisory role in matters of occupational health and safety. This body consists of various specialists and senior managers from throughout the company in accordance with the provisions of the German Occupational Health and Safety Act. The Disabilities Representative, Fire Safety Officer and Head of the Company Fire Brigade are also heavily involved.

2017

In 2017, Schüco is looking to launch the “Safe System” occupational health-and-safety management system with the German Employers’ Liability Insurance Association for Trade and Goods Logistics (BGHW). We have already begun working on this voluntarily.

Healthy and safe work environments

Offering our employees a safe and healthy work environment is of paramount importance to us. This will become even more important in view of staff retiring later and the changing demands brought about by new technology. We must maintain sustainable employability. After all, healthy employees are motivated, satisfied and efficient employees. For this reason, we take on the responsibility for the safety of our workforce and actively support it by promoting an aware and preventative lifestyle.

Every employee should always be able to rely on a safe work environment.

Our standards for health-and-safety protection

We adhere to the German health-and-safety requirements and work to implement these in conjunction with the Joint German Occupational Health and Safety Strategy (GDA) and the employee representatives. Our safety standards are also oriented towards the relevant specifications

of the ISO 9001, ISO 14001 and OHSAS 18001 management systems. Within this framework, 15 factors are audited, including clear responsibilities, existing expertise, regular training measures and communication on health-and-safety protection. Our statutory obligations also include occupational medical care, first aid, risk assessment, risk-elimination actions and regular reviews of these, as well as the monitoring of safety-related systems and facilities. In addition to this, we also offer our employees a free flu vaccination every year.

How we implement these standards

The Company Security team offers support with all matters relating to occupational health and safety. In conjunction with other specialist groups, the team regularly updates the registers for occupational health and safety, environmental protection and energy in which all statutory obligations are established and reviewed. The team also ensures the smooth running of processes in occupational health and safety, and combines further responsibilities, including the company doctor at the respective locations and the company fire brigade at the Bielefeld site. In addition to their primary roles in various company departments, its members are on 24-hour standby. They also conduct preventative and organisational fire-protection measures, provide support for large-scale events and carry out the examination of safety facilities such as fire doors and sprinkler systems. They train for two years for these duties with a professional fire brigade in accordance with the standards of the North Rhine-Westphalia voluntary fire brigade.





A healthy home game

Schüco employees achieved multiple successes at the 2015 AOK corporate run which took place in the SchücoArena in Bielefeld. From among 600 participants, the company fielded the largest overall team (more than 60 runners) and the largest women's team (25 runners). The female runners took the 4.8-kilometre course in their stride and were crowned the fastest women's team. Close behind them were their male colleagues, who took second place in the men's team competition. Naturally, Schüco employees are already limbering up for future competitions.

Safe behaviour is not only a matter of complying with laws, regulations and procedures; it is also defined by the personal values of both management and employees. That is why Schüco also has around 60 managers whose duties include carrying out internal occupational-safety audits and employee safety training once a year. In addition to this, they regulate risk assessments and monitor safe working practices.

All measures relating to occupational health and safety fall within the purview of the Occupational Health and Safety Committee (ASA). This group advises on matters such as basic regulations for the operational organisation of occupational safety, preventative safety measures, inspection reports and special work-accident cases.

How we encourage our employees towards occupational health-and-safety protection

Schüco creates the conditions for a healthy and safe workplace. But we also ask every employee to take responsibility for their own health and the health of their colleagues. For this reason, we increase their awareness by developing a greater awareness of potential risks and explain the significance of a preventative lifestyle. We achieve this by means of regular training sessions and e-learning courses in addition to the annual training courses. Since physical movement is vital for staying healthy, we offer our employees an extensive company sports programme. On top of this, in

2015 we launched the Schüco Sports Community: 1,600 employees getting fit together and acting as brand ambassadors, promoting the values of Schüco to the outside world. Both sport and Schüco stand for partnership, excellence, responsibility and innovation. That is why we decided to use our own employees, not professional athletes, as a testimonial; this approach signals our appreciation and trust. The online platform for the brand ambassadors also demonstrates how sport can form connections. Employees can share their successes here, offer mutual support and create strong role models – not just for their sporting activities, but also for the professional challenges they face at Schüco.

1,600

employees get fit together and act as brand ambassadors, promoting the values of Schüco to the outside world.

Accidents and absence days (G4-LA6)

	Workplace and commuting accidents		Fatalities	Accident rate per 1,000 employees
	Reportable	Non-reportable		
2013	84 ⁶	Not collected	0	24.9
2014	92	16	0	27.8
2015	83	18	0	26.3

⁶ Reportable cases only.

Since 2014, a detailed analysis of accident statistics has been made based on OHSAS 18001. Before this date only reportable cases were collected.

A cooperative culture

Our claim to be a leading technology and service provider means that we set ourselves ambitious goals. To achieve these and gain future successes in global competition, we must deliver excellence on a daily basis. This can only be achieved in a motivated environment which consistently takes into account the needs of employees, as well as business development. The key to an equally productive and pleasant working environment is a corporate culture that is shaped by appreciation, respect and fairness. We create the conditions for this by means of collective agreements and the accompanying legal standards. In addition, we offer our employees numerous financial special and social benefits (see G4-LA2 → p. 44) and have defined clear company regulations in the Schüco work and social rules, as well as in the “Cooperative Behaviour in the Workplace” company-wide collective agreement that was concluded in 2005.

Our managers play a central role in this and their function as role models is defined in our Schüco management guidelines (see also Values and Guidelines chapter, → p. 50). From them we expect not just high performance and a sense of responsibility, but also that they will inspire their colleagues, act as role models for them and promote a sensible work-life balance. How successful this is can be determined by those in middle-management and above by means of 180-degree feedback. This allows line managers, colleagues

and employees to give anonymous feedback on the behaviour of the individual, which is then assessed by an external advisor and passed on to the management team. For all other managers, we make available the “Leadership GPS” tool, which lets them make an initial self-assessment on management behaviour.

In the case of management guidelines being infringed, employees can contact the “clearing office”. In such situations, a team of representatives from management, the works council and HR conducts conversations with all those involved, proposes rebalancing measures and tries to resolve the conflict by mutual agreement. On average, there are two or three such reports per year.

Schüco deals fairly with its employees at all times – this also applies to economic challenges. In 2015, the PVC-U Systems Technology division was re-organised; a measure that was urgently needed for us to remain competitive. In order to avoid redundancies, the 48 employees affected were offered reassignment or relocation to a transfer company. This was carried out in close cooperation with the works council. Together with the employment agency, we also made available vocational measures such as training courses and job application training. In this way, we were able to reduce the number of redundancies to 23, and since then we have rehired nine of these employees.





Employees (G4-10)

	Total	Temporary	Permanent	Full-time	Part-time
2013 (male/female)	3,368 (2,618 m/750 f)	236 (187 m/49 f)	3,132 (2,441 m/691 f)	3,118 (2,562 m/556 f)	250 (56 m/194 f)
2014 (male/female)	3,308 (2,571 m/737 f)	226 (180 m/46 f)	3,082 (2,391 m/691 f)	3,077 (2,530 m/547 f)	231 (41 m/190 f)
2015 (male/female)	3,151 (2,431 m/720 f)	232 (176 m/56 f)	2,919 (2,255 m/664 f)	2,920 (2,391 m/529 f)	231 (40 m/191 f)

New appointments (G4-LA1)⁷

	Total	Male	Female	Male in %	Female in %	Age group	Age group in %
2013	233	194	39	83.3	15.7	Up to 30: 127 31 to 40: 57 41 to 50: 38 51 and older: 11	54.5 24.5 16.3 4.7
2014	276	228	48	82.6	17.4	Up to 30: 129 31 to 40: 68 41 to 50: 57 51 and older: 22	46.7 24.6 20.7 8.0
2015	174	136	38	78.2	21.8	Up to 30: 100 31 to 40: 39 41 to 50: 19 51 and older: 16	57.5 22.4 10.9 9.2

⁷ Appointments do not include temporary staff, interns, student trainees.

Fluctuation (G4-LA1)

	Terminations at Schüco in % ⁸	Terminations among employees in %	Retirements in %	End of fixed-term employment in %
2013	5.3	2.9	0.8	2.4
2014	4.9	2.1	1.4	2.9
2015	3.8	1.7	1.1	1.8

⁸ The terminations declared by Schüco were largely redundancies due to the closing of the Solar division (2013/2014) and the reorganisation of the PVC-U Systems Technology division (2015).

68%

of mothers and 54 per cent of fathers consider the compatibility of job and family life to contribute significantly to quality of life.

Source: Familienreport 2014 of the BMFSFJ

Working flexibly

By “fairness” we also mean enabling our employees to better manage their work-life balance, as well as to harmonise family and work life. To this end, Schüco offers its workforce a variety of flexible working-time models, including part-time and flexitime for all employees, as well as trust-based working time for employees not covered by collective agreements. In 2015, around 90 per cent of our employees were in full-time employment and 10 per cent were employed part-time. Of these, more than half worked according to a liberal flexitime model without core hours, while 20 per cent took advantage of trust-based working time. When required due to their family situation, employees could use the “mobile working” model and work part-time from home.

Employees with families profit from these flexible working-time models. We also make their lives easier by means of special offers. Should their regular childcare fall through at short notice, for example due to an outbreak of measles at the day-care centre, we offer them a place in the “Schüco Kids Club” at our Bielefeld and Wertingen locations. Specialist staff take care of children between the ages of six months and 12 years old from 7 a.m. to 8 p.m. every day, and for up to three days in a row. The school holidays can also present a challenge to parents if public childcare facilities are closed. The “Schüco Kids” programme offers a diverse range of holiday activities to the children of employees aged between six and twelve years old, from farm excursions to handcraft classes. Schüco also coordinates with the parent service offered by the Workers Welfare Association (AWO). This service provides experts who can answer questions on childcare, offer assistance in the care of family members and provide support when looking for appropriate services.

(G4-LA2) per main location⁹

	Bielefeld	Borgholzhausen	Wertingen	Weißenfels
Company pension scheme Financed by the company	✗		✗	✗
Company pension subsidy Financed by the company	✗	✗	✗	✗
Special bonus (Company Christmas bonus)	✗		✗	✗
AWO parents' service	✗	✗	✗	
Childcare, children's camps	✗	✗	✗	
Purchasing benefits	✗	✗	✗	✗
JobRad	✗	✗	✗	✗
Free sports equipment (Schüco Sports)	✗	✗	✗	✗
Company sport	✗	✗	✗	✗
Microsoft Home Use program	✗	✗	✗	✗

⁹ Schüco defines “main location” as locations in Germany with more than 100 employees.

Women in management positions¹⁰

	Management roles in total	Female managers in these roles	in %
2013	217	18	8.3
2014	209	16	7.7
2015	201	19	9.5

¹⁰ Managers with budget and line management responsibility, for example group leaders and heads of department.

Further room for development

We strive to give our employees the prospects they need in order to reach their full potential. We achieve this by means of systematic career advancement, which includes an applied feedback culture. An important tool for this is our annual performance review. At this Schüco annual review, employees receive specific and motivating feedback, express their wishes and, together with their managers, determine quantifiable long-term development goals which allow them to grow. It is also here that decisions are made about which of the many varied options provided by Schüco offers the best support to employees.

The cornerstones of our personnel work

Apprenticeships: across Germany, Schüco offers training in some 25 skilled jobs and study courses. As of 1 September 2015, we had 118 commercial and technical apprentices, as well as 31 dual students.

Advanced training: in its modern training rooms, Schüco offers training sessions, workshops and seminars with internal and external trainers in specialised technical subjects, time management or project management, language courses, communication and leadership.

Long-term personnel development: we develop our employees to be managers or specialists. For managers there is a modular qualification programme that is tailored to the needs of lower, middle and upper management. For specialists, we have developed a specialised programme that runs

More women in management

Schüco wants to make better use of the potential that female managers bring with them. This means that we focus our support on talented individuals not just within our own ranks but within the entire German economy. We are members of the ANNA+CIE program which every year supports 12 prospective top female managers between the ages of 35 and 50 years old with cross-mentoring, training and networking. The programme deals with topics such as leadership skills, personal development and decision-making ability. Three Schüco employees took part in the programme in 2013 and in 2015.

for two years. We also offer further sales-oriented training courses in our "Sales Academy".

Organisational development: Schüco regularly reviews its own guidelines on management, organisational culture and feedback culture, as well as on team development.

Training days per employee (G4-LA9)

	Training events	Participants	Average training days per employee
2013	547	3,965	2.5
2014	632	5,497	3.1
2015	510	4,511	3.1

Come and try us on for size

Choosing your future career path is not easy. Schüco assists students with their decision by inviting them to its Bielefeld location for the annual "Training Day". The motto for 2016 was "Insights into outlooks" and the 400 or so young visitors who attended learnt not just about window, door and façade systems, but also about the jobs behind the products. In the training workshop they were able to watch over the shoulder of budding electrical engineers while they soldered, drilled and milled. Indeed, the visitors could even try their hand at technical system planning and product design on the drawing board. By the end of the day, many students had a better idea of their abilities and interests.

The annual "Parents' information evening" has proven popular. This gives junior employees in their first year the opportunity to provide an insight into their training to parents, family members, interested employees and their children.

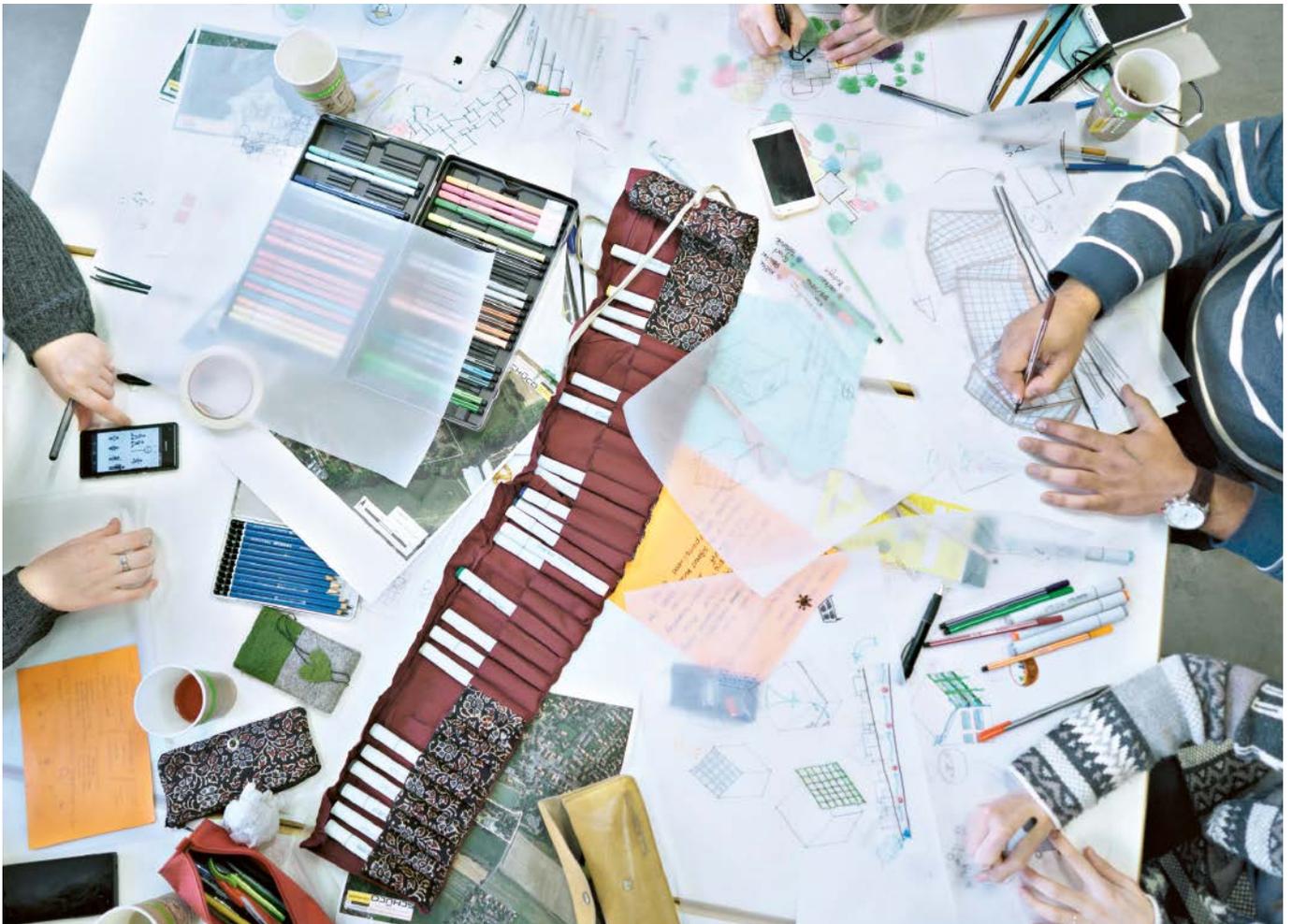
3

Our employees took an average of three advanced-training days in 2015.

What will the cities and buildings of tomorrow look like? How will we be able to live and work healthily in urban spaces? This is something we are tackling in various ways together with representatives from politics, business and society – for instance, at the Future City 2050 university conference. In Detmold and Bielefeld, 200 participants from 19 countries discussed and developed new ideas.

SOCIAL ENGAGEMENT

Knowledge hub for the cities of tomorrow





By the year 2050, approximately 6.5 billion of the 9.5 billion people on Earth will live in cities. Cities today already consume around three quarters of all resources and are responsible for approximately 70% of all harmful greenhouse gas emissions. In future, even more people will be living and working in less space. How can we coexist without human health and the environment being harmed through smog, noise pollution and waste? That is the question that scientists across the globe are researching in great depth. Central to pioneering city concepts are sustainable buildings and façades.

Schüco has been working extensively for many years on developing groundbreaking solutions for the building envelope. To be able to share this knowledge outside of our company as well, we have decided to work more closely with educational institutions. As part of the "Science Year 2015 – Future City", we intensified our cooperation in 2015 with the Detmold School of Architecture and Interior Architecture, which is part of the Ostwestfalen-Lippe University of Applied Sciences. The result was a joint conference under the banner of "Future City 2050". With this, we are pursuing two aims: firstly, we want to discuss long-term trends and their consequences and, secondly, we want to promote interdisciplinary and international cooperation.

Research, teaching and industry shoulder to shoulder

More than 200 participants from 19 countries came together in Detmold and Bielefeld from 21 to 25 September 2015, with masters' students and professors from various European universities also joined by representatives from politics and business. The focus of the university conference was initially the topic of education. Around 90 budding architects, façade engineers and environmental engineers, as well as students from related disciplines, attended workshops where they developed concepts for the future for schools in the cities of Mumbai, Lagos, Bogotá, Berlin and the region of East Westphalia-Lippe.



Experts from scientific and practical backgrounds discussed with students the sustainable design of cities and urban areas across the globe.

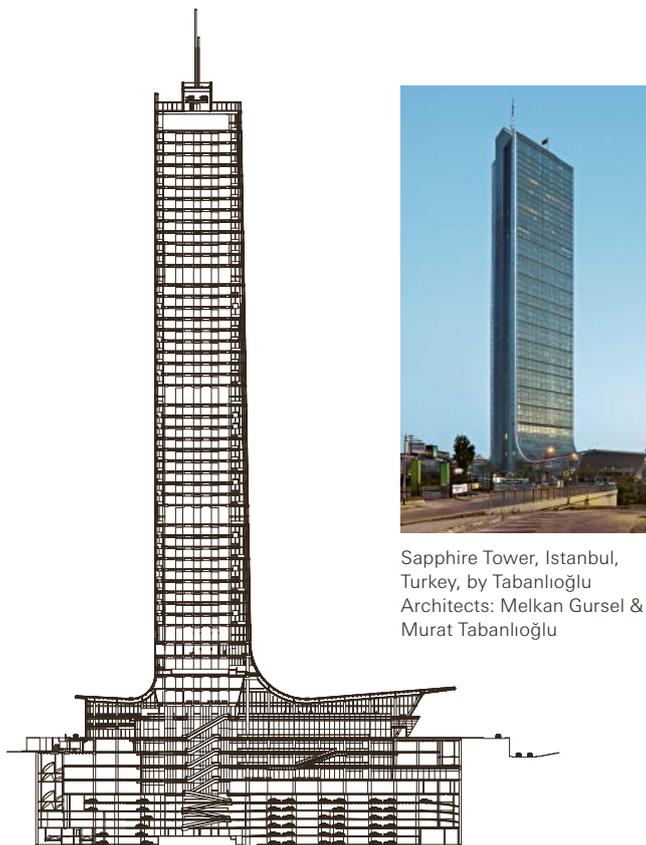
On the agenda for the subsequent symposium was the topic of building, including various areas of conflict such as aesthetics and function, modular construction and customised design, and digitalisation and data protection. One of the experts in attendance was Professor Winfried Heusler who, as Head of the Global Building Excellence department, is the driving force behind the development of pioneering building concepts at Schüco. Professor Heusler presented the so-called "cognitive systems" – building envelopes that interact with their environment and adapt to it autonomously. In future, for example, it may be possible for the sun to generate a control signal upon which the façade will react by itself to provide shading or air conditioning.

Social engagement at Schüco: our management approach

This project is only one example of how we as a company are involved in the discourse for a sustainable future that is worth living. Our aspiration is to be an instigator and the driving force behind topics that are relevant to society. We also want to increase the exchange of knowledge and experience in the topic areas that are relevant to us, such as energy efficiency, sustainable building materials and healthy building concepts. In this regard, we place particular emphasis on the training of junior staff. We are also pursuing this aim by hosting regular university conferences. Following the "Future City", a conference on the topic of "Health and buildings" is planned for

spring 2017. In addition, Schüco experts give talks at various universities and technical colleges. They support scholarships funded by Schüco and mentor students working on masters' theses or research papers. We work particularly closely with the Ostwestfalen-Lippe University of Applied Sciences, where Dr Winfried Heusler has been an honorary professor teaching façade design and technology since the 2014/2015 winter semester. We are also a driving force behind socially relevant issues such as climate protection and resource conservation, which we promote in an active and solution-oriented way by networking with the relevant stakeholders from industry, science, politics and society in initiatives and action-oriented organisations.

The growth of the world's population is taking place in cities. The key to sustainable city concepts is the dialogue between industry and science.



Sapphire Tower, Istanbul, Turkey, by Tabanlıoğlu Architects: Melkan Gursel & Murat Tabanlıoğlu

Aim high: sustainability in urban areas

Skyscrapers are becoming increasingly popular once again as a way to make the most of the space in urban areas. There are more than 50 new skyscrapers – buildings above 150 metres in height – being built across the world, which will be ready for occupancy by 2020, above all in the USA and in China. The housing sector is also booming in India, Australia, Japan, England, South Korea and Thailand. Sustainability is not always the focus where these frequently spectacular buildings are concerned. This is something we want to change and are therefore championing higher ecological standards, especially in the construction of modern skyscrapers. To this end, we took part in the 2015 International Conference of the "Council on Tall Buildings and Urban Habitat" (CTBUH) as an expert and sponsor. Founded in 1970, the CTBUH now holds the world's largest conference on the topic of skyscrapers.

In 2015, experts from various disciplines met in New York to discuss trends such as luxury residential towers and technical questions on the intelligent control of buildings and optimum life cycles. The focus was on how modern tall buildings can be designed sustainably from planning and operation right through to deconstruction. An important element is the façade. We presented our concepts to enable this section of the building envelope to work more energy efficiently and more in line with requirements thanks to electronic components. We also discussed new environmentally friendly materials, digitalised design and energy efficiency.

Initiatives for climate protection: achieving more together

Schüco aspires to develop sustainable system solutions. We are not alone in this respect. Many businesses are searching for ways to give economic and ecological factors equal consideration. We are convinced that an increased exchange of information among representatives from economics and politics is the key to achieving this.

It will allow us to find solutions to one of the most pressing problems of our time in a faster, more cost-effective way.

We are working on finding these solutions in the 2° Foundation, for example, which was launched in 2011 and of which we are a founding member. The foundation is concerned with preventing global warming from exceeding two degrees. In light of this, we align our corporate activities to support the climate policy of the German Federal Government. This stipulates the reduction of greenhouse gas emissions by 95% by 2050 compared to the base year of 1990. Aside from us, eleven other companies from different branches of industry are members of the 2° Foundation – including our parent company, Otto Fuchs KG. Together, we are calling for the energy revolution to be implemented successfully, business to be conducted in a way which conserves resources and for energy efficiency to be increased. That also means that we need greater incentives for upcoming building renovations and fresh impetus for more sustainability where politics is concerned.

As a member of the German Corporate Initiative for Energy Efficiency (Deutsche Unternehmensinitiative Energieeffizienz e.V. – DENEFF), we are also working on creating the right political framework conditions for energy-efficient building renovations, which are an important vehicle for climate protection. This cross-industry network advocates more energy efficiency and supports European and German politics in this regard. The aim is to not only reduce the effects on the environment, but to also decrease the dependence on imports of fossil fuels from crisis regions, thereby providing energy security and strengthening our economy. We are involved in the leadership of the “Buildings” working group, where the focus is on topics such as the further development of compulsory standards, qualification and quality assurance, subsidy programmes from the German KfW Development Bank as well as renovation schedules.

We are also emphasising our commitment to environmentally friendly window and façade solutions with our membership of the German Sustainable Building Council (DGfB), for which we are active on the product advisory board. The association

certifies new builds and renovated buildings. It also raises awareness among the public of the need for a future-oriented method of construction, which serves the common good. The work focuses on key socially relevant themes, which likewise serve as driving forces for us at Schüco: conservation of resources, living in the future and the future of cities, digitalisation, health, comfort and convenience. As members of the association, we are committed to improving our understanding of the effects of construction on people and to developing new solutions for convenient, comfortable and healthy buildings. And what’s more, we want to persuade investors, clients and owners to focus on the user of the property.

Making a universal material more sustainable

If construction is to become more sustainable, so too must the required materials, such as aluminium. This will not only benefit the construction sector, but also the automotive and packaging industries, where the material is equally as popular. Irrespective of whether it is a cylinder block or a window, our goal is to design the aluminium value chain to be sustainable and present this to the public in a way that is easy to understand – right from extraction and the working conditions in the production areas through to the recycling rate. To give some weight to the issue and to bring in our industry expertise, we are not just campaigning on a national and European level, but on a global scale. In 2014, we became co-founders of the Aluminium Stewardship Initiative (ASI) (see stakeholder dialogue on → page 16) for more transparency and sustainability in the aluminium industry. Together we are working on a global, political framework for handling the material. What’s special about it is that the initiative brings together all the key players who come into contact with the material. These include the world’s largest producers of aluminium such as Rusal, Rio Tinto, Norsk Hydro and Alcoa, and important aluminium consumers such as BMW, Audi and Jaguar Land Rover, as well as industry associations and major non-governmental organisations such as the WWF and the IUCN (International Union for Conservation of Nature and Natural Resources).

12

companies, including Schüco, campaign with the 2° Foundation to restrict the average global warming to a maximum of two degrees.

2017

is the year in which the Aluminium Stewardship Initiative (ASI), with Schüco as a founding member, plans to present standards for a sustainable aluminium value chain.

VALUES AND GUIDELINES

The standard for our business activities

The Schüco corporate culture is founded on a broad understanding of the term responsibility. This applies just as much to how we cooperate in our daily work as it does to how we use natural resources. We have clearly defined our own aspiration and backed it up with concrete aims. It is set out in our "Principles for the Future". Our management policy also covers the topic of responsibility and clarifies our definition of sustainability. This allows us to provide guidance for employees, partners, customers and the public – and to show the inside and outside world what Schüco stands for.

Our Principles: to be the best by far

Our mission, our areas of expertise, our qualities. The Principles define the Schüco identity and our future aspirations. This is combined in one key phrase: we want to be the best by far – not by a narrow margin, but a clear one. That is our mission. We adopt this clear leadership role first and foremost in the areas of expertise in technology, service and sales. To do this, we act in a focused, swift and open manner.

How we implement our Principles is defined in our strategy. This is how we ensure that every employee is familiar with the topic of sustainability and understands how they can contribute towards achieving these aims. The managers have a particular responsibility in this process.

We are not focused purely on what is technically feasible, but are also guided by the needs of the people.

Principles for the future

Where we want to lead – our areas of expertise

TECHNOLOGY IDEAS FOR PEOPLE AND THEIR LIVES

That means: setting the pace. Driving the markets forwards and setting standards with technologies and products. Being guided not only by what is technically feasible, but also by the needs of the people. Making complex things simple.

SERVICE HOW WE WOULD LIKE TO BE TREATED OURSELVES

That means: exceeding expectations and inspiring enthusiasm. Offering the best service throughout the value-added chain. So that our partners are not only successful, but also really enjoy working with us.

SALES KNOWING AND SHAPING THE MARKET

That means: playing to the strengths of our unique business model. Creating supply and demand. Supporting and training partner companies to an even greater extent. Continuously working on our strong brand.



The Schüco management policy

The cornerstones of our management policy can be summarised in four core statements.

We value quality – through responsibility.

Schüco operates an active quality, environmental, energy and health-and-safety management system along the entire value-added chain. We ensure the highest of standards in all areas and processes. We always consider international standards and statutory guidelines as minimum requirements. The aim is to go significantly above and beyond these.

We put the focus back on people.

The health and safety of our employees and customers, as well as social responsibility, are key components of our corporate objectives. All employees are obliged to observe the appropriate standards, laws and guidelines in order to safeguard the welfare of our customers and business partners, employees and the environment.

We drive progress forward.

Working closely with suppliers, Schüco continually improves its systems, work processes and procedures to increase the quality of products and services. We do not want to just meet requirements, we want to exceed expectations.

We live and breathe sustainability.

Protecting the environment, preventing ecological damage and using available energy resources efficiently represent important components of the company policy. Our system solutions for sustainable building design help energy to be used more efficiently. Environmental protection and safety, economic success and social responsibility are of equal importance for us.

Other explanations of these basic principles are published on the Schüco website in the Sustainability section. The Executive Management Board undertakes to provide all the necessary resources in order to achieve these aims. They are responsible for the basic principles and will continuously check and update them.

The Schüco leadership culture

Only when the values and basic principles described here are put into practice every day can they enrich our corporate culture, enable healthy living and working and ensure sustainable business success. That is why we developed common guidelines for the Schüco leadership culture involving different levels of the organisation. The aim is to create a culture of cooperation, which makes exceptional performance possible for our customers.

Each of the five guidelines is a commitment to cooperative leadership structures and common values based on respect for employees. In order to facilitate their implementation, we illustrate each of the guidelines in our internal communication with examples from our daily work.

The five guidelines of the Schüco leadership culture

1. Being a role model
2. Achieving outstanding results
3. Taking responsibility and making decisions
4. Inspiring enthusiasm
5. Creating a work-life balance

This includes:

- proactively rising to challenges
- permitting mistakes
- being genuine and reliable
- giving information in a clear, open and timely manner
- encouraging the exchange of ideas
- creating optimum work processes and continuously improving them
- setting realistic goals and focusing on results
- ensuring decision-making channels are short
- enabling employees to take a share of the success
- creating a culture of open feedback
- allowing creative freedom
- permitting flexible working models

80+

Schüco is active in more than 80 countries. The specific manifestation of the guidelines may therefore be different. Schüco respects local practices, values and cultures.

70%

of all managers in Germany reject management models that only focus on efficiency and maximising profit.

Source: "A changing leadership culture" survey by the New Quality of Work Initiative

COMPLIANCE

For fair business practices in accordance with the law

Schüco commits itself to the rules of fair competition and the free market. We do not tolerate any form of corruption and strictly adhere to the applicable rules and laws. With our global Code of Conduct we also undertake to protect natural resources, to adhere to environmental protection laws and to embody a corporate culture of appreciative, fair and respectful cooperation.

Taking action to counter risks

Outside of our company, we also aspire to high ethical and moral standards. To anchor awareness of laws and morals in our daily business activities, Schüco has introduced a Compliance programme. At the core is the Code of Conduct, which has been in force throughout the company since 2014.

970 employees had been trained on the topic of compliance by 31 December 2015, and a further 1,449 by the end of September 2016. All employees in Germany must attend the training courses every other year. All employees with access to a computer can take advantage of an e-learning program in German, English, French, Italian, Turkish or Chinese. Schüco also offers classroom-based training courses. In 2015/2016, 191 sales employees from Germany and the Netherlands attended nine one-day Compliance workshops.

An overview of the Compliance programme

→ Guidelines

The Code of Conduct adopted by the Executive Management Board comprises rules pertaining to business conduct, conduct towards employees and conduct for business partners. As a Group-wide organisational instruction, its application is mandatory.

→ Reporting system

Every employee can report information regarding improvements or infringements directly to the Compliance Office. A dedicated email address and telephone hotline has been set up for this.

→ Organisation

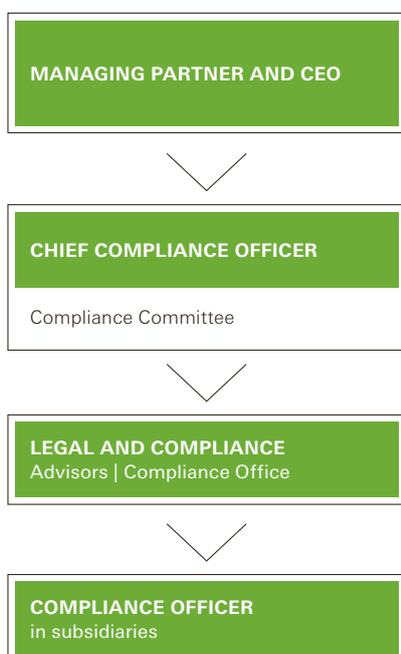
The Head of Legal & Compliance is also Chief Compliance Officer (CCO) and reports directly to the CEO and Managing Partner of Schüco International KG. The CCO advises the Compliance Committee and agrees general guidelines with the Executive Management Board. The Compliance Office controls and coordinates the implementation of Group guidelines within the entire organisation.

→ Training

All employees in Germany take part in mandatory Compliance training every 24 months – generally via an e-learning program. Classroom-based training courses are also available.

The Schüco Code of Conduct

The Code of Conduct is to be understood as a minimum standard and applies for all employees in equal measure, irrespective of their role or position. In addition, Compliance information sheets are available on the intranet in German and English. They illustrate the appropriate business conduct using concrete examples. We expect our employees, business partners, customers, suppliers, advisers and distribution partners to observe the Code of Conduct. The Code of Conduct is part of the Schüco sustainability strategy. It ultimately contributes towards the creation of a healthy and productive environment that first and foremost enables work to be successful and motivates us to achieve exceptional performance.



The Code of Conduct at Schüco – extracts

When conducting business...

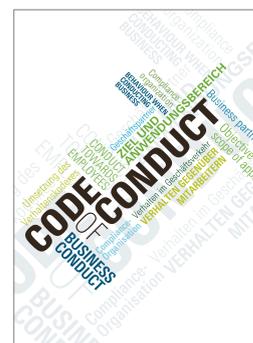
- ... we behave fairly towards customers, suppliers, competitors and authorities.
- ... we embrace the principles of free competition.
- ... we neither accept nor grant any unfair advantages.
- ... we do not exploit our market position.
- ... we do not tolerate corruption in any form.
- ... we avoid situations in which private interest may come into conflict with those of Schüco.
- ... we only accept payments from and to known accounts.
- ... we make donations and sponsorship arrangements transparent.
- ... we ensure data protection, confidentiality and the protection of business assets.
- ... we are aware of our responsibility to the climate and the environment.

As an employer...

- ... we foster a corporate culture based on openness, tolerance and appreciation.
- ... we do not tolerate unequal treatment or harassment.
- ... we place a great deal of importance on health and safety.
- ... we offer fair working conditions at all locations.
- ... we condemn all forms of forced or child labour, including among our business partners.

All managers are required to ensure that their employees are familiar with and understand the Code of Conduct. They must lead the way by setting a good example with their own conduct.

SO3: in Germany, the business model for the Metal and PVC-U business divisions was analysed with regard to potential corruption risks. No specific risks were found. For general Compliance issues, such as how to deal with invitations and gifts, as well as conflicts of interest, Compliance information sheets have been put together and made available.



EN29: during this reporting period, no fines or non-monetary penalties were incurred in Germany due to a failure to observe environmental laws or regulations. To determine the figures, the individuals responsible were questioned. There is currently no standardised method of gathering this information.

About this report

The “2015/2016 Sustainability Report” from Schüco International KG is the first sustainability report made by the company and was created in accordance with the guidelines of the “Global Reporting Initiative” (GRI G4, Core Option). It forms the basis of a systematic sustainability report and balances the economic, ecological and social activities and key figures of the company within the reporting period.

The general and specific GRI standard specifications relate to corporate activities in Germany. The specific standard specifications were calculated on the basis of a materiality analysis, which took place when the report was compiled. All relevant results and activities from 1 January 2015 to 30 September 2016 (editorial deadline) were reported. The associated indicators and key figures refer to the years 2013, 2014 and 2015 and hence capture a three-year period. Report limitations which are different are specified accordingly in the text.

The following GRI content index shows the pages of the report on which the corresponding GRI requirements have been met.

General standard details

Description of indicator		Page
STRATEGY AND ANALYSIS		
G4-1	Statement from CEO	07
ORGANISATION PROFILE		
G4-3	Name of the organisation	06
G4-4	Most important brands, products and services	06, 08–09
G4-5	Headquarters	06
G4-6	Countries where the organisation operates	08–09
G4-7	Ownership structure and legal form	08–09
G4-8	Markets served	09
G4-9	Size of the organisation	06, 08
G4-10	Total workforce	06, 43
G4-11	Employees covered by collective bargaining agreements	42
G4-12	Company supply chain	15–19
G4-13	Significant changes to the organisation during reporting period	06, 08–09
G4-14	Application of the precautionary principle	23, 32–33
G4-15	External agreements, principles or initiatives	48–49
G4-16	Membership of associations and interest groups	13, 48–49
IDENTIFIED KEY ASPECTS AND LIMITS		
G4-17	Corporate structure	Not applicable
G4-18	Defining report contents	14–15
G4-19	Key aspects	14–15
G4-20	Key aspects within the organisation	14–15
G4-21	Key aspects outside the organisation	14–15
G4-22	Explanation of restatements for previous years	None
G4-23	Explanation of changed report parameters	Not applicable
STAKEHOLDER INVOLVEMENT		
G4-24	Involved stakeholder groups	12–13
G4-25	Defining the stakeholders	12–13
G4-26	Approaches for involving stakeholders	12–13
G4-27	Stakeholder questions and concerns	14–15
REPORT PROFILE		
G4-28	Reporting period	2015/2016
G4-29	Publication date	January 2017
G4-30	Reporting cycle	Every two years
G4-31	Contact details	Contact details can be found on page 62
G4-32	Application levels of the GRI guidelines	“In compliance” core with the GRI G4 guidelines for sustainability reporting
G4-33	External audit of the report	No
CORPORATE MANAGEMENT		
G4-34	Corporate management structure	08–11
ETHICS AND INTEGRITY		
G4-56	Values, principles and conduct standards	50–53

Status

In this sustainability report, for the first time Schüco reports in accordance with the GRI G4 standard. In the case of certain indicators we are not currently able to provide a full report. It is our goal to fill all these gaps by the next report and to implement valid data-collection processes.

○ = Not reported (no data-collecting system in place)

◐ = Partially reported (data-collecting system in development)

● = Reported (data-collection system in place)

Specific standard details

DMA and indicators	Description of indicator	Page	Status	Omissions and comments
CATEGORY: ENVIRONMENTAL				
Key aspect: materials				
G4-DMA	Management approach	32–34	●	
G4-EN2	Proportion of secondary raw materials in total materials	34	●	
Key aspect: energy				
G4-DMA	Management approach	32–34	●	
G4-EN3	Energy consumption within the company	36	●	
G4-EN5	Energy consumption outside the company	36	●	
G4-EN6	Energy intensity	36	●	
Key aspect: emissions				
G4-DMA	Management approach	32–34	●	
G4-EN15	Direct greenhouse-gas (GHG) emissions (Scope 1)	37	●	
G4-EN16	Indirect energy-related GHG emissions (Scope 2)	37	●	
G4-EN17	Other indirect GHG emissions (Scope 3)	37	●	
G4-EN18	Intensity of GHG emissions	37	●	
G4-EN19	Reducing GHG emissions	36–37	●	
Key aspect: products and services				
G4-DMA	Management approach	22–23	●	
G4-EN27	Decreasing the environmental effects of products and services	32–34	●	
G4-EN28	Return of products and packaging	34	◐	To date there have not been any data-collection processes that can report on this indicator within the Metal division. These should be developed in time for the next sustainability report.
Key aspect: compliance				
G4-DMA	Management approach	52–53	●	
G4-EN29	Fines and penalties due to non-compliance with environmental regulations	53	●	
Key aspect: overall				
G4-DMA	Management approach	32	●	
G4-EN31	Total outlay and investment in environmental protection by type	32	○	To date there have not been any data-collection processes that can report on this indicator. Additional comments on this indicator can be found on page 32.

DMA and indicators	Description of indicator	Page	Status	Omissions and comments
CATEGORY: SOCIAL				
SUBCATEGORY: WORK PRACTICES AND DECENT EMPLOYMENT				
Key aspect: employment				
G4-DMA	Management approach	42	●	
G4-LA1	New appointments and employee turnover	43	●	
G4-LA2	Benefits granted to full-time employees only	44	●	
G4-LA3	Returning after parental leave		○	To date there have not been any data-collection processes that can report on this indicator. These should be developed in time for the next sustainability report.
Key aspect: occupational health and safety				
G4-DMA	Management approach	39	●	
G4-LA6	Accidents, occupational illnesses, days lost and fatalities	41	◐	An extensive evaluation of accident statistics was introduced in 2014. Previous time periods cannot be reported in full.
G4-LA8	Health-and-safety agreements with trade unions	40	●	
Key aspect: apprenticeships and training				
G4-DMA	Management approach	42	●	
G4-LA9	Average student numbers for apprenticeships and training	45	◐	
G4-LA10	Programmes for the long-term maintenance of employability	45	●	
Key aspect: grievance mechanisms relating to work practices				
G4-DMA	Management approach	42	●	
G4-LA16	Formal grievances concerning effects on work practices	42	◐	This information is subject to particular confidentiality constraints. We offer an approximate value as an indication.
SUBCATEGORY: COMPANY				
Key aspect: combating corruption				
G4-DMA	Management approach	52–53	●	
G4-SO3	Proportion of business locations tested for corruption risks and risks identified	53	●	
G4-SO4	Information on and training for combating corruption	52–53	●	
SUBCATEGORY: PRODUCT RESPONSIBILITY				
Key aspect: customer health and safety				
G4-DMA	Management approach	22–23	●	
G4-PR1	Proportion of key products and services that are tested for health and safety	26–27	●	
G4-PR2	Incidents of non-compliance with provisions and voluntary codes of behaviour relating to the health and safety of products and services	26–27	●	
Key aspect: designation of products and services				
G4-DMA	Management approach	22–23	●	
G4-PR3	Principles and procedures for product designation as well as the proportion of products and services subject to them	26–27	●	
Key aspect: marketing				
G4-DMA	Management approach	22–23	●	
G4-PR6	Sale of banned or contentious products	26–27	●	

Glossary

On the following pages you will find short descriptions of specific building and sustainability terms that we use in our Sustainability Report.

A

ASI

The Aluminium Stewardship Initiative (ASI) is a multi-stakeholder organisation and develops standards on a voluntary basis for a sustainable aluminium industry. You can find more information about this on → pages 19 and 49

A|U|F

The purpose of this registered association for Aluminium and the Environment in Window and Façade Construction (Aluminium und Umwelt im Fenster- und Fassadenbau) is the sustained promotion of product-specific recycling. This applies in particular to the processing and re-use of scrap aluminium and old aluminium in the construction industry. More information on → page 34

B

BREEAM

The British sustainability certification BREEAM (Building Research Establishment Environmental Assessment Methodology) is an assessment method for sustainable building used widely in Europe. More information on → page 29

C

Carbon footprint

The term “carbon footprint”, when referring to the Product Carbon Footprint (PCF), means the greenhouse gas emissions that occur over the entire life cycle of a product. It comprises the entire value-added chain, in other words the extraction, manufacture and transportation, production, use, dismantling and recycling of the product. When referring to the Corporate Carbon Footprint, the term means the greenhouse gas emissions that are caused by the business activities of a company. In both instances, the greenhouse gas emissions are given in CO₂ equivalents (CO₂e).

CE marking

The CE marking certifies that a product satisfies the applicable harmonised standards in Europe.

Construction Products Regulation

In July 2013, the EU Construction Products Regulation replaced the 1988 Construction Products Directive. The content of the regulation deals with the removal of barriers to trade within the single market and defines conditions for the marketing on construction products. The key points include a common technical language and clear conditions for access to CE marking. In addition, the basic requirement of “Sustainable use of natural resources” has been extended to include construction works, which is derived from the recommendations of the EPA Network – the European Network of Environmental Protection Agencies.

Corporate Social Responsibility (CSR)

describes the social responsibility of a company to act sustainably from an economic, ecological and social perspective. The wide range of companies means there is an equally wide range of interpretations of CSR. Generally, however, it is defined as a holistic corporate concept that comprises all aspects of sustainability, going beyond adherence to statutory compliance provisions.

Cradle to Cradle (C2C)

is an innovative design and quality concept. Products are designed so that, following their use, they can be continuously recycled as the same product without losing their quality. The materials are non-harmful and they are manufactured using regenerative energy. C2C allows a waste-free, circular value chain to be created. Resources and energy are used effectively. C2C products can be certified.

D

DENEFF

The German Corporate Initiative for Energy Efficiency (Deutsche Unternehmensinitiative Energieeffizienz) is an independent, cross-sector network of companies and organisations who advocate an effective energy efficiency policy. More information on → page 49

DGNB

The German Sustainable Building Council (Deutsche Gesellschaft für Nachhaltiges Bauen e.V.) is a non-profit and non-governmental organisation with the aim of promoting sustainability across the entire value-added chain in the construction and property industry. It awards the DGNB Quality Seal to sustainable, certified buildings.

E**EPDs**

An Environmental Product Declaration (EPD) is a document that a company uses to disclose quantified information regarding the environmental impact of a product over its entire life cycle. In the construction industry, it is an important basis for green building evaluation. In this way, products with identical functions can be compared objectively and on the basis of data.

Essential components of an EPD are the life cycle inventory analysis, which includes details of resource consumption and emissions, as well as the assessment of the impact of the consequences for the environment, which is based on that information. EPDs are reviewed, verified and registered externally. The system which is used around the world is based on international standards (ISO 14025; ISO 14040 ff.), as well as the European standard DIN EN 15804, thereby allowing a global comparison of environmental performance.

F**2° Foundation**

The 2° Foundation aims to support political decision makers in establishing the market economy framework conditions for climate protection. More information on → page 49

G**GDA**

The Joint German Occupational Safety and Health Strategy (Gemeinsame Deutsche Arbeitsschutzstrategie) is an initiative by the German government, the federal states and the accident insurance institutions. With this alliance, the parties undertake to coordinate their accident prevention policies in the field of occupational health and safety. To do this, they have developed joint occupational health and safety objectives and campaign for transparent and practical regulations.

Global Building Excellence

The Schüco Global Building Excellence specialist department acts as an instigator for the development of new subject and business areas. Within the Building Excellence Network, this department works closely with research facilities, universities, design offices and the other departments at Schüco. One of their focus areas is the development of sustainable building envelopes.

Global Reporting Initiative (GRI)

The Global Reporting Initiative develops globally applicable standards for the creation of sustainability reports. For this, they provide a framework made up of indicators, on the basis of which the reporting companies, organisations and governments can disclose and quantify their sustainability activities. The aim is to create more transparency and a greater degree of comparability, thereby serving as a guide to investors, governments, employers and the public.

Green Buildings

Buildings which are developed in line with sustainable principles are referred to as Green Buildings. Ideally, this guiding principle runs through all areas of the value-added chain, from the design, use of materials and operation through to subsequent dismantling and recycling. Key components of the Green Building concept include the efficient use of resources and energy, environmental protection through the reduction of waste and pollution, and the safeguarding of the health and safety of the building users. There are different standards for certifying a building as Green, including LEED, BREEAM and the DGNB certificate.

ISO 9001

The ISO 9001 standard sets out the requirements that the Quality Management department of a company must fulfil in order to meet the standard. Responsibilities and work procedures are presented transparently, the framework for which is provided by ISO 9001. Since its revision in October 2015, the standard has been aligned to the High Level Structure. This is derived from the basic structure for management system standards, which is defined in the ISO directives.

ISO 14001

The international environmental management standard ISO 14001 helps organisations to develop and implement an environmental management system and the corresponding sustainability objectives. The standard focuses on the continuous improvement process in accordance with the "Plan – Do – Check – Act" (PDCA) model, in order to achieve the specified environmental objectives and ongoing improvements.

LEED

The Leadership in Energy and Environmental Design Certificate, LEED for short, is a certification system for sustainable buildings, which is used all over the world. More information on → page 29

Life Cycle Costing

Life Cycle Costing (LCC) is an analysis of the costs incurred over the entire life cycle of a product, from manufacture and usage right through to recycling. With the help of this comprehensive approach, acquisitions can be compared objectively with regard to overall profitability.

M

My Future Office

is a science-backed research project initiated by Schüco and other stakeholders from the construction industry. The aim is to develop building products and office spaces together that are optimised for health. More information on → page 20

O

OHSAS 18001

The Occupational Health and Safety Assessment Series is an international, cross-industry standard for the assessment and certification of occupational health and safety management systems. The system is recognised in more than 80 countries and is therefore one of the most widely used standards for occupational health and safety management systems worldwide. A management system certified in accordance with OHSAS 18001 should help to reduce occupational health and safety risks for employees, but also for visitors or customers.

R

REACH regulation

The REACH regulation is an EU regulation on the registration, evaluation, authorisation and restriction of chemical substances. It is one of the strictest chemical regulations worldwide. The aim of REACH is to ensure the protection of human health and the environment, and to safeguard the free movement of chemicals on the European single market. Manufacturers and importers wishing to bring a substance onto the market must register it in advance.

Rewindo

The window recycling service Rewindo is an initiative of the leading German PVC-U profile manufacturers. Its aim is to recycle dismantled windows, roller shutters and PVC-U doors, thereby encouraging economic practices that conserve resources. More information on → page 34

Risk assessment

The risk assessment forms the basis of systematic health and safety management in the workplace. Employers are obligated to produce a risk assessment, to document the results, to define occupational health and safety measures and monitor the progress of those measures. Responsibility for carrying out the risk assessment and the subsequent checks lies with the employer.

S

Schüco Technology Center

The Schüco Technology Center is one of the world's leading test centres for the building envelope and carries out tests for customer orders. When beginning to develop products, Schüco can also use the Technology Center to fabricate, test and continually improve new systems, individual components or special solutions, and validate the results on an ongoing basis. Component and material tests, as well as a wide variety of environmental simulations, are key to being able to reliably deal with conditions in the different climate zones.

The Technology Center is accredited as an independent manufacturing laboratory in nine areas by the national accreditation body for the Federal Republic of Germany (DAkkS).

T

thinkstep AG

is a company specialising in software and consulting services, which supports companies and organisations worldwide on the path to sustainable business practices. The software solutions, databases and consultation services offer the opportunity to optimise business processes, recognise and take advantage of potential for innovation, increase brand value and meet legal requirements.

Tier

Tier is a concept from supplier management, in particular the automotive industry, and describes the position of the supplier within the supply chain. It is used in combination with a number (tier 1, tier 2), from direct suppliers (tier 1) to raw material suppliers (tier n). The cascading supplier relationships are frequently shown in the form of a supplier pyramid.

U

U value

Thermal transmittance, also referred to as the U value, is the term given to the flow of heat through a building component depending on the temperature differential. The thermal insulation properties can be derived from the U value. The lower the value, the better the level of insulation. Specifications regarding maximum values for different building components can be found in the German energy-saving regulations (EnEV).

V

VFF

The German Window and Façade Association (Verband Fenster + Fassade) is the specialist association for producers of windows, façades and doors and their trade partners. More information on

→ page 13

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