

We help things grow. Environment and responsibility  
3. Sustainability Report



## About the report

In its third Sustainability Report, AGRAVIS Raiffeisen AG reports on sustainability issues from 2014 and 2015. It also includes updates and additions to the existing sustainability key business figures. The presentation of the content is based on issues identified as important from the various business areas in which AGRAVIS operates. The goal is to provide transparent and detailed information about the company and its responsibility to balance economic profitability, environmental compatibility and social acceptance in its business operations.

The current AGRAVIS sustainability report covers calendar years 2014 and 2015, i.e. the period from 1 January 2014 to 31 December 2015. The previous report was published in June 2014. AGRAVIS updates and publishes its sustainability data biennially. The contacts for any questions on the report and its content can be found in the Company Details.

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The information and data in this report refer exclusively to the fully consolidated German locations and companies of AGRAVIS Raiffeisen AG. Any discrepancies where this is not the case are indicated by a footnote at the bottom of the page or a note below the tables and figures. The AGRAVIS Sustainability Report 2014/2015 covers all the issues and areas of operation that are important for AGRAVIS and is no longer limited to individual topics.

The environmental effects of transport at AGRAVIS (indicator G4-EN30 "Logistics") have been re-evaluated and the analysis of these is therefore presented differently. This is thanks to an improved basis for calculating the tonne-kilometres and the development of a basis for calculating the transport emissions. Information from previous sustainability reports is not reproduced. There is no change to the scope and limitations of the reported indicators compared to previous reports. However, the report includes some new issues and excludes others, so that now only the aspects that are important for AGRAVIS are covered. New issues are raw materials acquisition at AGRAVIS agricultural centres, trading and utilisation of afterproducts and by-products, energy intensity and intensity of greenhouse gas emissions, the AGRAVIS waste management concept, product management to reduce the environmental effects of feed, training of employees, quality management in the seeds segment, the results of customer surveys and other voluntary indicators. Water consumption and product declaration and information are no longer covered in this report.

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The report was created "in accordance" with the Global Reporting Initiative (GRI) G4 Guidelines ("Core" option). The report was submitted for the GRI Materiality Disclosures Service, and GRI confirmed the correctness of the locations of the G4 Materiality Disclosures (G4-17 to G4-27). In addition, selected information and key business figures from the Sustainability Report 2014/2015 have been audited by the auditing company Deloitte & Touche GmbH according to the International Standard on Assurance Engagements ISAE 3000 (Revised), Assurance Engagements Other than Audits or Reviews of Historical Financial Information (ISAE 3000 Standard). Audited data and key business figures are indicated in the report by the audit indicator (✓).

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The third AGRAVIS Sustainability Report is aimed at all the Group's business stakeholders. The report aims to address not only business partners and representatives from the political sphere, authorities, non-government organisations and the media, but also primarily employees, investor relations, suppliers, customers and the public and to invite them to engage in an open and critical dialogue.

For the purposes of easy legibility, only masculine word forms are used throughout the text, though these of course refer to both male and female employees in all cases. This report also refers to both AGRAVIS Raiffeisen AG and AGRAVIS. These two terms are used synonymously.

## AGRAVIS Sustainability Programme 2020

Sphere of activity	Significance for AGRAVIS	Topic	Goals 2020 – We aim to:	2015	2016	2017	2018	2019	2020
<b>Flow of goods</b>	The 'Flow of goods' sphere of activity relates to the issues and challenges within the indirect sphere of influence of AGRAVIS, for example in the upstream and downstream supply and value chain. Central issues are quality management and logistics. The main objective of AGRAVIS is to ensure a transparent supply chain across the whole Group by means of suitable quality and supplier management and to ensure that transport by ship and road linked to the company's business activities is in line with market requirements, cost-effective and resource-efficient.	Logistics	... reduce the emissions associated with transport commissioned by AGRAVIS. ... consider sustainability aspects when awarding contracts for transport. ... consider pollution and emission values when purchasing new road vehicles and warehouse vehicles. ... expand ship logistics (according to production and trading volumes).	-1%	-1%	-1%	-1%	-1%	-1%
		Inland waterway transport	... improve sampling dynamics with regard to unwanted substances.	x	x	x	x	x	x
		Feedstuff	... harmonise quality standards at all relevant AGRAVIS locations.	x	x	x	x	x	x
		Seed	... increase the number of analyses in our own seed laboratory.	+10%	+7.5%	+5%	t.b.d	t.b.d	t.b.d
		Supplier management	... optimise supplier evaluation in the feedstuff production segment. ... systematically evaluate grain suppliers of storage volumes stored on farms in the agricultural centres segment.	x	x	x	x	x	x
<b>Resources</b>	The 'Resources' sphere of activity covers aspects related to energy efficiency, greenhouse gas emissions, water consumption, packaging materials, raw materials used, origin of raw materials and recycling of afterproducts and by-products. The goal is to use resources as efficiently as possible. Resource conservation is an issue that can be directly influenced by AGRAVIS and serves as a guideline for the daily activities of employees.	Energy	... increase energy efficiency by 2 percent annually. ... introduce energy concepts at all AGRAVIS locations.	x	+2%	+2%	+2%	+2%	+2%
		Recycling	... increase the quantity of traded and utilised afterproducts and by-products from the food industry. ... assess the purchased raw materials more systematically (for use in feedstuff production).	x	x	x	x	x	x
<b>Personnel</b>	Internal affairs at AGRAVIS are covered by the 'Personnel' sphere of activity. This includes aspects such as workforce structure, employee turnover, accidents at work, training, performance reviews, discrimination and corruption. The goals include promotion of good health, continued professional development of employees and targeted development of managers. AGRAVIS also strives to be an attractive employer of young professionals in its diverse areas of operation, as long-term business success is only possible with motivated and well trained personnel.	Workforce structure	... be an attractive employer in the industry. ... increase the quality and quantity of training.	x	x	x	x	x	x
		Further training	... regularly provide employees and managers with further training.	x	x	x	x	x	x
		Safe working practices	... reduce the number of occupational accidents to a minimum through prevention measures and training.	x	x	x	x	x	x
		Health management	... keep our employees healthy through training and deployment of operational Health and Safety Managers.	x	x	x	x	x	x
<b>Customers</b>	Our 'Customers' sphere of activity includes issues such as product management, sales consultancy, declaration and information as well as data protection. In addition to specific product features, it primarily covers the quality of customer contact and the company's consulting and range of other services. The main objective of AGRAVIS is to contribute to the economic success of our customers and thereby ensure satisfaction of all customers – while at the same time taking into account sustainability aspects.	Consulting concepts	... incorporate sustainability aspects into product management and product evaluation.	x	x	x	x	x	x
		Further training	... offer further training measures for customers.	x	x	x	x	x	x
		Customer survey	... carry out a regular customer survey on issues relevant for the company.	x					
<b>Business environment and challenges</b>	The 'Business environment and challenges' sphere of activity covers a set of issues that fall under the direct responsibility of AGRAVIS, but which, due to their complexity, require social and industry-specific solutions. Examples are the issues of crisis management and social responsibility as well as environmental protection and innovative machinery. The goal of AGRAVIS is to act as an expert partner for tackling business challenges and lead the way in finding solutions to sustainability issues through the use of innovative machinery.	Innovative technologies	... lead the way in tackling sustainability issues through the use of innovative machinery.		x	x	x	x	x
		Stakeholders	... regularly seek dialogue with relevant stakeholders.	x	x	x	x	x	x
		Social responsibility	... support social projects within the region.	x	x	x	x	x	x

x = continuous goal, t.b.d = to be determined

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## Foreword

Dear Readers,

How do companies remain competitive in an increasingly globalised world without losing sight of the fundamental rules?

We have discussed the discrepancy between profit and knowledge with partners, but above all the opportunities to combine these. Thus we already find ourselves at the crux of the matter of sustainability that AGRAVIS has considered systematically for more than six years now. Can business be sustainable? From the perspective of AGRAVIS, I can say that yes, it can – and also wishes to be. The business world must find a balance between economy, ecology, and social responsibility, and act as a role model for society.

AGRAVIS is not a distant global enterprise, but a classic agricultural trade company with a down-to-earth regional approach and a reliable customer orientation. AGRAVIS stands for trust and integrity. This is what we stand for with our 6,300 employees, each of whom communicates the responsibility for correct action, fair interaction, and our company's impact to the outside world. Beside the quality and economic worth of products and services, our company is increasingly being judged according to its values. The values and principles that prevail in Germany, such as honesty, reliability, social market economy, and transparency. We also strive to live by these values at AGRAVIS.

For us, sustainability is not merely a buzzword used in marketing. We take a long-term approach and strive to use resources sparingly. The balance between economy and ecology is important to us – along with the commitment to society. All these aspects are considered within the scope of our possibilities, for we want and must also earn a living and remain profitable to ensure entrepreneurial growth remains possible in the future, and we are able to meet our responsibility as an employer.

We are publishing facts and figures on sustainability for what will be the third time now. In this way we wish to emphasise that we are making good progress towards establishing sustainability as a fixed component within the AGRAVIS world. And even more importantly: we are able to compare figures, deduce trends, and determine prospects for development. The annual comparison of the parameters analysed reveals successes – measurable energy savings at our feed plants, for example. We have succeeded in establishing reliable tools for sustainability reporting across the entire company. The publication of business figures and data once a year is a matter of course for our company. The regular publication of aspects of sustainable activities is by no means the norm though. One of the biggest challenges is undoubtedly that the agricultural industry must show that modern agriculture is sustainable.

For the first time, AGRAVIS will report according to the global GRI G4 guidelines, and cover countless indicators and parameters according to which sustainability is measured in the process. The AGRAVIS sustainability programme focuses on three core aspects: the analysis of key topics, the definition of measurable sustainability goals, and the development of a systematic stakeholder management. We are committed to involving our partners and to working with them to develop a mutual understanding of fundamental issues and sustainability.



Dr. Clemens Große Frie  
Chairman of the Board of Directors

## The company

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AGRAVIS Raiffeisen AG is a modern agricultural trade and services company active in the fields of agricultural products, animal nutrition, crop cultivation, and agricultural technology. It also works in the fields of energy and construction services, and operates Raiffeisen Markets. AGRAVIS is primarily active in Germany in more than 400 locations. International activities take place via subsidiaries and affiliated companies in more than 20 countries, with export activities in more than 100 countries worldwide.

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### Regional links – international activity

Agribusiness is the AGRAVIS Group's core business. The company is also active internationally via subsidiaries and associated companies in the following countries, and particularly within Europe: Bulgaria, China, Croatia, Czech Republic, Denmark, Dominican Republic, El Salvador, Estonia, Finland, France, Great Britain, Hungary, Italy, Latvia, Lithuania, Norway, Panama, Poland, Romania, Russia, Spain, Sweden, Switzerland, and Ukraine. Internationalisation is being pursued in a sensible, moderate manner in order to access future markets and boost profitability.

The core competencies are extensive knowledge of products, structures, influencing factors and requirements within agricultural business; specialist expertise along the entire value chain – including logistics, the flow of goods and storage – as well as high quality standards; and professional, customer and solution-oriented advice.

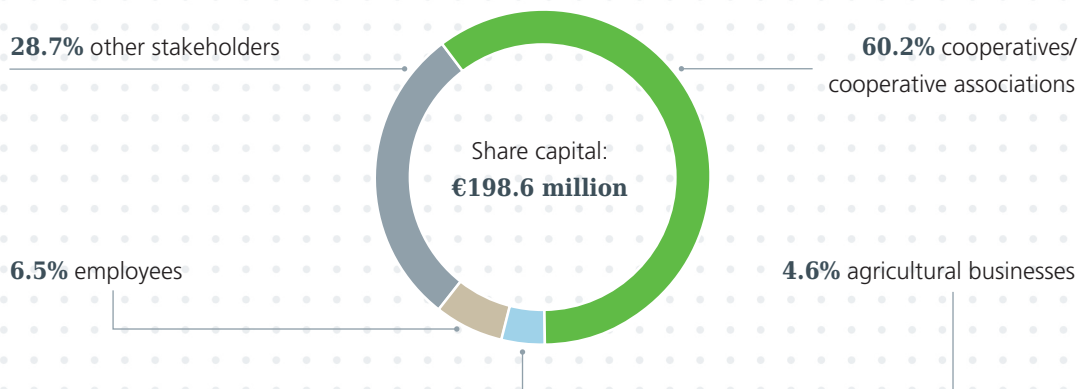
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Financial results 				
	2014		2015	
	In thousands of euros	Comparison to previous year	In thousands of euros	Comparison to previous year
Turnover	7,364,152	▼	6,934,527	▼
Earnings (before tax)	41,716	▼	45,081	▲
Equity capital	461,425	▲	515,130	▲
- of which retained earnings	174,616	▲	188,135	▲
Balance sheet total	1,825,690	▲	1,892,326	▲
Fixed assets	606,665	▲	693,469	▲
Personnel costs	270,814	▲	284,116	▲
Operating/material costs	7,036,395	▼	6,586,350	▼
Dividends	11,702	▲	10,087	▼
Interest	40,520	▲	40,990	▲
Tax	19,231	▼	19,411	▲
Donations	157	▼	175	▲

- AGRAVIS has strengthened its position as one of the highest-grossing agricultural trade and service companies in Europe.
- The company turnover decreased by 1.9 per cent to a good €7.4 billion between 2013 and 2014 and by 5.8 per cent to €6.9 billion between 2014 and 2015.
- Earnings before tax fell 21.6 per cent to €41.7 million between 2013 and 2014. In contrast, earnings before tax increased by 8.1 per cent to €45.1 million between 2014 and 2015.

## Ownership structures



Source: AGRAVIS Raiffeisen AG

(As at 31 December 2015)

## The AGRAVIS Group's business segments

AGRAVIS Group is a diversified company with a decentralised structure whose core business is agribusiness. Its field of activity is divided into six business segments: Plants, Animals, Machinery, Retailing, Construction, and Energy. The Plants, Animals and Machinery business segments relate to agribusiness in the strict sense.

### Plants

The Plants business segment comprises the classic business with crop protection including foils, fertilisers and seeds in addition to the trade in grain, oilseeds, and raw feed materials. AGRAVIS moreover offers customers in this segment comprehensive crop cultivation advice for everything from sowing through to harvesting and marketing. The company has its own test locations and develops its own product concepts. Together with the primary cooperatives, there is comprehensive collective trading across the respective areas of operation. The company trade volume of grain, oilseeds, and raw feed materials totalled around 12.5 million tonnes in 2014 and 12.3 million tonnes in 2015.

### Animals

The Animals business segment comprises three core areas of activity, namely compound feed, special feed products, and animal health. The AGRAVIS Group is a full-service provider that produces feed for all livestock species. In 2014, it produced more than 4 million tonnes of compound feed in its company feed plants and other affiliated plants (2015: more than 4.3 million tonnes). Another major component of the service portfolio is the provision of individual advice for farmers. AGRAVIS is able to provide targeted feed and hygiene concepts. The AGRAVIS Group additionally offers a wide range of veterinary medicines, which are manufactured and sold both in Germany and abroad.

### Machinery

The Machinery business segment offers customers a wide range of products and services to satisfy their agricultural engineering needs. The AGRAVIS Technik Group comprises 26 subsidiaries and affiliated companies in 119 locations. Offers include both the sale of new machines from brands such as Agco (Fendt, Massey Ferguson, Valtra), Amazone, Claas, Dammann, Deutz, Fella, Grimme, Horsch, Krone, Lemken, New Holland, and Pöttinger as well as the national and international sale of used machines through stationary stores and increasingly also online. Comprehensive spare parts and workshop services as well as a regional car dealership with four locations and an affiliated company for truck sales including service complete the activities within the Machinery business segment.

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**Retailing**

The Retailing business segment currently operates 49 Raiffeisen Markets with the core product ranges of pet food and accessories, textiles, equestrian products, aquatic products, gardening, and home and DIY products. The Retailing business segment is complemented with a marketing and consulting agency for the current total of 301 cooperative stores in addition to an advertising agency. AGRAVIS supplies the approx. 1,000 Raiffeisen Markets in the regions as a partner with a comprehensive range of services and products – from wholesale with the relevant Raiffeisen Market products through to product brands and own brands. Among the services offered are also location development, marketing, joint advertising, and market research in addition to further and advanced training. Raiffeisen Webshop GmbH & Co. KG is operated jointly by 35 regional Raiffeisen cooperatives. With the raiffeisenmarkt24.de online shop, an independent sales channel to complement the stationary shop retail business has existed since September 2014.

**Construction**

In the Construction business segment, the company trades in building materials at 11 locations across Germany via three operating companies. The strength of this business segment lies in the high level of expertise in structural work, extensions, civil engineering, and landscaping. As a full-service provider, AGRAVIS completes all tasks involved in project construction – from advice and planning through to the realisation of agricultural trade sites and agricultural buildings as a general contractor. The company has specific expertise in agricultural technology construction, with a focus on grain collection and storage. AGRAVIS also operates a nationwide timber wholesalers.

**Energy**

In the Energy business segment, AGRAVIS bundles its diverse activities as a comprehensive energy trader. This above all involves the trade in classic fuels and lubricants. The company also operates more than 80 of its own petrol. Over 240 petrol stations are provided with comprehensive services through a cooperative association. AGRAVIS and its cooperative partners are members of a nationwide petrol station association. Subsidiaries and affiliated companies also operate in the distribution and sale of wood pellets, grid-bound energy (natural gas and electricity), heating gas, LPG and AdBlue.

**Corporate structure****Area of operation**

AGRAVIS is present at approximately 400 locations in Germany, extending mainly over large parts of North Rhine-Westphalia, Lower Saxony, Saxony-Anhalt, Brandenburg, Schleswig-Holstein, Mecklenburg-Western Pomerania and the surrounding regions. In addition, the AGRAVIS Group operates internationally via subsidiaries and associated companies, and via cooperation and distribution partners, and especially in Europe.

**Sales channels**

AGRAVIS operates via three main sales channels: wholesale accounts for €1.8 billion of the turnover; direct sales for €2.7 billion. In 2015, AGRAVIS generated €2.4 billion in turnover through trade with industry and mills as well as exports.

## Areas of operation

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Source: AGRAVIS Raiffeisen AG

(As at: 31 December 2015)


**2014 and 2015 business years**

AGRAVIS remained on its growth course in both 2014 and 2015, thus asserting its position as one of the largest agricultural trade and service companies in Germany. 2014 brought AGRAVIS respectable returns, with turnover attaining the same level as in the previous year, namely €7.4 billion. Following a turbulent year, earnings before tax dropped to €41.7 million. The number of employees rose to 6,112 at the end of 2014 (a plus of 299).

In 2015, AGRAVIS showed strength despite difficult conditions, closing the year with turnover of around €7 billion. The earnings before tax of €45.1 million were higher than in the previous year. As at 31 December 2015, the AGRAVIS Group employed 6,323 people (a plus of 211). While the turnover developments can largely be attributed to the very low prices for important agricultural products, the price-related declines were counteracted by the increase in market shares, acquisitions, corporations, and alliances in addition to new business activities. Detailed information on developments within the individual business segments can be found in the AGRAVIS business reports.

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<b>Workforce structure</b> 				
	<b>2014</b>		<b>2015</b>	
	Absolute	Percentage	Absolute	Percentage
Total employees*	6,112	100	6,323	100
- of wich agricultural production/wholesale	1,332	22	1,401	22
- of which agricultural retailing	833	13	830	13
- of wich machinery	1,947	32	2,079	33
- of wich retailing/construction/energy	560	9	554	9
- of wich other/services	585	10	598	9
- of wich AGRAVIS Ost	855	14	861	14

\* Of wich employees at foreign locations: 2014 – 336 employees (5.5 percent of the total workforce; 2015 – 343 employees (5.4 percent of the workforce)

### Investments

AGRAVIS made significant investments in both 2014 and 2015, documenting the continued desire to expand and a clear vision of the company's growth course. With around €85 million in 2015 and €92 million in 2014, AGRAVIS has once again kept the volume above the depreciation level. This helps to reinforce the company's competitive edge. At the same time, the basis for higher profitability and further growth were created. Investments were primarily made in the expansion of locations in addition to storage and handling capacities. AGRAVIS invested in all company areas and regions.

### Outlook

AGRAVIS wishes to continue its successful growth course in the coming years. Investments must be kept at a high level to this end and also remain above depreciation in the future. The company intends to continue investing in its locations and infrastructure, but also in process optimisation. The geographical focus remains on its core business area in Germany.

An increase in the net profit margin and equity capital of 30 per cent are further aims. Customer satisfaction and sustained high dividends are top priorities, too. AGRAVIS moreover wishes to continue to present itself as an attractive employer in the future.

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### Guiding principles developed internally

#### Compliance management system

AGRAVIS stands for trust and integrity. One condition for this is that AGRAVIS employees are familiar with the common values and corresponding regulations. Furthermore, as a continuously growing enterprise, AGRAVIS relies on the trust of customers, suppliers, stakeholders, and investors. This trust is based on compliance with consistently high standards. This includes adherence to legal provisions and internal regulations. To support employees in this task, the Board of Directors introduced a compliance management system in 2013. This above all includes a compliance organisation headed by a compliance officer, reporting with an external contact, training, and the AGRAVIS code of conduct.

#### Code of conduct

The AGRAVIS Group's code of conduct informs on the legal requirements that today apply for companies and employees. Aspects such as anti-corruption, antitrust laws, unfair competition, product safety, environmental protection, and data protection and security are outlined in a comprehensible manner. The code of conduct is binding for all employees. More importantly, however, the code of conduct outlines what AGRAVIS believes are the most important values in everyday business. These include fairness, mutual respect, honesty, and integrity. The guiding principle is that employees' action shapes the corporate image. With the code of conduct, AGRAVIS fosters a corporate culture that allows employees as well as customers and business partners to address their issues and concerns openly and directly.

Since the end of 2015, a summary of the AGRAVIS code of conduct has been freely available on the company website (www.agravis.de). The code of conduct has also been integrated into the AGRAVIS "General Terms and Conditions of Purchase", which is one of the aims of the company's 2020 sustainability programme. AGRAVIS suppliers were consequently also asked to familiarise themselves with the code of conduct and to adhere to the stipulations contained therein.

### Memberships of AGRAVIS Raiffeisen AG

AGRAVIS Raiffeisen AG and its managers and employees are members of a number of different interest groups.

These include:

- Bundesverband der Düngermischer – Federal Fertiliser Blender Association
- Bundesverband Deutscher Pflanzenzüchter – German Plant Breeders Association
- Bundesverband Regenerative Mobilität – Federal Association of Regenerative Mobility
- Bundesvereinigung Logistik – German Logistics and Supply Chain Management Association
- Deutscher Franchise Verband – German Franchising Association
- Deutsche Landwirtschaftsgesellschaft (DLG) – German Agricultural Society
- Deutscher Raiffeisenverband (DRV) – German Association of Raiffeisen Cooperatives for the Agricultural and Food industry
- Intercoop House and Garden Cooperative
- Internationale Forschungsgemeinschaft Futtermitteltechnik – Research Institute of Feed Technology of the International Research Association of Feed Technology e.V.
- Regional farmer and interest groups
- Regional cooperative associations
- UNITI Bundesverband mittelständischer Mineralölunternehmen – German Association for the Fuel, Lubricant and Heating Sectors
- Verband deutscher Sicherheitsingenieure – German Association for Occupational Safety, Health and Environmental Protection

The DRV is the main representative of AGRAVIS Raiffeisen AG's interests. The Chairman of the AGRAVIS Board of Directors, Dr Clemens Große Frie, is also Vice President of the DRV and a member of the Executive Committee. AGRAVIS Raiffeisen AG representatives are also members of a variety of DRV committees and commissions in addition to the regional cooperative associations.

As a member of the aforementioned associations, AGRAVIS Raiffeisen AG commits to comply with the respective agreements, principles, and codes of conduct defined. With regard to sustainability reporting, AGRAVIS refers to the reporting principles of the Global Reporting Initiative (GRI).

### Management structure

The members of the Board of Directors of AGRAVIS Raiffeisen AG are Dr Clemens Große Frie (Chairman), Dirk Bensmann (Board Member), Christoph Kempkes (Board Member), Johannes Schulte-Althoff (Board Member), and Hans-Georg Bruns (Deputy Board Member). The Supervisory Board serves as the control committee. It comprises a total of 16 members, eight of whom are elected by the company employees, with a further eight elected by the company shareholders at the company's annual general meeting. Franz-Josef Holzenkamp has been the Chairman of the Supervisory Board since 2012. Among the key tasks of the Supervisory Board are appointment of the board members, decisions on acquisitions and investments, and review of the annual report.

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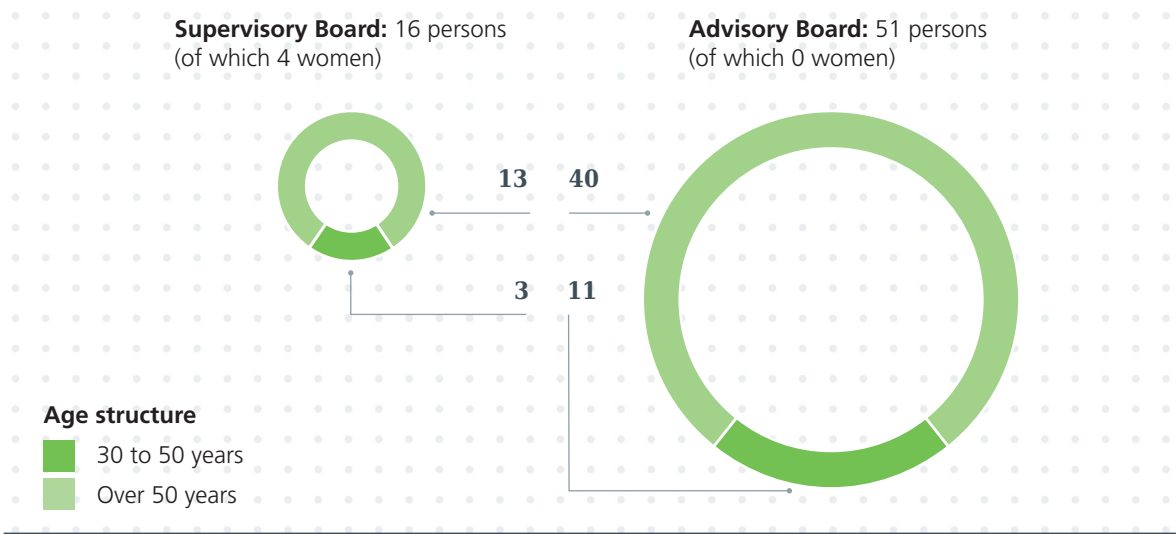


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One further executive body at AGRAVIS Raiffeisen AG is the Advisory Board comprising a total of 51 members. The Advisory Board is tasked with advising the Board of Directors on company policy and decisions, with particular attention to regional interests. It is chaired by Joost Meyerholz.

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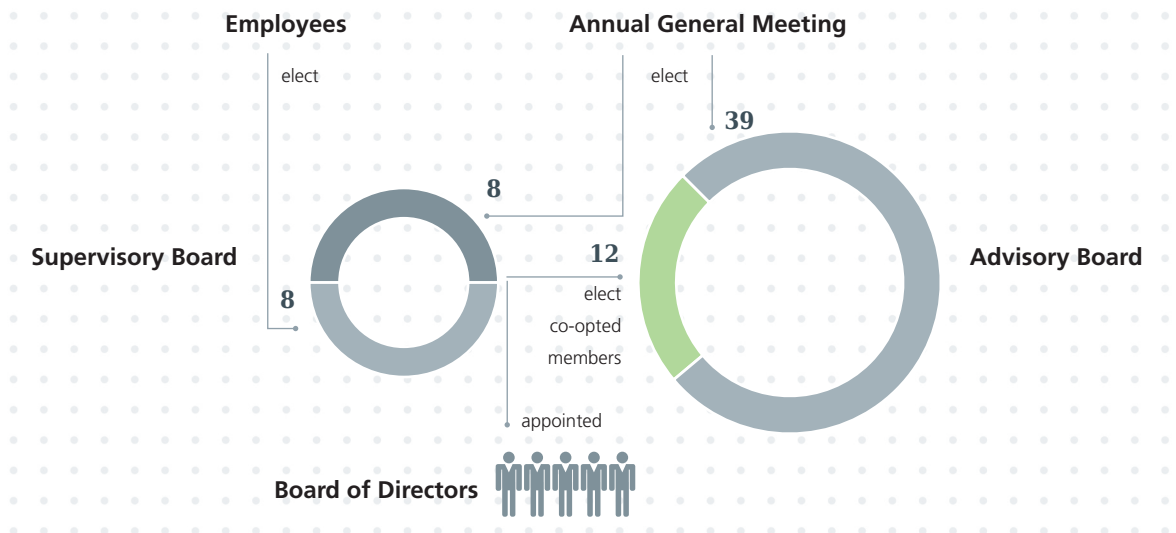
**Composition of the management bodies**



Source: AGRAVIS Raiffeisen AG

Beside the Board of Directors, Supervisory Board, and Advisory Board, there are also a number of Supervisory Board committees, for example a personnel committee and an investments committee, which prepare the decisions of the Supervisory Board. The area managers make up the management level below the Board of Directors. They meet with the Board of Directors once a month in a management information round.

**Management bodies and committees**



Source: AGRAVIS Raiffeisen AG

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**Crisis management**

A crisis management system has been set up for the AGRAVIS Group to support AGRAVIS Raiffeisen AG and its subsidiaries and affiliated companies in the handling of crisis situations. A definition in addition to the key characteristics of the crisis management system of the AGRAVIS Group have been compiled in company guidelines.

A crisis situation exists if the operational and business processes are affected to such an extent that the health of employees or consumers is at risk or the economic interests of AGRAVIS are threatened. Crisis management is necessary to handle this type of crisis situation.

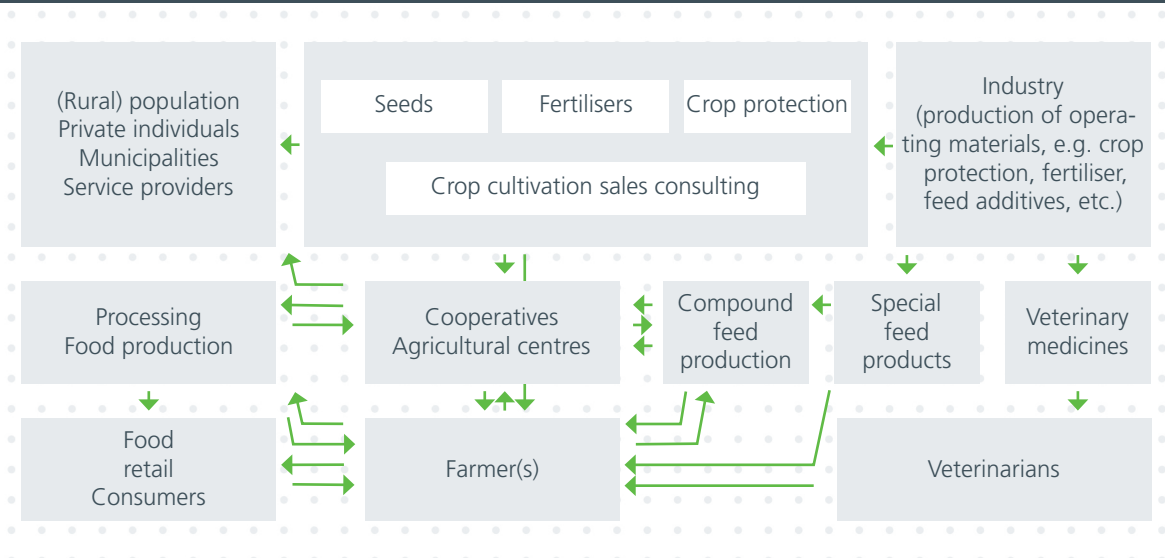
Among the core tasks of crisis management is the handling of procedural processes and expertise in addition to responsibilities in the event of a crisis, professional communication, and maintenance/restoration of the key operating procedures.

**Supply chain at AGRAVIS**

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AGRAVIS Raiffeisen AG is active in a number of different business segments. As a consequence, the value and supply chains at AGRAVIS are extremely complex. The core business of the AGRAVIS Group in the Plants and Animals business segments and the associated supply chain is shown below. The supply chain for the AGRAVIS Group's Machinery, Construction, Retailing, and Energy business segments are not shown.

**AGRAVIS supply chain (Plants and Animals business segments)**



Not included: Construction, Energy, Machinery, Retailing business segments

Source: AGRAVIS Raiffeisen AG

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**Entrepreneurial precaution: risk management**

AGRAVIS Raiffeisen AG has implemented a risk management system to comply with the Law on the Control and Transparency of Enterprises (Gesetz zur Kontrolle und Transparenz im Unternehmensbereich, KonTraG) for joint-stock corporations.

The risk management system is a central component of corporate management, and has been integrated into all business processes at AGRAVIS Raiffeisen AG. Risk management is coordinated by the group controlling and the Group's internal audit. It serves the timely recognition of potential opportunities and risks affecting the company group (principle of entrepreneurial precaution). Beside the systematic consideration of risks, the timely limitation of losses is a further core aspect of risk management. It therefore helps to boost company performance and company value.

The risk management system of AGRAVIS Raiffeisen AG consists of three pillars:

1. Principle of sustainability: the overall group risk should not exceed a defined maximum level.
2. Ad hoc reports from the business segments to forward all significant risk changes to superiors and decision-makers as quickly as possible.
3. Weekly early warning reports on markets with a particularly high impact on everyday business.

## Strategy and management

Globalisation, climate change, the demographic shift, and technological advances: the subject of sustainability is permeating a growing number of areas of our lives. On the one hand, it is a social responsibility; on the other, above all a business necessity. Sustainability has become an important concern for many companies – in entirely different forms, for there is no standard process for sustainability. As an agricultural trade and services company, AGRAVIS is taking its own approach with an individual and networked sustainability programme. The aim is clear: AGRAVIS is preparing for the future, and actively helping to shape this with its activities in the field of sustainability.

AGRAVIS does not act alone, however. Rather, as a trading and services company, it sees itself as a part of and partner to the value chain. Stakeholders in the agricultural and feed industries are called upon to link aspects of sustainability, and to develop a mutual understanding as well as to seek environmentally-friendly and socially acceptable solutions for sustainable production. A number of stakeholders from the agricultural industry are actively promoting the responsible use of resources, and regularly present their results to the public in sustainability reports. Reliable reporting helps to create trust among partners and customers.

Sustainability management at AGRAVIS is valuable work, for a report above all provides one thing: hard business facts. AGRAVIS benefits from the extensive yet fruitful collection of data within the company. Processes and structures are continuously optimised, and contribute decisively to the energy efficiency and profitability, for example. Furthermore, sustainability management has been permanently integrated into the service areas and operative business segments.

### Third AGRAVIS Sustainability Report

In the present Sustainability Report, AGRAVIS Raiffeisen AG informs for what is now the third time on activities in the field of sustainability. Beside further development of the AGRAVIS sustainability concept, this includes the consistent integration of sustainability management into all business segments. Moreover, all aspects from the 2014 and 2015 business years of relevance to sustainability are reported on. Whereas the first two reports focused on key issues from the different areas in which AGRAVIS is active, the focus is now on leading issues from all operative business segments. In the case of both established and newly-introduced sustainability indicators, a comparison of the figures analysed with the previous year is possible, which in turn allows trends to also be discerned.

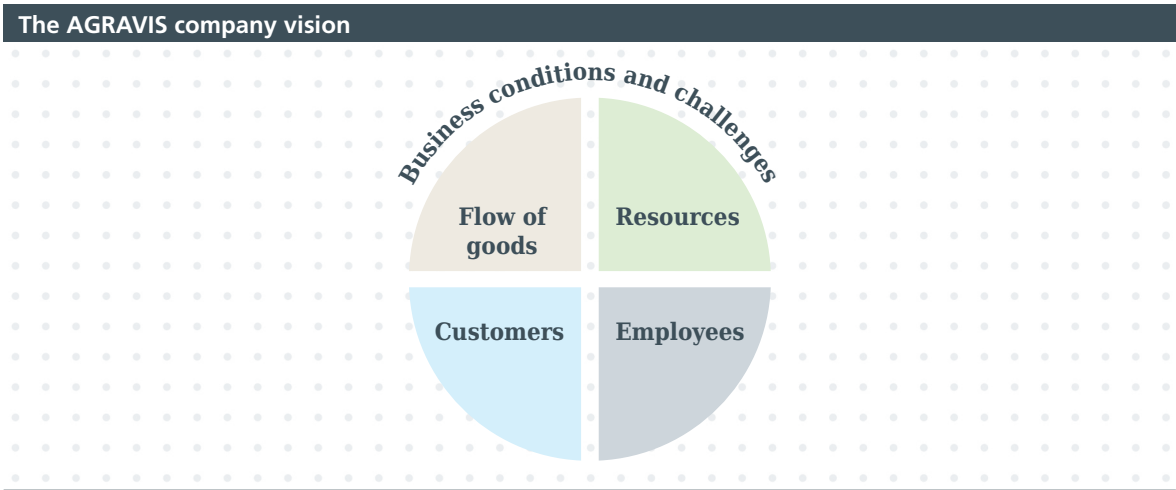
When preparing the report, the latest guidelines on sustainability reporting of the Global Reporting Initiative (GRI) and the associated tasks were particularly challenging. The GRI guidelines comprise fundamental principles, standard information, and an implementation guide for sustainability reporting for all enterprises regardless of their size, industry, or location. In the GRI G4 guidelines, emphasis is placed on the principle of materiality. For implementation, this means that all issues of relevance to AGRAVIS must be identified in an elaborate process involving internal and external stakeholders. The AGRAVIS sustainability concept has been developed further. Thus, a sustainability programme with measurable goals has been defined, and an action plan developed for consistent dialogue with the stakeholders of AGRAVIS Raiffeisen AG.

The AGRAVIS sustainability concept will be described in detail in the following section, and serve as the starting point for transparent and comprehensible sustainability management that facilitates long-term sustainable development of both the company, its business environment, and the stakeholder groups.



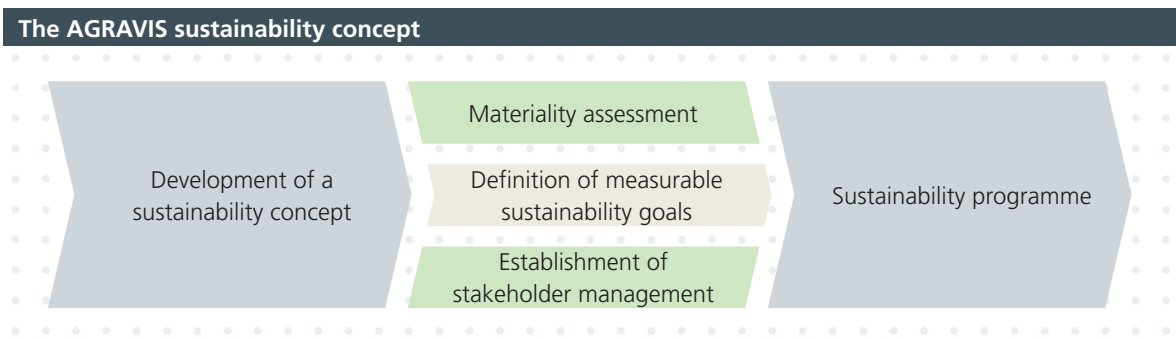
**The AGRAVIS company vision and sustainability concept**

All issues, aspects, and opinions of relevance to the subject of sustainability are summarised in five fields of action within the AGRAVIS company vision. The fields of action been selected to reflect the essential areas and procedures in the value chain of an agricultural trade and services company such as AGRAVIS. The five fields of action moreover serve as the basis for sustainability reporting.



Source: AGRAVIS Raiffeisen AG

At AGRAVIS, the subject of sustainability is considered an integral component of business activities. Current and future issues are consequently also oriented to the AGRAVIS corporate strategy. The AGRAVIS sustainability concept essentially covers three core aspects, namely the analysis of key topics, the definition of measurable sustainability goals, and the development of systematic stakeholder management.



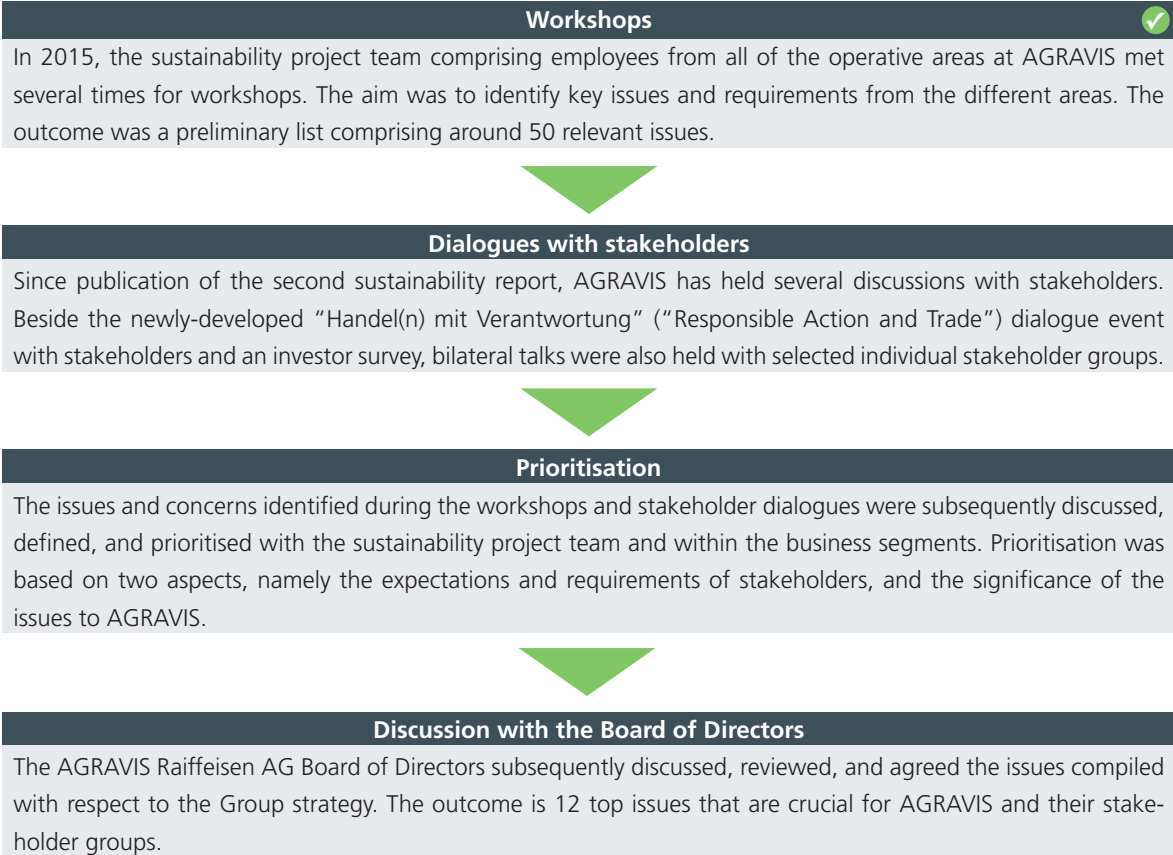
Source: AGRAVIS Raiffeisen AG



**Key issues**

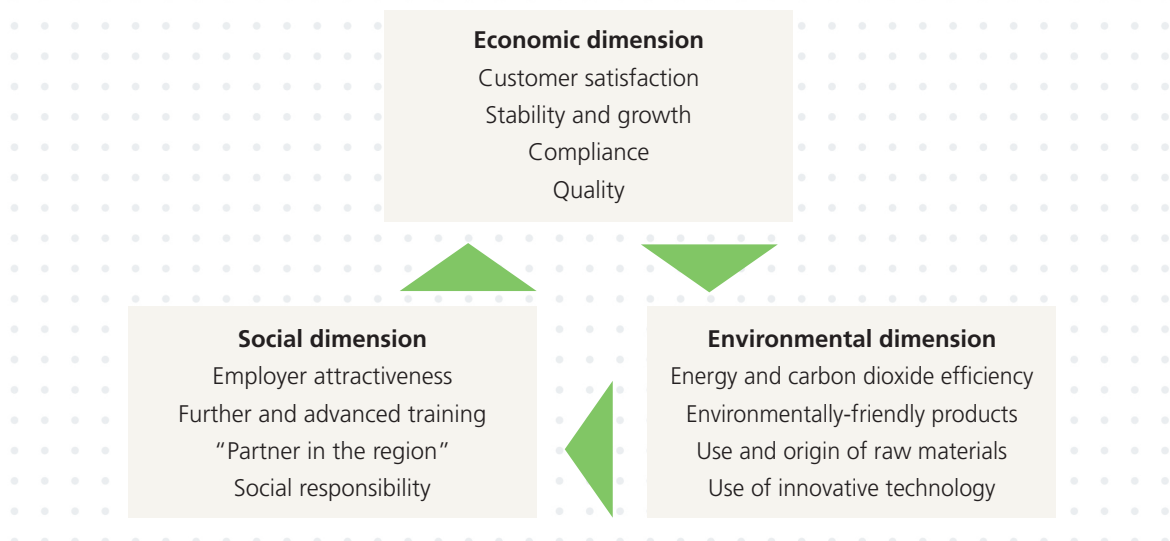
The identification of key issues of relevance to sustainability for the sustainability report were influenced by three developments, one of which are the new requirements of the Global Reporting Initiative (GRI) for sustainability reporting. The updated guidelines of the GRI G4 pay close attention to the materiality assessment process. A 2020 sustainability programme containing relevant goals in addition to systematic stakeholder management have moreover been developed at AGRAVIS in the course of expansion of the sustainability activities. These two developments also had a significant impact on the analysis of key issues.

Key issues and limitations were identified in a complex, longer-term process:



G4-19

## Key issues



Source: AGRAVIS Raiffeisen AG

G4-20

G4-21

For AGRAVIS Raiffeisen AG, sustainability means balanced consideration of economic, environmental, and social factors. A total of four key aspects have been identified for each of the three economic, environmental, and social dimensions of sustainability, which currently form the focus of sustainability activities at AGRAVIS. These 12 aspects are fundamental to all internal and external AGRAVIS Raiffeisen AG companies. The relevance of the issues prioritised within the sustainability programme can differ within AGRAVIS business segments and business regions. In light of recent events and developments, greater emphasis may be placed on certain topics for a specific period. With the aim of achieving sustainable business development, a long-term focus on the topics is particularly important to AGRAVIS.

### Sustainability goals

The sustainability-relevant goals are detailed in the AGRAVIS 2020 sustainability programme. They relate to aims to achieve by 2020 in the most important aspects within the five fields of action.

With regard to the "Flow of goods", these are logistics and inland shipping, quality management for feed and seeds, supplier management, and a sustainable supply chain. In the "Resources" field of activity, targets have been set for energy consumption and recycling; for the "Employees" field of activity, the focus is on targets relating to the workforce structure, training measures, occupational safety, and company health management. With regard to the "Customers", targets have been formulated for advice concepts, training measures, and customer surveys. Innovative machinery, stakeholder management, and social responsibility form the focus in the "Business conditions and challenges" field of activity.

The following five core aims currently form the focus of the AGRAVIS sustainability programme:

- Efficient use of energy resources and a reduction in company energy consumption.
- Avoidance of transport-related emissions through market-appropriate but at the same time cost and resource-efficient logistics.
- Increased use of by-products in feed production at AGRAVIS.
- Standardised group-wide QM standards to safeguard internal and external quality requirements, and a group-wide, transparent supply chain.
- AGRAVIS strives to remain an attractive employer, as long-term – and thus also sustainable – business success can only be achieved with highly-motivated and well-trained employees.

The AGRAVIS sustainability programme will continuously be developed and adapted, allowing the latest developments to also be taken into account. The objectives previously often described in terms of their quality should also be developed into clear and measurable goals, which also serve company control and management in addition to the actual sustainability management.

### **Stakeholders**

As an agricultural trading and services company in the agricultural value chain, AGRAVIS is accountable to different stakeholder groups, and strives to cater to its stakeholders' concerns in its role as a wholesaler, grain supplier, and customer advisor. Recognising the stakeholders' needs and expectations is one of the most important requirements for long-term, sustainable company success. The stakeholders have a decisive impact on the company reputation, and influence development of the sales markets as well as the regulatory framework conditions.

The sustainability project team and the respective responsible area managers and board members have identified the stakeholder groups of relevance to AGRAVIS. A preliminary concept for consistent stakeholder management has moreover been developed. The issues and concerns of the different AGRAVIS stakeholder groups have been identified, and contact with the according stakeholders systemised. The aim is to understand the expectations of the stakeholder groups, and to include these in the dialogue on sustainability-relevant aspects at AGRAVIS. AGRAVIS hopes to boost understanding for its positions and actions in this way, and wishes to reflect the stakeholders' suggestions in the AGRAVIS sustainability programme accordingly – as well as in everyday business.

The main stakeholders and their significance to AGRAVIS are listed in the table below. Details of the stakeholders' expectations and their inclusion by AGRAVIS is also shown.

G4-24

G4-26

**AGRAVIS stakeholder management**

Stakeholder	Significance	Expectations	Involvement
Shareholders (e.g. cooperatives)	Shareholders and partners in the cooperative promotion obligation	<ul style="list-style-type: none"> <li>- Positive annual results (dividends)</li> <li>- Sustainable business development</li> <li>- Needs and sales coverage</li> <li>- Co-determination and information exchange</li> </ul>	<ul style="list-style-type: none"> <li>- Supervisory Board and works council based on parity</li> <li>- AGRAVIS Annual General Meeting</li> <li>- Regular customer surveys</li> <li>- AGRAVIS publications</li> </ul>
Employees	Central company value creation factor	<ul style="list-style-type: none"> <li>- Safe workplace</li> <li>- Good work environment</li> <li>- Performance-based pay</li> <li>- Opportunities for advancement</li> </ul>	<ul style="list-style-type: none"> <li>- Supervisory Board and works council based on parity</li> <li>- Target agreements and appraisal meetings</li> <li>- Personnel development measures</li> <li>- AGRAVIS publications</li> </ul>
Suppliers	Business partner and part of the value chain	<ul style="list-style-type: none"> <li>- Solvency and reliability</li> <li>- Adherence to production and product standards</li> <li>- Specialist expertise</li> <li>- Innovative power</li> </ul>	<ul style="list-style-type: none"> <li>- Business contact</li> <li>- Exclusive contracts</li> <li>- Dialogues with stakeholders</li> <li>- Trade fairs, advertising</li> <li>- AGRAVIS publications</li> </ul>
Customers	Business partner and part of the value chain	<ul style="list-style-type: none"> <li>- Top-quality and affordable products</li> <li>- Adherence to production and product standards</li> <li>- Specialist expertise</li> <li>- Innovative power</li> </ul>	<ul style="list-style-type: none"> <li>- Business contact</li> <li>- Exclusive contracts</li> <li>- Dialogues with stakeholders</li> <li>- Customer portal</li> <li>- Trade fairs, advertising</li> <li>- AGRAVIS publications</li> </ul>
Banks	Investors	<ul style="list-style-type: none"> <li>- High credit rating and solvency</li> <li>- Profitability and growth</li> <li>- Transparency</li> </ul>	<ul style="list-style-type: none"> <li>- Business contact</li> <li>- AGRAVIS publications</li> </ul>
Political sphere and associations	Legal and political framework and lobby work	<ul style="list-style-type: none"> <li>- Cooperation</li> <li>- Conformance with laws and standards</li> <li>- Innovative spirit</li> </ul>	<ul style="list-style-type: none"> <li>- Dialogues with stakeholders</li> <li>- Cooperation within committees</li> <li>- AGRAVIS publications</li> </ul>
Society	Image reflector and public conscience	<ul style="list-style-type: none"> <li>- Adherence to production and product standards</li> <li>- Transparency in production</li> <li>- Social responsibility</li> </ul>	<ul style="list-style-type: none"> <li>- Trade fairs, advertising</li> <li>- Non-governmental organisations</li> <li>- AGRAVIS publications</li> </ul>

Non-governmental organisations	Critics of agricultural production and opinion leaders	<ul style="list-style-type: none"> <li>- Responsibility beyond the legal requirements</li> <li>- Assumption of social responsibility</li> </ul>	<ul style="list-style-type: none"> <li>- Dialogues with stakeholders</li> <li>- Information forums, trade fairs</li> <li>- AGRAVIS publications</li> </ul>
Media	Public opinion leaders	<ul style="list-style-type: none"> <li>- Transparent, coherent facts</li> <li>- Rapid information</li> </ul>	<ul style="list-style-type: none"> <li>- Information forums, trade fairs</li> <li>- AGRAVIS publications</li> </ul>

The basis for the determination and selection of central stakeholders is the importance and frequency of contact with the respective stakeholder groups. The stakeholders are included via different channels and in entirely different ways. Thus all stakeholders are reached through AGRAVIS publications and press releases such as the financial and sustainability reports as well as via the company website. Publications are also issued for specific stakeholder groups in some cases – the AGRAVIS stakeholder information, for example.

G4-25

The employees are involved directly in decision-making at AGRAVIS through the works councils and economic committee; the investor relations are involved directly through the annual general meeting and the activities of the Supervisory Board and Advisory Board. What’s more, direct contact naturally exists both with the employees and the stakeholders – through regular appraisal meetings and personnel development measures for the employees and the annual general meeting and surveys for the stakeholders, for example.

Direct contact moreover exists with suppliers, customers and banks, who are able to provide AGRAVIS with feedback and to influence decision-making as a consequence through their everyday business and regular dialogue events, such as annual talks and trade fairs. The political sphere, consumers, non-governmental organisations, and media are involved through indirect business contact, memberships, cooperation within committees, and dialogue events. The AGRAVIS “Handel(n) mit Verantwortung” (“Responsible Action and Trade”) event, which has taken place in Berlin every December since publication of the second sustainability report, can be named here by way of example. In particular, stakeholders are involved as preparation for and against the backdrop of sustainability reporting.

Issues and concerns arising from the stakeholders’ involvement are addressed proactively and pragmatically – and, insofar as possible, also resolved. This particularly applies for the sustainability management and reporting. One example here is the extensive reporting on quality management and product safety within the fields of feedstuff, grain collection and seeds, whose quantity and quality has been extended further on the basis of recommendations from non-governmental organisations.

G4-27

The same applies for the comprehensive reporting on by-products in addition to product development taking the environmental impact into account, as is the case with the Eco-Efficiency Manager for pigs. Both issues have been classified as particularly important by consumers, non-governmental organisations, and the political sphere as well as by AGRAVIS customers, suppliers, and stakeholders.

AGRAVIS strives to continuously intensify the stakeholder dialogues so that the suggestions and feedback from the stakeholder groups can be taken into account in the decision-making and the company’s long-term orientation.

### Outlook

The present sustainability report considers all areas of operative business at AGRAVIS. In the coming years, the subject of sustainability will be integrated further into activities in the individual areas. The vision of the AGRAVIS concept of "sustainable development" is to be established as a standard component of business activities. Or, to put it more simply: AGRAVIS strives to achieve lasting integrated sustainability management in which key issues are regularly analysed and sustainability-relevant goals continuously developed, and an ongoing exchange takes place with AGRAVIS stakeholders. Further development of the AGRAVIS sustainability programme in clearly measurable goals for company management on the one hand, and intensification of the stakeholder dialogue on the other top the agenda.



#### **Sustainability project team**

The sustainability project team, which meanwhile comprises employees from all operative areas, is the driving force behind sustainability activities at AGRAVIS. The project team is tasked with acting as a stimulator and communicator, developing decision papers, and supporting the process to develop a group-wide sustainability strategy. The project managers ensure operative implementation of the project within the company. The project managers are also responsible for further development of sustainability-relevant indicators and the AGRAVIS sustainability strategy. Within the scope of sustainability reporting, the corporate communication department is also directly involved in the information flow. The sustainability project as a whole reports directly to the Board of Directors. Dirk Bensmann (Member of the Board of Directors at AGRAVIS Raiffeisen AG) leads and actively supports all of the sustainability activities at AGRAVIS Raiffeisen AG on the highest level. In future, sustainability-relevant aspects are to be integrated into the processes and structures of all AGRAVIS areas.

# Fields of action

## Flow of goods

Logistics . Inland shipping . Quality management





## Flow of goods


### Logistics

As an agricultural trading and services company, AGRAVIS Raiffeisen AG is responsible for a considerable transport volume. The AGRAVIS field of logistics bundles and centralises a portion of these transport services, thus ensuring market-oriented, cost and resource-efficient logistics.

The logistics activities are oriented to the requirements of the business areas. External service providers such as freight forwarders are mostly commissioned for the actual transport. With regard to bulk cargo logistics, products such as grain, raw feed materials and fertiliser are distributed and shipped as loose goods aboard different trucks. Feed logistics includes the distribution of ready-made compound feed by silo trucks. At AGRAVIS, general cargo logistics means all goods that can be shipped on pallets. This includes both tour transport and system goods transport arising outside of the tour plan.

In a first step, the following data was collected in order to measure the impact of the logistics activities at AGRAVIS on the climate: the number of shipments per year, number of tonne kilometres<sup>1)</sup> commissioned per year, and the resulting emissions in carbon dioxide equivalents. In the long term, these figures serve to verify the measures to reduce carbon dioxide emissions within the logistics activities at AGRAVIS.

G4-EN30

Bulk cargo, compound feed and general cargo logistics* 						
2014	Shipments (lots)	Comparison to previous year	Tonne kilometres	Comparison to previous year	Carbon diox- ide emissions (tonnes)	Comparison to previous year
Bulk cargo logistics	54,226	▲	219,462,717	▲	14,221	▲
Compound feed logistics	71,256	▲	74,184,666	▲	4,807	▲
General cargo logistics	114,515	▲	27,015,930	▲	2,645	▲
<b>Total</b>	<b>239,997</b>	▲	<b>320,663,314</b>	▲	<b>21,673</b>	▲
2015	Shipments (lots)	Comparison to previous year	Tonne kilometres	Comparison to previous year	Carbon diox- ide emissions (tonnes)	Comparison to previous year
Bulk cargo logistics	52,603	▼	221,454,100	▲	14,350	▲
Compound feed logistics	70,748	▼	77,987,599	▲	5,054	▲
General cargo logistics	114,228	▼	28,245,291	▲	2,734	▲
<b>Total</b>	<b>237,579</b>	▼	<b>327,686,990</b>	▲	<b>22,138</b>	▲

\* Only transport commissioned by the AGRAVIS logistics team is considered here. Prepaid deliveries, drop deliveries, etc. are not included.

<sup>1)</sup> Tonne kilometres (tkm): a statistical unit of measure of freight transport by land, water and air, calculated as the product of the weight of the goods transported and the shipment distance. 1 tonne kilometre (tkm) = transport of freight weighing one tonne for one kilometre.

In 2014 and 2015, the emissions for the transport commissioned by the AGRAVIS logistics team totalled approx. 22,000 tonnes of emissions (in carbon dioxide equivalents). This corresponds roughly to the average carbon dioxide equivalents emitted by 1,900 German citizens every year.<sup>2)</sup> In 2014 and 2015, the number of tonne kilometres – and consequently also the emissions (in carbon dioxide equivalents) – increased compared to the respective previous year. In contrast, the number of shipments decreased in 2015, which speaks for an increase in the shipment size as such. Despite the increase in transport services, the emissions (in carbon dioxide equivalents) per tonne kilometre remained at a constant level of approx. 67.6 grams in both years. The reason for this is the continual optimisation of tours and shipment sizes.

Among the core aims of the AGRAVIS sustainability programme are the reduction of transport-related emissions through market-oriented, cost and resource-efficient logistics. Further concepts exist to decrease the transport-related emissions in the future. Sustainability aspects are to be included in the assignment of transport orders, and harmful substance and emissions values taken into account in the purchase of new road and warehouse vehicles, for example.

#### **Optimising processes**

The increased emission of carbon dioxide and other synthetic gases since the start of industrialisation in the nineteenth century is one of the main causes of climate change. All business segments work intensively on solutions to reduce greenhouse gas and transport-related emissions. The main aim of so-called “green logistics” is to organise transport and logistics in the most efficient manner possible in terms of energy and resources – through process optimisations and enhanced technology, for example. The growing scarcity of energy resources makes the development and implementation of measures to save energy and boost efficiency in the field of logistics necessary.



#### **Inland waterway transport**

Roads and waterways in addition to the associated modes of transport afford different environmental properties. According to the German Federal Environmental Agency (Umweltbundesamt, UBA), a truck emits an average of 97.5 grams of emissions in carbon dioxide equivalents per tonne kilometre transported. In contrast, inland shipments emit just 33.4 grams.<sup>3)</sup> By combining different modes of transport for a transport order or outsourcing completely to another mode of transport, better use can be made of the advantages of each mode of transport for each journey made and shipment transported. The outsourcing of truck transport to inland ships promises significant emission and cost savings of more than 300 kilometres. However, inland shipping allows less flexibility and means longer transport times. What's more, not every good can be transported by ship and not every recipient has access to a waterway.

AGRAVIS favours transport by inland ship for both economic and environmental reasons, as large quantities of production goods (in this case, raw agricultural materials) can be transported with relatively low expenditure of energy.

<sup>2)</sup> Cf. Federal Environment Agency (UBA) 2015: In 2013, per capita emissions in Germany totalled approx. 11.5 tonnes of carbon dioxide equivalents per year ([www.umweltbundesamt.de/themen/klima-energie/klimaschutz-energiepolitik-in-deutschland/treibhaus-gas-emissionen/europaeischer-vergleich-der-treibhausgas-emissionen](http://www.umweltbundesamt.de/themen/klima-energie/klimaschutz-energiepolitik-in-deutschland/treibhaus-gas-emissionen/europaeischer-vergleich-der-treibhausgas-emissionen), in German only).

<sup>3)</sup> Cf. Federal Environment Agency (UBA) 2012: Emissions by mode of transport ([www.umweltbundesamt.de/sites/default/files/medien/publikation/long/4364.pdf](http://www.umweltbundesamt.de/sites/default/files/medien/publikation/long/4364.pdf), in German only).

Thus the AGRAVIS Group receives more than 100,000 tonnes of feed, grain, and fertiliser by ocean vessel (from overseas) and inland ship (from the transshipment sites along the Central European waterways – in Amsterdam, Rotterdam, Hamburg and Brake, for example). Particularly the AGRAVIS feed plants located along a waterway are supplied by ship.

The proportion of deliveries to AGRAVIS compound feed plants by ship fell from 65.1 per cent in 2014 to 62.4 per cent in 2015. The reason for this is the fluctuating annual availability of raw materials from the different countries of origin. Overall, the supply of goods to feed plants makes up approximately 50 per cent of ship freight commissioned by AGRAVIS. The other 50 per cent can be attributed to the trade with raw feed materials, grain, and fertiliser to other AGRAVIS companies as well as third-party customers. Among the sustainability-relevant aims at AGRAVIS are expanding ship logistics according to the production and trade volumes.

G4-EN30

Delivery of raw feed materials and crops to AGRAVIS feed plants*						
	2014			2015		
	Tonnes	Percentage	Comparison to previous year	Tonnes	Percentage	Comparison to previous year
Ship	1,324,068	65.1	▲	1,286,712	62.4	▼
Truck	709,828	34.9	▼	774,340	37.6	▲
<b>Total</b>	<b>2,033,896</b>	<b>100</b>	▲	<b>2,061,052</b>	<b>100</b>	▲

\* The data for nine of the 11 fully consolidated AGRAVIS feed plants located along a waterway are shown (Braunschweig, Bremerhaven, Dorsten, Hamburg, Leer, Lingen, Minden, Münster, and Oldenburg). No data is available for the plants in Fürstenwalde and Malchin.

## Quality management

### Feedstuff

In the manufacture of compound feed, quality assurance begins with procurement of the raw materials. The procurement of flawless raw materials thus plays a central role in the supply chain for feed production. At AGRAVIS, the inspection plans include both value-determining ingredients and prohibited or undesirable substances. Ingredients include raw protein, sugar, and fat as well as minerals, trace elements, and amino acids. Undesirable substances include pesticides, mycotoxins, salmonellae, and heavy metals.

G4-PR1

Laboratory sampling				
	2014		2015	
	Absolute	Comparison to previous year	Absolute	Comparison to previous year
Ingredients	11,200	▼	16,700	▲
Harmful substances	16,700	▲	17,600	▲
<b>Total</b>	<b>27,900</b>	▲	<b>34,300</b>	▲

The samples are exclusively tested at accredited laboratories – according to an average of ten different parameters. AGRAVIS took a total of 279,000 analysis results into account in 2014, which corresponds to 764 analysis results per day. In 2015, it was 343,000 analysis results, which corresponds to 940 analysis results per day.

One of the aims of the AGRAVIS sustainability programme is to improve the dynamics of sampling regarding undesirable substances. Hence the AGRAVIS test plan takes regional and weather-related aspects into account in the quality of raw materials.

In 2014 and 2015, an increased number of samples were therefore tested for mycotoxins, such as DON, ZEA, aflatoxins, and OTA. Mycotoxin infestations can be caused by rain before the harvest, for example, but also by “unfavourable rainfall” during the development phases of the grain or oil seeds. In 2014 and 2015, an increased number of tests for pesticide residues were conducted on oilseed meals for the production of organic feed. The reason for this are the high demands and low tolerances of the organic certification association for pesticide residues in the raw materials used.

### **Agricultural centres**

In regions in which no cooperative is active, AGRAVIS Raiffeisen AG does business with farmers directly via subsidiaries. These agricultural centres advise farmers on issues arising within arable and livestock farming.

In 2014, the AGRAVIS agricultural centres accepted a good 5.4 million tonnes of grain and rapeseed; in 2015, it was approx. 4.8 million tonnes. This corresponds to approx. 338,800 cargo deliveries in 2014 and 308,000 cargo deliveries in 2015. Every incoming cargo delivery is subject to an inspection and the according retention samples are taken. The inspection of incoming goods is initially sensory – i.e. smell, appearance, and bug infestation – to determine whether the raw materials supplied are healthy, of the customary trade quality, and untainted.

One further quality assessment for the feed and bread wheat delivered takes place in the form of tests, e.g. of the water content, hectolitre weight, and impurities. When bread wheat is delivered, the falling number, raw protein content, and sedimentation value are also determined. For rapeseed for example, the quality is determined according to the parameters of oil content, water content, and impurities, whereby the oil content is in part subsequently tested further in external laboratories. The quality requirements are taken from the HACCP risk analysis at AGRAVIS in addition to the certification standards of organisations such as GMP+ or QS, from legal stipulations such as the German Animal Feed Regulation (Futtermittelverordnung, FMV) along with customer requirements.

Beside ascertaining the quality, the tests completed on incoming goods moreover serve to establish value-determining parameters, and consequently form the basis for the prices paid to the farmers for the raw materials supplied. The flow chart on page 26 depicts an exemplary procedure for the processing of goods received by AGRAVIS agricultural centres, including subsequent storage and goods issue when the raw materials are sold or used.

### **Pre-harvest monitoring**

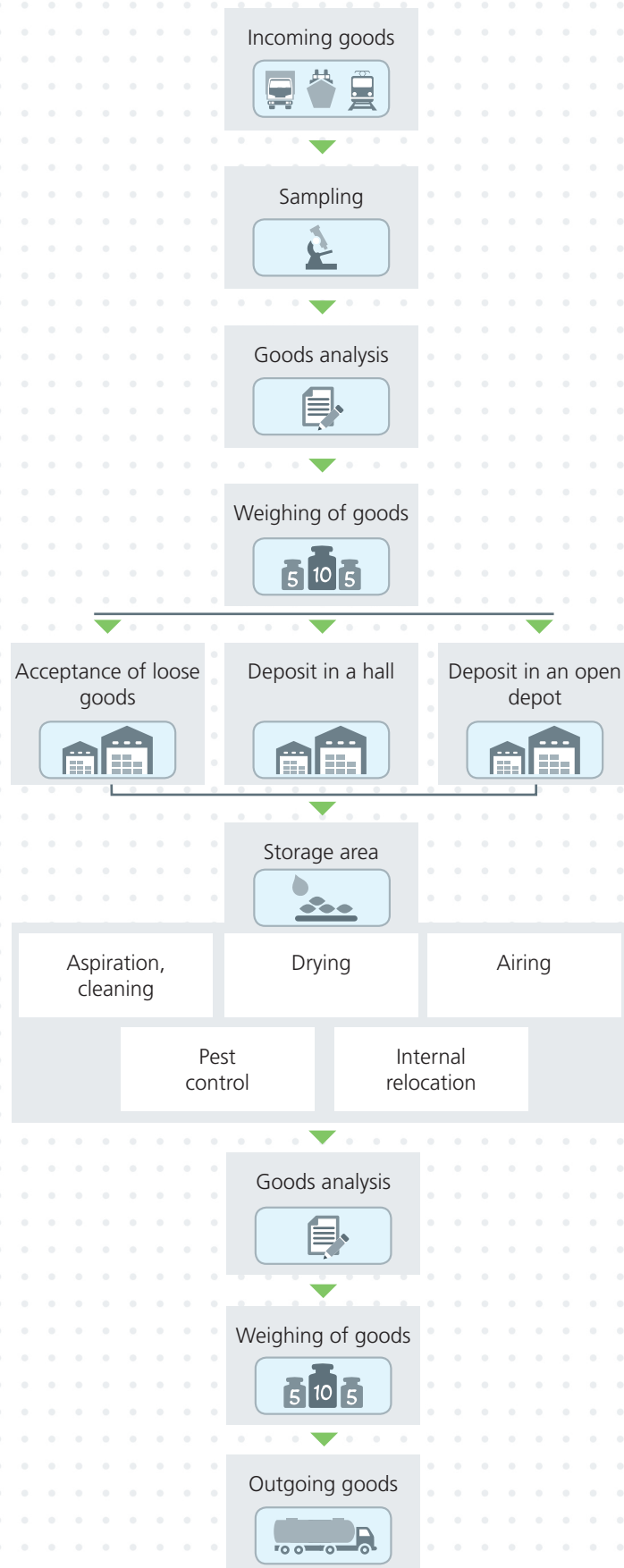
In addition to the aforementioned quality controls, pre-harvest monitoring is also performed. Pre-harvest monitoring involves testing wheat, and occasionally also triticale and rye, for fusarium infestation. Sample eaves are tested for DON around ten days before harvest, taking the annual weather conditions into account. This allows any potential risks to be recognised beforehand and measures to be determined for any infestation with harmful substances.

### **Grain monitoring**

So-called harvest or store monitoring informs on the actual harmful substance levels in the grain and oilseed consignments harvested and stored at AGRAVIS locations. The grain and oilseed consignments are tested for harmful substances, such as mycotoxins (e.g. DON, ZEA, aflatoxins, and OTA), pesticide residues, and environmental toxins (e.g. dioxins, PCB, and heavy metals).



**Exemplary procedure for the processing of goods received**




## Seeds

At the end of 2013, AGRAVIS Raiffeisen AG complemented its central seed warehouse in Isernhagen with an in-house seed laboratory that has been certified to DIN ISO 9001 since 2014. The laboratory allows AGRAVIS seed experts to perform tests internally. Laboratory services can moreover be offered to cooperative customers – a unique selling point among the agricultural trade companies.

AGRAVIS sees the seed laboratory as a decisive quality advantage. The continuously growing demands made of quality assurance and control in addition to traceability can be fulfilled better and above all considerably faster in an in-house laboratory than via external service providers. The aim is to be equipped for future quality demands, and to be able to act as a driver of quality in further fields of activity.

Among the analyses performed at the AGRAVIS seed laboratory are germination capacity tests, purity controls, and fuel analyses. The tests are conducted according to the internationally-recognised criteria of the International Seed Testing Association (ISTA), and recorded in a written certificate. The following tests were completed in 2014 and 2015:

Tests performed at the AGRAVIS seed laboratory 			
	2014*	2015	
	Total	Total	Comparison to previous year
Germination capacity (mixtures, small and large grain varieties)	1,684	1,409	▼
Purity (small and large grain varieties)	471	225	▼
Vigour	156	412	▲
Thousand kernel weight	88	405	▲
Heubach test	31	39	▲
Determination of other varieties	105	10	▼
External	1	1	■
<b>Total</b>	<b>2,536</b>	<b>2,501</b>	▼

G4-PR1

\* Given that the seed laboratory only began operating at the end of 2013, it is not possible to compare the figures from 2014 with those obtained in the previous year.

The increased number of tests performed on fuel and to ascertain the thousand kernel weight is due to establishment of the seed laboratory on the market. The tests named are moreover important quality parameters in the field of seed grain. The number of tests performed in the AGRAVIS seed laboratory is to be increased further in the coming years.

**Germination capacity**

The germination of a seed is understood to be the development of the seedling through to a stage at which its appearance shows whether it will continue to develop into a feasible plant in favourable field conditions. An intact seedling affords a combination of the following sample characteristics depending on the respective variety: a well-developed root system, a characteristic number of seed leaves, and a root that is at least half as long as the sprout. A percentage value is determined during the germination capacity test. This establishes the numerical proportion of seeds that have produced a seedling deemed normal under the given conditions and within the given time frame. For wheat and barley, the minimum germination capacity for seeds is 92 per cent.

**Purity**

During the purity test, the percentage composition of the sample is determined. The proportion of pure seeds (this means, the seeds belonging to the type tested), of seeds of other types (such as foreign cultivated seeds and weed seeds) and of harmless impurities (such as broken corn, chaff, and small stones) make up the samples that are determined. The components not forming part of the pure seeds – i.e. seeds of other types and harmless impurities – are then weighed separately on analysis scales, and the individual weight proportions calculated as percentages. A value for the “technical purity” of a seed can thus be determined. The legally-defined minimum value for wheat and barley is 98 per cent purity.

# Fields of action

## Resources

Raw materials . Energy . Emissions . Waste . Packaging . Recycling



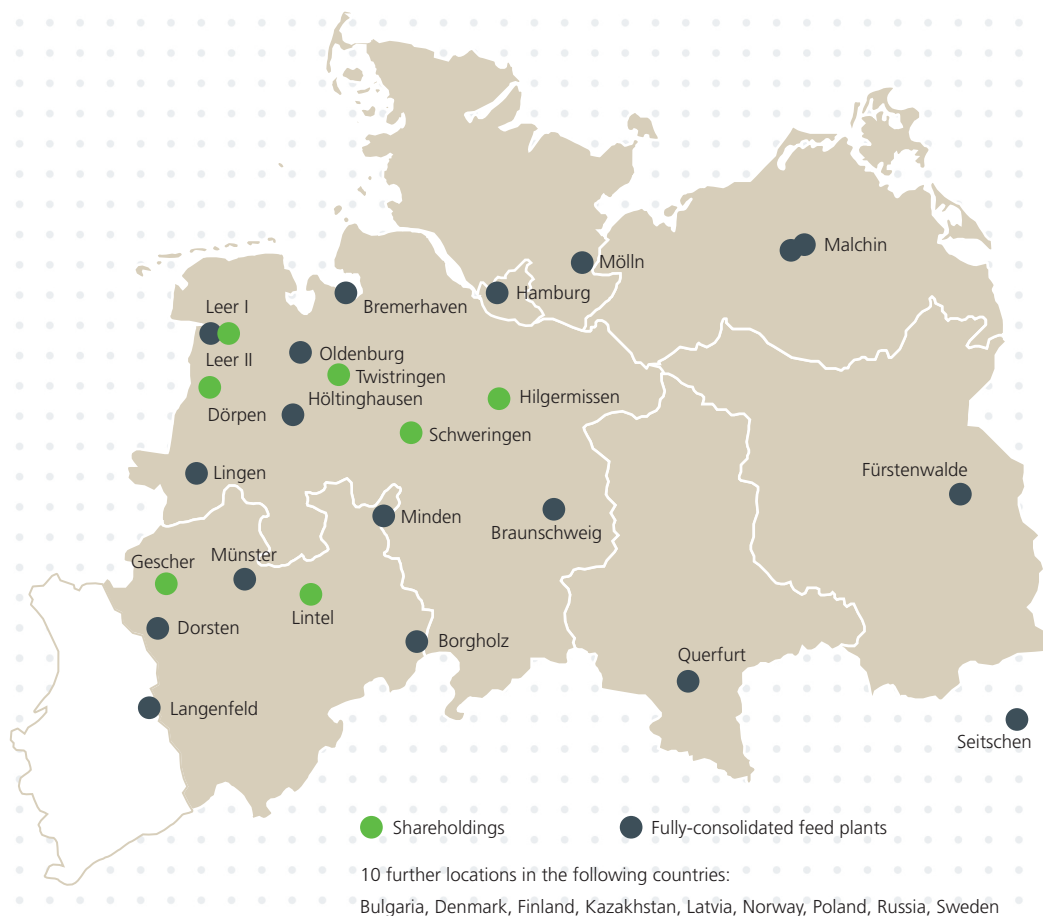


## Resources

### Feed production

The AGRAVIS Group is a “full-liner” for the production of feed for all livestock species. In 2014, more than 4 million tonnes of compound and special feed were produced in the AGRAVIS Group’s compound feed plants (fully consolidated feed plants and affiliated companies); in 2015, a good 4.3 million tonnes of feed were produced. This includes both conventional, GMO-free, and organic feed. AGRAVIS aims to enable the best possible supply of feed for animals by offering products that make sense both in terms of their nutrition physiology and economics.

#### Feed plants of the AGRAVIS Group



Source: AGRAVIS Raiffeisen AG

(As at: 31 December 2015)

G4-EN1

#### Use of raw materials in feed production\*



	2014		2015	
	Tonnes	Comparison to previous year	Tonnes	Comparison to previous year
Grain	1,353,350	▲	1,310,545	▼
Oil seeds	941,425	▼	1,124,991	▲
Central proteins, bran	326,941	▲	271,438	▼
Other	338,517	▲	346,153	▲
<b>Total</b>	<b>2,960,233</b>	▲	<b>3,053,127</b>	▲

\* The above data relates to the 18 fully-consolidated AGRAVIS feed plants in Germany (whereby the feed plant in Höttinghausen was only acquired in 2015 and consequently only included in the evaluation from September 2015).

AGRAVIS Raiffeisen AG used approx. 2.96 million tonnes of raw materials in 2014, and around 3.05 million tonnes of raw materials in 2015 for the production of feed at its 18 company feed plants.

While a portion of the raw materials is from Germany, a portion is purchased from overseas. In 2014, 63 per cent of the raw feed materials and grain required was obtained in Germany – above all grain, rapeseed meal, central proteins, and bran. In 2014, 20.3 per cent of feed components came from non-EU states, such as the by-products of oil seeds (e.g. soybean meal). In 2014, the remaining 16.7 per cent of raw feed materials and grain were obtained from countries inside the EU.

In 2015, there was a shift from German to non-European regions of origin for raw feed materials and grain: 53.6 per cent of raw material originated from Germany and 29 per cent from countries outside of the EU. The remaining 17.4 per cent of raw feed materials and grain were obtained from countries inside the EU, as in the previous year.

Origin of raw feed materials and crops* ** ***						
	2014			2015		
	Tonnes	Percentage	Comparison to previous year	Tonnes	Percentage	Comparison to previous year
Germany	1,159,935	63.0	▼	1,078,510	53.6	▼
EU	306,356	16.7	▲	349,614	17.4	▲
Non-EU	373,821	20.3	▼	584,277	29.0	▲
<b>Total</b>	<b>1,840,112</b>	<b>100.0</b>	▲	<b>2,012,401</b>	<b>100.0</b>	▲

\* The above data relates to the company feed plants supplied with raw feed materials and grain by the agricultural products business segment of AGRAVIS Raiffeisen AG. This includes the feed plants in Braunschweig, Bremerhaven, Dorsten, Leer, Lingen, Minden, Münster, Oldenburg, and, since 2015, also Höltinghausen (nine of the total of 18 fully-consolidated AGRAVIS feed plants in Germany).








\*\* The raw feed materials can be clearly assigned to the respective regions of origin. For grain, the country of collection is considered the country of origin. Any discrepancies between the country of entry and country of production are negligent and do not affect the proportionate origin of the grain.

\*\*\* In the field of agricultural products, a total of approx. 2.51 million tonnes of raw feed materials (of which approx. 50.3 per cent were of German origin, 8.6 per cent of European origin, and 41.1 per cent of non-EU origin) and a good 5.01 million tonnes of grain (of which approx. 83 per cent of German origin, 13 per cent of European origin, and 4 per cent of non-EU origin) were traded. In 2015 – as in the previous year – a total of approx. 2.53 million tonnes of raw feed materials (of which approx. 51.5 per cent were of German origin, 14.9 per cent of European origin, and 33.6 per cent of non-EU origin) and a good 4.74 million tonnes of grain (78.6 per cent of German origin, 14.9 per cent of European origin, and 6.5 per cent of non-EU origin) were traded.

## Seeds

The AGRAVIS central seed warehouse is based in Isernhagen. The key tasks there include the production, storage, handling, testing and trade with seeds. With regard to seeds, handled goods, individual components and propagation goods are differentiated between. The handled goods include maize, legumes and rapeseeds; the individual components German and Southern European ryegrass and timothy grass. Propagation goods include broad beans, peas, and mustard.

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Seed components* 				
	2014		2015	
	Tonnes	Comparison to previous year	Tonnes	Comparison to previous year
Handled goods	13,611		15,694	
- of which individual components	2,310		3,333	
- of which propagation goods	1,404		1,929	

\* The seed components processed centrally via the warehouse in Isernhagen (generally field crops and hybrids) are considered here. This corresponds to approx. 15 per cent of the goods traded within the field of seeds, which in turn makes up approx. 50 per cent of the total turnover from seeds. Due to the decentralised structure of the seed grain product group, the according drop deliveries are not included here.

Overall, the number of seed components traded increased on the respective previous year in both 2014 and 2015. This was particularly the case for propagation goods and catch crop mixes. The additional volumes of propagation goods are the result of good climatic conditions for agriculture in 2014 and 2015, whereby the losses in the propagation process were minimised and higher yields achieved overall.

With regard to catch crop mixes, the higher quantities are above all due to the change in 2015 of the EU crop payment scheme for agricultural businesses known as greening premiums. These payments provide financial support for farmers in the use of catch crop mixes. The aim of the greening scheme is to preserve grasslands, enable cultural diversification, and support the establishment of ecological priority areas (EPA) for all agricultural businesses. The regions of origin of the seed components traded have largely remained constant.

Regions of origin of seed components* **							
	Region of origin	2014			2015		
		Tonnes	Percent- age	Comparison to previous year	Tonnes	Percent- age	Comparison to previous year
Handled goods	Germany	5,101	37.5	▲	6,409	40.8	▲
	EU	7,902	58.0	▲	8,572	54.6	▲
	Non-EU	608	4.5	▲	713	4.6	▲
- of which individual components	Germany	1,017	44.0	▼	1,534	44.0	▲
	EU	1,117	48.4	▲	1,596	48.4	▲
	Non-EU	175	7.6	■	204	7.6	▲
- of which propagation goods	Germany	1,396	99.4	▲	1,881	99.4	▲
	EU	7.9	0.6	▼	48.5	0.6	▲
	Non-EU	0	0	■	0	0	■

\* The seed components processed centrally via the warehouse in Isernhagen (generally field crops and hybrids) are considered here. This corresponds to approx. 15 per cent of the goods traded within the field of seeds, which in turn makes up approx. 50 per cent of the total turnover from seeds.


Due to the decentralised structure of the seed grain product group, the according drop deliveries are not included here.

\*\* The data on the origin of handled goods is based on past experience.

### Agricultural centres

In regions in which no cooperative is active, AGRAVIS Raiffeisen AG does business with farmers directly via their agricultural centres. The main tasks of the agricultural centres are:

- Classic agricultural business, such as the trade in seeds, fertilisers, pesticides and feedstuff;
- Collection and trade of regional agricultural grains and oleaginous fruits such as rapeseed;
- Advice for farmers on all aspects of agriculture, such as arable and livestock farming.

Raw material collection at the AGRAVIS agricultural centres* 				
	2014		2015	
	Tonnes	Comparison to previous year	Tonnes	Comparison to previous year
Grain	4,517,099	▲	4,043,679	▼
Oleaginous fruits	845,332	▲	782,582	▼
<b>Total</b>	<b>5,362,431</b>	▲	<b>4,826,261</b>	▼

\* The figures relate to the fully-consolidated companies of the AGRAVIS agricultural centres in 2014 and 2015.

Some agricultural centres produce and sell their own compound feed, and operate an energy business selling diesel heating oil and wood pellets, for example. AGRAVIS is also active in classic retail via Raiffeisen Markets. The grain and oil seeds collected are used in the company feed plants, grain and oil mills, or exported.

In 2014, the AGRAVIS agricultural centres accepted a good 5.4 million tonnes of grain and rapeseed in total – 19.4 per cent more than in 2013. In 2015, the AGRAVIS agricultural centres accepted approx. 4.8 million tonnes of grain and rapeseed (10 per cent less than in the previous year). The reason for this was an extremely good harvest in 2014 and a comparatively poor harvest in 2015.

### By-products

AGRAVIS Raiffeisen AG trades in by-products from other industries and uses these in feed production. AGRAVIS sells by-products from food production and the extraction of starch and ethanol under the name LEMIREX. Examples include spent grain, steamed potato peel, old bread, biscuits, and chocolate.

- Pressed spent grain is a protein-rich by-product obtained during the production of bioethanol from wheat. Animals find spent grain particularly tasty, and it has a positive effect on both the feed intake and the protein content. It is consequently a good provider of protein and energy in feed.
- Steamed potato peel is a by-product of the potato processing industry (e.g. chip factories). The peel is produced during peeling of the potatoes using steam. The peel is a good complement to liquid feed for pigs, as it is both extremely tasty and easy to digest, and also has a high energy content.
- Chocolate is a by-product of the baking and confectionery industries, and can be used as a supplement in pig feed. Chocolates is very tasty and smells good. It also has a high energy content and is very easy to digest.

By-products are also traded or used in feed production in the AGRAVIS business segments of compound feed and special feed products – whey powder, vegetable fats and oils such as rapeseed and soybean meal, for example.

- Whey is a by-product of cheese and curd production, has a high protein content, and is very tasty. The lactose provides energy, and ensures a high lactic acid content in liquid feed.
- Different fatty acids are produced during the refinement of plant oils, such as sunflower oil, rapeseed oil, and soybean oil. These can be used as high-quality dairy products in feed production.
- Rapeseed and soybean extraction meal are by-products in the extraction of rapeseed oil and soybean oil. Rapeseed oil is obtained in oil mills through the extraction of rapeseed oil from rapeseed. Soybean meal is gained from soybeans through shredding. The remaining rapeseed and soybean extraction meal is suitable as protein components in feed, as it has a very high residual protein content in the form of raw protein and crude fibres.

Among the by-products traded or used by AGRAVIS in feed production are:

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By-products				
From ...	2014		2015	
	≈ Tonnes	Comparison to previous year	≈ Tonnes	Comparison to previous year
... grain kernels	376,600	▲	293,900	▼
... oilseeds and oleaginous fruits	1,937,000	▼	2,013,500	▲
... grain legumes	10,700	▲	4,900	▼
... tubers and roots	231,300	▼	243,300	▲
... other seeds and fruits	3,600	▼	3,700	▲
... green fodder and roughage	1,800	▼	500	▼
... other plants and algae	30,900	▲	10,100	▼
... dairy products	28,000	▼	24,800	▼
... fish and other aquatic creatures	800	▼	1,000	▲
... fermentation	14,100	▼	13,300	▼
... different products	34,000	▼	45,700	▲
<b>Total</b>	<b>2,668,800</b>	<b>▼</b>	<b>2,654,700</b>	<b>▼</b>

Overall, the by-products make up approx. 30 per cent of the trade volume of the feed and agricultural products business segments at AGRAVIS. Up to 70 per cent of by-products are used in company feed recipes for cattle, up to 50 per cent in feed for pigs, and up to 35 per cent in feed for poultry. The percentages vary according to the nutrition physiological evaluation of the raw materials for the according species.

The use of by-products makes sense for both ecological and nutritional reasons, as the resources/raw materials can be used in their entirety with all of their valuable ingredients. The appropriate diet for the animals can thus be ensured as the aforementioned by-products contain valuable residual ingredients, and are at the same time tasty and easy to digest. Moreover, the wasting of valuable by-products is avoided, which could otherwise only be introduced back into the substance cycle as waste. AGRAVIS aims to expand the amount of by-products traded and used, and to use the raw materials purchased in feed production in an even more targeted manner.

### Energy and carbon dioxide efficiency

One of the core aims of the AGRAVIS sustainability programme is the efficient use of energy resources, i.e. a reduction in the energy consumption and according carbon dioxide emissions arising from business activities. As a leading feed manufacturer, energy consumption is a central issue at AGRAVIS feed plants – not least because of the high energy demands. An energy management system according to DIN EN ISO 50001 has been implemented at most of the feed plants. The aim of this management system is the systematic recording of energy consumption figures, energy flows, and savings potential. Only in this way can the use of energy be optimised and carbon dioxide emissions at the feed plants be reduced.

Energy consumption and carbon dioxide emissions at 12 feed plants*				
2014	Energy consumption (kWh)	Comparison to previous year (percentage)	Carbon dioxide emissions (kg)	Comparison to previous year (percentage)
Electricity	102,025,066	▲	44,120,673	▲
Natural gas	40,439,761	▼	8,152,656	▼
Heating oil	19,422,460	▲	5,095,343	▲
Diesel	1,126,514	▼	300,891	▼
Other**	9,011,996	▲	1,766,772	▼
<b>Total</b>	<b>172,025,797</b>	▲	<b>59,436,335</b>	▲

2015	Energy consumption (kWh)	Comparison to previous year (percentage)	Carbon dioxide emissions (kg)	Comparison to previous year (percentage)
Electricity***	101,168,856	▼	55,073,857	▲
Natural gas	40,793,338	▲	8,223,937	▲
Heating oil	20,179,354	▲	5,294,990	▲
Diesel	1,054,229	▼	281,591	▼
Other**	10,640,730	▲	1,776,585	▲
<b>Total</b>	<b>173,836,507</b>	▲	<b>70,650,959</b>	▲

\* This is the summed data for the fully-consolidated feed plants of AGRAVIS Raiffeisen AG, which are certified according to DIN EN ISO 50001. This includes the 12 feed plants in Braunschweig, Bremerhaven, Dorsten, Fürstenwalde, Hamburg, Leer, Lingen, Malchin, Minden, Münster, Oldenburg, and Querfurt.

\*\* Under "Other", the energy consumption not directly associated with the production of feed is recorded. This includes natural gas for drying, steam, and the vehicle fleet.

\*\*\* Based on the information provided by our energy supply company on 23 January 2015, an individual electricity code according to § 54 para. 5 of the German Renewable Energy Act (Erneuerbare-Energien-Gesetz, EEG) applies for our feed plants. This led to higher values for carbon dioxide emissions for energy consumption from 2015.

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In 2014, the energy intensity – summed up over all energy types – in the feed plants was 59.5 kilowatt hours per tonne of feed produced. That's 3.1 per cent less than in the previous year. The intensity of greenhouse gas emissions – summed up over all energy types – has increased slightly by 1.7 per cent compared to the previous year to 20.6 kilograms of carbon dioxide per tonne produced in 2014.

The improvement in energy intensity is on the one hand due to improved capacity utilisation at the production sites. On the other, the measures developed and implemented in the plants to increase the energy efficiency within the energy management certification help to reduce consumption. They are attuned to the characteristics of the respective plant, and serve to reduce the energy consumption and the energy-related greenhouse gas emissions. The measures are often linked with investments in modern technology or optimal capacity utilisation. In 2014, the following measures were implemented for example:

- Exchange of lights (e.g. switch to LED) and intelligent lighting management
- Installation of heat recovery compressors
- Expansion/exchange of the compressor system

In 2015, the energy intensity in the feed plants decreased further to 58.3 kilowatt hours per tonne of feed produced. That's 2 per cent less than in the previous year. The intensity of greenhouse emissions increased to 23.7 kilograms of carbon dioxide per tonne produced. That's 15.2 per cent more than in 2014. The reason for this is the higher conversion factor for electricity emissions since 2015. The reduction in energy intensity can be explained by the measures to increase energy efficiency developed and implemented in the plants. Among the key steps in 2015 are:

- Switch from steam generation (e.g. cogeneration of heat and electricity)
- Renewal of the materials handling
- Reduction of the peak load

In AGRAVIS Raiffeisen AG's central administrative buildings, the energy consumption and associated emissions have developed as follows:

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Energy consumption and carbon dioxide emissions in the central administrative buildings*				
2014	Energy consumption (kWh)	Comparison to previous year (percentage)	Carbon dioxide emissions (kg)	Comparison to previous year (percentage) ✓
Electricity	2,998,972	▼	1,375,987	▲
Natural gas	69,199	▼	13,909	▼
District heating	1,199,467	▲	267,481	▲
<b>Total</b>	<b>4,267,638</b>	▼	<b>1,657,377</b>	▼

2015	Energy consumption (kWh)	Comparison to previous year (percentage)	Carbon dioxide emissions (kg)	Comparison to previous year (percentage)
Electricity	2,718,287	▼	1,164,544	▼
Natural gas	63,335	▼	12,730	▼
District heating	1,757,283	▲	391,874	▲
<b>Total</b>	<b>4,538,905</b>	▲	<b>1,569,148</b>	▼

\* This is the summed data for the central administrative buildings in Münster (Industrieweg 74, Industrieweg 110 and Robert-Bosch-Str. 21) and Hanover (Plathnerstraße 4a) in addition to the distribution centre in Münster (Gustav-Stresemann-Weg 10). In 2015, the logistics warehouse for the raiffeisenmarkt24.de online shop (Gustav-Stresemann-Weg 12) in Münster was included. In 2015, energy consumption at the headquarters in Hanover (Plathnerstraße 4a) was estimated/projected on the basis of the previous year.

The energy intensity – summed up over all energy types – in the central administrative buildings totalled 121.9 kilowatt hours per heated square metre in 2014. That's 12.2 per cent less than in 2013. The intensity of greenhouse gas emissions totalled 47.3 kilograms of carbon dioxide per heated square metre in 2014. That's a good 2.5 per cent less than in the previous year. This is primarily due to a switch to LED lighting in the distribution centre in Münster and a switch to district heating in the administrative buildings in Münster.

In 2015, the energy intensity – summed up over all energy types – in the central administrative buildings decreased further to 108.5 kilowatt hours per heated square metre. That's 11 per cent less than in the previous year. The same applies for the intensity of greenhouse gas emissions, which totalled 37.5 kilograms of carbon dioxide per heated square metre in 2015. That's 20.7 per cent less than in 2014. The reason for this is the inclusion of the raiffeisenmarkt24.de online shop in 2015. It has warehouse and logistics buildings that cover a large surface area but have relatively low electricity consumption.

### **Group-wide introduction of energy management systems**

The decrease in energy consumption and associated decline in emissions will also form a focus of the environmental and sustainability activities at AGRAVIS in the future. The subject of energy management is therefore not only limited to the AGRAVIS feed plants and administrative sites, but was also extended to the approx. 150 AGRAVIS companies and their around 600 subsidiaries in 2015. The reason for this is implementation of the European Energy Efficiency Directive 2012/27/EU (EED) in German law. The European Union's overriding goal of a 20% reduction by 2020 is to be achieved with the directive. It relates to improvements in energy efficiency in buildings, transport, production, private consumption, and much more.

With regard to Germany, this means that all companies that are not a small or medium-sized business must undergo an energy audit by the end of 2015. Because this includes majority shareholdings and subsidiaries, AGRAVIS has resolved to introduce an energy management system (EnMS) according to DIN EN ISO 50001 and to certify all affected companies.

Energy management means the systematic planning, implementation, and optimisation of energy use with the aim of continuously improving energy efficiency and reducing the costs and environmental impact associated with energy use.

Although this process is cost-intensive, AGRAVIS hopes for improved analysis of the company energy consumption, increased awareness among employees for the subject of energy efficiency, and the possibility of reducing energy costs through group-wide introduction of an energy management system (EnMS). Moreover, the information obtained allows for organisational and technical process changes to increase the energy efficiency at each site. Introduction of the EnMS is managed by AGRAVIS centrally to keep the costs associated with consultation, training, introduction, and certification to a minimum.

### **AGRAVIS Raiffeisen-Markt GmbH**

An energy management system according to DIN EN ISO 50001 was introduced at the 17 locations of AGRAVIS Raiffeisen-Markt GmbH in 2015. In a first step, the statistics for all locations such as size, employee numbers and energy data in addition to the direct and indirect energy sources were recorded. Electricity, gas, diesel as well as photovoltaics are the main energy sources taken into account. New meters have been installed so that the electricity consumption of everything down to the smallest electrical device can be recorded. Not only is the energy consumption of all devices measured, their modernity is also reviewed – for the use of LED lighting, for example. Concrete savings potential along with the resulting targets for on-site energy management are moreover determined.





### Measurable successes thanks to the switch to LED

During a pilot project at the AGRAVIS-Technik location in Ascheberg, the electricity consumption was reduced by 38 per cent within an operating year through the switch to LED – while at the same time improving the lighting level. A total of around 31,000 kilowatt hours of electricity were saved, which corresponds to the annual electricity consumption of ten model households in Germany.<sup>1)</sup> The energy costs could be reduced by a good €5,800. Overall, the calculations completed by the AGRAVIS Group service on savings potential was fully met by efficient LED lighting. As a consequence, further locations are now being converted to modern LED technology.

### Digital energy consumption measurement

AGRAVIS will equip all electricity supply points with intelligent electricity meters – so-called smart meters – by the end of 2016. These digital meters provide a daily overview of consumption at all connected sites. Load profiles and consumption data are moreover automatically analysed, and a monthly consumption report created and automatically sent for each supply point. The consumption data is managed by the AGRAVIS Group service via an online portal. This allows for precise consumption data to be generated, and complete transparency created. The smart meters also help to reduce the overall electricity costs at the supply points.

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### Waste management concept

Pursuant to the German Law on Life Cycle Management (Kreislaufwirtschaftsgesetz, KrWG), AGRAVIS is obliged to prepare a waste management concept that is currently organised within a project.

In an upstream pilot project phase conducted in 2015, a detailed actual analysis of the current disposal situation was conducted at 25 selected AGRAVIS-Technik locations, Raiffeisen stores, building merchants, feed plants, and agricultural centres. Existing data was recorded locally, allowing preliminary conclusions on the total costs by location, volumes arising, service provider basis, and organisation of disposal services. Potential for optimisation and savings can be determined from the analyses, which are then implemented in the project process.

A project has been set up that includes all AGRAVIS locations to expand the knowledge gained and collect reliable data for the entire company. A waste management concept meeting the future requirements has been developed within the project.

The waste management concept includes the following aspects:

- Mapping of waste streams in material flow balances (collection of waste types, volumes, collection systems)
- Presentation of the disposal channels (e.g. recycling, composting, waste incineration, landfilling)
- Strengths and weaknesses analysis compared to the targets stipulated in the German Law on Life Cycle Management (Kreislaufwirtschaftsgesetz, KrWG) and the current German Commercial Waste Ordinance (Gewerbeabfallgesetz, GewAbfV)
- Expansion of measures for waste avoidance and recycling (e.g. separation principles)
- Development of efficiency strategies for the optimal recovery and use of waste channels
- Derivation of alternative action to meet legal and waste management targets and reinforce sustainable disposal

In the different project phases, standards are now being tested and continuously developed to contribute to the AGRAVIS sustainability strategy.

<sup>1)</sup> The statistical model household in Germany consumes 3,107 kilowatt hours of electricity per year (source: [www.musterhaushalt.de/durchschnitt/stromverbrauch](http://www.musterhaushalt.de/durchschnitt/stromverbrauch)).

### Licensed packaging materials

Pursuant to the German Packaging Ordinance (Verpackungsverordnung, VerpackV), AGRAVIS Raiffeisen AG is responsible by law for the proper disposal of their sales packaging. This means, packaging brought into circulation by AGRAVIS for “preliminary distributor” – i.e. for company products, for example. Among the packaging materials returned to the system are paper, plastic, tin, glass, aluminium, and other metals in addition to other composite materials. The recycling of packaging should ensure the sparing use of resources, and return valuable waste products to the production cycle.

The return of sales packaging generally does not take place physically, but rather via a licence agreement in one of the dual systems approved in Germany. In the case of AGRAVIS, this was Noventiz in 2014 and Recycling Kontor (RK) Germany in 2015.

The quantities of sales packaging materials returned lie within the quantities stipulated in the packaging ordinance and totalled the following in 2014 and 2015:

Licensed materials				
	2014		2015	
	Kilograms	Comparison to previous year	Kilograms	Comparison to previous year
Paper	867,881	▼	863,304	▼
Plastic	407,693	▼	411,501	▲
Tin	53,520	▲	61,163	▲
Glass	76,577	▼	51,455	▼
Aluminium and other metals	17,359	▲	15,955	▼
Other compound metals	9,808	▲	9,492	▼
<b>Total</b>	<b>1,432,837</b>	▼	<b>1,412,871</b>	▼

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### PAMIRA initiative

The PAMIRA packaging recovery in agriculture campaign is a joint initiative of the pesticide industry and wholesalers for the safe and environmentally-friendly disposal of empty pesticide and liquid fertiliser packaging. Farmers collect and clean the packaging accrued, and return it to one of the around 340 collection points in Germany at specified times once a year free of charge. After checking that the acceptance conditions have been satisfied, the packaging is accepted and the farmer provided with a certificate of proper disposal via PAMIRA. The packaging is then compressed and the materials used for recycling or to generate energy.

The cooperative association and AGRAVIS support the PAMIRA system by making approx. 60 of the 340 national PAMIRA collection points available, assisting in the collection process, and ensuring their safety. The collection points can be found in regional locations relevant to agriculture (e.g. agricultural centres, cooperatives, and crop protection warehouses), ensuring the journey to return packaging is as short as possible. In 2014, a total of 3,035 tonnes of packaging were returned; 559 tonnes (18.4 per cent) in the AGRAVIS area. In 2015, 503 tonnes were collected in the AGRAVIS area. According to the provisional figures, a total of 2,900 tonnes of packaging material were collected in 2015 as part of the PAMIRA initiative.

**Silage film return**

Since 2015, AGRAVIS has participated in the European silage film recovery scheme, ERDE (Erntekunststoffe Recycling Deutschland). Farmers use large quantities of silage stretch films, silage sheets, underlay films, and other plastic products.

These films, which are often highly contaminated, should be returned by the farmers as clean and dry as possible. The plastic material collected can be shredded, washed, and melted in an extruder. And the plastic regranulate gained can then be used to produce new plastic products. The "ERDE" initiative thus constitutes another step towards a closed loop recycling. This helps to save resources and therefore makes a positive contribution to environmental protection.

The ERDE collection took place from the start of November 2014 through to the end of October 2015. 439 tonnes of silage films and 43 tonnes of stretch films were handed in by the AGRAVIS companies. AGRAVIS already organised the widespread return and recycling of used silage films for member cooperatives and AGRAVIS agricultural centres in 2014 to encourage the closed loop recycling concept, and offer farmers a meaningful alternative to using the foils for energy generation. The collection took place between April and June 2014 at several AGRAVIS Raiffeisen AG sites, and comprised a total of approx. 530 tonnes of agricultural foils and mixed plastics.

**ÖKOPROFIT environmental award**

AGRAVIS Raiffeisen AG was awarded the ÖKOPROFIT environment certificate in recognition of the measures taken at the company headquarters in Münster. ÖKOPROFIT is an ecology project for integrated environmental technology that is run jointly by municipalities, local businesses, and other regional and national partners.

The AGRAVIS project team introduced a total of eight measures at its headquarters in Münster. Four teams of trainees developed ideas for an environmental programme to be used as the basis for sustainable environment projects at other company locations under the leadership of energy, personnel, and sustainability management. Measures included fitting timers to printers to calculate and reduce the standby losses in office equipment. Paper consumption has been reduced by increasing the use of digital meetings via video conferencing at the approximately 400 AGRAVIS sites and using recycled pads of paper for internal memos. More stringent checking of the tyre pressure of company vehicles and setting up of a company car sharing scheme have also helped to reduce carbon dioxide emissions and conserve energy resources. All eight measures together help avoid 2.1 tonnes of rubbish, 86,000 kilowatts of power and 36.3 tonnes of carbon dioxide, which equates to a saving of €22,000 in monetary terms. The project impressed with innovative concepts with a model character for further company locations and involved the employees in Münster.

## Fields of action

### Employees

Workforce structure . Fluctuation . Performance reviews . Personnel development . Health management . Clear rules . Anti-corruption . Work safety .



## Employees

At the end of 2014, AGRAVIS Raiffeisen AG was employing a total of 6,112 employees of which 533 were trainees. The number of new employees therefore rose by 5.1 per cent compared to the previous year. At the end of 2015, AGRAVIS Raiffeisen AG was employing a total of 6,323 employees of which 559 were trainees. The number of employees rose a further 3.5 per cent compared to the previous year. The reason for this is the continuous growth course at AGRAVIS and the associated increase in recruitment figures.

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G4-LA12

Employment figures 				
	2014		2015	
	Employees	Comparison to previous year	Employees	Comparison to previous year
Total employees*	6,112		6,323	
- of which trainees	533		559	
- of which men	4,573		4,723	
- of which women	1,539		1,600	
- of which aged under 30 years	1,641		1,760	
- of which aged 30 to 40 years	1,203		1,173	
- of which aged 40 to 50 years	1,484		1,514	
- of which aged over 50 years	1,784		1,876	
- of which full-time	5,150		5,430	
- of which part-time	962		893	
- of which temporary	900		938	

\* Of which employees at foreign locations: 2014: 336 employees, which corresponds to 5.5 per cent of the total workforce; 2015: 343 employees, which corresponds to 5.4 per cent of the total workforce.

The hiring rate for trainees was 68 per cent in 2014 (in line with the German national average)<sup>1)</sup> and 63 per cent in 2015 (corresponding comparative figures not yet available). One of the the declared aims of the AGRAVIS 2020 sustainability programme is to increase the quality and quantity of training offered.

The age structure of the total AGRAVIS workforce has largely remained constant compared to the previous year. In 2014 and 2015, the average age was 40 years – as in the previous years.

G4-11

The same applies for the work contracts and employment types: as in the previous years, approx. 85 per cent of AGRAVIS employees worked full time and the remaining 15 per cent part time. Around 15 per cent of employees have a temporary work contract. The percentage of employees covered by collective wage agreements lay at a constant 65 per cent in 2014 and 2015.

### Fluctuation

The fluctuation rate lay at an average of 4.9 per cent in 2014 and 4.6 per cent in 2015 across the company group. Within this, the fluctuation rate is virtually identical among female and male employees. In 2014, 298 people left the company; in 2015, it was 290. A total of 554 new employees joined the company in 2014; in 2015, the number of new recruits rose to 595.

<sup>1)</sup> Source: <http://de.statista.com/statistik/daten/studie/36847/umfrage/uebernahmequote-von-auszubildenden-in-ost-und-westdeutschland>

Fluctuation*		
	2014	2015
	Percentage	Percentage
Fluctuation rate (overall)	4.9	4.6
- of which men	4.9	4.5
- of which women	4.7	4.9
- of which aged under 30 years	7.4	6.5
- of which aged 30 to 40 years	5.1	7.0
- of which aged 40 to 50 years	3.1	3.0
- of which aged over 50 years	3.9	2.5

\* Only employee and employer terminations of employment are taken into account in the calculation. Retirements, deaths, and trainees not being taken over after completing their training is not included in these rates.

### Feedback

The performance of employees in their workplace is a decisive basis for the success of every company. They are the drivers of economic performance, so to speak. Employees use their motivation, skills, and capabilities to achieve their personal goals and the company targets. Individual appraisal meetings are held with all company managers and employees in commercial positions on their performance at regular intervals.

Performance appraisals are important tools for the “leadership through feedback” approach. The employees learn through feedback how their performance and conduct is perceived.

77 performance appraisals were conducted at AGRAVIS Raiffeisen AG in 2014, with 1,609 employees receiving a performance appraisal in 2015. The reason for this is that the majority of the employees receive feedback in a personal appraisal meeting on their respective work conduct every two years. The meetings followed a standardised appraisal system. The appraisal is based on company-wide criteria, and relates to the employees’ work conduct, qualifications, and concrete functions.

### Personnel development

Among the sustainability goals in the field of employees are regular further and advance training for employees, manager training, and reinforcement of employer attractiveness within the industry. AGRAVIS Raiffeisen AG uses a bundle of measures to achieve these goals. The AGRAVIS personnel development department has developed a training series for managers, sales staff, and young professionals specifically addressing the challenges faced by these professional groups in the company context.

This includes the AGRAVIS Management Training, for example, which is aimed at all managers of the AGRAVIS Group. In six modules, participants gain skills to be able to master their tasks and challenges as managers within the AGRAVIS Group. The main aspects covered during training are:

- Creation of clarity on the personal leadership responsibility
- Familiarisation with the AGRAVIS management tools and leadership techniques
- Health-promoting leadership strategies
- Labour law
- Conversational, presentation and facilitation skills
- Conflict resolution strategies

G4-LA1

G4-LA11

G4-LA9

The aim is to provide the participating managers with a clear understanding of their role as managers, along with methods and specialist expertise. The managers moreover learn about tools for self-management to be able to make effective use of their resources. 130 managers participated in the AGRAVIS management training by the end of 2015.

One further key to the commercial success of a trading company is a strong and successful sales team. In sales training devised specifically for the different company areas, employees receive technical, commercial, and personal training to enable them to optimally advise AGRAVIS customers. Members of both outside and inside sales receive training to develop their technical and psychological sales skills in a targeted manner. In 2015, around one third of the investments made in personnel development were for sales-related further and advanced training.

Young professionals demonstrating potential for advancement, who are just starting out in their careers, are able to take advantage of the offers of the AGRAVIS future workshop. Participants are familiarised with practical methods and tools, and receive stimulus to develop their personal skills. The main aspects covered during training are:

- Communication and conversational skills
- Time management and work organisation
- Leadership without managerial authority

Up to the end of 2015, 34 prospective managers benefited from this offer.

Employees moreover have the opportunity to participate in language training, specialist training and IT training along with courses offered by external providers. Information on the training offered is made available to employees in a digital catalogue on the intranet.

In previous years, the personnel development department at AGRAVIS recorded increased demand for its offers as well as for further and advanced training in general. Thus 671 employees participated in personnel development measures in 2014. In 2015, there were 786 participants (a plus of 17 per cent) – a growing tendency. In 2014 and 2015, the number of training days was essentially identical, totalling approx. 4,500.<sup>2)</sup>

The distinction by Focus, Xing and Kununu as a “Top National Employer” shows that employees consider AGRAVIS Raiffeisen AG to be an attractive employer. The company was honoured for the third time, and ranked highly in the wholesale, retail, energy, supply, and disposal sectors. The leadership skills of company managers, career prospects, salary levels, and company image were evaluated.

### **Occupational Health & Safety Management – focus on health**

One goal of the AGRAVIS sustainability programme is the sustained health of employees through training and the employment of company health managers.

At AGRAVIS Raiffeisen AG, occupational Health & Safety Management is an ongoing process with a goal and needs-oriented structure. The four focal fields within occupational Health & Safety Management are: nutrition, muscular-skeletal aspects, activity in the form of cardiovascular training, and the subjects of mental burdens and stress. Health days were once again held for all employees at central and decentralised AGRAVIS locations in 2014 and 2015 during which information was offered and concrete exercises were also provided in practical workshops and short seminars. Experts regularly provide information and tips for optimal health behaviour during specialist talks. The number of areas in which employees make use of the fruit and vegetable baskets and muesli breakfast offers has also increased steadily.

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<sup>2)</sup> Includes the measures organised and implemented exclusively by the personnel development department. Further training measures not involving the personnel development department are not included in the figures.

Modern and ergonomic office equipment is already the norm at AGRAVIS. Employees are able to obtain targeted information on correct usage from qualified professionals, who are certified as ergonomics coaches by the Initiative of Healthy Work (Initiative Gesünder Arbeiten, IGR e.V.). This is just one example of the close link between the occupational Health & Safety Management and further AGRAVIS service areas, such as real estate management.

More than 40 health managers currently work at the decentralised AGRAVIS locations and in the subsidiaries. As competent contacts, they implement practical occupational Health & Safety Management measures locally. Offers range from company gyms at compound feed plants through health checks at agricultural centres to a focus on skin care at AGRAVIS-Technik sites. The subject of “A healthy approach to self-management and the management of others” is an established, target group-specific component of the AGRAVIS management training for company managers. The offer of comprehensive health checks focuses on the individual care of the upper management levels. The “Fit on the job” seminar series focusing on health topics is geared toward commercial and industrial-technical trainees at the AGRAVIS Group.

Increasing usage rates of the services offered by PME-Familienservice is a clear indication that AGRAVIS is providing effective support for employees in specific circumstances through external employee counselling. Employees’ individual health, performance preservation, and motivation are decisive components that contribute to the success of AGRAVIS – including the aspect of employer attractiveness. They are and remain the focus (also through occupational Health & Safety Management).

#### **Clear rules**

Beside economic and environmental aspects, sustainability also comprises social dimensions. This includes general topics such as equal opportunities, poverty, and opportunities for social advancement in addition to discrimination.

Discrimination is not tolerated at AGRAVIS and it is mentioned specifically in the company code of conduct. Under the point on “Respect”, it is clearly stated that every employee at AGRAVIS shall receive the same opportunities, and only be appointed and promoted on the basis of his or her individual capabilities and performance. Moreover, all forms of discrimination, sexual harassment, coercion, or verbal assault are not tolerated; the same applies for intimidating or offensive behaviour.

Violations of the above discrimination regulations may lead to criminal proceedings against the employee or AGRAVIS Raiffeisen AG itself. In the event of violations of the discrimination regulations, AGRAVIS moreover reserves the right to take action against the employee pursuant to labour law. No cases of discrimination were reported in 2014 or 2015.

G4-HR3





G4-S04



### Responsible action

Entrepreneurial responsibility means identifying opportunities while also avoiding risks. Elements of responsible company management are ever-more important for a modern company strategy. In this context, anti-corruption is an issue that affects all company employees.

The companies of the AGRAVIS Group and their employees commit to the fair treatment of competitors. Adherence to statutory norms for the protection of competition is of central significance in this. Both moreover serve a lasting and long-term successful cooperation with business partners. The bribing of public officials or private businesses in addition to the granting of favours constitute breaches of fair competition, and are therefore criminal offences.

In March 2015, the German Federal Cartel Office (Bundeskartellamt) visited the AGRAVIS headquarters in Hanover and launched investigations based on a decision reached by Bonn local court. The investigation aimed to clarify the circumstances surrounding potentially restrictive agreements with crop protection wholesalers; its scope was extended at the start of 2016 to include the field of agricultural engineering. AGRAVIS Raiffeisen AG is cooperating with the authorities in the ongoing investigations.

The AGRAVIS code of conduct contains clear and binding guidelines on the subject of anti-corruption, which apply to all employees. AGRAVIS categorically opposes bribery in all forms and the corruption of its employees. However, a differentiation must be made between the legitimate maintenance of business relations and the improper influencing of/by a business partner. The acceptance of money or comparable benefits, such as petrol vouchers or suchlike is generally prohibited. AGRAVIS employees are able to accept or offer socially-acceptable gifts, such as small presents like promotional gifts or invitations to a business dinner, if this does not appear improper. In cases of doubt, employees should seek approval from their superior. The acceptance and granting of favours takes place within the relevant work areas according to a "four or more eyes" principle.

### Accidents

The number of accidents subject to reporting dropped significantly in 2014 and 2015. In 2014, 154 accidents were recorded at the AGRAVIS companies – 18.9 per cent fewer than in 2013. In 2015, the number of accidents subject to reporting fell further to 146 – 5.2 per cent fewer than in 2014. Days of absence due to accidents of which the trade association was informed also decreased: 3,128 days of absence were recorded in 2014 (26.6 per cent fewer than in 2013) and 2,583 days of absence in 2015 (17.4 per cent fewer than the previous year). There was one death in 2014.

The so-called "1,000-man quota" (accidents subject to reporting per 1,000 employees) totalled 25 in 2014 and 23 in 2015. Similar to the numbers of accidents and days of absences, the 1,000-man quota continuously improved compared to the previous year.

Number of accidents*				
	2014		2015	
	Total	Comparison to previous year	Total	Comparison to previous year
AG	15	▲	11	▼
Machinery	65	▼	76	▲
Agricultural centres	43	▼	39	▼
Feed plants	22	▲	15	▼
Trade in construction materials	4	▼	4	■
Retailing	3	■	0	▼
Other	2	■	1	▼
<b>Total</b>	<b>154</b>	▼	<b>146</b>	▼

\* The number of accidents relates to the fully-consolidated German companies of AGRAVIS Raiffeisen AG supported by the Group services. Information on the fully-consolidated companies not supported by the Group services on the subject of occupational safety but rather by external third parties is also included. The accident data is requested in writing in this case.

Overall, most accidents at AGRAVIS occurred in repair, maintenance and assembly work in the technical field, feed plants, and agricultural centres – as in the previous years. Within this, particularly the use of tools and machines led to accidents. There are no specific occupational accident black spots. The aim is to reduce the number of occupational accidents to a minimum through preventive measures and training, and to continuously improve health protection for the employees.

#### Honorary award for the AGRAVIS distribution centre

At the end of 2014, the distribution centre of AGRAVIS Raiffeisen AG was awarded the "AUGEN-Prinzip der Distribution" prevention award by the cooperative for trade and goods logistics (Berufsgenossenschaft Handel und Warenlogistik, BGHW). This award honours innovative contributions to a company's health and work safety, which are exemplary in their sector and help inspire other companies. The acronym "AUGEN" is also the German word for "eye", whereby the "A" stands for "work safety", the "U" for "environmental protection", the "G" for "health protection", the "E" for "efficiency" and the "N" for "benefits for all". The first three aspects are achieved through the use of modern and efficient industrial vehicles (e.g. with an overhead driver guard, low energy consumption, and adjustable ergonomic cockpit) in addition to the further development of battery and loading technology.

The aspect of "efficiency" aims to increase distribution performance while maintaining the same high safety and preventive health protection for employees through the use of modern equipment. The aspect of "benefits for all" means that the measures have a positive impact on all affected areas. Moreover, it is at the same time an indication of the unique cooperation and involvement of the employees, who contributed their experiences in everyday working life to the project.



**“Sicher mit System” seal of approval**

At the end of 2015, the Elspe branch of AGRAVIS Technik Lenne-Lippe GmbH was awarded the “Sicher mit System” (“Systematic Safety”) seal of approval by the wood and metal cooperative (Berufsgenossenschaft Holz und Metall, BGHM). This confirms that the company meets the requirements of systematic and effect work and health safety, and incorporates these into the internal company structures. The basis for this is the industry-specific implementation of the German national guidelines on occupational safety and health management systems (NLF/ILO-OSH 2011). Specifically, this means that AGRAVIS Technik Lenne-Lippe GmbH has introduced an occupational safety management system with the support of the AGRAVIS safety officers, and the resulting work safety organisation has been evaluated by a neutral party. Moreover, recommendations for action for potential weaknesses have been voiced.

From a business perspective, a work safety management system makes sense because every accident and every absence due to illness causes costs, and often has serious consequences for the affected employees and their families. With the seal of approval AGRAVIS Technik Lenne-Lippe GmbH hopes to boost motivation among employees and ensure constant personnel availability due to minimised absence times as well as to achieve a higher quality of service and improved external image among customers, employees, the general public, and contracting parties.

## Fields of action

### Customers

Crop cultivation sales consulting . Feed production management . Energy cost optimisation .  
Project construction . Customer training . Data protection . Customer surveys



## Customers

### Crop cultivation

The protection of natural resources is an important goal for everybody involved in agriculture. From a crop grower's perspective, resources worth protecting primarily include the non-reproducible production factor of soil as well as the quality of the groundwater and surface water. The AGRAVIS crop cultivation consultation team offers farmers professional support for sustainable use of their land.

#### **"IQ-Plant" crop cultivation app**

AGRAVIS has offered farmers a modern, practical and free form of support in a handy format since 2012. With the "IQ-Plant" crop cultivation app, around 26,000 users benefit from up-to-date, culture-specific crop cultivation recommendations, which are adapted to the season and region and sent directly to them on their smartphone. All questions relevant to farming – from sowing of the seeds through to the harvest – are covered, such as:

- What is the right crop variety for my location?
- How can I best prepare my fields for sowing?
- Does fertiliser already make sense at this point?
- How can I safely combat diseases in my crops?

Extensive advice is particularly needed on the responsible use of pesticides, which farmers gladly take advantage of. This not only takes place via the app, but also through direct contact with the crop cultivation consultation team at AGRAVIS via the telephone hotline or during field visits and event days. The cultures are examined directly at the site during event days and the farmers are provided with recommendations for their specific fields.

The digital consulting offers are expanded and improved by complementing the "IQ-Plant" crop cultivation app with the "Pro" functions. The "integrated fertilising weather" function offers farmers a tool to optimally adjust their crop protection measures to the prevailing weather conditions. With a traffic light feature, the farmers are shown a precise time frame during which the crop protection work can be performed. The timing is important to maximise the effect of the pesticide and at the same time avoid any losses.

#### **Nutrient optimisation**

Not only the use of pesticides can and should be optimised. A targeted supply of nutrients for the crops in the fields can also prove beneficial. Innovative methods such as fertilisation with microgranulate in maize and potato cultivation, scattering the fine fertiliser granules close to the grains sowed or tubers in the ground help in this. The nutrients are then optimally positioned, and available to the young plants more quickly and effectively. Overall, this enables considerably more efficient fertilisation of the crops.

The supply of nutrients on the fields can also be optimised through the improved effectiveness of organic fertilisers such as manure by adding so-called nitrification inhibitors or also nitrogen stabilisers. These are mixed into the manure during filling of the manure tanker, before they are both applied to the fields. The inhibitors prevent transfer of the organic fertiliser, and therefore also the possible leaching of nitrate into the groundwater. The valuable nitrogen also remains in the soil longer in this way – and therefore also in the plants, which is not always ensured otherwise due to the time difference between the application of manure (from 1 February) and the uptake of nutrients by the plants (often as late as in April or May). Optimal use can thus be made of the organic fertiliser.

### **Specialist training in crop protection**

The AGRAVIS crop cultivation consultation team moreover informs farmers of their legal obligations regarding “crop protection”, and supports them in practical implementation of the regulations. During a number of different farming events held in 2014 and 2015 in cooperation with local cooperatives, around 11,800 farmers received training to allow them to meet their training obligation according to the amended German Plant Protection Act (Pflanzenschutzgesetz, PflSchG). Certified events are offered in close cooperation with the agricultural authorities in the respective federal states. Beside classic farming recommendations, aspects such as the legal bases of crop protection, application techniques, biological pest control in maize, and user protection were covered.

### **“Greening” presentation portfolio**

The subject of “greening” also preoccupied farmers in 2015. It was amended during the reforms of the European Union’s Common Agricultural Policy. According to this policy, farmers must in future adhere to and observe further obligations and rules regarding the tillage of their farmland if they wish to receive the full EU agricultural subsidies. This includes the creation of ecological focus areas, crop rotation, and the maintenance of permanent grassland.

The complex regulations were explained to the farmers, and the according suggestions for solutions provided during customer events. AGRAVIS has developed new seed mixes for the creation of ecological focus areas, which allow farmers to adhere to the EU regulations with minimum effort.

As a partner in agriculture, AGRAVIS sees it as its duty to offer solutions in all of the aforementioned areas.

## **Feedstuff**

### **Feedstuff with greatly reduced N and P levels**

In 2015, AGRAVIS Raiffeisen AG introduced new feeding concepts for sows and fattening pigs under the name Olympig. They meet the criteria for feedstuff with greatly reduced nitrogen (N) and phosphate (P) levels (in accordance with DLG) based on a net energy assessment.<sup>1)</sup> By adopting the new concepts, feed efficiency can be increased and animals provided with precise nutrition. The outcome is decreased excretion of nitrogen and phosphate, and reduced space requirements for the manure produced in pig farming. The feed concept based on greatly reduced N and P levels thereby relieves the pressure on nutrient balancing for farms that keep pigs, and helps to secure the future of these farms. This is particularly important in light of the amendment to the German Fertiliser Ordinance (Düngerordnung, DüV), which stipulates a reduction in manure fertilisation per hectare of farmland.

For pig fattening, the feed concept based on greatly reduced N and P levels is divided into four feeding phases. The raw protein content is lowered in the end and middle fattening stages, i.e. when the largest volumes of feed are consumed, to below the required standard specifications. By taking nine first limiting (praecaecal) digestible amino acids into account, the fattening of animals and slaughtering capacity is ensured. The feed therefore still contains sufficient amounts of all the amino acids that are needed for body growth when the raw protein content is low. This ensures optimal protein supply for the animals and simultaneously eases the animals’ metabolism. Lowering the raw protein content in the feed leads to lower nitrogen excretion in the animals – with 1 per cent less raw protein in each case, about 10 per cent less nitrogen is excreted.

<sup>1)</sup> In the net energy system, the heat lost during metabolism in addition to the energy loss from excrement, urine and methane are taken into account – as is the norm in the evaluation of the metabolisable energy (ME).

Due to the lower metabolic stress, the water absorption of the pigs decreases by about 3 per cent, which in turn reduces the manure volume by about 5 per cent. The ammonia emissions from the manure are then also reduced by about 10 per cent. The factors described ultimately lead to better air quality, whereby the combination with metabolic easing in turn leads to improvements in the health and happiness of the animals. Furthermore, addition of the phytase enzyme improves the digestibility of the phosphorus contained in the vegetable raw materials so that the overall phosphorus content in the feed can be reduced – while keeping the level of digestible phosphorus constant.

In summary, adoption of AGRAVIS's feed concept based on greatly reduced N and P levels thus enables farmers to meet the needs of their animals appropriately, and to improve animal health while conserving the environment and saving on feed and nutrient costs.

As a partner in agriculture, AGRAVIS Raiffeisen AG is contributing to sustainable development and securing the future of German livestock farming with its innovative feed concepts. In future, the AGRAVIS supplement and mineral feed for pigs will also be optimised according to the concept described above, as the model can also be applied to the mixing of feed by farmers.

### **Eco-Efficiency Manager for Pigs**

The Eco-Efficiency Manager (EEM) for pigs is an online calculation tool developed for AGRAVIS by the chemical company BASF. It enables the comparison of different feed mixes for pigs (complete feed, supplement feed, protein concentrates and mineral feed) according to a whole host of criteria. The EEM enables an analysis of the different feed mixes with regard to the sustainability-relevant aspects such as the environmental impact and feed costs – under given conditions, such as the availability of raw materials and the nutrient content of feed.

The evaluations provided by the EEM are based on the BASF eco-efficiency methodology, which was developed to describe the entire life cycle of products – from product manufacture, use and disposal through to the fulfilment of a defined customer need. In the case of the AGRAVIS EEM for pigs, this means that different feed mixes can be evaluated and compared according to their environmental and economic impact, from their origin through to the live pigs. Among others, the environmental impact of products is evaluated according to the following factors: water consumption, space requirements, water emissions, acidification potential, and energy consumption. Selected social indicators such as occupational diseases and accidents at work are integrated into the evaluation of the environment-related effects. Regardless of the environmental effects, the economic costs of the product are also taken into account – the cost of raw materials, production, and energy, for example. In a final step, the environmental effects and costs are combined and presented in an eco-efficiency portfolio.

G4-EN27

### **Eco-efficiency analysis – sustainability evaluation of pig feed with greatly reduced N and P levels**

One of the aims of the AGRAVIS sustainability programme is to take sustainability-relevant aspects into account in product management and evaluation. Against this backdrop, AGRAVIS has conducted an eco-efficiency analysis of two complete pig feed concepts, namely the feed mix "Gestern" ("Yesterday") frequently used in the past and the optimised "Zukunft füttern" ("Feeding the Future") feed mix. These are two representative feed mixes offered by AGRAVIS for pigs.

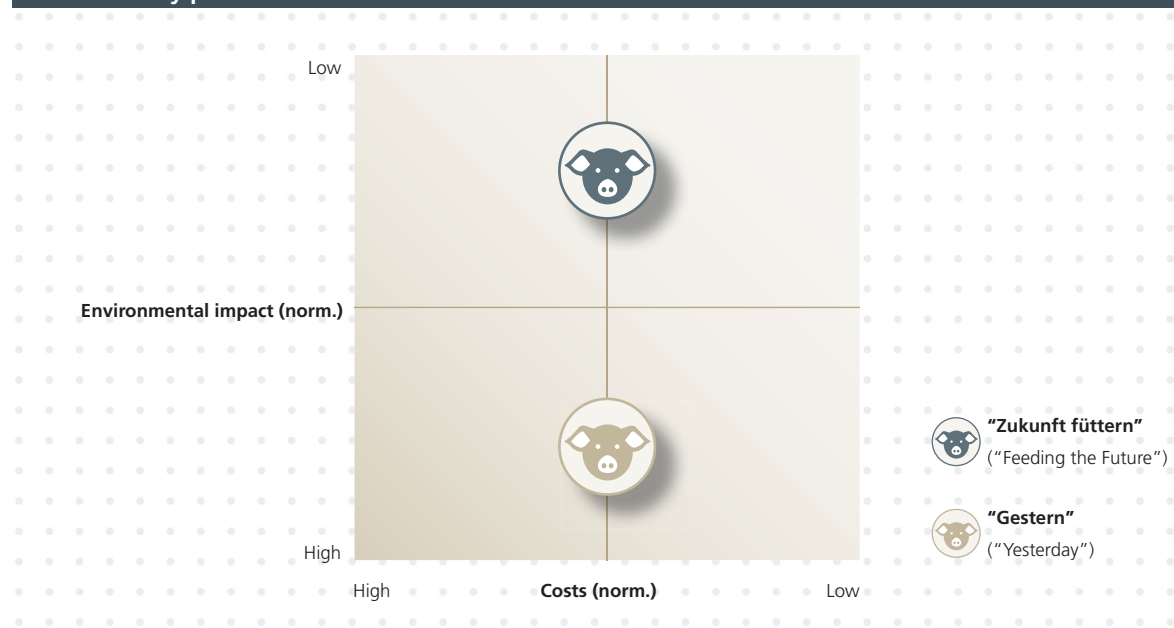
- In the "Gestern" ("Yesterday") feed, the metabolisable energy (ME) has been optimised, with a consistently high raw protein content of 17 per cent in all fattening phases.
- In the "Zukunft füttern" ("Feeding the Future") feed, in contrast, the basis is an ideal raw protein supply in combination with the net energy evaluation. This means that the animals' actual energy and protein needs are taken into account to ensure the precise supply of amino acids and energy for the pigs throughout all fattening phases. In this concrete case, this means that raw protein is saved in the later fattening phases, as the animals' needs are accordingly lower: down from 17 per cent in fattening phase 1 to 13 per cent in fattening phase 4. The ideal protein supply to the pigs is ensured by taking nine digestible amino acids into account.

The reference value for the present comparison is the manufacture of feed for the production of a 1,000 kilogram live weight. The cost and feed needs in a total of nine different production phases are included, namely gestation (pregnancy), lactation, pre-starter phase, two piglet rearing phases, and four fattening phases. In the present study, the feed mixes are identical through to the piglet rearing phases; different feed is used only during the four fattening phases. However, during the four fattening phases, feed use is considered identical in both complete feed concepts.

Beside the actual costs for the raw materials and production, the processes involved in feed manufacture in addition to the environmental impact of the production of raw materials in the upstream production chain are also taken into account. In the case of grain and other feed materials, seed production, and the use of fertilisers, pesticides, and resources are included in the balance sheet. The keeping of pigs by farmers, manure created, slaughter, and further downstream steps are not taken into account.

The outcome of the eco-efficiency analysis is presented in an eco-efficiency portfolio. It is clearly discernible that the optimised "Zukunft füttern" ("Feeding the Future") feed has a significantly lower impact on the environment compared to the "Gestern" ("Yesterday") feed – with virtually unchanged production costs.

### Eco-efficiency portfolio



Source: AGRAVIS Raiffeisen AG



In the eco-efficiency analysis, the environmental categories of water consumption and space requirements have the greatest impact on the overall outcome. In most environmental categories, the use of grain and grain substitutes, protein sources, amino acids and additives is responsible for the environmental impact. Improvement of the environmental performance in the comparison conducted can be attributed to a reduction in the raw protein sources in favour of grain and free amino acids. Moreover, the analysis shows that the increased use of by-products such as bran make sense in principle, as they do not have a considerable environmental impact in any of the environmental categories considered. According to the study findings, the environmental impact of transport is negligible. The study has been critically reviewed by TÜV Rheinland in accordance with the DIN EN ISO 14040:2009 and DIN EN ISO 14044:2006 norms for the assessment of environmental audits.

Beside the fact that the aspects of pig farming and manure production in addition to all further downstream production steps have not been taken into account, it should be noted that the availability and quality of the environmental inventories for the raw materials used could not always be ensured. Continuous improvement of the underlying analysis methods and data along with inclusion of the downstream production steps are among the to-dos for the specialists at BASF and AGRAVIS. Despite this, the present eco-efficiency analysis makes an important contribution to overcoming the huge challenges faced in modern-day livestock farming that German farmers are confronted with every day. Beside the needs-oriented care of the animals (to ensure animal health and performance), this includes aspects such as animal well-being, ever-growing environmental requirements, intense competitive pressure and the dwindling social acceptance of livestock farming.

### Energy cost optimisation

Hidden potential for saving energy exists at every company. Customers are able to use the energy information system, EIS for short, offered by AGRAVIS to determine this potential. The system measures electricity consumption and load curves, and provides comparison reports that quickly supply users with a transparent energy profile for their business. Enabling rapid identification of the top sources of energy consumption and for hidden “energy guzzlers” outside of business hours to also be discerned. Concrete measures to reduce the energy consumption can be deduced from the report and monitored in the long term.

Based on the EIS reports generated and an in-depth site visit, the AGRAVIS consulting team prepares energy reports for its customers containing recommendations for optimisation. This involves the examination and assessment of key aspects such as lighting, heating, air conditioning and ventilation technology, compressed air systems, and building technology.

In practice, energy savings of up to 15 per cent are readily achievable with very little effort. Investments in energy-saving lighting and optimising heating systems enable even greater savings.

EIS is now used to monitor around 50 AGRAVIS locations – wide-scale connection of all properties to the system is planned.

### Example energy comparison



### Energy-efficient project construction

The AGRAVIS construction service is a partner and general contractor for the construction of agricultural premises in addition to retail, service and trade buildings. One work focus is on projects such as

- plant engineering for grain stores and mills;
- construction of bulk cargo warehouses (e.g. for the storage of grain or fertiliser);
- construction of retail buildings (e.g. Raiffeisen stores and petrol stations).

True to the motto of "Construction is our passion", the specialists at AGRAVIS advise customers, and plan and build their projects.

During a consultation meeting, the vision for the construction project is transformed into a realistic concept, whereby the client's ideas and wishes are adapted in the best possible way to the existing conditions. The solution concepts provided combine architectural and formal requirements with function and efficiency in order to provide precise building specifications and the associated cost calculation. The construction service team moreover takes care of building site organisation, along with handover and approval of the construction project, including the invoicing and documentation.

The efficiency and energy savings requirements made of future-oriented buildings and plants are growing, and today form a fundamental part of qualified planning and project development. Heat insulation has developed from a niche field into an economic necessity, for example. Efficient and economical buildings and plants are needed to remain competitive in the future. These requirements are the result of an increased social awareness of the energy efficiency of buildings and plants on the one hand and technical advances and legal regulations on the other.

In the planning for the construction of a mill, this means:

- short wiring distances to reduce energy losses;
- short transport routes and lifting distances for products;
- separate delivery and mixing of grain;
- short production processes with (fully-automatic) control and monitoring.

In the planning for the construction of an office building, this means:

- the installation of modern technology, such as LED lighting;
- digital control of the energy consumption of heating and air conditioning;
- intelligent building technology to reduce energy consumption.

## Advanced training for employees of Raiffeisen Markets

### Seminars and product training

One declared aim of the AGRAVIS sustainability programme is to provide customers with advanced training. One example is the training offered by Terres Marketing + Consulting GmbH, a subsidiary of AGRAVIS Raiffeisen AG. They run individual seminars such as sales training, claims management and business principles in addition to training on electrical devices, paint and pet care.

Seminars and product training								
Time frame*	Seminars				Product training			
	Total	Comparison to previous year	Participants	Comparison to previous year	Total	Comparison to previous year	Participants	Comparison to previous year
2013/2014	26	▼	293	▼	17	▼	436	▲
2014/2015	25	▼	344	▲	19	▲	397	▼

\* The training period runs from September to March of the following year.

There are also interdisciplinary programmes, such as the qualification campaign for Raiffeisen store employees. This campaign imparts comprehensive skills for efficient store management. As such, it is primarily geared towards the managers of Raiffeisen Markets, and provided exclusively for employees of the Raiffeisen stores cooperating with Terres M+C. The qualification campaign took a holistic approach with interrelated seminar modules. Seminars covered aspects such as general legal principles, economic fundamentals, and the goals of competent leadership. All training serves the overriding aim of "Successful retail operations" and "Achieving brand status". A total of 17 people completed the training between 2013 and 2015. Eleven participants have registered for the period from 2015 to 2017. The training period runs for 18 months from September to March 1.5 years later.

### Inclusion of sustainability aspects in the TMC-QZ quality certificate

Terres Marketing + Consulting GmbH has more than 20 years of experience in committed planning and implementation, and thus affords a high level of expertise as a franchisor in all retail matters. It develops retail concepts for Raiffeisen Markets based on the market requirements and branch mix. An extensive network in the fields of science, market research, and development create a decisive competitive edge. The aim of the franchise system is to build up the retail partner's market position, and to successfully position them in the competitive environment.

The TERRES M+C quality certificate (TMC-QZ) was launched in 2004. It evaluates the participating Raiffeisen Markets in terms of their customer impact. Specifically, the appearance of the indoor and outdoor areas, advertising activities, and product range are evaluated. The individual aspects and criteria are subject to a points system, which is adjusted to the prevailing conditions every year. The data is maintained by the system consultant for the stores they are responsible for. An evaluation is conducted at the end of every year, and the market with the most points wins.

The following aspects are taken into account in the TMC-QZ evaluation:

- Performance data: fundamental data on the workforce, catchment area and advertising;
- Facilities: indoor and outdoor areas, entrance and checkout areas, property signage;
- Assortments: the assortment modules available at the store;
- Product range: review of the product ranges from the different retail areas;
- Advertising: Leaflets/brochures the store participated in, advertising and promotional measures;
- Employees: staff qualification, participation in seminars and product training;
- Organisation: existence of documents, work instructions, and access to portals;
- Impression: individual assessment of the store by the system consultant, e.g. based on the criteria of product presence, cleanliness, and retail space design;
- Measures: identification of goals to increase the scores in the above areas.

At the start of 2015, sustainability aspects for the TMC-QZ were considered for the first time within the scope of a university dissertation, and implemented technically in the evaluation system in a second step. Since November 2015, sustainability-relevant aspects can also be evaluated.

Sustainability-relevant aspects in TMC-QZ include:

- Cooling: existing cooling units and their energy efficiency categories;
- Electricity: type and procurement of electricity;
- Lighting: lights used and opportunities to control lighting times;
- Heating: type and supply of heating;
- Water: supplier and reuse options;
- Insulation: building construction year and the energy savings regulations valid at the time;
- Waste: disposal and return options for customers, waste separation at the store;
- Sales facilities: type of lighting and heating in the aquatic products department.

The system is made simpler and more practical, and the future collection of data also simplified based on the feedback from the consultant. Sustainability-relevant aspects are thus adapted in an ongoing process.

During the introductory phase, the sustainability-relevant aspects are considered separately from the overall TMC-QZ, but are then incorporated into the overall evaluation. Linkage to the AGRAVIS energy management system to ensure data does not need to be collected twice is also planned.

The inclusion of sustainability-relevant aspects aims to create an awareness for the topic on the one hand and to reveal potential for improvement with regard to the equipping and set-up of Raiffeisen Markets on the other. Recommendations for action can be made for sustainable set-up of the Market on this basis that characterises the appearance and offers customers a familiar environment when shopping.

### Data protection

AGRAVIS Raiffeisen AG collects, processes and stores large quantities of data. Given that it is in part personal data, which is processed in IT systems, the subject of data protection is of central importance.

G4-PR8

AGRAVIS therefore employs a data protection officer, who is responsible for ensuring that the provisions of the German Federal Data Protection Act (Bundesdatenschutzgesetz, BDSG) are adhered to. Among the tasks of the data protection officer are training and informing AGRAVIS employees on data protection matters:

- New employees are bound to maintain confidentiality in a written declaration and provided with an information sheet on data protection.
- Training documents and further information materials are made available under the “Data protection” tab in the AGRAVIS intranet.
- The responsible persons are informed of matters relating to data protection during the data protection officer’s regular visits to the Group companies and decentralised locations they supervise.
- On request, classroom training is also offered and carried out.

The AGRAVIS data protection officer is also the direct contact for employees, customers, suppliers and regulatory bodies, and takes receipt of complaints relating to data protection.

In 2014, approx. 50 queries/complaints were received from AGRAVIS customers or the subsidiaries affected. The reason for this was an update review of customer information via the Schufa credit rating agency. This led six customers to block their accounts. The data protection officer for the state of North Rhine-Westphalia also submitted a query regarding this matter, as an internal error led to the address information of a non-customer also being requested. The matter has now been clarified. In 2015, there were no complaints from employees, customers, suppliers, or regulatory bodies.

G4-PR5

#### Survey of cooperative customers

In 2015, AGRAVIS Raiffeisen AG conducted a survey of its cooperative customers. Around 110 parties were surveyed. Among others, the questions related to:

- overall satisfaction with AGRAVIS, and the Group’s share value and dividends;
- the strategy, customer orientation, cooperation, communication, and future viability of AGRAVIS;
- the competitiveness of AGRAVIS with regard to specialist expertise, price-performance ratio, and reliability;
- experiences with the AGRAVIS fields of crop protection, fertilisers, seeds, compound feed, special feed products, agricultural products, energy, and Raiffeisen Markets in terms of their customer orientation, information, order processing, price-performance ratio, and consulting services.

The quality of four survey questions was evaluated, and there were around 140 comments and remarks. A six-point scale was used in most of the other questions, whereby the scale ranged from 1 (“Applies completely”) to 6 (“Does not apply at all”).

The response rate of 56 per cent was slightly higher than for the AGRAVIS surveys conducted in 2007 and 2010. Overall satisfaction has largely remained constant compared to the previous surveys. The long-term success of AGRAVIS was particularly important to the companies surveyed.

While the AGRAVIS share value and dividends as well as the strategy (e.g. the international orientation) received positive ratings, the competitiveness and customer orientation received less positive ratings. With regard to the competitiveness, the specialist expertise and progressive nature at AGRAVIS were highlighted as positive examples. With regard to the customer orientation, it became clear that AGRAVIS must take the aspects of future viability and the cooperatives’ interests more into account. In addition, those responsible for the companies surveyed desired a more intensive dialogue with the Board of Directors of AGRAVIS Raiffeisen AG.

The customer survey revealed the strengths and weaknesses of AGRAVIS from the cooperatives’ perspective. The findings gained will be used to consolidate the strengths identified, and to boost the potential for improvement to support AGRAVIS Raiffeisen AG in its future-oriented growth course.

## Fields of action

### **Company conditions .**

Market environment . NetFarming . Biogas production . Food wastage . Social responsibility



## Company conditions

### Market environment and influencing factors

AGRAVIS Raiffeisen AG once again demonstrated stability in the difficult markets and challenging environment that prevailed in 2014 and 2015. The focus remained on the structural and ever-growing future field of agribusiness in addition to the related aspect of agricultural services. One stable long-term trend affecting agribusiness is the rise in the global population, and with this the increasing prosperity in emerging markets in addition to the ever-growing need for safe foods. Effectiveness and efficiency are becoming important criteria for the everyday work within agricultural – coupled with the demand for high quality.

The trade in agricultural commodities and foodstuffs, one of the core activities of AGRAVIS, take place on a global scale. This is reflected in the high volatility in the commodities markets, among others. In addition, there are already low margins in the agricultural sector. Hence AGRAVIS is seeking to compensate for risks as far as possible in all of its business activities. The agriculture industry is becoming increasingly professional worldwide. This in turn leads to ever larger agricultural businesses. In order to efficiently manage cultivated land, a growing amount of technical solutions are needed in these businesses. Overall, there is a continuing trend towards structural market adjustment at the supplier, competitor, and customer levels. According to the German Farmers' Association (Deutscher Bauernverband, DBV), 7,000 agricultural businesses in Germany ceased operating alone in the 2015 reporting year. This constitutes a decline of 2.3 per cent in the number of agricultural businesses compared to the previous year.

The challenges faced by the agricultural industry are growing on the national, regional and local levels. Competition is increasingly fierce – not least because of foreign suppliers entering the German market. Competition and market pressure is also on the rise within the cooperative network. At the same time, the number of regional primary cooperatives is falling. As a result, the pressure on prices at all levels of the value chain is intensifying. AGRAVIS is responding to these challenges. Main influencing factors can be weather phenomena or the effects of climate change, which have a direct impact on crop yields and the incomes of farmers, in addition to temporary market effects, such as animal diseases in different regions of Europe. They can also lead to drastic losses.

The sector will continue to be characterised by general trends such as price volatility, discussions on production and management practices in modern livestock farming, and the growing purchasing power of large food retailers mainly hoping to gain and retain customers through price campaigns. In addition, EU and national policies are leading to increasingly restrictive framework conditions for agribusiness. The loss of agricultural land due to sealing (e.g. road and housing construction) also affects the entrepreneurial options available within the industry.

### Strategic orientation

The AGRAVIS Group responds to the different challenges with dynamism, innovation, and clear orientation of its business activities. The company underlines its position as a large, highly profitable German agricultural trade and services company in this way. With a more than 77 per cent share in the turnover in 2015 and a 75.5 per cent in 2014, the core business is and remains agribusiness with the business segments of Plants, Animals, and Machinery. The AGRAVIS strategy aims at all business segments providing a steady contribution to earnings. Their future viability and profitability are reviewed at regular intervals. In order to strengthen the AGRAVIS Group and its cooperative partners, the components of the Group portfolio shall continue to be developed in a future-oriented manner. In principle, AGRAVIS is always open to partnerships, strategic alliances, and collaborations, provided they help to boost efficiency and optimise value.

The AGRAVIS Group consolidates its strong market position in a demanding environment through the continuous development and expansion of its products, support, and services in the region. It consistently works towards satisfying the needs of its customers. Investments in the location structure, influence, and logistics also contribute to this, as do the acquisitions and joint ventures in the domestic market. The careful yet consistent expansion of international activities is also of great strategic importance to achieve the desired growth targets, and in turn ensure that AGRAVIS remains successful in the future. In this respect, AGRAVIS works especially closely with its Danish partners Danish Agro and Vestjyllands Andel (DAVA). This highly-reliable, trust-based alliance gained further momentum in terms of both its extent and quality in the 2015 financial year, above all through the establishment of Ceravis AG and the DAVA AGRAVIS Machinery Holding A/S joint venture. The Animedica Group supplies more than 100 sales markets with veterinary medicine products, which are currently produced in five locations. With its highly profitable business, the Animedica Group therefore stands for the potential in the international market.

### Strategic goals

The medium-term key indicator objectives at AGRAVIS are:

- turnover of more than €8 billion
- improvement in the net profit margin to 1 per cent
- return on equity capital of at least 10 per cent (before tax on income)
- equity capital ratio approaching 30 per cent

Most of these goals should already have been achieved by 2018.



### AGRAVIS NetFarming

AGRAVIS NetFarming GmbH, a subsidiary of AGRAVIS Raiffeisen AG, began operating in spring 2015. It is an initiative of the machinery, agricultural centres and crop cultivation business areas, which aim to achieve valuable synergies in overcoming challenges relating to agriculture 4.0 and big data by bundling their expertise. Precision farming services are bundled centrally and offered in a user-friendly manner via the [www.netfarming.de](http://www.netfarming.de) online platform. The services currently include six modules:

- RTK correction data service
- sowing schedule
- basic fertilisation
- ISARIA® sensor technology
- properties
- weather insurance

The RTK correction data system is a comprehensive network that sends satellite-based positioning data to computer-supported control systems in agricultural machines. In practice, this means that farmers are able to steer their agricultural machines more precisely thanks to the RTK signal. Or simply put: the RTK correction data system enables the steering of agricultural machines that is precise down to the centimetre. This allows for both a high degree of accuracy and individual flexibility in the cultivation of agricultural land using state-of-the-art technology. Just by avoiding overlapping through the precise guidance of machines can save up to 15 per cent of work time and energy consumption.

With the sowing schedule module, the site-specific sowing rate can be optimised, taking business-specific information into account. The aim of the sowing schedule is to make optimal use of the different yield potentials of arable farmland through a targeted increase in the efficiency of the production factors of work, soil, water, fertiliser, and seeds. The land must first be mapped and precise information obtained on the yield potential in the location and water supply in the areas by taking soil samples.



Software is then used to compile the data, combine this with information on rainfall, the operations manager's experiences, and the seed properties, and display it in a site-specific sowing map. The sowing map is then transferred to the tractor terminal by USB stick or wirelessly via the internet. The tractor then plants the seeds according to the site-specific application map.

The care of low-yield areas can be optimised through a reduction in the crops planted per unit area. The outcome is an increase in the fresh mass yield in low-yield unit areas because so few crops are planted that good plant development is still possible. Conversely, in high-yield areas, more crops are planted per unit area and the yield potential thus fully exploited. In addition, best possible use is made of the available water, and the leaching of nutrients from areas with good root penetration reduced in this way. Based on preliminary experiences, the seed rate on heterogeneous areas can fluctuate between six and ten grains of seed per square metre in maize cultivation, and site-specific seed planning can bring approx. 10 to 20 per cent higher yields.

Similar to the sowing schedule, the basic fertilisation module allows the site-specific fertilisation of agricultural areas. Within this, basic fertilisation can be understood as the balanced supply of agricultural land with the nutrients phosphorus, potassium, magnesium, and calcium. This is a basic requirement for fertile land and is therefore also the basis for good plant growth. Agricultural land is generally of an extremely heterogeneous quality – even within a single section of field. This makes the needs-based supply of nutrients in the individual areas difficult. The aim of site-specific basic fertilisation is therefore to better distribute the nutrients within a section of field, and to optimise the respective location as a consequence. Only then can the crops be cared for exactly as is necessary in the respective area.

Specifically, this means that a management zone map is prepared based on digital area data such as field boundaries, satellite images, and yield maps, taking the operations manager's knowledge into account. This serves as the basis for soil sampling. The results of the soil sample analyses from the different yield areas are combined with the information from the management zone map, and a nutrient map is then prepared on the current state of supply of the agricultural land. Using the nutrient map, the exact quantities of fertiliser to apply can be calculated and displayed in a machine-readable application map. This is transferred to the tractor or directly to the fertiliser application terminal by USB stick or wirelessly via the internet. The tractor then applies the fertiliser according to the site-specific application map. Beside the improved supply of nutrients for the crops and the associated increase in yield, the use of fertilisers as a whole can be reduced through site-specific fertilisation and nutrient enrichment of the soil, and the resulting leaching into the groundwater and surface water be avoided. The Isaria sensor, properties and weather insurance modules are further practical complements to the system, which cannot be explained here in greater depth.

Through the user-friendly provision and resulting use of highly innovative steering, sowing and fertilisation processes, it is possible to increase the efficiency of cultivating agricultural land. The environmental impact of agricultural production in the field of crop cultivation can be reduced in this way, as there is only as much production input as can really be taken in by the plants. What's more, the respective soils are processed more or less intensively according to their potential.

All in all, this constitutes an important step towards the sustainable development of modern agriculture that must find effective and efficient solutions. Against the backdrop of the ever-diminishing land resources and the environmental burden on the soil and water associated with intensive farming, site-specific processing of the land is a future-oriented model. The aim of the AGRAVIS sustainability programme is to be a pioneer in overcoming sustainability-relevant issues through the use of innovative technology.

### Solutions for nutrient management – biogas production from farm manure

Since mid-2014, AGRAVIS Raiffeisen AG has operated a biogas plant in Dorsten in cooperation with its partner, ODAS GmbH & Co. KG. This is mostly “fed” with manure and dung, i.e. organic residues from livestock farming, and thus primarily aims to use nutrients without foregoing the generation of energy.

The AGRAVIS biogas plant concept foresees the following in the final expansion stage:

- input of approx. 100,000 tonnes of biomass per year, of which 80 per cent is farm manure and 20 per cent energy crops such as silage maize or energy beets;
- operation of the plant with an installed electrical performance of 3.5 megawatts (MW el.) from gas feed-in and CHP plants;
- when in full-load operation, 700 normal cubic metres of biomethane can be fed in per hour (Nm<sup>3</sup>/h), and an annual average of approx. 700 kilowatts of electricity additionally produced by the CHP plants.

The biggest advantage of the concept is combination of the input, so the reduced use of energy crops on the one hand and decreased nutrient discharge in processing regions on the other. With the AGRAVIS concept, the region around the biogas plant in Dorsten will be relieved of a considerable cultivation area for energy crops. Moreover, the Münsterland processing region will be relieved of a large quantity of organic farm manure. A major challenge of modern-day agriculture can be met in this way, namely the oversupply of agricultural areas with nutrients. In the long term, a nutrient oversupply can lead to ecological pressure on the soil and groundwater. After processing of the farm manure in the biogas plant in Dorsten, the fermentation residues are transported to arable farming areas by lorry – or, in the case of longer distances, by inland ship. Farm manure can be used in combination with efficient mineral fertiliser to optimise fertilisation.

Beside the actual transport of the fermentation residues and organic fertiliser, ODAS moreover offers advice services on individual nutrient solutions for agricultural businesses. In a first step, this involves the preparation of a company nutrient balance sheet, whereby savings potential can be determined in close cooperation with the AGRAVIS feed consultants – through feed alternatives with greatly reduced N and P, for example. For only what is accrued must be disposed of.

In a next step, individual possible usage and recycling options for surplus nutrient sources are then analysed. Surpluses are collected at the agricultural businesses and used to produce energy in the biogas plant in Dorsten, for example. Where necessary, the manure can first be separated into its liquid and solid components, to enable the most efficient transport possible. Farmers are moreover able to obtain support in meeting of the documentation obligations stipulated in the Farm Manure Ordinance (Wirtschaftsdüngernachweisverordnung, WDüNGNachwV). This relieves farmers of at least a portion of the administrative work in agricultural businesses.

As a stakeholder in the agricultural value added chain, AGRAVIS thus works with ODAS to offer a holistic concept for the use of surplus manure in regions with intensive livestock farming. As a feed producer, AGRAVIS moreover believes it has a duty to provide farmers with solutions to the leading issues in modern farming.

From a sustainability perspective, the AGRAVIS concept of the biogas plant in Dorsten is positive in many respects. Firstly, because the nutrient issue in regions of intensive livestock farming and the associated environmental challenges is counteracted. Secondly, because the natural nutrient cycle can be closed again despite the increasing specialisation and intensification of agricultural businesses, namely by using the organic residues from livestock farming as a valuable fertiliser in arable farming regions as well as for energy generation. Moreover, the agricultural businesses are supported through comprehensive specialist expertise and administrative relief in the form of the assumption of documentation duties pursuant to the Farm Manure Ordinance (Wirtschaftsdüngernachweisverordnung, WDüNGNachwV).

### Too good for the bin

The quantities are inconceivably high: according to the Food and Agriculture Organisation of the United Nations (FAO) approx. 1.3 billion tonnes of food are wasted every year. Germany is no exception: more than 18 million tonnes of food end up in the bins here. This is almost one third of the food consumed in Germany (54.5 million tonnes). On average, every German throws away 82 kilograms of food every year. This is mostly private consumers, who dispose of surplus bought or cooked foods, food forgotten in fridges or larders, and leftovers. However, food is also wasted during production, in the post-harvest phase, in gastronomy, retail and transport and during processing and storage. In stark contrast, around 870 million people worldwide are malnourished.

Overcoming food wastage with good concepts is a major challenge for the global community and economy. And it is not the only one: the rapid population growth means that by 2050, there will be around 9 billion people on our planet to feed. According to estimates by the United Nations, this means that agricultural production will need to be increased by two thirds.

So an increase in earnings per hectare of agricultural land will be necessary on the one hand. And the global food production must also reach all parts of the world on the other. The distribution of food therefore constitutes another challenge. However, the avoidance of waste is a central starting point. The economy can contribute to the development of sustainable concepts to create sensible cycles for recycling and further use. Through the increased use of so-called by-products in feed production, for example. This is an established practice at AGRAVIS Raiffeisen AG.

By-products arise in many food production processes. They are reintroduced back into the production of feed in a sustainable manner. Quality and safety are decisive here, for they have an important impact on the quality of the foodstuffs produced. One important condition is the use of high-quality products, such as raw components from food production and agriculture.

AGRAVIS uses by-products such as wheat bran, spent grains, and spelt, which are produced during the processing of grain. Cocoa husks, soybean meal, and rapeseed meal from oilseeds and oleaginous fruits are reused too. Whey from the processing of dairy products or steamed potato peel are also used. Old bread and biscuits are also used in feed production in line with the concept of sustainability.

The further use of high-quality by-products has another positive effect. Every foodstuff contains valuable resources: water, raw materials, energy, and labour. When food is wasted, the resources, which ultimately also caused emissions, are essentially wasted. In the further processing cycle, meaningful use can also be made of this energy.

### Assuming responsibility

AGRAVIS Raiffeisen AG assumes responsibility and considers corporate social responsibility (CSR) to be an integral component of a holistic, sustainable management strategy on all levels of business activity. At AGRAVIS, sustainability has become an established practice in company processes, and is moreover encouraged on the regional and global levels in the interaction with the stakeholders. Selected projects and individuals, which assume social responsibility in an exemplary manner, are supported to this end. In particular, AGRAVIS encourages its employees and customers to get involved in volunteer work and to thus make an important contribution to the common good.

AGRAVIS is committed to sponsoring clubs, associations, and events in the regions where it does business. Individuals who engage in social, cultural and sporting activities are also supported. The sponsorship measures of AGRAVIS are diverse. A few examples:

#### Sports funding

With the AGRAVIS Cup in Oldenburg, which is a major equestrian event comprising a series of tournaments, the agricultural trade and services company actively invests in the promotion of talented young riders and its own brand. There are countless parallels: respect, commitment, hard work, team spirit, and appreciation are values that apply in horse riding that AGRAVIS also supports at its companies. The AGRAVIS Cup equestrian tournament moreover offers a platform for young talent. At AGRAVIS, great emphasis is also placed on fostering young professionals.

#### Vinzenzwerk Handorf e.V.

AGRAVIS Raiffeisen AG and its employees have supported the Vinzenzwerk social and therapeutic centre for children and youths based in Münster-Handorf for more than 20 years now. The annual donation is obtained during the collection drive initiated by the works council during the AGRAVIS company party and Christmas market, and rounded up by the AGRAVIS Board of Directors. The financial support is put towards different projects – living arrangements such as on-call and foster families as well as play equipment and renovation work, for example.

#### AGRAVIS development grants

During the annual tractor pulling event held at the agricultural exhibition in Tarmstedt, a tractor weighing approx. five tonnes must be pulled a distance of 50 metres. The fastest team not only wins a prize; all participants are also able to apply for an AGRAVIS development grant. The teams can then use this to fund a social project of their choice. The prize has already been awarded a total of five times, and different projects of young people funded.

#### Reconstruction of Nepal

AGRAVIS Raiffeisen AG also supports the reconstruction of Nepal. In April and May 2015, two devastating earthquakes struck the Himalayan country. More than 8,000 people died, and the inhabitants of whole areas lost their homes. The agricultural trade company donates to an ecumenical one world association (Eine-Welt-Kreis St. Nikolaus Wolbeck e.V.) that has been active in Nepal for many years now, and invest the money in basic food supplies, tents and the reconstruction of schools and destroyed biogas plants for Nepalese private households. The suggestion to support the earthquake victims in Nepal came from the AGRAVIS employees.

## Statement on an independent limited assurance engagement

### To AGRAVIS Raiffeisen AG, Münster

We have been engaged to perform an independent limited assurance engagement on the information in the Sustainability Report of AGRAVIS Raiffeisen AG (hereinafter the "Report") marked with the symbol (✓) for the business years from 1 January 2014 to 31 December 2014 and from 1 January 2015 to 31 December 2015.

### Responsibility of the legal representative for the report

The legal representatives of AGRAVIS Raiffeisen AG are responsible for proper preparation of the Report in accordance with the criteria set out in the G4 Sustainability Reporting Guidelines of the Global Reporting Initiative (hereinafter the "GRI Criteria").

This responsibility of the legal representatives includes the selection and application of appropriate methods to prepare the Report as well as the use of assumptions and estimates for individual sustainability disclosures, which are reasonable in the circumstances. Furthermore, the responsibility includes the design, implementation and maintenance of systems and processes relevant to preparation of the Report in a manner that is free from – intentional or unintentional – material misstatements.

### Independence and quality assurance of the auditing firm

We have complied with the requirements regarding independence along with the additional requirements relating to professional conduct outlined in the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants (IESBA), which are based on the fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional conduct.

The quality assurance system of Deloitte & Touche GmbH is based on the International Standard on Quality Control 1 "Quality Control for Audit, Assurance and Related Service Practices" (ISQC 1) issued by the International Auditing and Assurance Standards Board (IAASB) as well as on national statutory requirements and professional standards, especially the Professional Code for Certified Accountants as well as the joint statement of the Chamber of Public Accountants (WPK) and Institute of Public Auditors in Germany (IDW): Requirements for Quality Assurance in the Auditing Practice (VO 1/2006).

### Responsibility of the auditor

Our task is to provide an evaluation of the information in the report marked with the symbol (✓) based on the work we perform.

### Nature and extent of the assurance engagement

We conducted our work in accordance with the International Standard on Assurance Engagements ISAE 3000 (Revised): "Assurance Engagements other than Audits or Reviews of Historical Financial Information". This standard requires that we plan and perform the assurance engagement to obtain a limited assurance to rule out that the information marked with the symbol (✓) is not in accordance with the GRI Criteria in material respects. In a limited assurance engagement, the evidence gathering procedures are less comprehensive than in a reasonable assurance engagement, hence less assurance is obtained than in a reasonable assurance engagement. The selection of audit activities is subject to the auditor's own judgement. This includes the assessment of the risk of material misstatements in the Report under consideration of the GRI Criteria.

**Within the scope of our work, we among others performed the following procedures:**

- Gaining an understanding of the structure of the sustainability organisation and the involvement of stakeholders
- Interviews with relevant employees involved in preparation of the Report regarding the preparation process, the underlying internal control system applied, and selected information in the Sustainability Report (on-site meetings and telephone conferences)
- Analysis of selected information in the report
- Comparison of selected information with the corresponding data in the consolidated financial statement and Group management report
- Assessment of the presentation of selected information regarding the sustainability performance
- Comparison during the audit of the information on the financial figures based on the results from the annual report

**Conclusion**

Based on our limited assurance engagement, nothing has come to our attention that causes us to believe that the information in the Report of AGRAVIS Raiffeisen AG marked with the symbol (✓) for the business years from 1 January 2014 to 31 December 2014 and from 1 January 2015 to 31 December 2015 has not been prepared in accordance with the GRI Criteria in all material respects.

**Notes and recommendations**

Without qualifying our conclusion above, we make the following recommendations for further development of the company's sustainability management and sustainability reporting:

- Further systematic development of the materiality and stakeholder engagement process, and consistent presentation of the material aspects deduced
- Advancing automation for the collection and validation of material data, and the safeguarding of process stability
- Methodological development of CO<sub>2</sub> emission reporting

This assurance report is issued based on an assurance engagement agreed with AGRAVIS Raiffeisen AG. The assurance engagement to obtain limited assurance is agreed upon with AGRAVIS Raiffeisen AG, and the Report is solely intended for information purposes of AGRAVIS Raiffeisen AG on the results of the assurance engagement. This assurance report is not intended as the basis for any kind of (financial) decision making by third parties of any kind. We only have a responsibility towards AGRAVIS Raiffeisen AG. We do not assume any responsibility towards third parties.

(Düsseldorf)  
(25 April 2016)  
(Klaus Tissen)  
Auditor  
Deloitte & Touche GmbH

(Stuttgart)  
(25 April 2016)  
(Vinzenz Fundel)  
Manager Sustainability  
Deloitte & Touche GmbH

## List of abbreviations

AG	Aktiengesellschaft	PAMIRA	Packmittel-Rücknahme-Agrar
A/S	Aktieselskab, zu deutsch: Aktiengesellschaft	PCB	Polychlorinated biphenyls
BDSG	Bundesdatenschutzgesetz	pme	professionell.menschlich.erfahren
BGHW	Berufsgenossenschaft Handel und Warendistribution	QM	Quality management
Co. KG	Compagnie Kommanditgesellschaft	QS	Qualität und Sicherheit
CSR	Corporate Social Responsibility	QZ	Qualitätszertifikat
DIN	Deutsches Institut für Normung	RK	Recycling Kontor
DLG	Deutsche Landwirtschaftsgesellschaft	TMC	Terres Marketing + Consulting
DON	Deoxynivalenol	USB	Universal Serial Bus
Dr.	Doktor	ZEA	Zearalenon
DRV	Deutscher Raiffeisenverband		
EED	Energy Efficiency Directive		
EEM	Eco Efficiency Manager		
EIS	Energy Information System		
EN	European Norm		
EnMS	Energy Management System		
ERDE	Erntekunststoffe Recycling Deutschland		
etc.	et cetera		
EU	European Union		
e.V.	Eingetragener Verein		
FAO	Food and Agriculture Organization of the United Nations		
GewAbfV	Gewerbeabfallverordnung		
GmbH	Gesellschaft mit beschränkter Haftung		
GMP+	Global Manufacturing Practice +		
GRI	Global Reporting Initiative		
HACCP	Hazard Analysis and Critical Control Points		
IGR e.V.	Initiative Gesünder Arbeiten e.V.		
ISO	International Organization for Standardization		
ISTA	International Seed Testing Association		
kg	Kilogram		
KonTraG	Gesetz zur Kontrolle und Transparenz		
KrWG	Kreislaufwirtschaftsgesetz		
kWh	kilowatt hour		
LED	Light Emitting Diode		
ME	Metabolisable energy		
MW el.	Megawatt electrical		
n./a.	not applicable		
NGO	Non-Governmental Organization		
NLF	Nationaler Leitfaden für Arbeitsschutz- managementsysteme		
Nm <sup>3</sup> /h	Standard cubic metre per hour		
OTA	Ochratoxin A		

## GRI G4 content index

Preparation of the AGRAVIS Sustainability Report 2014.2015 took place "in accordance with" the Global Reporting Initiative GRI G4 Guidelines ("core" option). An external audit of the report contents was performed by Deloitte & Touche GmbH auditing company. The data and key business figures audited are indicated in the Sustainability Report with the symbol (✓).



**Materiality Disclosures**  
AGRAVIS Raiffeisen AG

May 2016  
**Service**

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<b>Organisational profile</b>				
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G4-4	Primary brands, products and services	5 - 6		The company
G4-5	Location of the company's headquarters			Münster, Hanover, Germany
G4-6	Countries of business activity	4		The company
G4-7	Nature of ownership and legal form	5		The company Legal form: cooperative joint-stock company with registered shares with restricted transferability
G4-8	Markets served	4 - 7		The company
G4-9	Company size	4 - 8		The company
G4-10	Workforce structure	8, 42	✓	The company
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G4-13	Changes during the reporting period	See the 2014 AGRAVIS business report (pages 45 - 48) and the 2015 AGRAVIS business report (pages 45 - 47)		
G4-14	Implementation of the precautionary principle	11 - 12		Strategy and management See the 2014 AGRAVIS business report (pages 67 - 72) and the 2015 AGRAVIS business report (pages 67 - 71)
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<b>Material aspects and boundaries</b>				
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G4-EC1	Direct economic value generated and distributed	4	✓	
<b>Environmental performance indicators (EN)</b>				
Aspect: Materials				
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G4-EN1	Materials used	30 - 33	✓	Raw feed materials, seeds, raw material collection at agricultural centres (NEW), by-products (NEW)
	Origin of materials	31 - 33		Raw feed materials, seeds
Aspect: Energy				
G4-DMA	Disclosure on management approach	35 - 37		
G4-EN3	Energy consumption	35 - 37	✓	Precise energy consumption figures for 2013 as the basis
				No energy sold/ no presentation of standards and methods
G4-EN5	Energy intensity	36 - 37		NEW
G4-EN6	Energy savings	35 - 37	✓	
				No presentation of standards and methods
Aspect: Emissions				
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G4-EN15	Direct greenhouse gas emissions	35 - 37	✓	Exact emission figures for 2013 as the basis
				No presentation of standards and methods
G4-EN16	Indirect greenhouse gas emissions	35 - 37	✓	Precise emission figures for 2013 as the basis
				No presentation of standards and methods
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<b>Aspect: Occupational health and safety</b>				
G4-DMA	Disclosure on management approach	45 - 47		
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## Aspect: Customer health and safety

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