



Statement of our Management

2018 in Retrospect and Outlook for 2019

Our Sites Worldwide

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Statement of our Management

As a leading manufacturer of premium leather for the automotive industry, we are committed to a global presence, to responding flexibly to market fluctuations and to pursuing visionary innovations for our leather products.



Statement of our Management

Dear Readers,

The consequences of the trade disputes, Brexit negotiations, and WLTP audits have also been felt at BADER since the second half of 2018, in the form of order reductions in some markets. In addition, extreme floods, drought, and heat and as a result, water shortages, forest fires, and crop failures remind us how important it is to work on the sustainable alignment of the leather value chain.

In the future, we will strengthen our global presence with production sites in all major markets for finished leather, leather cuttings, and seat covers. In addition, we want to become even more innovative in the development of more sustainable leather products and the utilization of co-products such as split leather or Kollamat®.

All sites use our integrated management system to improve quality, environmental and energy performance, health protection, occupational safety, and sustainability. At the individual sites there are also certified management systems. To strengthen health protection and occupational safety at work, we are now in the process of introducing ISO 45001. BADER China's award from VOLVO's as Best Local Supplier in November, shows that our efforts are paying off.

We have taken an important step forward in improving our environmental performance. We are proud that South Africa reached the gold level of the LWG environmental audit as well as the ECO₂L certification for energy and CO₂ assessment, in its first attempt in 2018. This means that all major leather-manufacturing sites are certified.

As with previous economic downturns, we are committed to safeguarding jobs in view of the temporary decline in production. We invest worldwide in education and training and regularly conduct health checks and safety training. In South Africa, we support, for example, HIV/AIDS prevention. We are also committed to social causes, such as schooling for children with learning difficulties in Uruguay, as every year.

As a signatory of the United Nations Global Compact, we have committed ourselves to its principles and sustainable development goals. Together with our regional partners at our locations around the world, we will make even a bigger difference.

With this second progress report for 2018, we are making our activities more measurable and invite you to convince yourself of our commitment.

Yours sincerely,

Thomas Bader

Lothar Bauhofer

Bent Dreilich

Jürgen Erb

Marcus Röhling

BADER, for about 145 years now, has been working with leather, a sophisticated natural material and one of the oldest and most versatile materials known to mankind. Over the course of five generations, our family business has been developing know-how and expertise in the production and processing of quality leather: from different raw materials, with mineral, synthetic, and plant-based tanning processes, for various industries. We see the further development of our products and processes as a continuous learning process in which we reflect on and proactively adapt the economic, social, and environmental aspects of our actions.

The first half of 2018 started with some interesting sustainability milestones. Thomas Bader publicly expressed our commitment to the United Nations' **▶ Global Compact principles (UN Global Compact 2019)** and **▶ Sustainable Development Goals (UN 2018)**. We are particularly proud that BADER South Africa achieved the Gold certification of the Leather Working Group in its first attempt. (**▶ Chapter Sustainable Corporate Management**)

Rinspeed presented the **▶ snap concept car (Rinspeed 2018)** for which BADER provided a particularly environmentally friendly leather. Together with our partner **▶ Diedrich Pet (Diedrich Pet 2019)**, we also developed high-quality material reuse of chemically untreated splitting remnants into dog chewing articles and placed them on the market. (**▶ Chapter Product**)

For some years now, product category rules have been developed both by standardization and at EU level, for the most comparable environmental evaluation of leather possible. The **▶ EN 16887: 2017 draft** published by the German Institute for Standardization (German: Deutsches Institut für Normung, DIN) and the latest **▶ EU draft (De Rosa-Giglio et al 2018)** published in April 2018 currently have differing views in some respects. Together with other tanners, we therefore deal with two developments. (**▶ Chapter Planet**)

The second half of the year was turbulent with regard to various developments worldwide. On a positive note, the OSI Group has become more involved in the hide trade through the integration of A+B, thus strengthening the transparency of the supply chain.

We laid the foundation stone for the construction of a new plant in China, which underscores our strong growth there. VOLVO has named BADER China **Best Local Supplier** for its reliable quality and delivery and values us as a strategic partner. Furthermore, we moved into a new building in Göppingen, which houses administration, development, laboratory, and a car park.

With the beginning of the second half of the year, the effects of the trade conflicts worldwide, reduced car sales in China, the introduction of the Worldwide Harmonized Light Vehicles Test Cycle (WLTP) and Brexit made their presence felt for BADER in the form of fewer call-off orders. As of November, a reduction in production was unavoidable. Nevertheless, in 2018, we daily produced 80,000 m² of leather, 50,000 leather cut parts, and seat covers for 2,840 vehicles and increased our workforce to 12,000 employees. (**▶ Chapter Product**)

In the first half of 2019, we also expect the environment to remain difficult, with car sales continuing to stagnate and negotiations on trade agreements continuing. Through our global presence, flexible orientation with production facilities in all important markets, we will also overcome these hurdles. The merger of our logistics activities with the new logistics center at BADER Polska and the opening of a sewing plant in Bulgaria are important milestones in this process.



New mobility - Rinspeed

01

BADER South Africa receives LWG Gold certification



BADER South Africa – BAD105

03

06



Dog chewing articles from splitting remnants come onto the US market

11

Move into a new building in Göppingen



02

WE SUPPORT

Thomas Bader signed the United Nations Global Compact Letter of Commitment



04

Updated draft of EU product category rules

11



BADER China awarded Best Local Supplier by Volvo



Our Sites Worldwide





BADER has signed the ► **United Nations Global Compact principles (UN) (UN Global Compact 2019)** and is committed to upholding its principles concerning human rights, labor standards, environment, and anti-corruption practices, as well as its ► **Sustainable Development Goals of the 2030 Agenda for Sustainable Development (UN 2018)**. The UN principles act as a „compass“ to help navigate the course and the UN goals as a „lighthouse“ for orientation.

Also companies need to bring their business activities into line with the global UN principles and goals and to act in a responsible and targeted manner within their own sphere of influence. On this basis, we are in the process of embedding the UN principles and goals into our strategy, culture, and ultimately our day-to-day business.

To determine the essential topics that we can really get behind, BADER has assessed the 17 UN goals for influence and relevance. In so doing, we take into account the effects of production processes and end-products on society and the environment and our ability to influence change. The goals over which we have particular influence are shown in the figure on the right. They are sorted numerically and do not correspond to any evaluative ranking. In our annual Sustainability Report, we elaborate more specifically on the UN goals that we consider essential. Last year we published our first report for the year 2017. This second report covers the year 2018 (1st January to 31th December).

The material Sustainable Development Goals for BADER



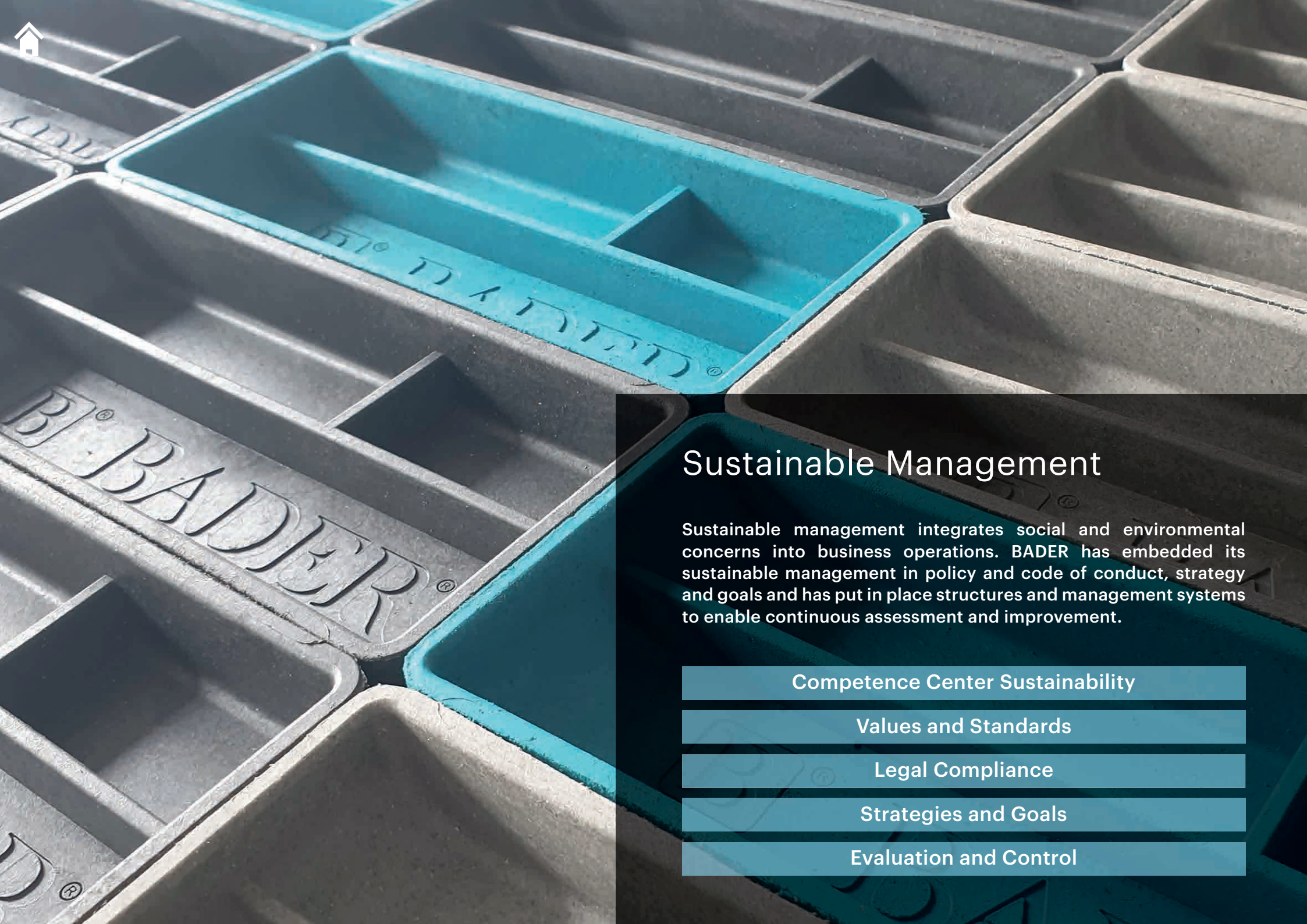


This sustainability report links BADER's activities to the UN principles and goals and assesses our contribution to the material topics. We have structured this report according to the ► **3P formula (Elkington 1994)**, that describes the three dimensions of sustainability: Product (economy), People (society) and Planet (environment).

We have supplemented these three dimensions with Partnering (cooperation), because only together with our customers, suppliers and other interest groups can we achieve the UN goals holistically across the entire value chain. The structure underlying the sustainability report and the link to the UN goals are shown in the figure.

Structure of the sustainability report and link to the UN goals





Sustainable Management

Sustainable management integrates social and environmental concerns into business operations. BADER has embedded its sustainable management in policy and code of conduct, strategy and goals and has put in place structures and management systems to enable continuous assessment and improvement.

Competence Center Sustainability

Values and Standards

Legal Compliance

Strategies and Goals

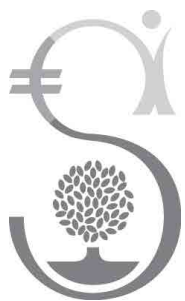
Evaluation and Control



Competence Center Sustainability

Sustainable management serves to secure the long-term survival of our company and requires company commitment on all levels. Since 2010, a dedicated cross-departmental and cross-plant team in the Competence Center Sustainability (CCS) has been responsible for initiating and implementing our sustainability strategies and goals under the leadership of the executive board. In this way, BADER can proactively advance its own projects and more specifically coordinate sustainability activities such as ECO₂L and LWG audits worldwide. Another important component is sustainability reporting, which we have been introducing since 2017. Besides, we are working on various topics together with those responsible at our sites around the world and with various interested parties.

Our CCS team



Board of management

Executive board

Site managers

Business units

Human resources

Purchasing

Integrated management

Values and Standards

As a signatory to the UN Global Compact, BADER is committed to the UN principles and to the sustainable development goals concerning human rights, labor standards, environment, and anti-corruption.

To meet this responsibility, we have firmly anchored our fundamental values and principles of conduct, above and beyond the legal requirements, in our ► **BADER Policy on Corporate Social Responsibility (BADER 2017a)** and our ► **Quality, Environmental and Energy Policy (BADER 2016)**. In addition, the ► **Code of Conduct (BADER 2017b)** that applies to all contract and business partners lays down basic principles of conduct for day-to-day practice and business policy. As part of the annual management review, we ensure that our goals are in line with our policies.

These rules are understood to be the framework within which we as a company operate in society and can only be implemented through the commitment of all employees and business partners. We have conveyed our policies to all BADER employees and made them available on the internet and intranet. BADER's Code of Conduct has been published on the internet. The documents are available in the particular language of our employees and business partners.



Legal Compliance

BADER is aware of its responsibility for legal compliance and continuously works on strategies to minimize risk. Important issues such as legality and anti-corruption in all areas of the company are firmly anchored in our ► **BADER Policy on Corporate Social Responsibility (BADER 2017a)**. We are currently revising our policy and training program to make our managers and employees around the world more aware of what they can do in case of need and to whom they can turn to if necessary.

BADER is committed to legal and fair competitive conduct and to comply with legal requirements at all its sites. There were and are no legal proceedings pending against BADER. No penalties have been imposed, nor are any threatened or expected.

In dealing with business partners and government institutions, the interests of the company and private interests of employees on both sides, are kept strictly separate. Decisions taken are free from extraneous considerations and personal interests. If we become aware of violations of our corporate policy, we investigate them and take appropriate measures.

The implementation and monitoring of compliance is anchored in our integrated management system and is carried out by means of management reviews, regular employee training and supplier meetings and audits. In line with our integrated management system, we regularly review and revise requirements and clearly define responsibilities in specifications and instructions.

Management at each plant monitors compliance with all respective national and local laws and regulations in the context of all company operations and on all operational levels. This includes getting agreements concerning company activities with the relevant authorities and obtaining the necessary approvals that also cover such areas as construction, labor law, occupational safety, environmental protection, and food law.



Strategies and Goals

We derive our business strategy from the holistic assessment of economic, environmental, and social opportunities and risks. In this context, our strategy has **four drivers**:

With the aim of long-term preservation and expansion of our traditional company, we plan and invest across all sites and divisions in a sustainable as well as environmentally and socially responsible manner.

We are committed to the observance of human rights, fair working conditions, and a culture of diversity, mutual respect, and equal opportunities. To promote lifelong learning, we invest in education and continuous professional development throughout an employee's professional career. In order to ensure the best possible protection of health and safety at work, we are in the process of integrating ISO 45001 into our integrated management system and plan to have the first sites certified in accordance with this standard as of 2019.

Taking customer-specific requirements into account, we invest intensively in researching and developing sustainable products, processes, and technologies with even lower resource consumption and emissions, which are assessed on a holistic and life-cycle basis. We underline this commitment with the environmental and sustainable certifications ISO14001, ISO 50001, ECO₂L, and LWG.

Cooperation with our customers and suppliers is also an important component of our strategy. In addition to ensuring product safety, we pursue important goals such as testing suitable methods for traceability back to the animal owner, LWG certification of our raw and semi-finished product suppliers and the definition of minimum animal welfare standards.

BADERs strategy drivers





Evaluation and Control

At least once a year, BADER uses various management reports and internal audits to review aspects of sustainable management and consequently derive measures and goals for continuous improvement. In addition, as part of their usual supplier management, our customers have commissioned since 2017 sustainability audits at some of our sites.

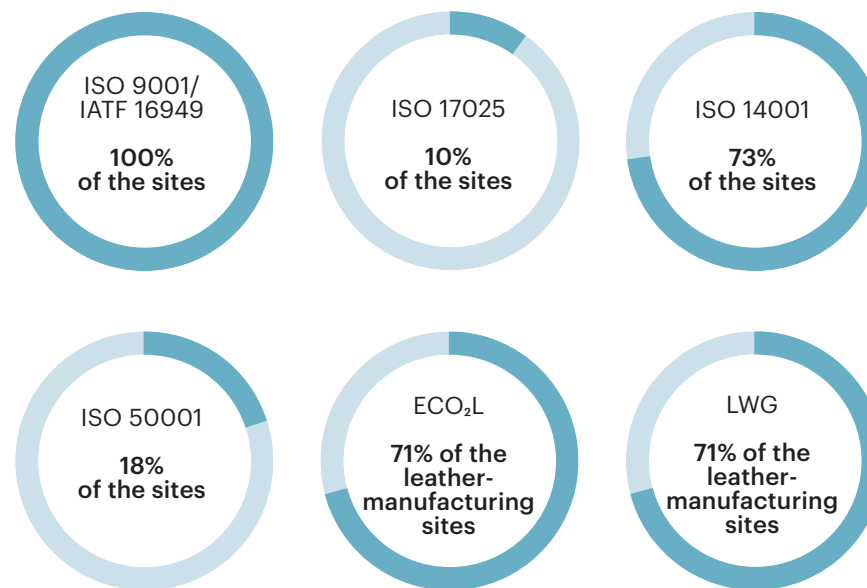
On the operational level, we support our company's sustainable development by consistently making use of our integrated management systems. It clearly regulates requirements and responsibilities in specifications and instructions and is based on various international standards according to which we certify ► **our sites (BADER 2019)** and have them regularly reviewed in external audits.

Meanwhile, all of BADER's sites have a quality management certification according to ISO 9001 and/or IATF 16949 specifically for the automotive industry. Since 2001, Mexico León has been accredited according to ISO 17025 for the sites with testing and calibration laboratories. This is planned for 2019 for our laboratories in Germany and China.

All leather-manufacturing sites have the ISO 14001 certification for environmental management. In 1999, our Göppingen headquarters with its Ichenhausen plant was one of the first automotive leather producers in Germany to get the ISO 14001 certification.

Since 2015, two sites have also had an energy management system certified to ISO 50001. Between 2019 and 2021, we plan to introduce ISO 45001 certification for occupational health and safety management at four sites. The results of the findings benefit all of our subsidiaries.

We also respect the protection of intellectual property rights. For instance, we had ourselves audited in 2016, initiated by one of our largest customers, and implemented the resulting measures accordingly. With view to the basic EU data protection regulation that has been in force since May 2018, we have implemented the major innovations in the handling of personal data in our company practice and train all BADER employees who participate in digital data exchange annually.





Since 2012, BADER has also been working closely with the German Leather Federation (German: Verband der Deutschen Lederindustrie, VDL) and the Leather Working Group (LWG). Both offer certifications to tanneries and leather manufacturers that define specific performance requirements in order to promote environmentally friendly and sustainable production in the leather industry.

The VDL has had developed the ► **Energy Controlled Leather (ECO₂L) Certification (VDL 2013)**, the world’s first benchmark for tanneries on energy and carbon dioxide (CO₂). This benchmark builds on the experience and energy analyses of around 20 leading tanneries worldwide. The LWG consists of brand companies, suppliers, distributors, industry experts, NGOs, and other organizations. Together, the group discusses the latest developments and requirements to be set in the globally valid ► **LWG audit protocol (LWG 2019a)** for the assessment of the environmental performance of tanneries, some of which goes far beyond legal requirements.

BADER has been actively involved in the development of both the ECO₂L tool and the LWG protocol. Since 2012, we have been successively introducing both certifications at our leather-manufacturing sites. By the end of 2018, the five larger sites of a total of seven leather-manufacturing sites, had obtained ECO₂L and LWG certifications. We are particularly pleased that three plants achieved LWG Gold certification and two plants LWG Silver certification in their first attempt. At our site in Ichenhausen, energy consumption is still at the LWG silver level (► **Chapter Planet**). Our plant in Mexico is still convincing its sub-contractors and producers of semi-finished products to have their production sites audited by LWG (► **Chapter Partnering**).

Since 2015, BADER has regularly answered the **sustainability questionnaires** of the established providers Ecovadis and NQC. At Ecovadis, we achieved in 2018 the silver rating on Corporate Social Responsibility (CSR) and are among the top 27% of the evaluated suppliers. At NQC, our 10 reportable sites achieve between 85% and 94% – on average 90% of the total score.

It is our goal to continuously implement new requirements at our sites in the coming years. In so doing we will gradually expand our reporting.



BADER Polska – BAD102
BADER China – BAD103
BADER South Africa – BAD105



BADER Ichenhausen – BAD101
BADER de Mexico – BAD104



BADER Polska – 027
BADER China – 033
BADER Ichenhausen – 036
BADER de Mexico – 024
BADER South Africa – 037



Product – Economic Development

Companies can effectively support the UN sustainability goals by also taking social and environmental concerns into consideration parallel to their economic development. As a family-owned company already in the fourth and fifth generation we plan for the long term, investing heavily in research and development of sustainable products, processes, and technologies and are committed to legal and fair competitive behavior at our sites.

In Focus: New Mobility meets Interior Design

Premium Leather for the Automotive Industry

Sustainable Business at BADER

Sustainable Product and Process Development

Alternative Tanning Procedures

New Mobility meets Interior Design



Since 2018, BADER has been participating in the development of concept vehicles by the Swiss company Rinspeed in order to show the possibilities of a sustainable design of automotive interiors using leather, for a time when it will become increasingly unnecessary to intervene in traffic. In a highly creative think tank of about 30 partner companies, innovations, creations, and emotions merge into visionary mobility concepts such as electric mobility and autonomous driving. In 2018, the think tank presented its 24th concept car ► **snap (Rinspeed 2018)**.

As a renewable natural material, leather is like no other material providing high quality, durability, versatility, and comfort. Together with one of our partners for tanning and finishing systems, we have developed a particularly sustainable leather for Rinspeed snap. We further highlight the natural leather properties and deliberately use natural features such as grooves, wrinkles, and irregularities. Tanning is carried out with natural, renewable raw materials from plant components. The finishing is reduced to a minimum thickness and contains components based on renewable raw materials such as rapeseed oil, too. Like all our leathers, this leather meets the high demands of automotive leather and is dirt-repellent and easy to clean. Compared to the standard production process, the energy and water consumption of the entire production process has once again been significantly reduced.

The Rinspeed concept vehicles are being presented at major industrial trade fairs such as the Consumer Electronics Show in Las Vegas, the Geneva Motor Show or the Shanghai Motor Show and are attracting great attention in the industry. Rinspeed snap was also presented to the professional world at the Hanover Fair and the Milano Design Week. Due to the positive response, BADER will also participate in the concept car **microSnap** in 2019.

In Focus

Premium Leather for the Automotive Industry

BADER is one of the leading international manufacturers of premium leather for the automotive industry. BADER's exclusive leathers shape mobile living spaces – as seat covers, armrests, steering wheels, door panels, instrument panels, gear knobs or gear gaiters. We create automotive solutions for every area of application and every type of vehicle – from surface leather and customized cutting to the finished upholstery. The latest production technology and constant monitoring during the manufacturing process ensure consistent high quality. The premium quality that distinguishes BADER automotive leather worldwide.

Today we manufacture leather in particular for the automotive industry with an estimated global **market share of 20-25%**. In 2018, we produced 80,000 m² of leather (+11% compared to the previous year), 50,000 m² of leather cuttings (+14%) and seat covers for 2,840 vehicles (+5%) worldwide, despite the downturn in the global economy in the second half of the year.

Sustainable economic thinking has a long family tradition at BADER that is currently being continued by the fourth and fifth generations of entrepreneurs. For example, with the conviction that we invest sustainably in the long term as well as environmentally and socially responsibly.

We have had a global presence for decades and supply all major automotive markets from our decentralized production sites. We operate an international supplier and logistics network to meet our high customer requirements worldwide. In accordance with our customers' requirements, we plan global requirements as holistically as possible with the aim of optimum capacity utilization as well as job and supply security.



Sustainable Business at BADER

Leather is one of the oldest and most versatile materials known to mankind. At BADER we have been working with this sophisticated material for over 145 years. As ► **co-products of milk and meat production (UNIDO 2012)**, raw hides are renewable natural materials that can substitute products made from non-renewable raw materials such as petroleum-based plastic sheets and textiles. Moreover, numerous high-quality co-products can also be recycled in connection with leather production.

BADER consistently implements improvement measures and state-of-the-art technologies at its sites worldwide to significantly reduce energy and water consumption as well as emissions (► **Chapter Planet**). Leather has many facets. We manufacture leather in various colors, sheen, and texture. Our leathers are adaptable to the requirements of tensile strength, elasticity, and softness. On the one hand, leather is durable, robust, hard-wearing, and non-flammable, while also being dirt-repellent, easy to clean, and, depending on the finish, breathable.

The special features of leather

Renewable natural material with versatile properties
Rawhides = co-products of the meat industry
High quality co-products of leather production

For us, a passion for leather also means handling this material responsibly. For almost 100 years, we have been looking for new possibilities for the most comprehensive and high-quality material use of existing resources and residual materials possible and are now refining numerous co-products (► **Chapter Planet**).

The raw hides are considerably thicker than the desired finished leather thickness and are therefore split horizontally. The split is cut into croupon core, necks and flanks. Skin layers, necks, and flanks are further processed into high-quality collagen and used in food, dietary supplements as well as cosmetic and pharmaceutical products.

Together with our partners, we refine the croupons into split leather, which largely corresponds to the properties of grain leather and is therefore suitable for certain areas of application. Like leather, it meets the highest requirements and is used, for example, as ► **steering wheel leather (Lecapell 2019)** in the automotive industry.

Chemically untreated splitting remnants can also be used sustainably as ► **dog chewing articles (Diedrich Pet 2019)**. Cleaning and drying are carried out free of chemicals and the splitting remnants can be traced back from raw material procurement to product dispatch. In addition, it meets the food safety standard BRC of the Global Food Safety Initiative.

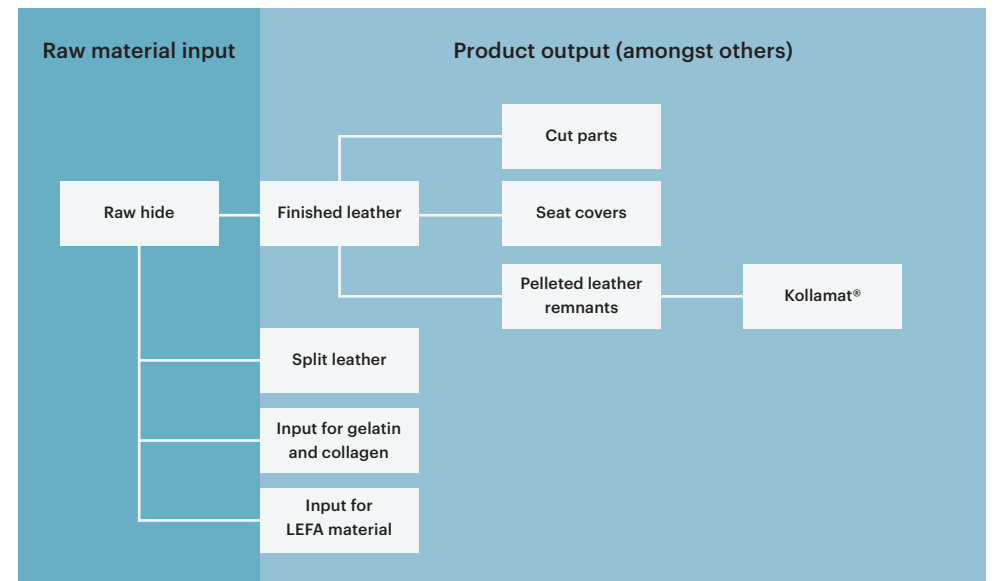
The idea of developing **new products from remnants** is not new to us. Since the 1930s, BADER has been processing vegetable tanned cutting waste and shavings into a leather fiber (LEFA). Today, we hand over cutting waste and shavings to LEFA processing companies. Typical LEFA applications were and are shoe parts, book bindings, bag inner linings and suitcase parts or belts for example.

Today, we develop **Kollamat®**, a high-quality compound from leather fibers (shavings, finished leather), polymers, and additives. It enables products with a unique appearance and a variety of individually adaptable properties for a wide range of applications. Kollamat® combines the haptic and moisture-regulating properties of leather with the possibilities of synthetic materials and offers optimum heat and sound insulation as well as high variability in strength and density. It is produced with a comparatively low energy input, substitutes 30-65% of plastics and can be produced partly or completely from biological resources. In injection molding, Kollamat® is an ideal material for haptic handle applications as a single or multi-component process, but is also convincing for components with higher strengths. Floor coverings or surfaces, for example, can be produced by extrusion.

Leather is a material, which provides us with the inspiration for a whole world of innovative ideas apart from creating new collections for automobiles. The **BADER LEATHER GOODS** department produces handmade leather products in a timeless design. Accessories, small leather goods, bags, and collections for people who love the perfect symbiosis of material, feel, and stylish fashion. Unique quality, exclusive shapes, and colors that create experiences out of leather. Fashion objects with automotive accents, handmade couture with character. BADER LEATHER GOODS creates custom-made individual pieces, small series, special editions, or collections for clients from all sectors.

We have developed **BADER LEATHER CARE** to ensure that our leathers retain their uniqueness for as long as possible. The leather care product is a water-soluble emulsion of nourishing waxes in combination with a dispersion that protects leather from soiling and gives stressed surfaces their natural silky shine again. It also ensures suppleness and reduces the typical creaking noises that occur, for example, when seat covers are subjected to everyday strain.

Optimising material cycles



Sustainable Product and Process Development

In addition, we invest heavily in research and development of sustainable products, processes, and technologies. We work closely with our customers, suppliers, and other stakeholders to meet their needs on the one hand, while on the other hand, already taking into account the sustainability aspects in the development stage. This means being able to develop holistic solutions over the entire life cycle of our leather products. We are gradually implementing the positive experiences gained from our R&D projects at our sites around the world.

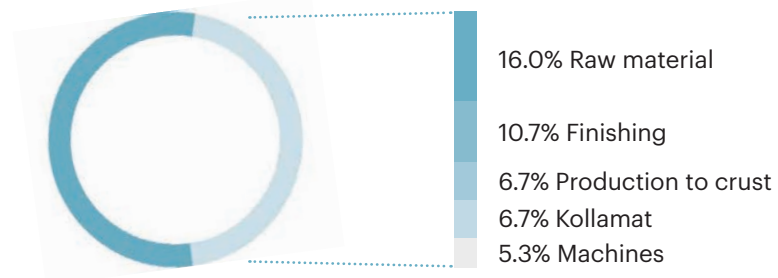
In 2018, 45% of our **R&D projects were based not only on technical and economic aspects**, but also on environmental and/or social aspects. Half of our raw hide R&D projects deal with sustainable issues. In addition to the processing of split leather, it is also about the preparation of the split co-products for upgrading in a wide variety of areas. Apart from that, the assurance is on the traceability of the raw material and the assurance of animal protection and animal welfare. All Kollamat® projects are sustainably oriented towards the development of new and high-quality co-products for existing residual materials such as shavings and finished leather. The possible areas of application are diverse and range, for example, from handle applications and components to floor coverings and surfaces.

About half of our R&D projects from production through to crust are sustainable. These include, for example, various tests for the extraction of tanning agents, the reduced use of tanning agents and water, as well as tests on vegetable tanned leather. Approximately one third of the finishing R&D projects are sustainably motivated, e.g. with the development of a trend-setting finish for the Rinspeed concept vehicle or trials on finishing-based on renewable raw materials and the reutilization of colorless finishing mixtures.

In terms of process development, about one third of our R&D projects are concerned with testing more sustainable alternatives for our machines. Projects are underway for example, to reduce the use of dyes and the time required for dye adjustment and to save energy and reduce surface shrinkage during drying.

The ideas from our employees also help us to innovate and become better at what we do. Through our globally established **company suggestion scheme**, employees contribute a wide range of suggestions that go beyond financial, technical, and qualitative improvements. In Mexico and Uruguay, for example, digital screens are now replacing paper stencils in the stamping shop, which had previously used plotters that were expensive to produce and were regularly used on a large scale. Further sustainable suggestions by our employees relate e.g. to improve occupational safety on machines, to reduce energy consumption, or to recycle residual materials.

Sustainable R&D projects



54.6% ■ technical-economic R&D projects
45.4% ■ sustainable R&D projects

Alternative Tanning Procedures

BADER continuously researches and develops its products and processes in order to optimize the use of chemicals in line with wastewater treatment. The different tanning processes involve specific leather properties and, over the product life cycle, different environmental impacts. The tanning agents bind differently to the collagen and thus require different amounts. The quantity of solid co-products is largely independent of the tanning agent, but there are qualitative differences, which are reflected in the suitability for different recycling methods.

Mineral tanning with chromium is still the most established procedure that enables the efficient and cost-effective production of leather in large quantities. The starting products for chromium tanning materials are co-products of the metal industry. Compared to synthetically tanned leathers, chromium tanned leathers have slightly more stable and durable properties such as softness and color fastness and are less sensitive to moisture and heat. This tanning agent is almost completely recoverable. There are ► **proven techniques and regulations (CADS 2018)** for the production of a safe and chromium-VI-free leather – which BADER strictly applies. Compared to the other tanning processes, the waste water from chromium tanning has a lower chemical oxygen demand (COD) and safe treatment processes are available.

Characteristics of alternative tanning procedures (as of 2018)

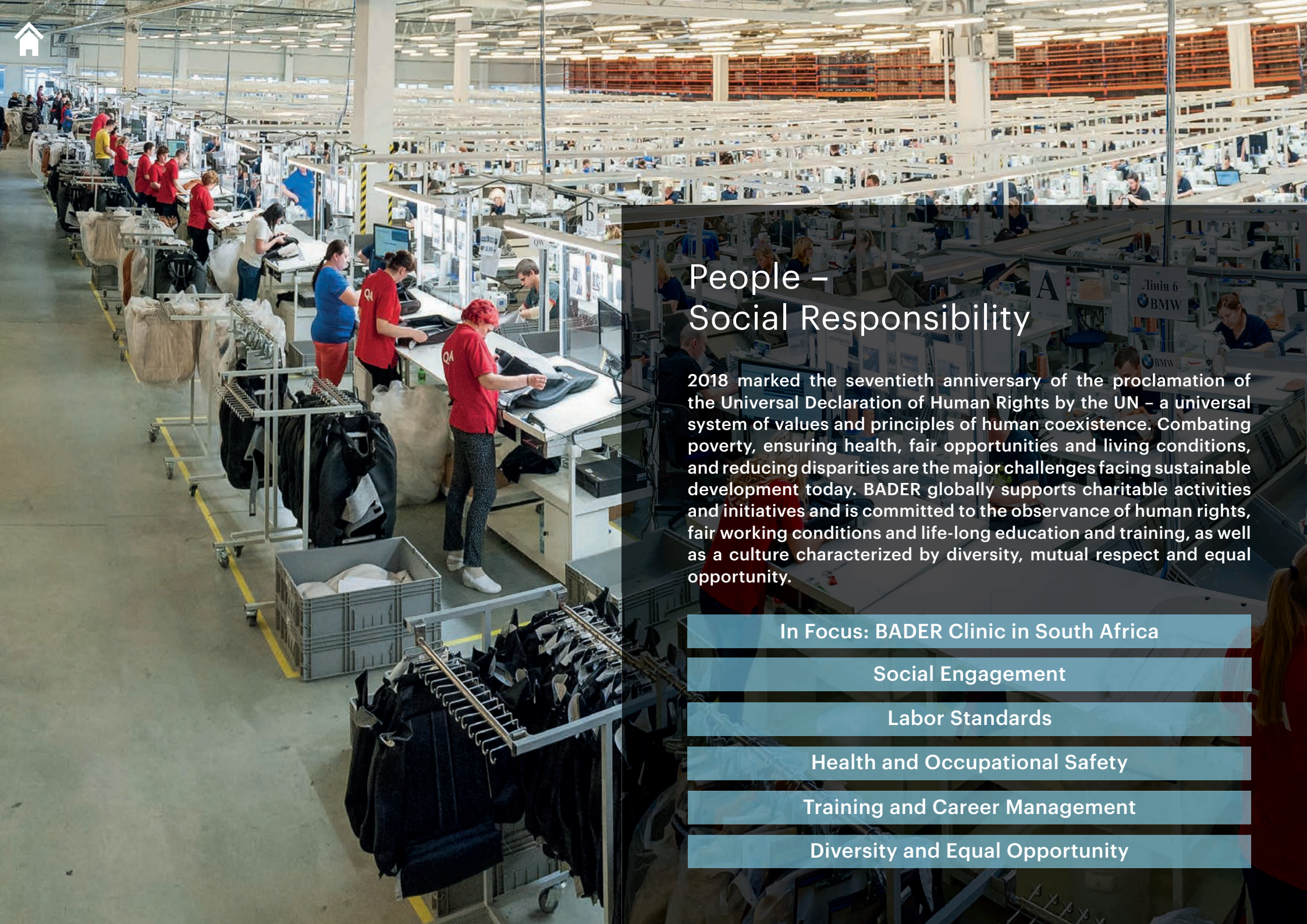
Criteria	Mineral tanning (chromium III)	Synthetic tanning (glutardialdehyde)	Vegetable tanning
Leather properties	Property-stable and permanent	Better shrinkage	Under development
Tanning agents required	Lower amount	Lower to medium amount	Higher amount
Health and safety	No risk of chromium-VI-formation under strict application of CADS 2018	Very low and manageable risk of hazardous substances	Very low and manageable risk of hazardous substances
Wastewater and sludge treatment	Lower effort and easier to handle	Higher effort and more difficult to handle	Higher effort and more difficult to handle



Compared to mineral tanning, **synthetic tanning** with glutardialdehyde provides a significantly better surface stability and shrinkage behavior to a change of climate. Here, too, there are proven and tested procedures for handling the hazardous substance glutardialdehyde – which BADER also strictly applies. However, synthetic tanned leathers are more sensitive to moisture and heat and cause a higher wastewater load than chromium tanning.

Vegetable tanning processes from renewable raw materials are not yet predestined for the production of soft automotive leather. All in all, vegetable tanning agents require a higher application quantity in order to achieve sufficient stabilization of the collagen matrix, which usually implies higher chemical costs. In recent times, increasingly vegetable remnants are used as tanning agents. Nevertheless, the production of some vegetable tanning agents is associated with plantation management in partly tropical areas. Vegetable tanning agents also involve a more difficult wastewater treatment, since they consist chemically of stable phenolic cyclic compounds, for example, which are difficult to remove from wastewater and thus cause a higher COD.

Against this background, we are pursuing various R&D projects on alternative tanning procedures that are both suitable for industrial use and do not endanger health and the environment. Thereby, we neither exclude synthetic nor vegetable tanning agents.



People – Social Responsibility

2018 marked the seventieth anniversary of the proclamation of the Universal Declaration of Human Rights by the UN – a universal system of values and principles of human coexistence. Combating poverty, ensuring health, fair opportunities and living conditions, and reducing disparities are the major challenges facing sustainable development today. BADER globally supports charitable activities and initiatives and is committed to the observance of human rights, fair working conditions and life-long education and training, as well as a culture characterized by diversity, mutual respect and equal opportunity.

In Focus: BADER Clinic in South Africa

Social Engagement

Labor Standards

Health and Occupational Safety

Training and Career Management

Diversity and Equal Opportunity

BADER Clinic in South Africa



South Africa is one of the regions worldwide hardest hit by HIV/AIDS – with 7.5 million HIV positive people 13% of the general population are affected. To improve the situation, the country has the largest antiretroviral therapy program in the world.

BADER is aware of the serious mortality and resulting economic and social consequences not only for the individuals affected and their families but also for the community and the whole country. With our on-site clinic, we aim to reduce the spread of the HIV and tuberculosis and enhance the health and well-being of our employees.

The medical consultation covers:

- Pre-test counselling to build knowledge and awareness on different health issues, including how certain diseases are transmitted and how this can be prevented,
- Health check-ups, including monitoring of weight, temperature, and clinical signs as well as HIV/AIDS testing and tuberculosis screening,
- Post-test counselling, which covers what to do if a test is either positive or negative, including transmission prevention, treatment, and special care for women of child-bearing age with a positive test result,
- Regular follow-up on the progress made, initially in a quarterly program, later bi-annually to annually.

Over the years we have experienced how significant the follow-up is, though it is quite cost-intensive. In future, we will run campaigns, which will focus on high-risk target groups to increase awareness.

In Focus



Social Engagement

At its sites worldwide, BADER joins the fight against poverty and provides the local population with access to essential resources and services. To this end, we dedicate a substantial part of our turnover to social activities and in 2006 – after the socially committed Hans Bader died – the Bader family established the charitable „Hans Bader Foundation“. Our global commitment extends beyond our support of research, employment as well as health and safety to the care of young and older people.

We promote global **education and employment initiatives** to improve employment prospects. In Germany, for example, we support the promotion of employment and educational opportunities for difficult-to-place unemployed, long-term unemployed, and persons threatened by exclusion from the labor market. In South Africa, we have been offering one-year leather qualification training for now almost 100 unemployed school leavers, since 2007. In the Ukraine and Uruguay, we cooperate together with other companies with the local chambers of industry and commerce to advance projects in the dual vocational training system.

We are committed to **health, safety, and palliative initiatives**, including sports. In Germany and Mexico, we support, for example, hospitals, nursing facilities, and hospices and organize joint breakfasts and other meetings. In Poland, we carried out a blood donation campaign and collected goods for the needy. In South Africa, we offer our employees medical care, donate to charitable organizations that support HIV/AIDS orphans, and support BADER’s Sports Club and local sporting events. In the Ukraine, we promote the local clubs that support people with special needs, and fund the purchase of medical equipment. In Uruguay, we organize informative talks on topics such as addiction, violence, or palliative care.

We are also committed to **caring for young and older people**. In Germany, we promote a learning initiatives, kindergartens, and sports. In Mexico, we support local schools with our „Adopta una escuela“ program. In addition, we organize activities in children’s and senior citizen’s institutions. In Poland, we support a children’s home in Bolesławiec and organize an annual environmental competition with employees’ children. In South Africa, we sponsor school equipment and food for the first graders of our employees. In the Ukraine and Uruguay, we are helping to empower young people by supporting social, educational, and sports facilities. In Uruguay, we are also supporting an educational support program designed to help approximately 50 children with learning disabilities to improve their school performance and succeed in the school year. These are children from BADER employees as well as others.

Our social engagement





Labor Standards

Our fundamental values and principles of conduct are firmly anchored in the ► **Corporate Social Responsibility Policy (BADER 2017a)** beyond legal requirements (► **Chapter Sustainable Management**).

BADER respects and protects human dignity and observes human and labor rights. We respect the rights of our employees to freedom of assembly, freedom of association and collective bargaining within the framework of the applicable legal regulations. At individual sites there are regular discussions and good co-operation between company and personnel management and the employee representatives. Collective agreements typically address a variety of issues such as the protection of health and occupational safety, working conditions, employee development or equal treatment.

BADER rejects violations such as forced labor, human trafficking and child labor, unreservedly. All employees work at BADER voluntarily. Trainees are at least 15 years old and get age-appropriate tasks within the scope of their professional preparation and training. Like all of our employees, we train them in terms of health and safety at work and do not employ them for work that could endanger their health or safety.

The working hours allow a sufficient balance between work and relaxation and correspond to at least the statutory requirements – concerning both weekly and annual working hours. Working on Sundays and holidays only happens in exceptional situations. Every employee is entitled to sufficient leave, some of which exceeds statutory requirements. At individual locations, our salaried employees and some of the wage earners can use flextime to flexibly organize their work assignments, taking into account operational requirements. In general, the cultural differences and legal regulations typical of each country are taken into account. The wage level at our sites is based on the regional average in each case – not on the lower limit – and as far as they are defined, minimum standards are met or exceeded. Depending on local conditions, we pay additional and atypical working hours.

The policy is available in various languages on the internet, intranet and on information boards and we strengthen our employees' awareness of our values and principles in regular training sessions. BADER pursues a zero tolerance policy and does not tolerate violations of their values and principles of conduct by employees. Employees who identify violations as well as risks and weaknesses that could lead to violations, report these to the complaints office, their superiors, or employee representatives. We investigate the concerns raised, take appropriate action and provide feedback if we know of the person making the report.



Health and Occupational Safety

Life-long **preservation of health and well-being** requires both BADER and every employee to take preventative measures. With the aim of raising awareness, we regularly conduct training on occupational safety risks and best working practices for all employees, including new and semi-skilled employees, trainees, and temporary workers. We also offer driver safety training in Germany and Poland. We inform external visitors, such as suppliers, about our safety and conduct rules before they enter our premises.

At the individual sites, we support various **health services**. In Poland, our employees receive health insurance with many additional services. In Thailand, we offer annual health checks for all employees. At our German sites, we regularly hold health days with preventive checks and various health and safety campaigns, which we conduct together with employee representatives and social institutions. In some cases, we provide financial support for preventive measures, such as AIDS prevention at our South-African site (▶ **In Focus**) and the promotion of sports activities at our Polish site.

We actively integrate aspects of health protection and occupational safety into our integrated management system and check compliance worldwide in regular audits (▶ **Chapter Sustainable Management**). At our sites, there are experts and committees for occupational safety and emergency plans, which are also certified by the LWG at the sites concerned. In the case of serious accidents, there are mandatory reporting procedures that ensure they are reported to our headquarters – where they are analyzed in order to avoid further incidents.

We analyze and anticipate health and safety risks by means of work, process, and operating instructions for the individual production areas as well as safety data sheets and hazard assessments, which are available at the sites in the local language. We have specific procedures for chemicals management, handling, and safety (▶ **Chapter Environment**). We continuously modernize machines and plants at our sites. Our experts analyze and adapt workflows, processes, and safety equipment. Employees submit suggestions for improving occupational safety with regard to ergonomics, effort, accident prevention, etc. With all these measures, we were able to reduce the number of accidents and the severity of accidents in the last few decades.



Training and Career Management

The international orientation, close cooperation with renowned manufacturers, and the advantages of a global company with a family-run corporate structure offer a wide range of interesting career opportunities. Together we create not only quality at an international level but value, and promote the talent and skills of each individual employee.

In the past year, the number of employees at our 11 sites worldwide has increased by 6% to just under 12,000. At the individual sites, we invest in cooperation with personnel agencies in order to recruit employees. We are interested in keeping employees and taking over external workers. Concerning employment protection and promotion we – as far as legally possible – include i.a. short-time work.

In order to **secure skilled workers**, we offer a broad company training and further education portfolio in cooperation with chambers of industry and commerce, research institutes, and universities and are constantly expanding it to meet demand. We offer young professionals opportunities for a wide variety of career paths in the areas of technical tradesmanship and commerce as well as in design, research and development, production, and management. In Germany, we had trained 26 young people in various dual vocational training programs and practice-oriented higher education study programs by the end of 2018, accounting for 5.2% of the workforce. We are always interested in taking over trainees. At our German sites, we offer all trainees, as part of their training, the opportunity to participate in a project week with voluntary work in social care institutions, in order to promote teamwork, a sense of community, and tolerance. They also attend seminars and training courses on topics such as stress management, the risk of addiction, healthy cooking, telephone training, office management, and business etiquette. In addition to getting to know the production processes on site, we also offer the opportunity in many training programs to work abroad during training and thereby develop foreign language and intercultural skills.





BADER is targeting talent management, offering a variety of internal and external **training opportunities** – in the spirit of lifelong learning – to improve employment opportunities for our employees. In order to consciously promote careers, we define individual training requirements worldwide at least once a year. These are determined through voluntary employee appraisals or alternatively, determined by superiors and regularly monitored and implemented through binding training and development plans. In 2018, the further training rate worldwide was 18 h per employee.

The internal training programs include on-the-job training and various training programs for new employees and current employees for regular refresher courses. The topics covered are various aspects of our CSR principles and principles of conduct, health protection and occupational safety, quality, environmental and energy management, as well as sustainable procurement. Our raw material purchasers are trained at least annually in sustainable procurement and environmental and social aspects in the supply chain. Furthermore, we offer extra-occupational vocational education and further training, in addition to foreign-language and intercultural training, also for technical training courses. They offer the possibility of learning or working temporarily or permanently at one of BADER's international sites later on. BADER has worked together with the German leather industry to introduce new qualification opportunities recognized by the Chamber of Industry and Commerce.

Further training rate

2018

18 h/employee
worldwide



Diversity and Equal Opportunity

As embedded in our ► **Corporate Social Responsibility Policy (BADER 2017a)** we fully reject any discrimination no matter what the reasons might be. Instead, BADER promotes diversity and equal opportunities for its employees. People with different backgrounds and experience work at our sites:

- The average age worldwide is 36 years (2017: 37 years) – in Mexico, for example, 33 years, in Germany 41 years – which ultimately reflects the demographic trend in these countries
- The proportion of women and men in the world average is almost the same – 34% of those in leadership positions are filled by women
- The proportion of foreign employees worldwide is 2% (2017: 2%) and fluctuates due to different regional labor market situations between 0% in China and Mexico and 32% in Germany, where we also employ recognized refugees
- The share of the severely disabled in our workforce at our German sites is 2% (2017: 2%)

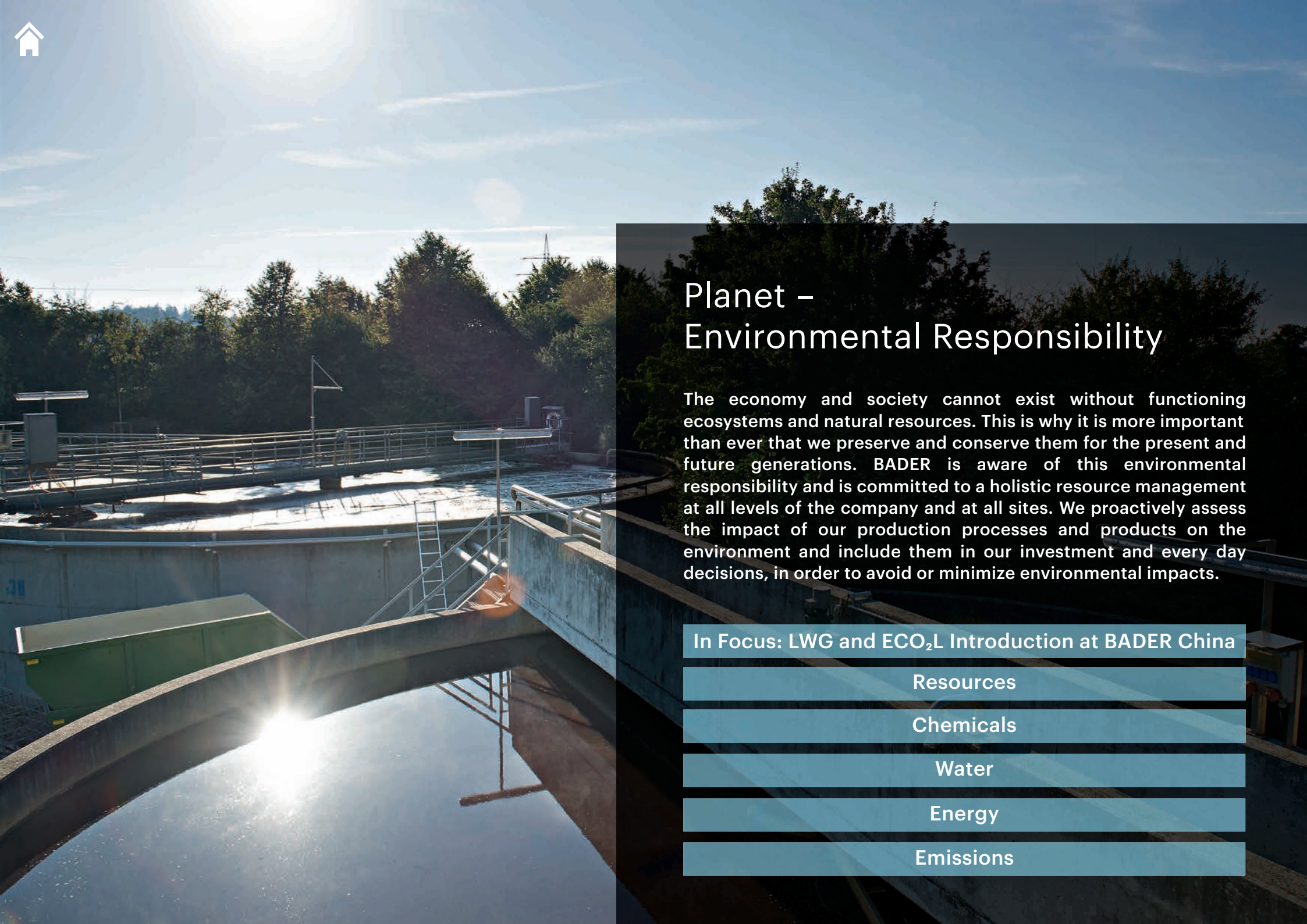
In view of a balanced and stable workforce, we support our employees regardless of age, educational level, nationality, etc. We promote language training as well as vocational education and further training. At our German sites, for example, we support the compatibility of work and family life. Where required, we also assist our employees in the search for carers for family members. For employees with disabilities, we pay attention to appropriate work environments and provide the necessary infrastructure. Employees, who want to continue working after their retirement age, are offered appropriate working hours.

Our process for hiring and promoting is based on clear criteria and recruitment conditions. As of April 2017, temporary workers in Germany have a statutory equal pay right after nine months of uninterrupted work at a company. BADER supports this right and is always interested in a stable cooperation – and where possible – in taking over temporary employees. In addition, we paid voluntary bonuses also before 2017 and verified that that these were paid out to our temporary workers.

In the event of discriminatory statements or actions, those affected at our sites can contact the complaints office, their superiors, or employee representatives. BADER checks complaints from a neutral standpoint and initiates the appropriate measures that are transparent for all involved.

Average age
2018 **36** years
worldwide

Female share
2018 **55 %**
worldwide
thereof 34% in leading positions



Planet – Environmental Responsibility

The economy and society cannot exist without functioning ecosystems and natural resources. This is why it is more important than ever that we preserve and conserve them for the present and future generations. BADER is aware of this environmental responsibility and is committed to a holistic resource management at all levels of the company and at all sites. We proactively assess the impact of our production processes and products on the environment and include them in our investment and every day decisions, in order to avoid or minimize environmental impacts.

In Focus: LWG and ECO₂L Introduction at BADER China

Resources

Chemicals

Water

Energy

Emissions

LWG and ECO₂L Introduction at BADER China



The introduction of LWG and ECO₂L auditing and certification is of great significance to the long-term development of BADER China. Both help us to continuously improve environmental performance, health and safety, and management and processes as well as identify hotspots in leather manufacturing more accurately - i.a. by:

- Water use monitoring: installation of meters on each water-using equipment
- Energy use and emission management: energy-efficient and low-emission direct natural gas burners for drying since start of manufacturing in 2005
- Waste management: Recycling and reuse of most of the waste; new legal, regulatory, and standardizations developments allow now for some waste, which so far categorized as hazardous waste had to be incinerated or landfilled, can now be managed and disposed of as general waste
- Wastewater management: modern sewage treatment system, which fully meets the national and industry-related discharge control standards; after internal treatment follows further municipal treatment
- Emergency response, workshop management, and finishing process control are of further high importance

The next steps of the continuous improvement process include the control of volatile organic compounds, on-line monitoring for pollutant emissions, waste reduction, and recycling. We also keep in mind the new LWG chemical management module. The LWG and ECO₂L certifications thereby push forward measures to be taken and further help to meet the increasingly stringent environmental protection and fire safety laws, regulations, and standards in China as well as the requirements of customers and other relevant stakeholders.

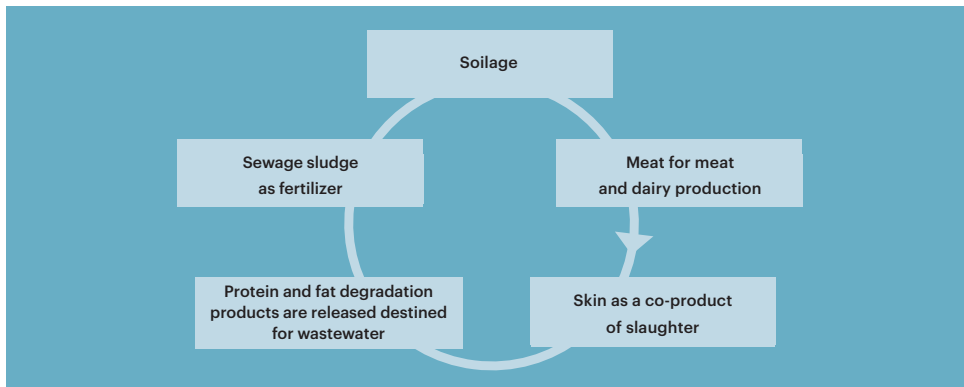
In Focus

Resources

BADER accepted the challenge of an environmentally progressive use of resources at an early stage. For decades, we have been continuously optimizing product development and production processes and using innovative technologies to reduce, reuse, recycle, and treat waste and cleanly dispose of residual materials.

We consider **material cycles** over the life cycle and are constantly looking for new ways to utilize the hide components as optimally as possible. This holistic approach enables an improved economic and environmental balance by closing cycles in agriculture. Protein and fat degradation products from wastewater are reusable as fertilizers, for example. Another example for an optimal utilization of the hide components is the release of flesh split parts into the food industry (collagen and gelatin).

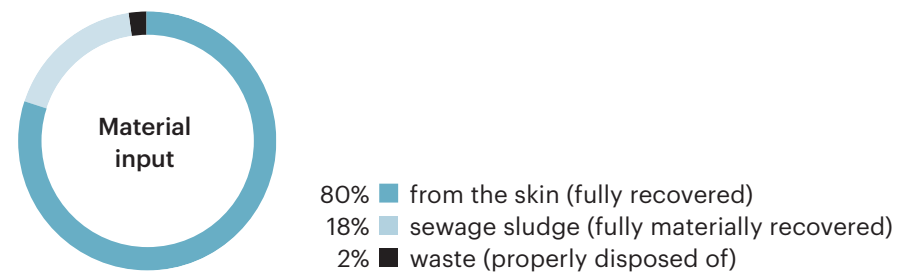
Circular economy in agriculture



In addition to the supply of meat and dairy products, livestock farming supplies numerous co-product such as raw hides, the availability of which is dependent on the development of meat consumption. The weight of the raw material depends, among other things, on the species, origin, and conservation type. At our tannery on the Ichenhausen site we have been using between 7-8 kg raw material per m² leather (finished and split leather) for years now.

In addition to finished and split leather, numerous co-products are producible from this natural material. We process more than 80% of the material input (dry substance of the raw hide) into finished leather, other products, and energy. In addition, hide sections/ lime trimmings, necks, and flanks (together 25-30% by weight) are processable to high-quality collagen or gelatin. The possibilities for material reuse in food, food supplements as well as cosmetic and pharmaceutical products are wide-ranging. The shavings, which arise from shaving the leather to the final thickness required by the customer (4-5% by weight), can be processed into LEFA and Kollamat® as substitutes for petroleum-based materials as well as collagen and fertilizer. (► **Chapter Product**)

Material input at the tannery site in Ichenhausen (dry substance of the raw hide)



Parallel to these co-products from the raw hide, the sewage sludge also represents a non-negligible mass percentage of 15-18%. Thanks to the separate wastewater treatment, the chromium-containing sewage sludge can be used as a replacement material for landfills (a recycling process recognized by the German Federal Environment Agency) and the chromium-free sewage sludge can be materially recycled in line with the spirit of circular economy in agriculture. The non-usable waste of the dry substance of the skin amounts to less than 2%.

In relation to the total amount of waste at the Ichenhausen site, these material recovery paths account for between 60 and 70% of the total recovery and disposal balance. Thermal recycling constitutes further 30 to 40%, especially resulting from lime fleshings for biogas and technical gelatin. Less than 2% of solid materials such as coatings and paint sludge, oil contaminated materials, or used chemicals, are not recyclable and are worldwide professionally disposed of. Despite a long-term recovery rate of more than 98%, we continue to search for ways of improving resource efficiency securing existing recovery paths.

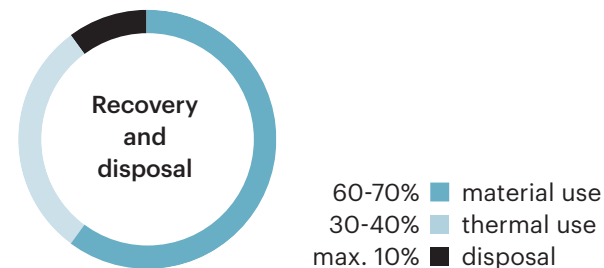
At our sites around the world, we are currently carrying out projects with various local partners to ensure that residual materials are no longer disposed of, but recovered. We investigate, for example, the further use of leather residues in shoes in India, and of residual materials in brick production in South Africa and Uruguay.

The focus is also on the recyclability at the end of the useful life of leather, e.g. in seat covers, but this remains a challenge for the time being due to the existing requirements for tanning and finishing processes. We are working intensively on solutions.

Raw hide weight
in Ichenhausen

7-8
leather **kg/m²**

Recovery and disposal balance at the tannery site in Ichenhausen



Chemicals

Important focal points of our product and process development are chemicals management, handling, and safety. We meet legal requirements such as REACH (EU) and customer requirements such as the Global Automotive Declarable Substance List (GADSL). In addition, with our **BADER Black List** and **security agreements**, we make further demands on our suppliers. (▶ **Chapter Partnering**)

With its ▶ **chemicals management module (LWG 2019b)**, available since 2018, the LWG promotes traceability and transparency of the substances used and the management of potentially sensitive chemicals in the leather supply chain. It is still optional, but will be included in the next revision of the main protocol as a mandatory component by the end of 2019. BADER supports these efforts and is already preparing for its implementation.

In accordance with these requirements, our integrated management system defines worldwide procedures and work instructions for the labeling, storage, handling, and transport of chemicals and especially hazardous materials. By means of regularly updated legal registers, we check and document compliance with the relevant regulations worldwide. In order to minimize risks to health and the environment and to be able to make corrections immediately, we continuously monitor our chemicals.

The chemicals demand depends on the quality of the processed raw hides, the required product properties, and the resulting tanning process required (▶ **Chapter Product**). Due to strict specifications from our customers in the automotive industry, we replace substances, which are potentially harmful to the environment or human health, mostly earlier than legally required (▶ **Chapter Partnering**).

In this context, we have also significantly extended the testing of chemicals prior to their experimental use, in order to avoid the use of problematic substances with regard to leather contents, occupational safety, wastewater treatment, and food safety. Most of our chemicals suppliers are located in Europe and guarantee high transparency, traceability, and legal certainty. We are in constant exchange, in order to promote the development of less sensitive substances.

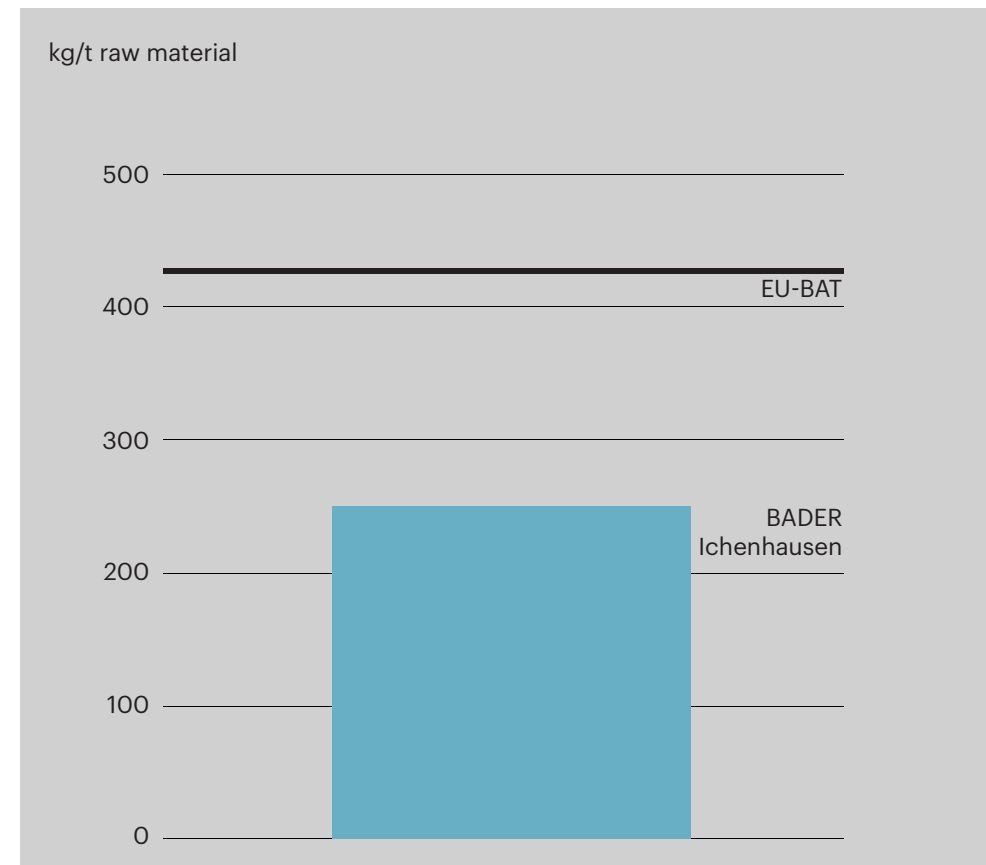
We have been able to significantly optimize the use and safety of chemicals over the past 30 years through various ▶ **process conversions (BADER 2015a)**. With a chemical input of 200 to 300 kg chemicals per t raw material, e.g. in Ichenhausen, we are well below the ▶ **EU standard for the best available technology (BAT) (EU 2013)** with 425 kg per t raw material.

For decades, we have been recovering at our tannery site in Ichenhausen all (III)-valent chromium tanning agents contained in the tanning wastewater via a recycling plant, thereby reducing the purchase of tanning agents by 25-30%. By optimizing the post-tanning formulation, our sites in South Africa (2016) and Mexico (2018) were also able to reduce the use of tanning agents.

We work worldwide with identical finishing formulations and systems per article and use since 1987 exclusively aqueous coating techniques for the finishing of the leather meanwhile based on 70-85% roller application techniques (syncro process, reverse process). We were thus able to reduce the use of the originally chemical-intensive spraying technology (overspray) to 30-15%, for which we use the latest high volume, low pressure (HVLP) spraying technology and volume control, as well as extremely low atomizing compressed air and a two-component dosing technology.

In this way, we have significantly reduced chemical consumption. We are working on further savings in the use of chemicals worldwide. Our suppliers in South Africa, for example, reorganized their chemicals handling and storage in order to meet the requirements for LWG certification.

Chemical use at the tannery site in Ichenhausen 2010-2018





Water

Water is one of the tanner’s most important auxiliary materials, as it serves as a transport medium and solvent for chemicals into the hide and for decomposition products coming out of the hide. Therefore, the economic use of water and the careful purification of the resulting wastewater are two of our most important and at the same time, quite complex environmental tasks. Depending on the raw hides and tanning processes used, the wastewater from tanneries contains different organic and inorganic substances. Synthetic and vegetable tanning agents place a higher load on wastewater as well as higher demands on biological wastewater treatment than chromium tanning.

In Ichenhausen, we have been significantly reducing the volume of water and wastewater since the 1990s. We use technology that is by global standards highly water-saving and treat the wastewater in our own ► **wastewater treatment plant (BADER 2011)** so that we can discharge it back into a biologically intact body of water. It is not expedient to further reduce the water use, which would probably imply too high concentrations of substances and as result problems in the wastewater treatment. Our sites in China, Mexico, Poland, South Africa, and Thailand pre-treat the wastewater before it is finally treated in municipal wastewater treatment plants. Our site in Uruguay has a final purification process for the wastewater. By means of our centrally-managed development, we ensure that newly developed technologies such as the water-saving retanning technologies are regularly transferred to all BADER plants. The table on the right shows further exemplary measures.

Examples for optimizing water use and wastewater treatment in our leather factories worldwide

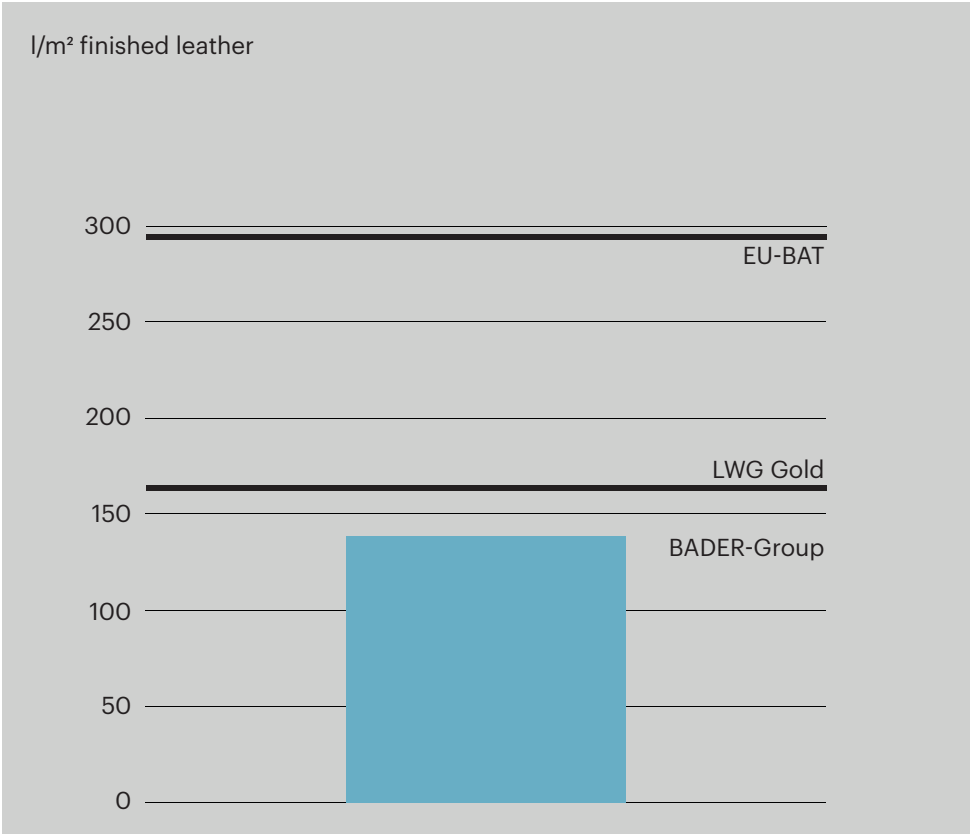
All sites	Since 2008: implementation of water and energy saving drums in retanning
China	2016: Use of recycled water in exhaust air cleaning of spray booths
Germany	1997-2000: Development, testing, and large-scale technical implementation of fully biological cleaning technology with extensive denitrification in combination with salt-free, complete de-sulfidation; currently best available technology; since 2001 listed in the EU-BAT reference documents (EU 2013) as model plant 2006: Conversion of water supply to river surface water
Mexico	2016: Installation of water meters in the finishing process to monitor consumption more precisely
Poland	2017/18: Semi-technical tests for the biological pre-treatment of waste water
South Africa	2017: Conversion to weekly drainage of the spray booth 2017: Wet Blue suppliers install new water pipes with semi-automatic dosing, modernize wastewater treatment, and seal previously unpaved surfaces and their connection to wastewater treatment
Thailand	Since 2016: Monitoring of wastewater
Uruguay	2017: Installation of water meters in the finishing process to monitor consumption more precisely 2018: Use of rain water for cleaning purposes 2017+18: Optimization of wastewater treatment (leading also to reduced energy use and maintenance costs)

We carry out in particular the retanning processes worldwide in similarly optimized processes. We improve new formulas after completion of the leather technology development regarding running times, water use, and chemical use. Our goal is to use easily biodegradable chemicals and maximize their emaciation. The chromium recycling described in the section on chemicals not only reduces the consumption of chemicals but also significantly reduces the amount of chromium in wastewater.

Through these measures, we were able to significantly reduce our water use worldwide. At our leather-manufacturing sites, the aggregated water consumption between 2016 and 2018 for all production stages was less than 135 l per m² of finished leather. We are thus below the strictest **LWG Gold requirements (LWG 2019a)** of 165 l per m² and well below the **EU-BAT standard (EU 2013)** of 285 l per m².

We are pleased that our Wet Blue suppliers in South Africa have been able to qualify for LWG Gold partly in their first attempt in 2018, through good cooperation and extensive measures including optimization of water use and wastewater treatment.

Water use of our leather-manufacturing sites 2016-2018



Energy

The global energy sector is currently marked by upheavals in oil and coal production and the steady expansion of renewable energies. In leather manufacturing, energy consumption is an important factor, especially due to the drying processes. Where this has not yet been done, we are currently switching to generating heating energy directly at the point of use, thereby avoiding heat transfer and transport losses.

We conduct regular internal and external (partly certified) **energy efficiency audits** at our sites worldwide. Five of our seven leather-manufacturing sites (71%) are regularly audited and certified as part of ECO₂L and LWG. At the other sites local authorities carry out energy efficiency audits. Our German sites have also been certified according to ISO 50001 (energy management) since 2015.

Since 2007, we have been analyzing our energy consumption in more detail and consistently deriving short and medium term measures. The table on the right shows further exemplary measures taken in recent years.

Examples for optimizing the energy consumption of our leather factories worldwide

China	Since start of production in 2005: Drying by means of direct gas heating 2016: Installation of an air-based heat pump for employee showers 2016: Installation of modular combined boilers with significantly higher heating efficiency
Germany	Since 2010: Conversion to LED lighting, highly efficient compressed air generation as well as installation of additional heat exchangers for hot water generation and heat recovery from compressor exhaust air 2017: Chimney replacement to further reduce flue gas temperature and installation of a gas connection as the basis for direct gas heating 2017-18: Tests with new drying technologies 2018: Conversion of 2 drying channels to gas direct heating
Mexico	2017-18: Modernization of 6 dry channels (more efficient gas use) 2018: Implementation of a simultaneous maintenance of the dryer line in the retanning process
Poland	2017-18: Installation of a heat recovery system to reduce gas consumption, e.g. for heating
South Africa	2011+2015: New control system for coal boilers 2017: More efficient monitoring of the coal-fired boilers to reduce the coal use
Thailand	Since 2016: Monthly energy report to the government and inspection for emission control of steam boilers
Uruguay	2017: Conversion of compressed air generation to frequency control 2017: Constant monitoring of energy use and emissions

In this context, the ► **ECO₂L (LWG 2019a)** and ► **LWG audit systems (VDL 2013)** with their benchmarks, also play an important role in improving our environmental performance, including energy efficiency (► **Chapter Sustainable Management**). The energy used at our ECO₂L certified sites was well below the energy benchmark **Best Energy Efficiency for Tanning (BEET)**, which reflects our success in the holistic optimization of energy use. BEET is based on the ► **Best available techniques for tanning hides and skins (Umweltbundesamt 2003, VDL 2013)** specified by the EU, in connection with worldwide data from advanced tanneries and enables a comparison of the energy efficiency of production processes and equipment in tanneries.

With regard to energy use, our plants in China, Mexico, and Poland already meet the LWG Gold requirements. At these sites, the conversion of the dry channels to the generation of heating energy directly on site is already well advanced. Since we want to maintain the LWG Gold level also in the face of increasing future requirements, we are continuing to invest in expedient measures.

At our site in Ichenhausen, energy performance is still at the LWG silver level. Since 2010, we have significantly reduced our energy use through various technical measures. By converting our lighting to light-emitting diodes (LEDs), we were able to reduce the energy demand for workplace lighting by 73,000 kWh or 55% annually, compared to conventional fluorescent tubes. In the meantime, LED technology has developed further and is now also suitable for high ceiling lighting. We are in the process of retrofitting our hall background lighting, where we will need 247,000 kWh or 80% less energy annually, compared to high-pressure mercury lamps.

Since 2018, we have been converting our drying plants and the boiler plant to direct gas firing in order to be able to achieve LWG Gold level for energy use at Ichenhausen as well. The implemented and still planned measures will lead to further significant savings, but are not yet reflected due to a temporary reduction in production and the relatively cool winter in the second half of 2018.

Reduced energy use
workplace lighting
55 % in Ichenhausen
2010-2018

Emissions

The ► **most relevant emissions** (e.g. **theSauerReport 2018**) into the atmosphere of a conventional tannery are odor, hydrogen sulphide, ammonia, volatile organic compounds, and greenhouse gases.

BADER pursues consistent chemical and environmental management in order to prevent or minimize the output of these emissions. For decades, we have been investing in technological developments and other measures at our sites worldwide to this effect. The protocols ► **ECO₂L (VDL 2013)** and ► **LWG (LWG 2019a)** are important, science-based instruments for improving industry standards worldwide. ECO₂L focuses on greenhouse gas emissions, while LWG also monitors emissions e.g. from water workshops, boilers, and spraying machines.

We are actively involved in further developing the ECO₂L tool to provide a complete overview of energy use and CO₂ emissions throughout the entire leather manufacturing process (from raw hide to finished leather). We are continuing to detail our data and record it from all plants. Currently, reliable data are available in particular for production, procurement shipments as well as for wastewater, exhaust air, and waste management. A further itemization, such as for chemical manufacturing, is in progress.

Odor emissions come from protein and fat decomposition products from the tanning preparation processes that we specifically produce, e.g. by liming. They mainly occur in the wastewater discharge and treatment of untreated wastewater, in particular from the tanning preparation processes, the latter being the main part. For this reason, measures amounting to EUR 337,000 were already taken in Ichenhausen between 1996 and 2001, including the housing of buffer tanks and the installation of biofilters.

Hydrogen sulphide (H₂S) is a highly toxic gas that can form in process vessels and wastewater treatment plants if process safety measures are not complied with. BADER takes various preventive safety measures to prevent its formation. In risk areas, for example, we measure the presence of hydrogen sulphide. Employees who regularly visit tanneries and wastewater treatment plants are equipped with mobile measuring devices and complete the online course of the Leather Panel of the United Nations Industrial Development Organization (UNIDO). We keep sulphur-containing chemicals and other chemicals as well as liming and deliming fleets strictly separate.

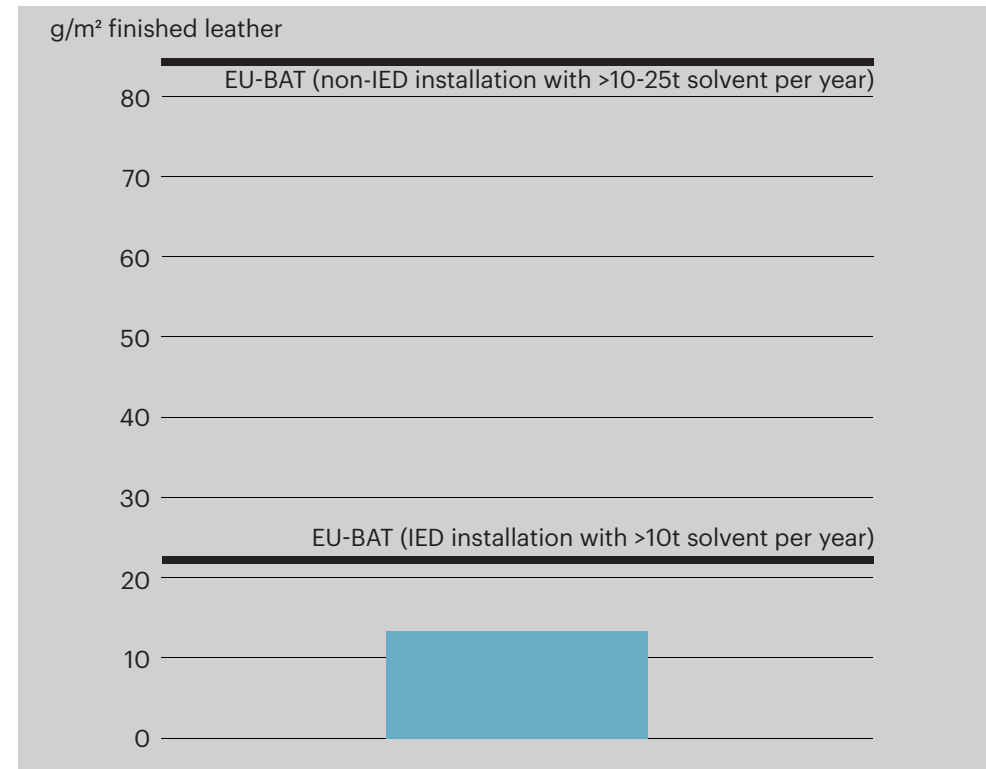
Ammonia (NH₃) is an air pollutant that can damage land and water ecosystems through acidification and eutrophication. Ammonia has not been used for coloring for years. Ammonium salts are only used to the extent necessary for deliming. Ammonia is also produced during the decomposition of proteins in the raw hide, which however, cannot be easily influenced. Therefore, the focus of our reduction efforts is on other types of emissions.

CO₂-emissions 2-3
kg CO₂e/m²
finished leather of the
BADER-group

Volatile organic compounds (VOCs) typically stem from solvents used in the finishing process. The measures already described in the section on chemicals to eliminate the use of solvents, have significantly reduced VOC emissions over the past 30 years. The switch from solvent-based colors and coatings to aqueous systems (according to the definition of the Federal Environment Agency <5% organic solvents) implemented before 1987, has reduced solvent emissions by 94% since then. Between 2016 and 2018, the annual mean values of VOC emissions at our five major leather-manufacturing sites were between 8 and 21 g of carbon per m² of finished leather, mostly well below the limits specified in the ► **Industrial Emissions Directive (IED) 2010/75/EU (EU 2013, 2010)**. We are working on a further reduction.

Greenhouse gases (CO₂e) result primarily from the energy required for drying and the machines in manufacturing as well as the procurement transports of the input materials. In recent years, we have achieved a reduction in carbon dioxide (CO₂) emissions by reducing drying processes and temperatures, using state-of-the-art drying techniques, and many measures described in the section on energy. The ► **carbon footprint (BADER 2015b)** of all processes at the BADER Group amounts to 2-3 kg CO₂e/m² leather. For a better interpretation, it should be noted that these CO₂ values correspond to less than 1% of emissions for the production of an average mid-range car and less than 0.2% of its entire service life.

VOC emissions of our 5 major leather manufacturing sites 2016-2018





Partnering – Shared Responsibility

A more sustainable, long-term leather value creation is only possible if we work together with our customers, suppliers, and various organizations. In this context, issues such as product safety, traceability, animal welfare, as well as environmental aspects are becoming increasingly important in our daily decisions.

- In Focus: Traceability in the Supply Chain
- Interest Groups
- Basis of our Supplier Management
- Evaluation and Development of our Suppliers
- Product Safety and Traceability
- Animal Welfare

Traceability in the Supply Chain



In Focus

In addition to economic and social aspects, the traceability of raw materials is becoming increasingly important in the daily purchasing decisions.

For product safety, certification, compliance, and supply chain communication, it is essential to document the origin and whereabouts of raw materials, semi-finished products, and finished leather. Traceability indirectly and directly influences animal welfare and husbandry, ethically correct and transparent sources, and ecology. In the BADER Group, only hides from domestic cattle are processed.

Through traceability projects, BADER expects to achieve closer communication with customers and suppliers, greater transparency, and more sustainable production. Our customers benefit from more detailed information on the delivered semi-finished products and finished leathers, as well as new marketing opportunities. For BADER, traceability means more than just marking the hides. It begins with the birth of the animal and up to the beef processing plant and of course through the tanning process to the finished leather, the stamped parts and the finished vehicle cover.

However, difficult and often networked trade relations in the international livestock and hide trade, make traceability very complicated. Through strategically directed trade relations and long-term connections, as well as good communication with suppliers, the BADER Group is able to trace over 90% of the raw material up to the beef processing plant. By expanding business directly with the beef processing companies, this proportion will increase in the coming years.

Interest Groups

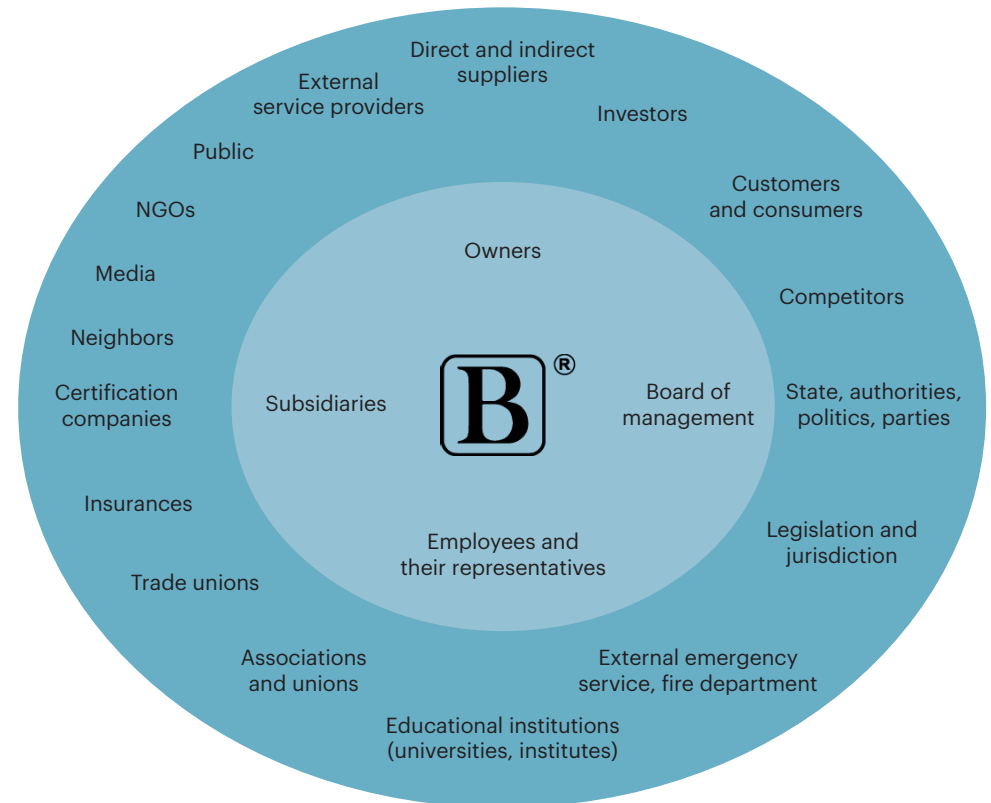
We are convinced that we can often better develop solutions to global challenges by cooperating with various interest groups. Through close and continuous exchange, we identify challenges and develop forward-looking solutions and standards for a more sustainable leather industry. These include our internal and external interest groups.

For example, we are in constant dialogue with our **suppliers and customers** in order to ensure the constantly high demands on product properties and to address challenges such as product safety, animal welfare, traceability, and environmental aspects throughout the entire supply chain. We participate in national and international R&D projects to make leather production more sustainable, for example in terms of the use of chemicals, occupational safety, and emissions.

We actively cooperate with **educational institutions and associations** at our sites in the design and implementation of vocational education and further training. To this end, we work closely with chambers of industry and commerce, research institutes, and universities and, for example, in Germany we are promoting new qualification programs recognized by the chamber of industry and commerce and in the Ukraine and Uruguay, dual vocational training projects (► **Chapter People**).

We are in close contact with **authorities, associations, federations, and certification bodies**. Here, for example, we actively contribute our knowledge to the development of guidelines for international standards, technical documents, or instructions in order to improve safety, environmental, and animal welfare standards for the global leather industry.

Our interested parties



Basis of our Supplier Management

Out of responsibility towards people, society, and the environment, BADER is also committed to more sustainable production along the supply chain. In line with our integrated management system (▶ **Chapter Sustainable Management**), we clearly regulate requirements and responsibilities in specifications and instructions for supplier selection, evaluation, and development. Our purchasing and supplier management teams are responsible for the management of our suppliers for the raw and semi-finished products and all other materials required as well as investments and spare parts for the entire BADER Group. Our sites worldwide are closely interlinked and purchasing for all sites is centrally controlled.

We have firmly anchored our requirements for the sustainable procurement of raw materials in our ▶ **BADER Policy on Corporate Social Responsibility (BADER 2017a)**, which goes beyond legal requirements. We communicate our supply chain strategy and basic principles of conduct in day-to-day practice and business policy to our business partners via our ▶ **Code of Conduct (BADER 2017b)**, our ▶ **Terms and Conditions of Purchase (BADER 2012)**, contracts, as well as chemical, quality, and environmental security agreements with our material suppliers as well as in meetings, audits, and training sessions.

Since 2017, 85% of our suppliers of raw hides and semi-finished products have already signed the Code of Conduct. In the future, we will also refer to the validity of the Code of Conduct in our Terms and Conditions of Purchase, and will urge our suppliers to ensure that their subcontractors adhere to the same principles of conduct.

We receive the raw materials and semi-finished products globally from more than 60 suppliers consisting of raw hide dealers, beef processing plants, and semi-finished product manufacturers. Purchasing of raw materials is one of the most important areas of our production chain, as the raw hide accounts for more than half of the selling price of our finished leather. In addition, BADER works with around 100 chemicals suppliers, 130 suppliers of purchased parts and 1,570 suppliers of all other non-product materials such as machines for our leather, cutting, and sewing plants. These are predominantly located in Europe with a global network of sites that enable us to adapt quickly, effectively, and efficiently to our market. We procure 99% of services locally. Global investments are managed centrally and enable synergies in procurement, logistics, and technology.

Code of Conduct
signed by
2018 **85%**
2017 **80%**
the suppliers of raw hides
and semi-finished products

Our suppliers worldwide



Evaluation and Development of our Suppliers

Due to the global growth of the BADER Group and the resulting complex supply chains, regular evaluation and development of our suppliers is more important than ever.

Our purchasing and supplier management teams oversee and maintain the complex supply relationships to meet the demands of the world’s increasing globalization and the associated complex supply relationships. They provide a solid basis to initiate targeted improvements, make logistics and production more efficient, and make the entire planning process safer and more stable. In this way, BADER has at its disposal a very detailed analysis of the internal plant-to-plant relationships and the complete flow of goods, including purchases from suppliers, which enables to monitor and build up suppliers in a more targeted manner or terminate cooperation.

In addition to purchasing and logistics criteria, requirements such as quality and environmental certifications, the signing of security agreements, and cooperation in the processing of concepts, also flow into our **annual supplier evaluation**. We select suppliers to be evaluated according to the supplier category on the basis of the 80/20 rule related to total volumes, total turnover, or top 5/10 rule. In addition, we evaluate suppliers who have to fulfill a special status or where irregularities have occurred.

Since 2017, we have also been analyzing and assessing risks along the supply chain for raw materials and semi-finished products as part of supplier quality assurance, based on economic, environmental, and social criteria. In exchange with the top management level, we develop risk mitigation strategies from the results.

Supplier evaluation at BADER

Raw materials and semi-finished products suppliers	Chemicals suppliers	Purchased-parts suppliers	Machine suppliers
min. 80% of total volume	min. TOP 10 suppliers	min. 80% total sales	min. TOP 5 suppliers

As a result of the supplier evaluation, we demand improvement measures depending on the status and conduct feedback talks or hold audits, for further development. We see our suppliers as partners and vice versa and rely on cooperation based on trust and dialogue when drawing up action plans.

Since 2017, we have been auditing our suppliers of raw materials and semi-finished products at least once every two years as part of our **supplier quality assurance** program. In addition, regular visits take place and BADER employees are regularly on site at all major raw material suppliers to monitor compliance with our requirements.

We strengthen supply relationships through feedback on deliveries. Wherever possible, we support suppliers in order, for example, to better safeguard processes. A close exchange with suppliers is necessary in order to gain precise knowledge of the properties, characteristics, and origin of the materials used, not to miss market movements, and to be able to react to current developments in the supply chain.

We are also committed to raising sustainability and management system standards in our supply chain, particularly with regard to quality and environmental management systems. In addition, we encourage our contract tanneries and semi-finished product suppliers to have their production sites audited and certified by the LWG (► **Chapter Sustainable Management**). Between 2012 and 2018, more than 65% of our suppliers have already implemented this.

Through all these activities, we are able to address risks and advance important issues in our industry. On the following pages, we will give some examples of product safety, traceability, and animal welfare.

LWG certified
2018 **65%**
2017 **50%**
of the contract tanners
and suppliers of
semi-finished products

Product Safety and Traceability

Our activities to ensure product safety and traceability are also an integral part of our supply chain strategy. Together with our customers and suppliers, BADER is intensively dedicated to product safety and traceability of the materials used to prevent and avoid health risks for employees, customers, and consumers as well as environmental pollution.

We develop innovative alternatives to replace harmful ingredients with alternative substances. Our **product safety officers** (PSO) at our sites worldwide ensure that risks in product development are identified, avoided or minimized and controlled through process development. In this way, safety-relevant features such as low flammability or emissions are ensured for us and our suppliers. In this context, we have been naming our PSOs and their deputies since 2015 and also request them from our suppliers. We now have this information for all key chemicals suppliers and for all suppliers of side airbag materials requiring documentation and the majority of PSO-relevant suppliers.

We use the **International Material Data System** (IMDS) of the automotive industry to provide our customers with information on the materials used in the semi-finished products and parts in order to enable a holistic picture of the end product. This is accompanied by extensive random and periodic inspections of leather ingredients and emissions.

In our list of prohibited and declarable substances - called **BADER Black List** - substances, materials, and material groups are listed which must not be contained in the products and articles delivered to us. This list is based on legal regulations, customer requirements, and further requirements we have defined for our suppliers. In order to ensure this, we strive to conclude chemical, quality and environmental security agreements with each of our suppliers of chemicals and purchased parts. In addition, we carry out incoming goods inspections at the sites to ensure the quality of the goods delivered.

By means of markings on each semi-finished and finished product, we are able to trace the entire production process chain in our plants back to the raw material. Further **traceability** of hides is also becoming increasingly important as it influences animal welfare and husbandry, ethically correct and transparent sources, and ecology. By a complete documentation and marking of the hides, we can assign individual hides to the supplier at any time in the production process and trace the origin of the hides. We are constantly developing our traceability system through strategically controlled trade relations and intensive partnerships with suppliers.

Animal Welfare

The BADER Group, only processes hides from domestic cattle. Due to detailed demands on the properties of raw hides, we can rule out that hides from wild animals listed in the ► **Washington Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES 1983)** are processed. The size of the raw hides varies according to breed, weight, and sex. On average, we process hides with a finished leather surface of 4.2 m² that come exclusively from weaned, fully grown cattle.

Long-term, sustainable economic growth is only possible if animal welfare is taken into account. Today's EU animal welfare policy is based on the concept of the ► **„Five Freedoms“ of the Farm Animal Welfare Council (FAWC) (FAWC 2012)** illustrated below, which originated in Great Britain and is also used by BADER.

Five Freedoms (FAWC 2012)

Freedom from hunger and thirst
Freedom from discomfort
Freedom from pain, injury and disease
Freedom to express normal behaviors
Freedom from fear and stress

As a logical consequence of our responsibility towards society and the environment, respecting animal welfare throughout the supply chain back to the raw hide suppliers is an important prerequisite for mutual and sustainable action. We deliberately refuse raw materials from countries with insufficient controls and traceability as well as a high risk of non-compliance with animal welfare.

By focusing on the main procurement markets of Australia, Europe, North America, and South Africa, we ensure that cattle are bred, kept, transported, and slaughtered under the best possible conditions. In Australia, Europe and North America, animal welfare and animal protection are comprehensively regulated in laws, regulations, and official controls. South Africa has identified gaps in its animal welfare legislation and is in the process of updating it to meet international competition. Our South African suppliers recognized this trend years ago and have long been producing according to European and US standards.

To evaluate animal welfare and animal protection, our raw material purchasing staff regularly visit beef processing plants and agricultural operations, keep internal checklists, and document the animal welfare standards, activities, and developments of our suppliers. Animal welfare aspects are taken into account in the selection of our suppliers and will play an increasingly important role in the evaluation process of raw hide sources in the future. The implementation of these into our local purchasing conditions and sustainability strategy is in progress. In addition, we participate in the LWG's Animal Welfare Group and discuss and promote activities to improve animal welfare and animal protection on a global level.



Indexes

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Index of UN Principles and Goals

UN Principles

Principle 1:
Support and respect human rights



Basis / Goals
Social commitment

Activities and Results

The BADER group and the „Hans-Bader-Stiftung“ support research, employment, health, safety, and welfare of young and older people worldwide.

Principle 2:
No complicity in human rights abuses



Basis / Goals
Ensure fair working conditions

BADER's company and personnel management work proactively with the employee representatives – including on collective agreements.

Principle 3:
Uphold freedom of association and recognition of collective bargaining rights



Basis / Goals
Promote and maintain employment

BADER is keen to keep employees and take on external workers.

Principle 4:
Elimination of all forms of forced and compulsory labour



Basis / Goals
Promote health and safety

BADER offers regular safety training and health programs and analyzes processes and safety equipment.

Principle 5:
Abolition of child labour

At all sites there are first responders and professionals for occupational safety who are trained regularly.

Principle 6:
Elimination of discrimination in respect of employment and occupation

For serious occupational accidents, there is a mandatory reporting procedure.

Between 2019 and 2021, we plan to introduce ISO 45001 certification for occupational health and safety management at four sites. The results of the findings benefit all of our subsidiaries.



Basis / Goals
Promote education and training

BADER has a portfolio that offers a wide range of in-company education and advanced training – 2018 the training ratio in Germany was 5.2% and the further training rate worldwide was 18 h per employee.



Basis / Goals
Promote diversity and equality of opportunity

BADER promotes its employees equally, regardless of their age, level of education, nationality, etc. – in 2018, the worldwide average age of employees was 36 years, the proportion of female employees worldwide was 55%, the proportion of foreign employees in Germany was 32% and the percentage of disabled employees in Germany was 2%.



Index of UN Principles and Goals

UN Principles

Principle 7:
Support a precautionary approach to environmental challenges

UN Goals Basis / Goals



Holistic optimization of the use of raw materials, chemicals, energy, water, wastewater, solid waste, and air emissions

Integrated management system with certifications based on different international standards that include ecology

Activities and Results

BADER researches and develops its products and processes continuously, in order to optimize the use of resources and the resulting emissions for water, soil and air – between 2010 and 2017 at our Ichenhausen tannery site

- We used 7-8 kg raw material per m² leather
 - We used 200-300 kg of chemicals per t of raw materials used (EU BAT: 425 kg)
 - We used 135 l water per m² finished leather (LWG: 165 l/m², EU BAT: 285 l/m²)
 - We recovered more than 98% of the resources used materially or thermally
- The carbon footprint of the BADER group amounts to 2-3 kg CO₂e per m² leather, the VOC emissions of the five major leather-manufacturing sites amount to 8-21 g carbon per m² leather (EU BAT 22 g for IED installations, 85 g for non-IED installations).

- We are in the process of gradually introducing certification – at the end of 2018 we had
- 73% of our sites certified according to ISO 14001
 - 18% of our sites certified according to ISO 50001
 - 71% of the leather manufacturing sites certified according to ECO₂L that also have better values than those specified in the BEET energy benchmark
 - 71% of the leather manufacturing sites certified according to LWG, including 3x LWG Gold and 2x LWG Silver
- For 2019, we are planning further site certifications according to ISO 45001, ECO₂L, and LWG.



Index of UN Principles and Goals

UN Principles

Principle 8:
Undertake initiatives to promote
greater environmental responsibility

Basis / Goals

Establishing a more sustainable
supply chain

Animal welfare

Product safety and traceability
of materials used

Activities and Results

BADER promotes sustainability in its business worldwide with more than 60 suppliers of raw materials and semi-finished products, 100 chemicals suppliers, 130 suppliers of purchased parts, and 1,570 suppliers of non-product materials by:

- Defining basic principles of conduct in our Code of Conduct for our Business Partners
- Defining our supply chain strategy as part of the Terms and Conditions of Purchase, contracts, and agreements
- Assessing risks in the supply chain and developing strategies for risk mitigation
- Conducting regular supplier evaluations and on-site visits

Between 2012 and 2018, more than 65% of our raw material and semi-finished product suppliers introduced the LWG certification.

BADER deliberately refuses raw materials from countries with insufficient controls and traceability, as well as a high risk of non-compliance with animal welfare laws.

BADER employees responsible for procuring our raw materials regularly visit abattoirs and livestock farms where they keep internal check lists and document the animal welfare standards, supplier activities, and developments.

We incorporate animal welfare aspects when selecting our raw hide suppliers. In future, this will become increasingly important in the evaluation process of raw hide sources.

BADER is dedicated to product safety and traceability through:

- Notifications about the product safety officers of our sites to our customers and inquiries to our suppliers
- Use of the „BADER – Black List“, a list of banned substances
- Entering the materials employed in the IMDS
- Tracking of the semi-finished and finished products back to their raw materials – R&D projects are currently underway to further traceability back to the livestock owner



Index of UN Principles and Goals

UN Principles

Principle 9:
Develop and diffuse environmentally friendly technologies

Principle 10:
Work against corruption

UN Goals Basis / Goals



R&D initiatives and technology transfer

Integrated Management System with certifications based on different international standards that include products

Commit to legal and fair competitive behavior

Dealing with complaints

Activities and Results

BADER is always looking for new ways to achieve a high-value material use of raw hides and now markets many co-products such as split leather, dog chewing articles, Kollamat®, gelatin, collagen, LEFA, and fertilizer.
BADER develops more sustainable products and processes at individual sites and, after successful testing, gradually implements them worldwide – at the end of 2018, 45% of our projects were motivated by sustainability aspects beyond technical-economic aspects.

Supporting

- 100% of our sites are certified according to ISO 9001 / ISO/TS 16949
- 10% of our sites are certified according to ISO 17025, the accreditation of 2 further sites is planned for 2019

Implementation and control through our Corporate Social Responsibility Policy, integrated management system, management reviews, training, supplier meetings, and audits.

There were and are no legal proceedings pending against BADER. No penalties were imposed, nor have any been threatened or are to be expected.

Any party affected can contact our complaints office, supervisors, or employee representatives.



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Abbreviations

BAT	Best Available Technique	HIV/AIDS	Human ImmunoDeficiency Virus/Acquired Immune Deficiency Syndrome
BEET	Best Energy Efficiency for Tanning	HVLP	High Volume Low Pressure
CCS	Competence Center Sustainability	IED	Industrial Emissions Directive
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora	IMDS	International Material Data System
CO ₂	Carbon Dioxide	LED	Light Emitting Diode
CO ₂ e	Greenhouse gases in CO ₂ equivalents	LEFA	Leather Fiber (German: Lederfaser)
COD	Chemical Oxygen Demand	LWG	Leather Working Group
CSR	Corporate Social Responsibility	NH ₃	Ammonia
DIN	German Institute for Standardisation (German: Deutsches Institut für Normung)	PSO	Product Safety Officer
ECO ₂ L	Energy Controlled Leather	SDG	Sustainable Development Goals
FAWC	Farm Animal Welfare Council	UN	United Nations
GADSL	Global Automotive Declarable Substance List	UNIDO	United Nations Industrial Development Organization
H ₂ S	Hydrogen Sulphide	VDL	German Leather Federation (German: Verband der Deutschen Lederindustrie)
		VOC	Volatile Organic Compounds WLTP Worldwide Harmonized Light Vehicles Test Cycle



Legal Notice and Contact



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Additional information on BADER and
its commitment to sustainability is
available here: www.bader-leather.com

