

A close-up photograph of a construction site. In the foreground, there are several grey concrete blocks and a rusty metal rebar. The background is slightly blurred, showing more construction materials and wooden forms. The overall scene is industrial and focused on building construction.

Consolidated Non-Financial Report

ABOUT THIS CONSOLIDATED NON-FINANCIAL REPORT

As a large corporation¹, STRABAG SE falls under the reporting obligation of the Sustainability and Diversity Improvement Act (NaDiVeG) that took effect in Austria on 6 December 2016.

Since the 2017 financial year, in keeping with Sec 267a of the Austrian Commercial Code (UGB), STRABAG produces a special Consolidated Non-Financial Report that comprises the non-financial reporting of all subsidiaries of the STRABAG Group. The stakeholder dialogue and the 2015 materiality analysis identified certain issues which influence the future business activity of the group, which encourage or delay the attainment of the strategic priorities, or which are seen as relevant by stakeholders and influence their decisions.

The following material issues relate to the minimum environmental, social and employment concerns, respect for human rights and the fight against corruption and bribery, as defined in Sec 267a of the Austrian Commercial Code, and, from the point of view of the Management Board, reflect the issues that are required to understand the impact of the company's activities:

- Client satisfaction
- Strategic human resource development
- Innovation
- Digitalisation
- Project-related risk management

- Employment conditions (work safety, health protection, human rights, equal treatment of women and men)
- Resource management (energy & emissions, materials)
- Business compliance

This report was prepared in accordance with the **Global Reporting Initiative (GRI) standards**.² Nearly all material issues that were identified in the stakeholder dialogue and through the GRI materiality analysis, and their management approaches, are presented in this Consolidated Non-Financial Report. More information about GRI, the materiality analysis and the stakeholder dialogue is available in the chapters "About this Report" and "Strategy" in the Annual Report.

Building on the basis of a responsible corporate strategy, STRABAG takes into consideration the impact of its activities in its core business. Our business model comprises all areas of the construction industry and covers the entire construction value chain. We bring together people, materials and machinery at the right place and at the right time in order to realise even complex construction projects – on schedule, of the highest quality and at the best price. Detailed information about our services as well as our brands and subsidiaries can be found in the Annual Report or at www.strabag.com > Activities and www.strabag.com > STRABAG SE > Our Brands.

¹ Large limited companies that are public-interest entities and have more than 500 employees on an annual average.

² Conformity with the requirements of the "core option" is sought.

EMPLOYMENT CONDITIONS

Around the world, more than 75,000 people are putting their expertise and skill into practice at our more than 700 workplace and construction sites. Our employees work with combined effort and commitment to complete their projects on time and in the desired quality. For this task to

succeed day after day, STRABAG, in its function as employer, must ensure fair and equitable employment conditions by guaranteeing work safety and health, promoting the equal treatment of women and men, and observing human rights at all locations.

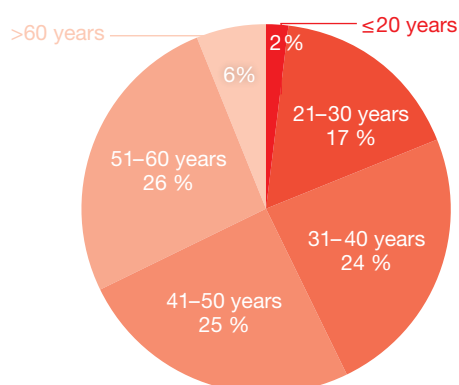
Figures¹

NUMBER OF EMPLOYEES IN 2018 BY SEGMENT AND COUNTRY²

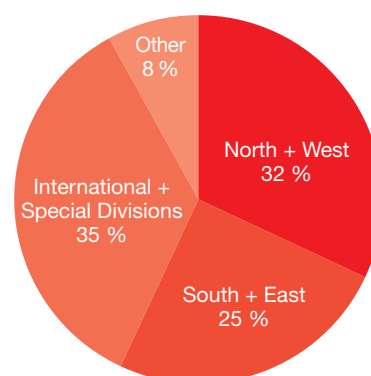
	North + West	South + East	International + Special Divisions	Other	Group
Germany	18,283	472	8,279	2,561	29,595
Austria	104	7,233	2,578	1,215	11,130
Americas	24	4	6,500	1	6,529
Poland	4,126	4	502	642	5,274
Middle East	71	8	3,723	0	3,802
Czech Republic	57	2,576	727	384	3,744
Hungary	7	1,871	856	310	3,044
Slovakia	0	1,324	364	217	1,905
Romania	87	919	209	186	1,401
Rest of Europe	215	657	388	26	1,286
Serbia	0	1,019	35	153	1,207
Africa	25	1	1,046	0	1,072
Croatia	2	799	58	120	979
Switzerland	76	765	10	116	967
Asia	0	21	763	0	784
Russia	0	585	38	106	729
Benelux	506	12	42	56	616
Sweden	360	0	39	34	433
Bulgaria	1	280	25	60	366
Denmark	274	0	1	10	285
Slovenia	0	142	12	15	169
Italy	4	37	84	18	143
Total	24,222	18,729	26,279	6,230	75,460

Balanced age structure

EMPLOYEE AGE STRUCTURE 2018³

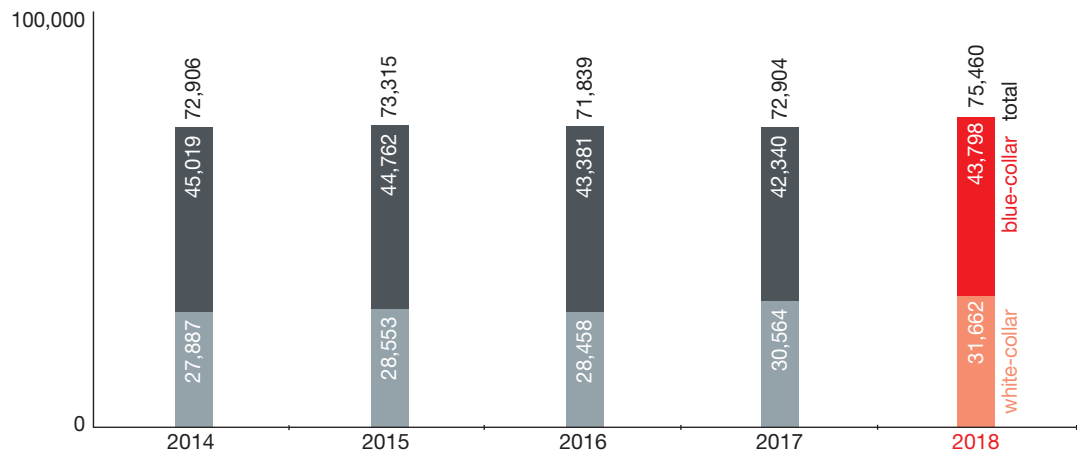


EMPLOYEES BY SEGMENT 2018²

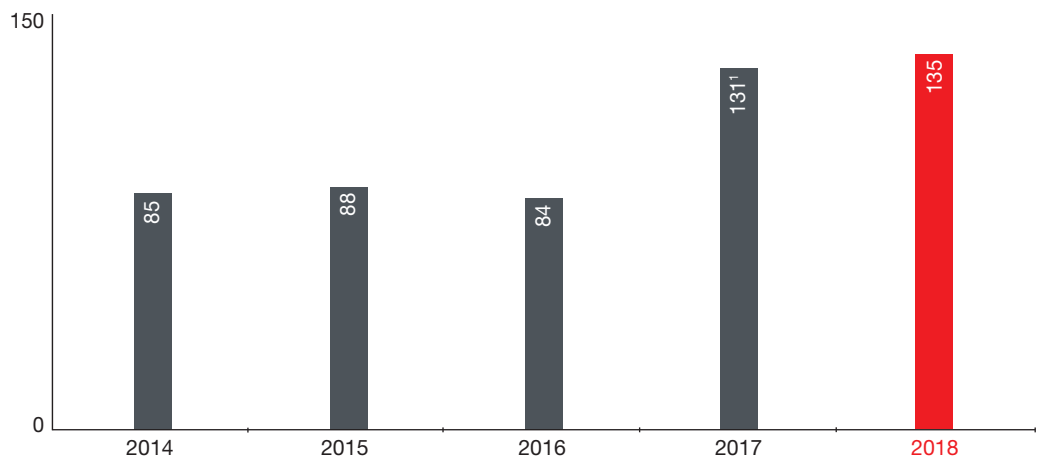


1 The employee figures were determined with proportional inclusion of all investees.
 2 Employee numbers expressed as FTE
 3 Employee numbers expressed as head count

DEVELOPMENT OF EMPLOYEE FIGURE (FTE)

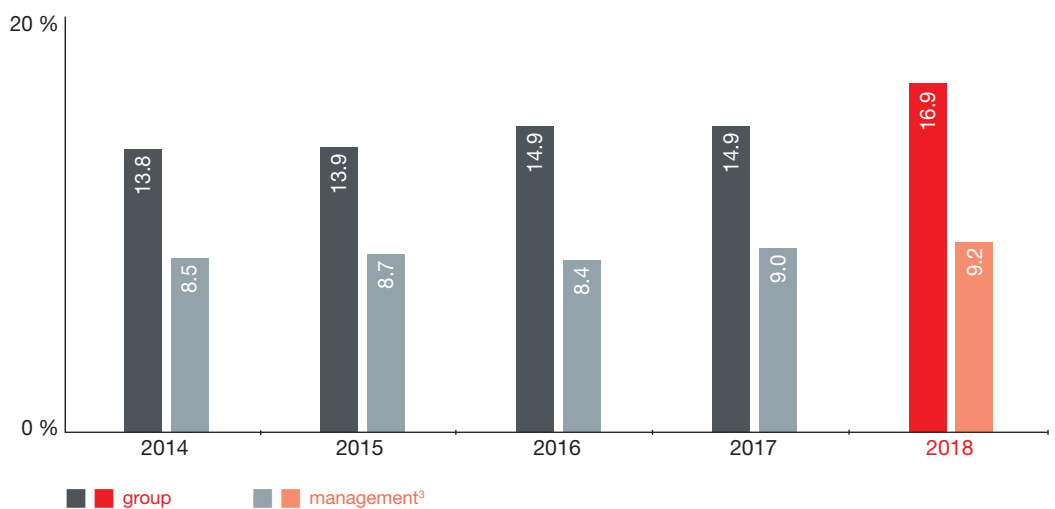


NUMBER OF NATIONALITIES WITHIN THE GROUP



For more about the promotion of women in the group, see the Consolidated Corporate Governance Report

PERCENTAGE OF WOMEN IN THE GROUP AND IN MANAGEMENT²



1 The increase in 2017 results, among other things, from the first inclusion of employee data from Chile and the Middle East.
 2 As of 2018, the employee numbers are expressed as head count; previously as FTE
 3 Definition of management: hierarchy levels from business unit management on up

DETAILED EMPLOYMENT INFORMATION¹

GRI standards 2016

Disclosure number	Reporting requirements	Disclosures for 2018
102-8	a. Total number of employees by employment contract (permanent and temporary), by gender	Total permanent: 70,279 (87 %) Total temporary: 10,662 (13 %) Women permanent: 11,583 (85 %) Women temporary: 2,064 (15 %) Men permanent: 58,696 (87 %) Men temporary: 8,598 (13 %)
	b. Total number of employees by employment contract (permanent and temporary), by region	Germany permanent: 30,182 (90 %) Austria permanent: 11,744 (99 %) CEE ² permanent: 15,456 (81 %) Rest of Europe permanent: 3,652 (93 %) Rest of world permanent: 9,245 (72 %) Germany temporary: 3,198 (10 %) Austria temporary: 84 (1 %) CEE ² temporary: 3,606 (19 %) Rest of Europe temporary: 267 (7 %) Rest of world temporary: 3,507 (28 %)
	c. Total number of employees by employment type (full-time and part-time), by gender	Total full-time: 72,115 (89 %) Total part-time: 8,826 (11 %) Women full-time: 8,329 (61 %) Women part-time: 5,318 (39 %) Men full-time: 63,786 (95 %) Men part-time: 3,508 (5 %)
	d. Whether a significant portion of the organisation's activities are performed by workers who are not employees	Only in individual cases are portions of the organisation's activities performed by workers who are not employees.
	e. Any significant variations in the numbers reported in Disclosures 102-8-a, 102-8-b, and 102-8-c	No significant variations in the number of employees could be determined.
	f. An explanation of how the data have been compiled, including any assumptions made	The information required for the GRI disclosures was taken from the HR master data of the ERP system at the group headquarters as well as from group organisational entities with other ERP systems through standardised monthly reporting.
102-41	Percentage of total employees covered by collective bargaining agreements	94 % The national requirements are kept at all subsidiaries.

1 Employee numbers expressed as head count

2 CEE = Central and Eastern Europe

GRI standards 2016

Disclosure number	Reporting requirements	Disclosures for 2018
--------------------------	-------------------------------	-----------------------------

401-1	New employee hires and employee turnover a. Total number and rate of new employee hires during the reporting period, by age group, gender and region b. Total number and rate of employee turnover during the reporting period, by age group, gender and region	See following table
--------------	---	---------------------

A. NEW HIRES IN 2018^{1,2}

	Age group									Total	Employee hire rate %
	< 30 years			30–50 years			> 50 years				
	M	W	Total	M	W	Total	M	W	Total		
Germany	613	121	734	763	145	908	264	42	306	1,948	5.8
Austria	416	59	475	465	158	623	104	36	140	1,238	10.5
CEE	229	56	285	412	79	491	139	12	151	927	4.9
Rest of Europe	94	14	108	149	22	171	70	4	74	353	9.0
Rest of world	364	36	400	1,126	43	1,169	275	8	283	1,852	14.5
Total	1,716	286	2,002	2,915	447	3,362	852	102	954	6,318	7.8

B. DEPARTURES 2018^{1,2}

	Age group									Total	Employee departure rate %
	< 30 years			30–50 years			> 50 years				
	M	W	Total	M	W	Total	M	W	Total		
Germany	213	45	258	374	84	458	434	69	503	1,219	3.7
Austria	152	37	189	222	116	338	141	45	186	713	6.0
CEE	124	33	157	380	92	472	232	43	275	904	4.7
Rest of Europe	48	7	55	117	22	139	78	10	88	282	7.2
Rest of world	299	17	316	661	29	690	152	5	157	1,163	9.1
Total	836	139	975	1,754	343	2,097	1,037	172	1,209	4,281	5.3

Work safety

The accident risk is higher in the building and construction trade than in other branches of industry. Certain situations on the construction site involve the risk of falls, and work takes place near traffic and is performed using heavy machinery. Unique risks result, for example, because workers have to climb ladders and scaffolding and are subjected to extreme temperatures, UV radiation, noise, vibrations and dust. Construction work also involves a certain amount of physical exertion, such as lifting heavy loads. Accident prevention initiatives and an increased awareness for work safety on the part of the companies, however, have contributed to a downward trend in the number of accidents in the construction

sector. According to BG BAU, the German occupational insurance association for the construction trade, the accident rate in Germany per 1,000 employees fell from 66.60 cases in 2007 to 53.64 in 2017.³ For comparison: the accident rate in our group per 1,000 employees stood at 29.6 cases in 2018.

As one of the largest employers in the construction trade in Europe, we are aware of the importance of work safety. And, as demonstrated by the high priority given the issue from both stakeholders and management, expanding work safety is in everyone's interest.

¹ Excluding temporary employments

² Employee numbers expressed as head count

³ Retrieved 4 January 2019 from https://www.bgbau.de/termin/arbeitsunfaelle-auf-baustellen-ruecklaeufig/?tx_news_pi1%5Baction%5D=index&tx_news_pi1%5Bcontroller%5D=News&chash=e4ae2542873098c266b5da5a3475448a

RULES AND RESPONSIBILITY AREAS

Since 2017, a special coordinator has been in charge of the **group-wide** organisation of issues of Health, Safety and the Environment (HSE). Additionally, an HSE committee was established to **manage interdisciplinary issues** such as work safety communication and e-learning courses as well as the use of digital aids to assess, process and avoid unsafe situations and near-accidents on construction sites. On a regional level, the work safety experts conduct regular site inspections. Approximately 80 work safety experts

can be found at our construction sites and production facilities in Germany; in Austria there are about 20. As a rule, at least one person is responsible for HSE in each subdivision throughout the group. This number is adapted in relation to the number and size of construction sites in a country or region. To keep the risks related to employee safety and health under control, we have in place a work safety and health management system certified to OHSAS 18001 and/or SCC.

OBJECTIVES AND INDICATORS

Our goal is the continuous reduction of accident risks on our construction sites. We intend to reach this goal through training and further education, inspections with managers and construction site staff, analyses of (near-)accidents, and prevention measures. Two indicators help us to measure if an objective has been reached:

The **lost-time accident rate** – calculated as the number of working hours lost to accidents versus productive working hours – stood at 0.22 % in the group in 2018, with 0.33 % among blue-collar

and 0.07 % among white-collar workers (2017: 0.24 % in the group, 0.36 % blue-collar, 0.05 % white-collar). The **accident incident rate**¹ – calculated as the number of accidents at work per 1 million productive working hours – was overall comparable to that of last year with 15.9 in the group, 22.5 among blue-collar workers and 5.8 among white-collar workers (2017: 17.4 in the group, 25.5 blue-collar, 4.8 white-collar). Regrettably there were two fatalities through workplace accidents in 2018.

LOST-TIME ACCIDENT RATE

	2014	2015	2016	2017	2018
Blue-collar	n. a.	0.34	0.36	0.36	0.33
White-collar	n. a.	0.07	0.07	0.05	0.07
Total	n. a.	0.24	0.25	0.24	0.22

ACCIDENT INCIDENT RATE¹

	2014	2015	2016	2017	2018
Blue-collar	n. a.	24.5	25.0	25.5	22.5
White-collar	n. a.	5.6	5.2	4.8	5.8
Total	n. a.	17.6	17.6	17.4	15.9

PROJECTS AND INITIATIVES

Projects pursued and initiatives set in Germany and Austria in the 2018 financial year included, but were not limited, to the following:

- In Austria, all construction site workers received uniform basic instruction through the safety brochure “Wir arbeiten sicher auf Baustellen” (“We Work Safely on the Construction Site”) with a different safety focus communicated in each quarter.
- Digital tools assist our leadership employees to show their commitment to work safety at all

management levels. A smartphone app, for example, allows them to create and save photographic documentation of the construction sites. The site inspection app was rolled out and tested internationally during 2018 in all local languages. The mandatory use of this app and of other digital tools is planned via a group-wide rule with specific objectives and targets in 2019.

- The work safety communication was reworked in 2018 with a new group-wide campaign to be rolled out in 2019.

¹ The figures include accidents at work (excluding accidents occurring on the way to or from work as well as occupational illness) with lost time of at least one calendar day, counted from the day after the accident incident.

- An online instructional programme for workplace ergonomics was created and introduced.
- CPR face shields were distributed to all company first responders.
- A new version of the 2019 HSE calendar was designed with a focus on a monthly instructional theme especially for site and excavation forepersons.

In the other countries in which STRABAG is active, numerous campaigns on special work safety themes were carried out, HSE training sessions were held and extra staff was hired.

Health protection

Maintaining the health and productivity of our employees is a central concern for us and inevitable for the long-term success of the company. Health is not merely the “absence of disease” (source: WHO). Health is a state of individual well-being and subjectively felt productivity.

The general public usually associates construction sector work with hard physical labour. But psychological stress can also be an issue. In 2016, psychological stress for the first time surpassed all other factors as the main reason for lost time

due to illness across all sectors in Germany.¹ In the construction sector, the main documented stress factors are time and price pressure, unwanted interruptions during work, and long working hours.² Strengthening psycho-social health through stress prevention and stress management therefore is one of our most important fields of action in workplace health management. Our measures, initiatives and projects always aim at the preventive reduction of work-related health disorders and occupational illness on the construction site and in the office.

RULES AND RESPONSIBILITY AREAS

WHM rolled out in ten countries as of 2019

The legal provisions for work safety and health protection form the basis for us as a minimum requirement. Apart from this, we have set ourselves the goal of systematically, specifically and sustainably promoting the health of our employees and to firmly anchor **workplace health management (WHM)** within the group. We therefore began to implement WHM by building on measures from the areas of work safety, health protection and ongoing activities of workplace health promotion. In the meantime, WHM has been rolled out across nine countries – Germany, Austria, Switzerland, Poland, the

Czech Republic, Slovakia, Croatia, Hungary and Serbia – and will be introduced to Slovenia in 2019. Managed at the group level, the matter is coordinated in the individual countries by national WHM coordinators and systematically expanded by a national WHM committee of the most important disseminators (management, employee representatives, human resource department, work safety) within each country. The measures at the individual business locations are implemented and spread by the WHM coordinators with the help of dedicated healthcare volunteers and on-site teams.

OBJECTIVES AND INDICATORS

It is our objective to maintain the health and productivity of our employees. The aim of the measures is to improve the working conditions and strengthen the personal workplace resources of all employees and members of the management. We use the **lost-time illness rate**³ to

observe our progress in reaching this goal. It stood at 5.2 % in the group, with 6.8 % among blue-collar and 3.7 % among white-collar workers (2017: 5.1 % in the group, 6.6 % blue-collar, 3.6 % white-collar).

¹ DAK, Psychische Erkrankungen: Höchststand bei Ausfalltagen, retrieved 30 November 2017 from <https://www.dak.de/dak/bundes-themen/psychische-erkrankungen-hoehchststand-bei-ausfalltagen-1873100.html>

² Psychische Belastung von Bauleitern, Bayerisches Landesamt für Gesundheit und Lebensmittelsicherheit, 2006

³ Ratio of sick leave days to working days

LOST-TIME ILLNESS RATE

	2014	2015	2016	2017	2018
Blue-collar	6.5	6.5	6.7	6.6	6.8
White-collar	3.2	3.6	3.6	3.6	3.7
Total	4.9	5.0	5.1	5.1	5.2

PROJECTS AND INITIATIVES

The cooperation between WHM, work safety and the occupational medical services foresees, among other things, the organisation and expansion of health campaigns at business locations and construction sites. Prevention measures, including hearing and vision exams, pulmonary function tests, spinal screenings, and custom health campaigns, expand the offer for our blue-collar workers. WHM also offers a broad range of targeted measures for our office locations. Besides eye, stress and preventive examinations, the offer includes different health courses such as back training, lectures and workshops related to the main issues of exercise, nutrition and stress prevention.

In response to the survey conducted in 2017 on the subject of psychological stress at the workplace, various health-promoting offers were launched in the white-collar field in Germany, including the possibility to take part in an online stop-smoking programme. The online health portal “gesundpass”, which offers extensive fitness services in the form of video training, saw enormous interest with more than 3,200 registrations. External Employee Consulting (EEC) is another initiative that was established in cooperation with an independent external institute as a confidential point of contact for persons under psychological strain. The feedback has been thoroughly positive. The focal areas of the initiative include workplace conflict, problems in the family or with the partner, and burnout.

One way in which we are working to counter the most important stress factors cited by our blue-collar workers, such as heat, cold and damp, but also time pressure or weekend and night shifts, was to improve the facilities of the break areas. We also started a constructive dialogue between workers and their supervisors in order to devise joint solutions to reduce stress and strain at work.

Leadership employees play an especially important role in presenting a company culture of health promotion. The two-day seminar “Success through Healthy Leadership” teaches our management employees how they can individually strengthen their own resources and how to implement healthy leadership. The seminar has already been rolled out in three countries; in 2018, it was attended by 153 leadership employees. Our non-management employees also have a wide range of health-promotion measures available to them. The “Fit4Work” seminar, which has been offered since 2015, explains how an individual health strategy can counter challenges such as lack of exercise, an unbalanced and unhealthy diet, and habituated stress patterns. To date, 598 employees have defined their personal strategy for more wellness at the workplace.

A further highlight worth mentioning are the health events that were held at four large company locations in Poland and in which about 250 participants were informed of preventive measures and could take part in various health screenings.

Employment and social fund

In order to help employees who are experiencing **financial difficulties** through **no fault of their own**, e.g. as a result of accidents, illness, natural disasters, etc., the STRABAG Group set up a private foundation called the “Arbeits- und Sozialfonds” (“Employment and Social Fund”) almost 20 years ago. When it was established, the foundation was endowed with about € 3.60 million, an amount which by the year 2013 had been raised to about € 10.20 million in response to the rising number of employees. The application for financial assistance can be

submitted by the affected employees, by their supervisors or by an employee representative.

Applications are reviewed by the foundation’s board before a socially appropriate decision is made. The board is chaired by an employee representative and consists of four employer and four employee representatives. Financial assistance is granted primarily in the form of monthly payments for an employee’s dependent children but may also take the form of one-off payments for a specific purpose.

Human rights

By providing construction services in structurally weak regions, we are making an important contribution to infrastructure expansion and job creation in those places. Some of our projects are located in countries that have received international criticism for their human rights situation. Due to the different standards regarding the protection of human rights in the various

countries in which we do business, and because of the complexity of the supply and value chains, the protection of human rights requires intense effort on our part. Human rights include, among other things, the prohibition of discrimination in respect of employment and occupation, the prohibition of slavery and human trafficking, and the prohibition of child labour.

RULES AND RESPONSIBILITY AREAS

The STRABAG SE Code of Conduct precisely establishes the system of values to which the STRABAG Group and all its employees are committed; it forms an integral part of the employment documents for all group employees. STRABAG SE also expects its stakeholders (especially suppliers and subcontractors) to act in accordance with the Code of Conduct.

In the Code of Conduct, STRABAG SE expressly commits to equal opportunities regardless of race, nationality, gender, sexual orientation, religion, disability or age and to a working environment free from discrimination, harassment or reprisals. Rejecting illegal forms of employment is not just an internal group principle; the observation of this principle is also mandatory for all business partners and compliance is to be reviewed within the legal possibilities. In case of violation, a contract may not be concluded or must be terminated. The management is responsible for compliance with this rule.

Potential human rights violations, such as discrimination at the workplace, can be reported via an online whistleblowing system or to the stated contact persons (ombudspersons). Employees, as well as subcontractors and other third parties, have the possibility to anonymously pass on relevant information by phone or by e-mail. The current list of all contact persons for the whistleblowing system can be found on the STRABAG website at www.strabag.com > Strategy > Strategic Approach > Business Compliance. We actively call upon anyone with relevant information to come forward, so we can identify misconduct quickly, respond appropriately and avoid any possible damage. In the event of violations of the legal regulations or of the conduct guidelines applicable within the company, the company will take the requisite disciplinary and legal (labour law) measures.

OBJECTIVES AND INDICATORS

The creation and maintenance of employment conditions that are in compliance with the International Labour Organisation's Declaration on Fundamental Principles and Rights at Work and with the United Nations' Universal Declaration of Human Rights are an essential goal of the STRABAG Group's value system. Particularly relevant here are:

- the prohibition of discrimination in respect of employment and occupation
- the prohibition of slavery and human trafficking
- the prohibition of child labour

PROJECTS AND INITIATIVES

The "Principles of employment conditions and human rights" were added to the Code of Conduct as a complementary annex. All employees were informed of and asked to observe and comply with these principles, which were also incorporated into the existing general terms and conditions or comparable agreements. Additionally, a statement pursuant to the UK Modern Slavery Act was published on the website at www.strabag.com.

The following indicators are used to measure if an objective has been reached:

- number of cases of discrimination discovered in the financial year (cases of discrimination are assigned to the year in which they were conclusively discovered): 0

In the past financial year, the ombudspersons were contacted a total of four times. All matters could be resolved soon after the initial contact.

For more information about the whistleblowing system, see the chapter "Business Compliance"

In the 2018 financial year, a group-wide digital whistleblowing platform was set up with an external provider where relevant information can be presented online and, if requested, also anonymously and processed systematically.

The subject of diversity and of equal treatment of women and men is dealt with in the Consolidated Corporate Governance Report.

STRATEGIC HUMAN RESOURCE DEVELOPMENT

The construction sector is a human-resource-intensive industry in which the commitment shown by our workers has a significant influence on business success – not least because, in light of shortages of skilled personnel and

seasonal bottlenecks, they represent a critical factor. The STRABAG Group's response is consistent strategic human resource planning and the continuous training and development of its employees.

Rules and responsibility areas

Human Resource Development (HRD) is a group-wide organisational entity tasked with providing the best possible support to all parts of the STRABAG SE Group in all matters of human resource development. For a successful human resource development strategy, HRD elaborates and implements guidelines and standards for the search, selection, qualification, promotion and development of leadership and employees.

The responsibilities and tasks are governed by a group directive for the HRD employees. Their tasks include:

- Human resource marketing
- Recruiting and integration
- Leadership and employee coaching
- Qualification and training
- Talent management
- Occupational health management

Objectives and indicators

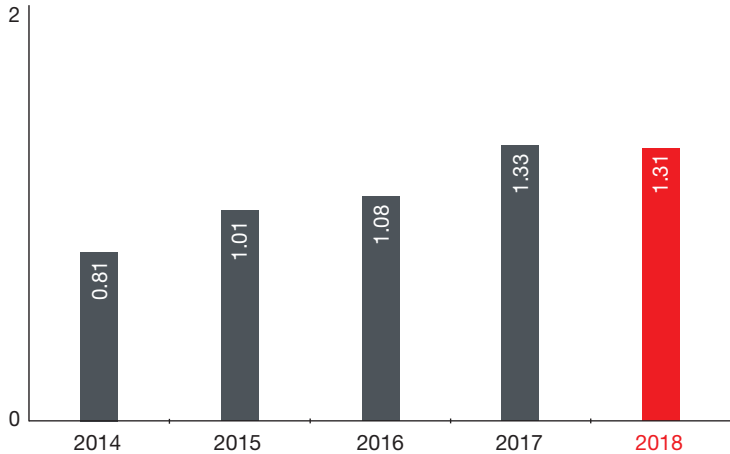
To counter the lack of skilled labour, we aim to promote and optimise the needs-oriented professional and personal development and qualification of our employees. In this way, we can guarantee our clients the on-time, professional realisation of their projects.

Training needs for our white-collar workers are ascertained mainly during the appraisal interviews. This essential instrument, which is to be conducted by supervisors at least once yearly, is an opportunity for mutual feedback, goal-setting and performance appraisal. The following

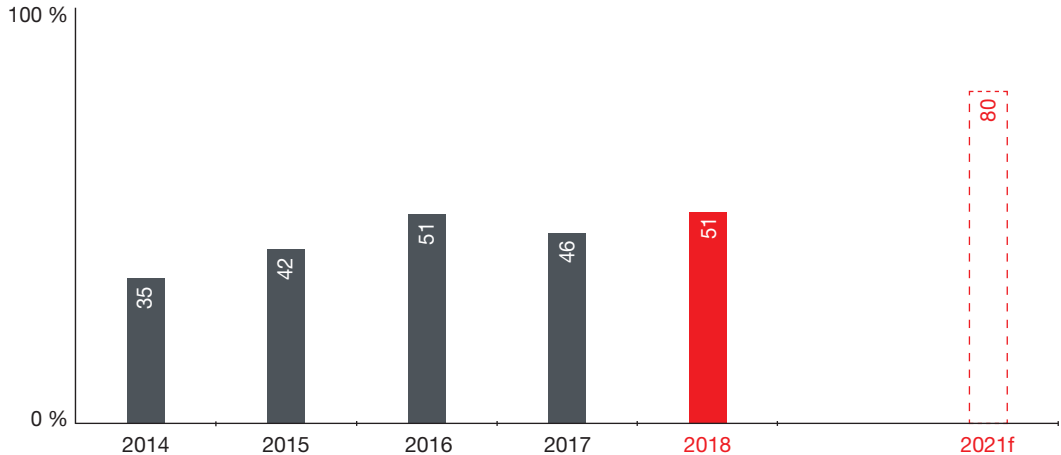
indicators are used to measure if the objective has been reached:

In 2018, structured employee appraisal interviews were held with 51 % (2017: 46 %) of all white-collar employees in the group. We are aiming for 80 % by the year 2021. The training needs that were identified in the interviews were covered in the form of seminars. In the reporting period, there were 1.31 training days per employee – almost unchanged to the previous year (2017: 1.33).

TRAINING DAYS PER EMPLOYEE



NUMBER OF APPRAISAL INTERVIEWS HELD AND RECORDED IN THE REPORTING PERIOD VERSUS NUMBER OF EMPLOYEES



Projects and initiatives

Measures and projects relating to the above-mentioned tasks are implemented on a continuous basis:

HUMAN RESOURCE MARKETING

We are constantly working to position the group as an attractive employer on the labour market to make a sustained contribution to covering the future demand for skilled experts and leadership employees. For this reason, we put a lot of our energy into addressing the target groups. Our focus is on school-age students as much as on university students and recent graduates. In order to reach prospective employees, our human resource marketing activities include participating in **job fairs**, presenting our company at

educational institutions, organising company tours, offering internships and work placement, and sponsoring bachelor and master theses. We are proud of our successful partnerships with more than 175 educational institutions in 2018. Additionally, we have our own profiles on **social media platforms**, such as Facebook, LinkedIn, Xing and YouTube, in order to be more accessible for interested persons. Our Facebook page has so far been liked by nearly 40,000 people, and more than 85,000 people

follow us on LinkedIn. The Instagram account created in May 2018 for the young target group counted 3,200 subscribers by the end of the year.

We also actively participate in **employer certification programmes** aimed at graduates, trainees and apprentices to help us ascertain possibilities for improvement. In 2018, our trainee

RECRUITING AND INTEGRATION

The recruiting and subsequent integration of human resources is designed to systematically, professionally and quickly cover the human

LEADERSHIP AND EMPLOYEE COACHING

HR consultants are the first points of contact for all human resource development and certain decentral human resource administration tasks at the divisions. They advise employees about career opportunities within the group or coordinate with the employee supervisors to recommend training for their further development. For management-level employees, we have developed

QUALIFICATION AND TRAINING

The STRABAG Group Academy offers internal further education options for all blue-collar and white-collar workers in the group. The planning and systematic use of training and educational measures is the responsibility of the respective organisational entity. Together with their supervisors, employees can choose from among the various qualification offerings.

At the Group Academy, employees can find **specially developed training offers** in the categories of technology, law, business management, IT, personality and leadership. The trainers are internal and external experts who pass on their expertise to the participants. In 2018, we offered 2,545 training and further education

programme was certified by the job exchange Absolventa and by the fairness in training initiative Fair Company and received Germany's first Fair Trainee Programme certification from Absolventa. The certification is awarded on the basis of employee surveys regarding specific factors such as employee satisfaction. The company must then fulfil certain criteria to receive the recognition.

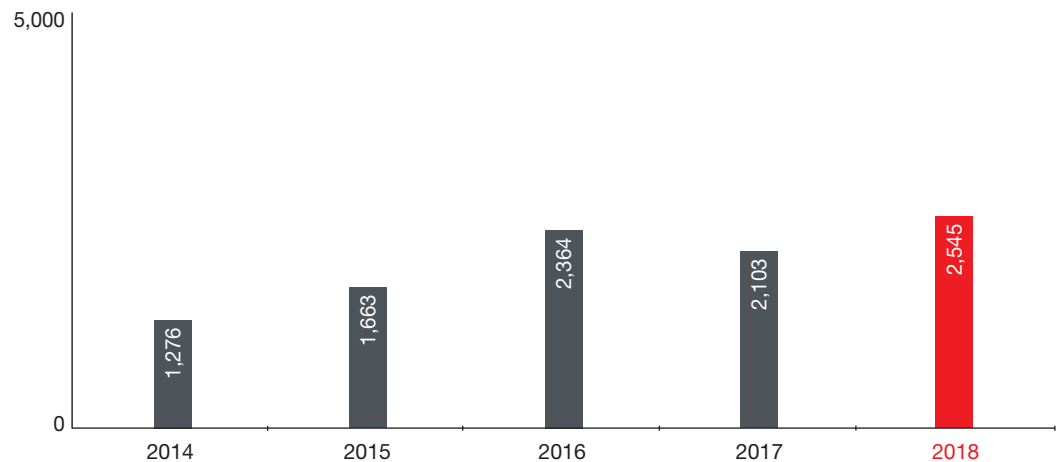
resource demand at the individual organisational entities with qualified new employees.

a special training and further education offer as part of our management development programme, consisting of a mix of classroom workshops, web-based training and content for self-organised learning. All offers can be individually combined and are available in German and in English. The offer is updated annually and is constantly being expanded.

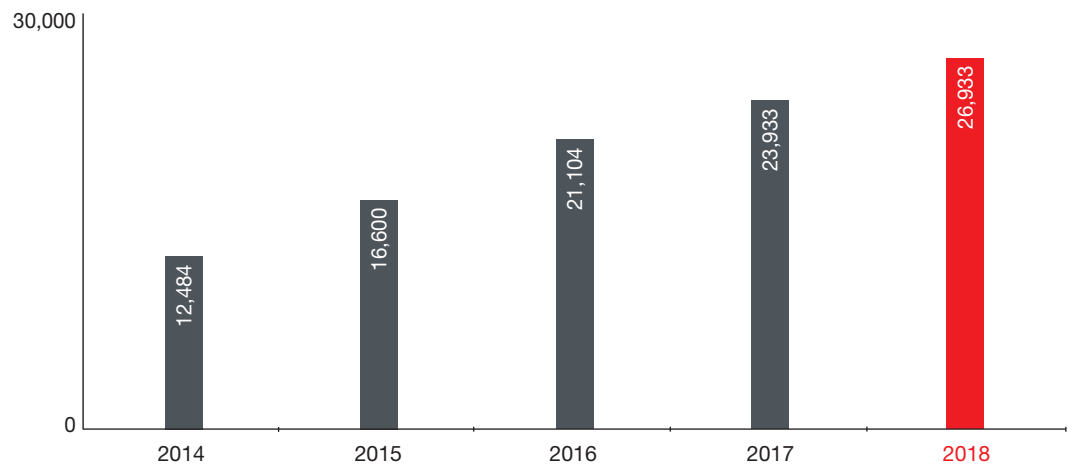
sessions (2017: 2,103) with 26,253 participants (2017: 23,933). More than 26,100 persons (2017: >25,000) successfully completed an e-learning course, for example on the subjects of compliance, cybercrime and work safety.

All employees have the possibility to make proposals for new training offers using the internal knowledge management tool. Beyond the appraisal interview, they and their managers, depending on their position, also receive recommendations for a selection of seminar options. The Group Academy offers regular modular **qualifications** to reinforce and deepen the training of people in key positions.

NUMBER OF TRAININGS



NUMBER OF PARTICIPANTS



To counter the shortage of skilled labour, STRABAG invests a lot of time and money in the training and education of its **apprentices and trainees**¹. For dedicated young people who have completed an apprenticeship, the door to a career at STRABAG is wide open.

Our main apprenticeship careers in **Austria** are bricklayer, ground engineering specialist, formwork carpenter and paver. But we also offer training as construction plant mechanic, electrical engineering technician, facilities and building technician, mechatronics technician, metal technician, sheet metal worker as well as plasterer and drywall finisher to complement our team. In Austria, STRABAG continually offers apprenticeship placements at around 50 locations nationwide. A special feature of STRABAG's offer is the possibility for apprentices of the main trades to attend the group's own apprentice academy BASIC-ADVANCED during the winter months. At two locations in Austria, specially trained STRABAG forepersons and site managers

work with our apprentices to reinforce their practical and theoretical knowledge. The success of our apprenticeship programme has been demonstrated by the STRABAG team at the biannual World Skills competition. At the 44th World Skills held in Abu Dhabi in 2017, two of our apprentices took home the world champion title in the category of Concrete Construction. Thanks to their perfect training, hard work and dedication, they now rank them among the best skilled workers in the world.

In **Germany**, STRABAG and its construction equipment subsidiary STRABAG BMTI are pursuing the selective training of young talents at the group training workshop in Bebra. The focus here is on the commercial and technical fields. In Bebra, our apprentice road workers, ground engineering workers and construction equipment operators enjoy top quality vocational training and individual attention. The aim is to secure an efficient knowledge transfer under aspects of quality and time, away from the daily working routine.

¹ Due to the differences in training systems from country to country, only the situation in the core markets of Austria and Germany can be presented here.

Increase of apprentice and trainee numbers planned

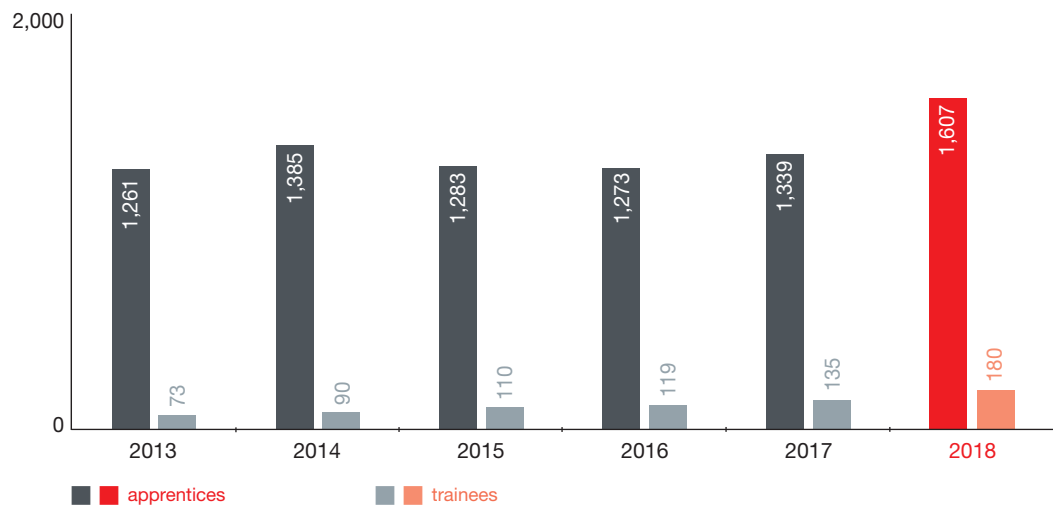
180 trainees at work for us

In Germany, Austria and Switzerland, a total of 516 (2017: 470) blue-collar apprentices were taken on in 2018. A significant increase of the apprentice and trainee numbers is planned in Germany and in Austria in the years to come. More information about the apprentice professions and work placement positions is available at karriere.strabag.com.

It is our aim to recognise, promote and develop young talents. In the competition for the best

employees, STRABAG therefore offers a practical familiarisation programme for graduates with little professional experience holding selected bachelor and/or master degrees from academic universities as well as from universities of applied sciences. The aim of our trainee programmes is to best prepare the graduates for the requirements of their future position in the group. In 2018, the STRABAG Group had 142 technical and 38 commercial **trainees** (FTE) working for it, thereof 118 men and 62 women.

NUMBER OF APPRENTICES AND TRAINEES (FTE)



Trainees have their own personal schedule as a way of addressing individual wishes and needs and to offer flexible entry times. The commercial trainee programme lasts between eleven and 13 months, the technical programme varies between twelve and 15 months and both programmes include a period of three months abroad. At the beginning of the programme, trainees meet with a mentor to design the trainee schedule according to the specific professional and personal requirements of the target position. This experienced mentor is available to the trainee throughout the entire training period.

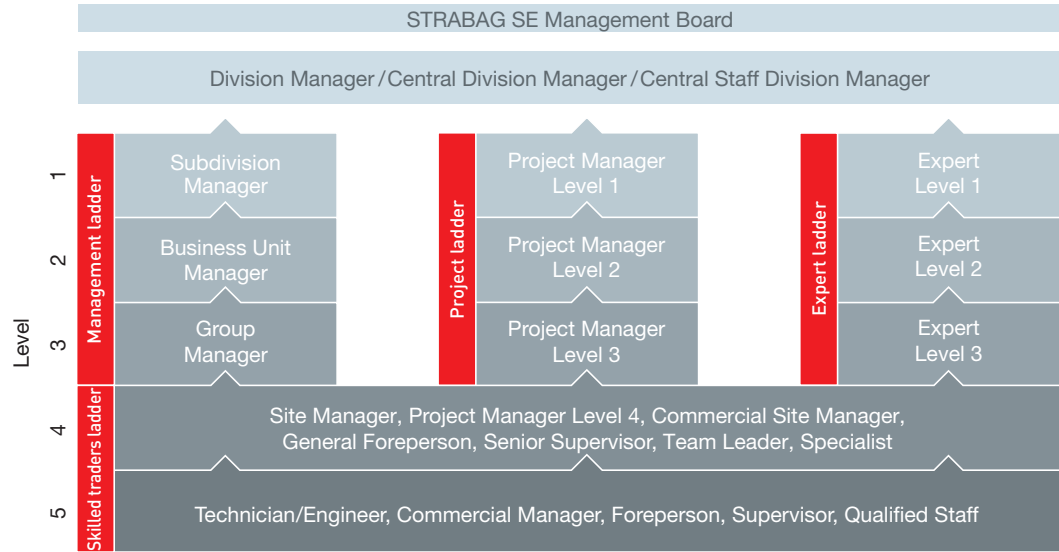
Regular feedback interviews help focus on the trainee's individual development. With instruction from experienced specialists and management employees, the trainees pass through different organisational divisions and are introduced to various areas of business and responsibility. Both the commercial as well as the technical programme include mandatory sessions, for example on the construction site. Specific training activities are used to develop the applicant's personal and professional skills. An individual training schedule is developed for each trainee.

TALENT MANAGEMENT

The purpose of talent management is to recognise, develop and bind high-performers and high-potential employees in the interest of filling (key) positions with young talent possessing the best possible qualifications from within our own ranks. Based on our career model, internal parameters are applied to identify high-potential employees, provide them with individual support, and deploy them in the right positions. Besides the management ladder, which focuses on general management tasks, two other career paths are available: The expert careers are characterised

by a high degree of technical expertise in a specialty field. Project managers can fall back on their years of experience in the field of project management and are responsible for complex construction projects. Individual activities such as a development centre, special training programmes or job rotation schemes are offered to help develop the recognised potential. The goal-oriented recognition and promotion of high-potential employees creates a stronger bond to the group and, in the long term, helps to secure quality, continuity and performance within the group.

CAREER MODELS



STRABAG AND THE VIENNA TECHNICAL MUSEUM GIVE AN INSIGHT INTO THE CONSTRUCTION INDUSTRY OF TOMORROW

Digitalisation is creating new job profiles also in construction. And with new tools, the required skills will change as well. There will be less exhausting physical work, but in the future a foreperson or site manager will have to be experienced in using the tablet or cloud-based knowledge stores in order to be able to work professionally. The sharing of knowledge is changing the daily work processes, the quality of the results and, above all, the speed.

In addition to co-sponsoring the special exhibition Work & Production.thinking_forward_, which dealt with topics such as Industry 4.0, digitalisation and automation, materials research and transport logistics, STRABAG also is a sponsor of the “das mini” hands-on area which seeks to awaken a basic interest in technology and the natural sciences among the youngest museum visitors. Thanks to STRABAG’s help, the hands-on zone received a new coat of paint as well new bricks for the “construction site”.

A partnership with the Vienna Technical Museum in 2018 offered STRABAG a new way of presenting itself as an attractive and innovative employer. It is STRABAG’s aim to raise awareness of these new methods of working while at the same time highlighting the construction sector as an interesting choice for a career among school-age students and their parents.



STRABAG is co-sponsor of the special exhibition “Arbeit & Produktion. weiter_gedacht”.



Even the little ones are helping to build.

BUSINESS COMPLIANCE

The avoidance of corruption and anti-competitive behaviour has become an important management responsibility in recent years. The potential damage that a company may incur because of corrupt or anti-competitive behaviour on the part of individual employees can at times reach drastic proportions.

The construction sector is not immune to corrupt or anti-competitive behaviour by individual persons. Complex accounting processes and the necessity for a great number of contractual relationships during a construction project often make it difficult to fully resolve non-compliant behaviour.

Even if STRABAG generates much of its revenue in countries with a low risk of corruption, in places like Germany, Austria and Poland, the international nature of its business means that

some activities are also performed in countries with a higher corruption risk as measured, for example, by the Corruption Perceptions Index¹. Transparent behaviour to minimise risk is required in all regions, especially during contract award or in negotiations with partner companies and subcontractors.

STRABAG acted in 2008 by implementing a Compliance Management System (CMS) and has been continuously developing it ever since. The purpose of the CMS is to prevent violations of the law and any resulting material and immaterial damage, and to maintain the company's good reputation as a business partner, contractor and employer. With extensive measures for employees and leadership, we are working to promote compliant and ethical behaviour and to create a strong corporate culture based on partnership and trust.

Rules and responsibility areas

The STRABAG CMS is seen as a living system subject to continuous improvement and adaptation to changing circumstances. The focus is especially on preventing cases of corruption, avoiding the violation of competition law and averting all forms of money laundering. The CMS consists of:

- the Code of Conduct,
- the Business Compliance Guidelines,
- the Business Compliance Guidelines for Business Partners, and
- the personnel structure of the STRABAG Business Compliance System.

The **Code of Conduct** establishes the fundamental ethical values of the company and contributes to the development of a common value system. The **Business Compliance Guidelines** for employees and the **Business Compliance Guidelines for Business Partners** summarise the rules to follow to avoid corruption and anti-competitive violations. Potential compliance violations, such as bribery, fraud or corruption, can be reported to specially appointed contact

persons (regional business compliance representatives) via our group-wide whistleblowing system. Employees, as well as subcontractors and other third parties, have the possibility to pass on relevant information by phone or by e-mail, if requested, also anonymously. The current list of all contact persons for the whistleblowing system can be found on the STRABAG website at www.strabag.com > Strategy > Strategic Approach > Business Compliance. We actively call upon anyone with relevant information to come forward, so we can identify misconduct quickly, respond appropriately and avoid any possible damage. In the event of violations of the legal regulations or of the conduct guidelines applicable within the company, the company will take the requisite disciplinary and legal (labour law) measures.

The **group business compliance coordinator** is the central point of contact for all business compliance matters and reports directly to the responsible member of the group's Management Board, in this case the CEO. Given the international organisation of our group, the compliance coordinator is supported by **regional business compliance representatives** and is in constant contact with them.

¹ Transparency International, Corruption Perceptions Index 2016, retrieved 30 January 2018 from https://www.transparency.org/news/feature/corruption_perceptions_index_2016#table

Objectives and indicators

The overriding objective of the STRABAG Compliance Management System is the complete avoidance of non-compliant behaviour. Recognising the impossibility of fully reaching this goal and understanding the difficulty of measuring the degree of goal attainment, it is necessary to define supporting goals leading to the main objective. The relevant indicators are monitored regularly and over the long term, as the effectiveness of initiatives to avoid compliance violations can only be meaningfully measured over longer periods of observation.

- **Training penetration rate at 31 December 2018**

(percentage of employees completing certain courses)

Target: 100 %

- E-learning course “The Right Behaviour in Day-to-Day Business”, initial training: 87 %
- E-learning course “The Right Behaviour in Day-to-Day Business”, refresher course: 91 %
- Classroom course “Avoidance of Corruption and Anti-Competitive Violations”, initial training: 93 %
- Classroom course “Avoidance of Corruption and Anti-Competitive Violations”, refresher course: 95 %
- Classroom course “Cartel Risks, Basics and Code of Conduct”, initial training: 87 %
- Classroom course “Cartel Risks, Basics and Code of Conduct”, refresher course: 84 %

The training penetration rate of the e-learning courses decreased slightly in 2018. This is due to a migration of the e-learning software that involved an interruption of the automatic invitation for e-learning courses.

- **Number of employees trained in 2018**

- E-learning course “The Right Behaviour in Day-to-Day Business”
Target: 7,000 people/year over a three-year average
 - Initial training: 1,321
 - Refresher course: 1,054
 - Total: 2,375

- **Number of management employees trained in 2018**

- Classroom course “Avoidance of Corruption and Anti-Competitive Violations”
Target: 400 people/year over a three-year average
 - Initial training: 58
 - Refresher course: 17
 - Total: 75

The relatively low number of classroom course participants in 2018 compared to 2017 is attributable to the fact that for many members of the management the three-year period since the last participation expired in 2017. This resulted in an above-average number of participants in 2017 and a relatively low training need in 2018.

- Classroom course “Competition Law”
Target: 400 people/year over a three-year average
 - Initial training: 174
 - Refresher course: 348
 - Total: 522

- **Number of compliance-supporting measures in the year: 9**

For details, see “Projects and initiatives”.

- **Number of business compliance violations discovered in the year**

(violations are assigned to the year in which they were conclusively discovered): 2

Projects and initiatives

Continuous training

We continuously train our employees in e-learning and classroom settings on how to fight corruption. An important requirement for attaining the overriding objective of avoiding compliance violations is for employees to be as informed as possible about appropriate behaviour in their daily business practices and, especially, about the negative consequences of inappropriate behaviour. The training of all relevant company employees (usually white-collar employees) in the principles of compliance is therefore a logical and necessary objective of the work of every compliance organisation. To increase their sensitivity to the subject of compliance, all employees must complete mandatory training measures and management employees must attend more in-depth training, also mandatory, at regular intervals.

The training activities are monitored using indicators such as training penetration rates or the number of employees trained in one year. Since 2013, the e-learning module on the right behaviour in day-to-day business has been carried out in all relevant group languages in all group countries. In addition to the course "Avoidance of Corruption and Anti-Competitive Violations", special cartel law training was introduced for the management in 2015. All of the classroom courses on the avoidance of corruption and anti-competitive violations are given by external legal experts or by lecturers from the group's internal legal department. New members of management receive one day of initial training, while veteran employees must attend half-day refresher courses every three years.

The continuous improvement of the STRABAG CMS is an important task of the business compliance organisation. This was supported especially by the Compliance Readiness Check that was initiated in 2017 and concluded in 2018. The aim of this initiative is the improvement of the STRABAG CMS in preparation for certification to international standards. The development of the corresponding concept and the management directives will be one of the main tasks of the business compliance organisation in 2019.

Compliance Readiness Check

The importance of business compliance was highlighted by the following compliance-supporting measures in 2018:

- The central **business compliance team** was strengthened by two additional junior compliance officers.
- Two employees of the central business compliance team completed a course to become **certified compliance officers**.
- The realisation of an **online whistleblowing platform** as approved by the Management Board in 2017 was completed and the platform went online on 1 July 2018. The platform is available in 14 group languages on all local STRABAG websites.
- The launch of the online platform was supported by an insert in the STRABAG **Group intranet**.
- With the implementation of the online platform, STRABAG's **local websites** were standardised with regard to business compliance to increase the focus on the subject.
- The **Compliance Readiness Check** started in 2017 by an external consulting firm was concluded in 2018.
- Building on the results of the Compliance Readiness Check, work began on the **further development** of the STRABAG CMS to a **CMS** that is certifiable to international standards (see above).
- The subject of business compliance was again given the adequate amount of time during the twice-yearly **group meetings** and the importance of this subject was expressly pointed out to the STRABAG top management.
- **Thematic classroom courses** were organised for individual organisational units to complement the mandatory regular compliance training.

RESOURCE MANAGEMENT

Economic growth, the global population increase and the necessary adaptations to climate change are stimulating the construction and maintenance of buildings and infrastructure. This requires considerable volumes of raw materials, such as **sand, gravel and quarry stone**. In Germany alone, this amounts to about 517 million tonnes of mineral resources a year, which corresponds to around 50 % of all processed raw materials within the country.¹ This increases, directly and indirectly, the impact on the environment, which is also noticeable locally in extreme weather, floods, loss of soil fertility and a decline in biological diversity. But the extraction of raw materials isn't the only important issue for the construction sector; in the end, the materials that are put into construction end up back in the environment in the form of emissions and waste as a result of maintenance or demolition works. Building rubble, road excavation material and construction site waste account for around 41 % of the overall mineral waste volume.² For this reason, we are committed to the transition to a more resource-friendly and more sustainable level of recycling management.

Besides the material consumption, the energy consumed in particular during the construction and the use of buildings is also an important

issue: Buildings account for about **40 % of the overall energy consumption** and produce around **36 % of the related greenhouse gas emissions** in the European Union.³ At the same time, besides the transport sector, the potential for energy savings is the greatest in the construction industry. To help raise this potential, we are continuously working on the development of our comprehensive energy and fuel management, among other things.

The increasing awareness among society and politics, as well as the changed environmental conditions as a result of climate change, have already caused a shift in customer demands. Our strategic focus, our innovative strength and our Architecture and Turnkey Construction business unit help to prepare us for the growing demand for resource-friendly services and products and allow us to proactively offer the corresponding solutions. Being able to integrate different disciplines over different lifecycle segments is our core competence as a general contractor. As such, we are familiar with the entire value creation process and are capable of thinking and planning across lifecycles. This gives us the possibility to perpetuate the philosophy of sustainability with the best possible technical solutions and the early interconnection of all involved.

Rules and responsibility areas

A group-wide energy and environmental policy lays the foundation for acting in a resource-friendly manner; opportunities and risks are

recognised early, and the legal provisions are fulfilled.

MAJORITY OF ENVIRONMENTAL MANAGEMENT DESIGNED TO ISO 14001

Within the group, the subject of the environment is handled by the **Integrated Quality Management (IQM)** team. To properly address matters of the environment, an environmental management system certified to ISO 14001 has been introduced in nearly all group countries. The environmental management is headed by the group's environmental representative, who receives information as to developments – e.g. on environmentally relevant factors regarding

contracts and investments – from the regional experts for environmental protection. In this way, he can give the best possible advice to the Management Board of STRABAG SE when it comes to setting environmental protection targets and measures. The information recorded by the environmental management system includes waste disposal, waste water, hazardous materials and products used.

¹ Umweltbundesamt: Die Nutzung natürlicher Ressourcen – Bericht für Deutschland 2018 [German Environment Agency: The use of natural resources – Report for Germany 2018]

² Mineralische Bauabfälle Monitoring 2014 – Bericht zum Aufkommen und zum Verbleib mineralischer Bauabfälle im Jahr 2014 [Mineral Construction Waste Monitoring 2014 – Report on the amount and location of mineral construction waste in the year 2014]

³ European Union, retrieved 10 December 2018 from <https://ec.europa.eu/energy/en/topics/energy-efficiency/buildings>

Energy management certified to ISO 50001

The energy management at STRABAG encompasses a set of tools to determine energy consumption and greenhouse gas emissions, on the one hand, while also developing and managing measures to increase energy efficiency and decrease greenhouse gas emissions, on the other hand. The group-wide energy and emissions management system is headed by the **Energy Steering Committee**, which determines the strategic orientation of the energy management. On the basis of the group-wide energy

data, the energy experts at the various group entities formulate recommendations to the steering committee. Accordingly, operational targets are set for energy consumption, CO₂ emissions and relevant measures throughout the group. As of 2014, an energy management system certified to the international standard ISO 50001 is being introduced at various group entities. Thanks to the Energy Efficiency Act, it is possible to make use of the potential for lower energy consumption and the resulting cost savings.

Objectives and indicators

It is our declared goal to keep the negative impact that our business activity has on the environment as low as possible. To do so, we give priority to those issues that promise the greatest potential for improvement and which we can

directly influence through our own actions, such as the reduction of energy use and the continued development of processes and technologies for resource- and energy-efficient buildings.

Indicators

- Percentage of recycled asphalt used in the production of asphalt mixture in Germany, Austria and Poland (combined share of group output: 70 %)

- Germany: 32.2 % of total asphalt mixture production of 3,837,549 t
- Poland: 32.0 % of total asphalt mixture production of 2,329,684 t
- Austria: 12.6 % of total asphalt mixture production of 1,187,465 t (proprietary plants)

Objective: We aim to increase the recycling share and also follow client demands in the process.

- Energy consumption and CO₂ intensity in the relevant energy consumption categories

- Vehicle fleet (all vehicle categories in Germany and Austria): 7.4 litres/100 km and 198 g CO₂/km

Objective: at least 1 % reduction per year

- Asphalt mixing plants in Germany: 90.5 kWh per tonne of asphalt mixture produced and 30.8 kg of CO₂ per tonne of asphalt mixture produced

Objective: The insufficient data that are available make it impossible to provide a target value in form of a percentage change. For this reason, we continue to cite absolute values.

- Construction equipment: Because of the insufficient data that are available, we are currently running pilot projects for the registration and monitoring of energy consumption and CO₂ intensity values for construction equipment.

Projects and initiatives

ENERGY MANAGEMENT PERFORMED SYSTEMATICALLY

STRABAG has had a systematic energy management in place since 2012 to identify savings potential and continuously raise energy efficiency

and reduce emissions. The cost savings that have been and remain to be achieved help us to increase our competitiveness. For economic and

ecological reasons, the topic of energy remains of great importance for the STRABAG Group. The **energy costs** for the companies within STRABAG SE's scope of consolidation amounted to € 275.46 million in 2018 (2017: € 250.59 million).

The energy and CO₂ data for the group are systematically captured and analysed using **CarbonTracker**. The software was developed in-house and has been in use since 2012. On this basis, we are developing concepts to reduce the use of fossil energy sources and lower the resulting greenhouse gas emissions in the long term through more efficient conventional or innovative machines. Currently about 20 % of the energy data are acquired on a volume basis, with the remainder derived from prices taken from our internal accounting. We are continuously working on increasing the percentage of volume-based energy data.

In the second quarter of 2017, we began gradually introducing an electricity and gas data management system within the group to perform load profile analyses at stationary plants and administration buildings. This will help us to recognise and reduce power peaks and excessive base loads (demand for default electricity supply).

Group employees are sensitised to contribute to **increasing the energy efficiency**. This occurs, for example, through training courses in which the staff is informed on the issues of safety, environment and energy. The positive results of the energy management can be seen in the reduction of energy costs, the higher tax savings potential and the protection of the environment through lower emissions.

ENERGY USE WITHIN THE GROUP¹

Form of energy	Unit	2014	2015	2016	2017	2018
Electricity	MWh	433,164	443,009	451,073	488,241	477,286
Fuel	MWh	2,311,287	2,224,192	2,065,409	2,108,339	1,976,423
Gas	MWh	455,996	479,303	409,098	449,372	497,899
Heating oil	MWh	143,934	176,575	153,896	169,257	172,550
Pulverised lignite	MWh	456,238	437,388	457,362	504,503	481,787
District heating	MWh	39,720	36,013	35,265	48,773	44,802

Fuel management as important building block of energy management

The group's most important energy source is **fuel**, which accounts for about 67 % of the total energy costs and therefore holds the greatest potential for savings for the group. In the 2017 financial year, we reassessed the efficiency potential of the passenger car and commercial vehicles fleet for the group's two largest markets, Germany and Austria. From today's point of view, there is a savings potential for fuel of about 3 %. **FuelTracker**, which was developed

analogously to the CarbonTracker software, allows us to analyse the fuel use of the STRABAG passenger car and commercial vehicles fleet. To also analyse the fuel use and emissions volumes of the construction machinery and equipment, a system is currently being developed to allow a simple and comprehensive digital capture of the consumption data. Valuable results for the evolution of the system were attained in 2018 during pilot operation at several locations.

Driving energy management: current national and EU legislation

In response to the **EU Energy Efficiency Directive**, among other things, STRABAG has since 2014 maintained an ISO 50001-certified energy management system that was first introduced in the core countries of Austria and Germany. All companies in Austria that are at least 50 % owned by STRABAG SE are in possession of valid certification. Furthermore, energy efficiency measures are being implemented to lower the energy use by 0.6 % on the basis of the total annual energy use of these companies. In Germany, our largest market, the **Energy Services Act (EDL-G)** was amended in 2015. Since 2016,

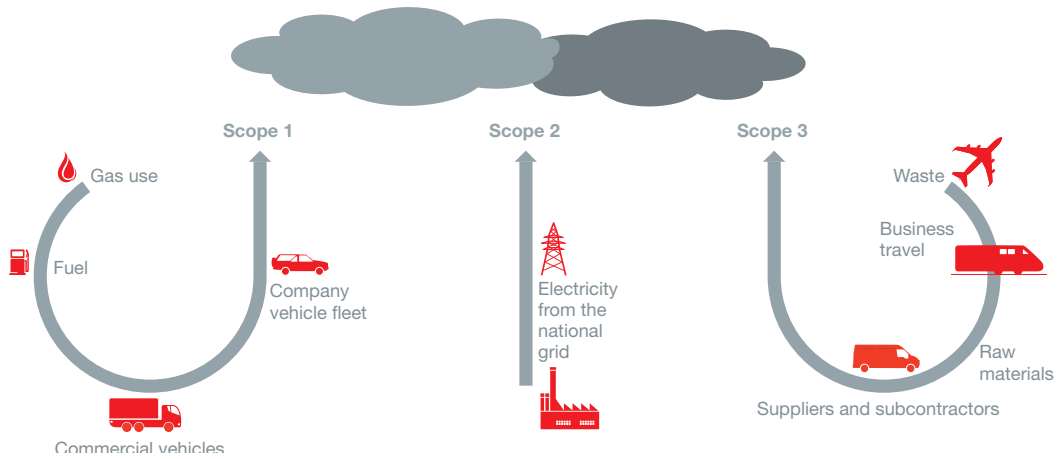
an ISO 50001-certified energy management system has been present in Germany. Other European countries have already implemented the EU Energy Efficiency Directive into national law and are calling for the total or partial introduction of an energy management system. A comprehensive system has also been established in Hungary, Serbia, Croatia and Slovenia. In Denmark, STRABAG is performing external energy audits to comply with the requirements. The necessary measures in Poland, Slovakia and Sweden are centrally coordinated and arranged in the individual countries.

¹ In accordance with the GRI standards, all energy forms were reported in MWh as a uniform standard unit for the first time in 2018. The figures for the previous years were adapted accordingly. The conversion factors were taken directly from the energy suppliers or from publicly recognised institutions.

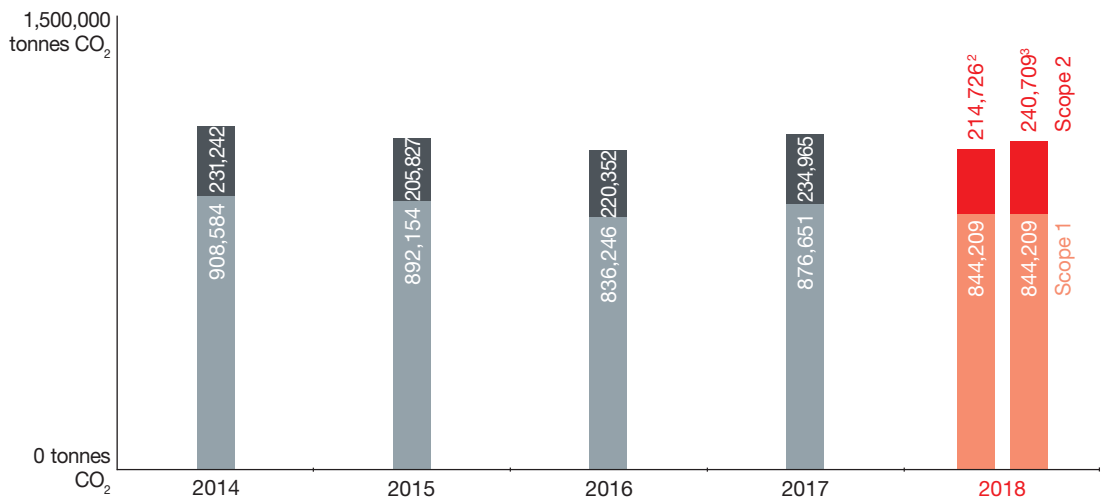
The carbon footprint for the 2018 financial year refers to the group’s full scope of consolidation and includes the emissions caused in 61 countries¹. Within the group, a total of 844,209 t of CO₂ were emitted directly by the company in the year under report (Scope 1), with an additional 214,726² t of CO₂ attributable to electricity use (Scope 2). More than half of the CO₂ emissions in

the group² result from the use of fuels, mainly diesel. This is followed by electricity and pulverised lignite with 19 % and 16 %, respectively. Germany, Poland, Austria and the Czech Republic are responsible for the greatest share of these emissions (69 %). With 74 %, these countries also accounted for the greatest share of the group’s output volume in 2018.

THREE SCOPES

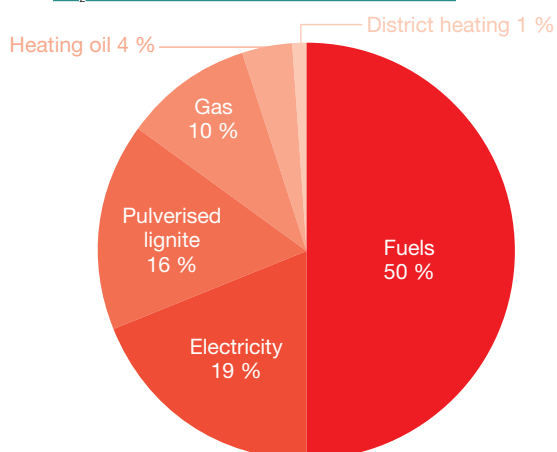


EMISSIONS OF THE STRABAG GROUP

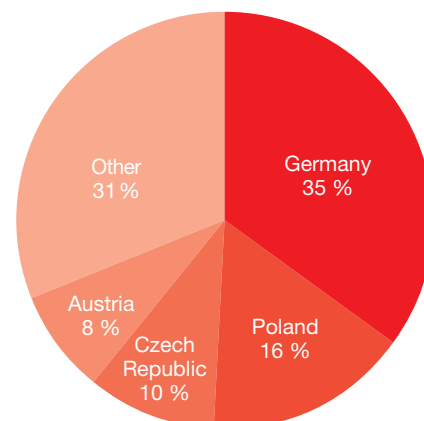


1 The emissions are reported in Scope 1 and Scope 2 in accordance with the definition of the Greenhouse Gas Protocol. In 2018, the Scope 2 emissions were for the first time calculated with the location-based method (using a conversion factor for the average carbon intensity of the national electricity network) as well as the contract-based method (using the carbon intensity of the purchased electricity or of the electricity provider).
 2 Contract-based
 3 Location-based

CO₂ EMISSIONS BY ENERGY SOURCE 2018



CO₂ EMISSIONS BY COUNTRY 2018



RESOURCE-EFFICIENT MATERIAL USE THROUGH RECYCLING

MATERIALS USED¹

Material	Unit	2014	2015	2016	2017	2018
Stone/Gravel	thousands of tonnes	59,910	60,670	58,020	62,420	68,650
Asphalt	thousands of tonnes	13,110	13,840	13,690	14,000	13,985
Concrete	thousands of m ³	4,934	4,986	4,986	4,589	5,746
Cement	thousands of tonnes	1,043	1,095	1,021	1,163	1,669
Structural steel	tonnes	n. m.	n. m.	421,336	417,381	478,290

The construction sector plays a key role in the future development of efficient ways to use primary raw materials. STRABAG recognised this development years ago and has been increasing its resource efficiency through **optimised production processes** for concrete, cement and asphalt, on the one hand, and, on the other hand, through the reprocessing and **recycling of construction materials**. In a European comparison, the recycling rates in two of our core countries – Austria and Germany – are

already quite high. Technological advances and stricter legislation help to promote this positive development. The transportation infrastructures segment holds especially high potential. The recycling of used materials reduces greenhouse gas emissions and saves valuable primary raw materials. Moreover, with a rate of 81 %, we cover most of our asphalt needs ourselves. This puts us in a position to optimise the production process as needed and to initiate measures to raise energy efficiency.

SUSTAINABLE BUILDING IN ACCORDANCE WITH ESTABLISHED CERTIFICATION SYSTEMS

Rising energy prices, the increasingly noticeable impact of climate change, and rapid urban growth present the construction industry with new challenges: buildings are no longer optimised only according to investment criteria – lifecycle costs, quality and resource efficiency are also becoming more important. Thinking and working in cycles results in economical, environmentally friendly, low-resource buildings which also meet the high demands for functionality and flexibility.

is to optimise buildings so they consume little or no energy, or even generate their own, during their period of use. We have the technical know-how and the necessary experience to design and construct sustainable buildings. In addition to consultation and execution, we also conduct audits of new and existing buildings in accordance with the established certification systems **DGNB, LEED, ÖGNI, and BREEAM**.

Taking a building’s entire lifecycle into account, **most of total energy demand occurs during the entire operating phase**. An important and growing business field for STRABAG therefore

STRABAG Real Estate GmbH (SRE) is the first company worldwide to have created its own sustainability standard for the simplified certification of office buildings. The list of criteria, which was reviewed and approved by the German Sustainable Building Council (DGNB),

¹ The volumes were derived from the average prices from the price data.

Seven group buildings with DGNB or ÖGNI certification

will expedite the certification process for future projects considerably. Certification usually requires a building to fulfil around 50 criteria. SRE is now able to document about half of these using the simplified procedure. A team of technical consultants – consisting of members from the SRE staff division Technical Controlling and Consulting and the Architecture and Turnkey Construction unit of STRABAG subsidiary Ed. Züblin AG – identified all sustainability-relevant and repetitive elements from previous DGNB-certified SRE projects. This was used to create a fictitious office model on the basis of which DGNB was able to certify the general sustainability. In exchange, SRE made these criteria a mandatory construction standard for all future office developments that would like to benefit

from the simplified procedure. Only those factors were accepted into the sustainability standard which do not prevent buildings from being adapted to the location or to usage needs and thus continue to allow project-specific adaptation. For its DGNB Multiple Certification, SRE was honoured with the 2018 Immobilienmanager Award in the category “sustainability”.

We also want to offer our own employees a chance to experience the health benefits and level of comfort which the users of sustainable buildings enjoy: Seven of our group buildings at five locations have been built either fully or in part by STRABAG and its subsidiaries with subsequent certification according to DGNB or ÖGNI criteria.

HAUSLEITEN, LOWER AUSTRIA: AUSTRIA'S MOST STATE-OF-THE-ART ASPHALT MIXING PLANT PRODUCES UP TO 2,500 T OF ASPHALT EVERY DAY IN A RESOURCE-FRIENDLY MANNER

Asphalt is a mix of gravel and sand that is bound with bitumen at about 200°C. The mixing plant in Hausleiten in the state of Lower Austria has been in operation for almost half a century. As of autumn of 2018, the facility can boast of a new and very impressive distinction: Following a STRABAG investment of € 10 million, the old plant was torn down and in just six months of construction was converted into Austria's most state-of-the-art asphalt mixing plant. Up to 2,500 t of asphalt are mixed here every day.



The asphalt mixing plant processes up to 50 % recycling material.

What makes the new plant so special is that it requires only half of the previously necessary primary raw materials for the asphalt production process. The composition of the product is also sustainable. Most of the necessary materials – gravel and sand – come from a quarry in Gaaden, also in Lower Austria. To help conserve additional resources, the facility also utilises rubble from the demolition of old roads. The old road surface is carefully milled from the road and mixed in during the production as a secondary raw material.

But the most important and innovative part of the new plant in Hausleiten is the so-called recuperator. The recuperator heats the recycled material without contact with an open flame. This avoids damaging the bitumen present in the material. Under compliance with all the quality standards, a recycling mix of 40–50 % is possible during asphalt production.

SOCIETAL ENGAGEMENT

Focus on cultural and social projects as well as on team sports

Our business activity – the business of building – directly shapes people’s living environment. The result is an interaction between construction and society: Only in a successful society can we succeed. At STRABAG, we therefore feel obliged to contribute to the healthy devel-

opment of society as a whole. This means that we make contributions to maintain the social standards in Central Europe, to improve them in other countries, and that we support cultural projects as well as team sports to enhance team spirit.

Rules and responsibility areas

If and in which form we lend substantial support is decided by the STRABAG SE Management Board according to eligibility criteria such as:

- Can STRABAG, given the nature of its business, make a contribution to the project that companies in other industries could not?

- Is the project worth our long-term commitment?
- Does the project fit our strategy and our public image?

Objectives and indicators

We do not extend our social commitment indiscriminately, but instead support selected initiatives over the long term in order to make a lasting contribution. One of the indicators that

measures our commitment is the contribution we make to the core projects and initiatives mentioned below. In 2018, this amounted to € 3.80 million (2017: € 4.70 million).

Projects and initiatives

CONCORDIA SOCIAL PROJECTS



With STRABAG’s help, CONCORDIA supports people in need.

In the social sphere, we are especially committed to helping children and youth in Eastern and South-East Europe by giving them an opportunity for an education and the chance for a better future. This also helps to secure the future of our company in these markets. An important contribution is made to CONCORDIA:

CONCORDIA is an internationally active, independent charity organisation for children, youth, the elderly, and families in need. From its start in 1991 as a social project for street children in Bucharest, CONCORDIA has grown into an organisation which today helps more than 9,000 children, youth and families in Romania, Bulgaria and the Republic of Moldova.

The organisation's most important goal is keeping families together. Many parents are forced to leave the country in search for work. Sometimes children are unable to stay with their families due to existential poverty. CONCORDIA's services therefore comprise family-like children's homes, foster care, social centres for youth in precarious situations, assisted living facilities for young adults and outreach work. Another focus is on educational projects: from educational assistance or music instruction to separate training facilities, for example for cooking/baking or the carpentry trade.

In the Republic of Moldova, CONCORDIA also attends to the needs of around 6,000 people who have to live in extreme poverty. All over the country, CONCORDIA's social centres and soup kitchens provide elderly people and children in

need with the essentials they require every day. STRABAG has been a partner of CONCORDIA for years, helping to build living facilities for (orphaned) children, setting up social centres and soup kitchens, and offering continuous support of the organisation's activities.

With STRABAG's support, CONCORDIA also provides assistance to children from low-income families in Austria and helps unaccompanied minor refugees take their first steps towards integration. Since 2016, an annual fundraising concert by Tyrolean Festival Erl on behalf of the CONCORDIA children's projects has been a regular part of the joint effort by STRABAG and CONCORDIA to help people in need.

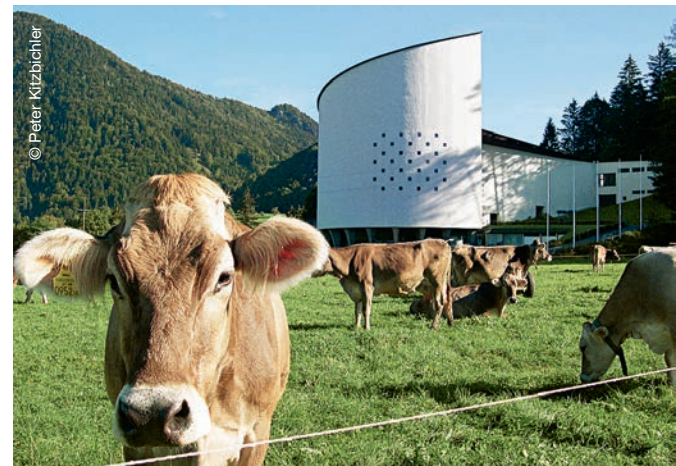
More information: www.concordia.or.at

TYROLEAN FESTIVAL ERL

Tyrolean Festival Erl was founded in 1997 and has been held in the illustrious Passion Play town of Erl in Austria every year since 1998. STRABAG has been a supporting partner from the beginning. To guarantee the long-term viability of this important cultural venue, the "Tiroler Festspiele Erl Gemeinnützige Privatstiftung" was established in 2017 with STRABAG SE as one of the foundation's sponsors.

Tyrolean Festival Erl has become a respected fixture in the cultural life of Tyrol and internationally. In 2018, more than 36,000 visitors came to enjoy the opera, concert and chamber music evenings. The focus in the summer is on Wagner and Rossini as well as on a classical and also contemporary concert repertoire. All year round, the unique acoustics in the new festival theatre also do justice to the works of Mozart, Bach, Italian composers and belcanto.

An attractive winter season programme was added to the summer programme in 2012



The festival and Passion Play theatre in Erl (Austria)

when performances became possible in the STRABAG-built festival theatre. Further events were added to the festival programme in 2017 with the piano days and the Thanksgiving concert series.

More information: www.tiroler-festspiele.at

ENSEMBLE:PORCIA

Ensemble:Porcia is the most important cultural institution in the small town of Spittal an der Drau in Upper Carinthia and has been adding life to the city and the region every summer for the past 58 years. In 2018, Ensemble:Porcia drew more than 15,500 visitors to the beautiful Renaissance-era Porcia Castle. Here the theatre troupe puts on comedies from the repertoire of all European languages, including classic comedies from Shakespeare, Nestroy and Feydeau as well as world premieres.

With around 40 performers and artistic staff, supported by a backstage team and a youthful front office, Ensemble:Porcia provides employment for more than 70 people in the summer. Large performances are held in the courtyard of Porcia Castle, while the smaller underground Salamanca Gallery features modern comedies and art exhibitions organised in cooperation with STRABAG Kunstforum for a synthesis of the visual with the performing arts. The Porcia Theatre Wagon that tours through the country

is another unique cultural institution on the local and national stage made possible with STRABAG's support. In the summer of 2018, the theatre wagon performed on tour in front of about 5,500 people at town squares, in castle courtyards, in village streets, at retirement

homes, in schools and on mountain tops in the middle of nature. The theatre wagon also stops in once a year at the STRABAG head office in Vienna.

More information: www.ensemble-porcia.at

STRABAG KUNSTFORUM

STRABAG Kunstforum has long been in the service of arts patronage – as organiser of the STRABAG Artaward International, with the exhibitions at the STRABAG Artlounge and through the establishment and maintenance of the permanent collections at more than 60 offices throughout Europe. The STRABAG Artaward has been presented since 1994 in Austria and since 2009 as an international art sponsorship award for artists in the fields of painting and drawing. Winners receive the opportunity to present their works at an individual exhibition in the STRABAG Artlounge. STRABAG Kunstforum also gives artists access to the art studio at the STRABAG head office in Vienna as a place that promotes the creativity, artistic productivity and exchange within the art scene.

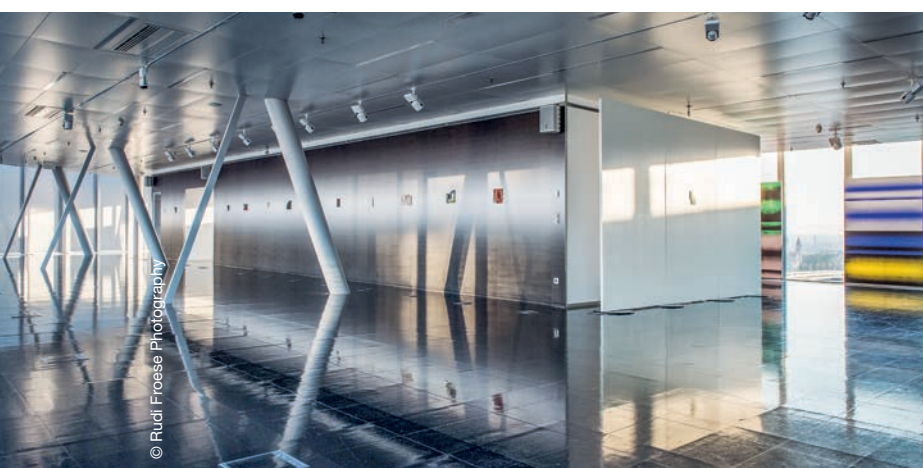
For the years 2018–2020, the award is open to artists from Austria and Germany. In 2018, the prominent members of the STRABAG Artaward International jury selected Verena Dengler as the winner from a new record of 983 submissions. Also awarded were Alfredo Barsuglia (Austria), Larissa Leverenz (Austria/Germany), Erik Sturm (Germany) and Alexander Wagner (Germany). In addition to the focus on young artists, an individual exhibition of works by Alfred Hrdlicka paid homage to an established great from the Austrian art scene.

A special guest appearance was made by the fund *andersART* that supports existing initiatives to promote outsider art. The fund is dedicated to the promotion, establishment and support of self-taught artists with psychological illness or mental handicaps. The three artists supported by the fund, Johanna Rohregger, Albert Masser and Martin Schauer, presented their works in the STRABAG Artlounge.

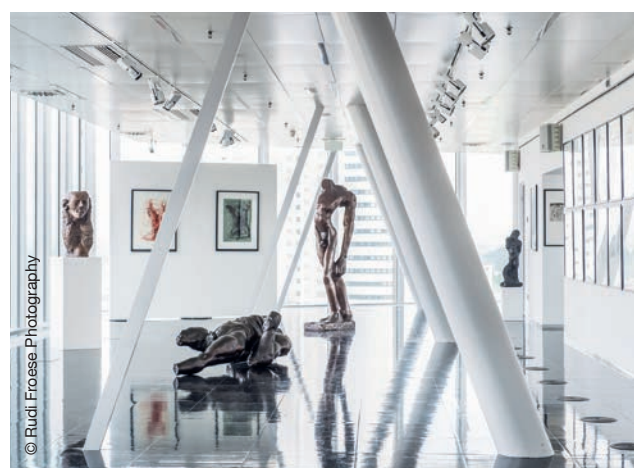
All temporary exhibitions at the STRABAG headquarters as well as the permanent exhibition of Bruno Gironcoli at the Gironcoli-Kristall, Vienna, are open to employees and the general public during regular office hours. Admission is free. Since 2018, the exhibition at the Gironcoli-Kristall can be accompanied by a Hearonymus audio guide.

With over 3,000 works of art comprising the STRABAG Artcollection, STRABAG Kunstforum aims to promote the dialogue between art and everyday life and to give artists a platform where they can continue their work. In 2018, STRABAG Kunstforum provided art for the company locations in Stuttgart (Germany), Brunn am Gebirge, Trumau, Lienz and Tech Gate Vienna (Austria) and Bratislava (Slovakia).

More information: www.strabag-kunstforum.at



The Alexander Wagner exhibition in the STRABAG Artlounge



The Alfred Hrdlicka exhibition in the STRABAG Artlounge

RISK AND OPPORTUNITY MANAGEMENT – PROJECT-RELATED RISK MANAGEMENT

Why manage risks and opportunities?

Don't focus only on the macroeconomic development, but also – and above all – scrutinise a construction company's risk management system.

The STRABAG Group encounters many different risks and opportunities in the course of its business activities. These risks are systematically identified and assessed using an active risk management system and actively managed through an appropriate risk management policy. This risk management policy is an integral part of the management system and describes a set of fixed principles and responsibilities for risk management and how to deal with the material risk categories.

When capital market participants or suppliers scrutinise a company in the construction sector, the forecasts for the macroeconomic development of the individual markets are usually of great importance to them. Of course, our business is influenced by economic growth and public spending; at least as important, however,

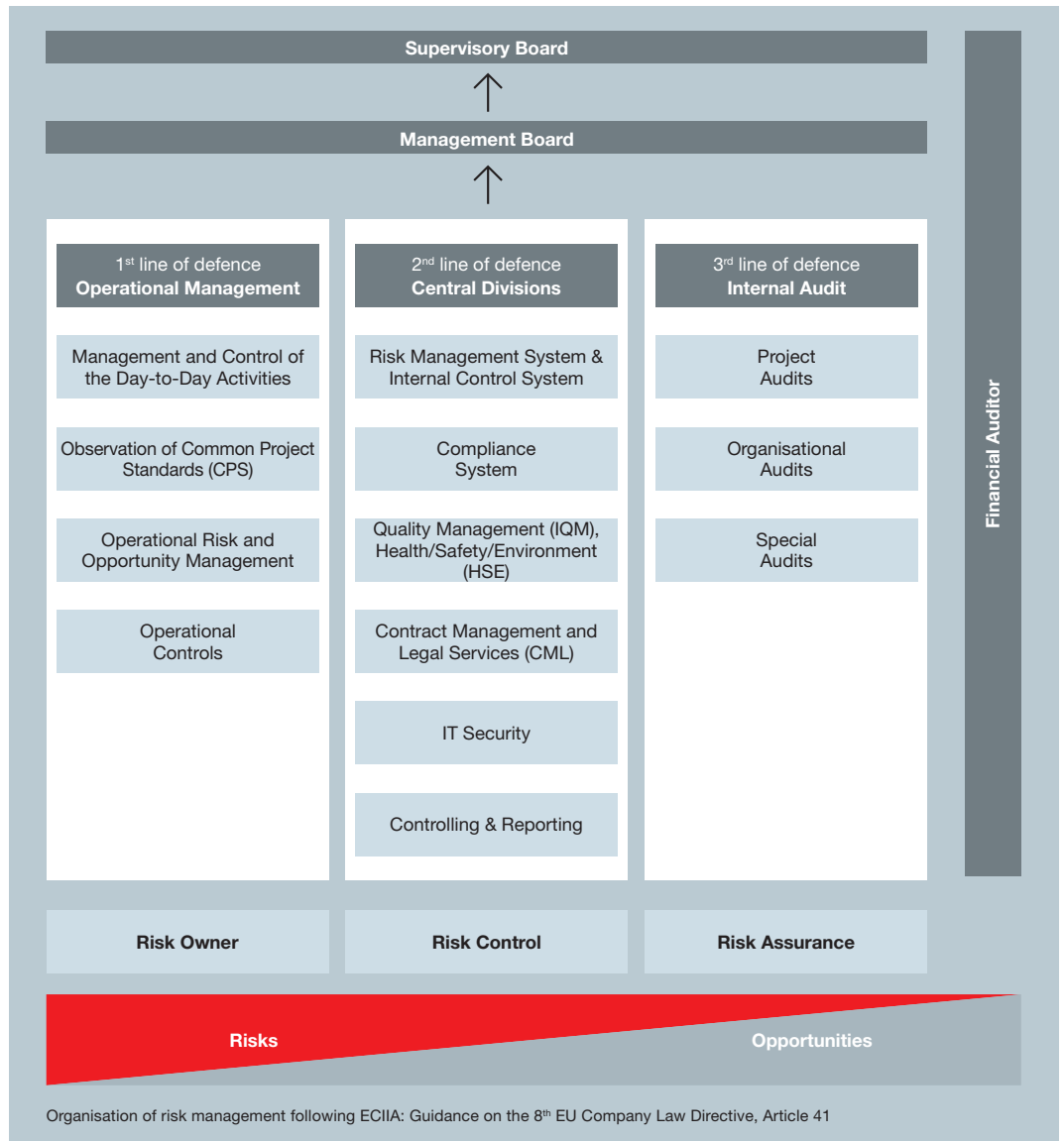
is a construction company's risk management. After all, the large number of unique projects translates into an increased risk potential. Keeping this under control requires a focused organisational structure with clearly defined responsibilities and effective instruments for an active risk and opportunity management. An end-to-end risk and opportunity management system also is a competitive advantage that is difficult for the competition to copy – it can only be established over the long term.

Managing risks and opportunities is part of the daily work at STRABAG. Additional information can therefore be found in the Management Report under "Risk management", "Financing/Treasury" and "Order backlog" or in the Consolidated Corporate Governance Report.

Rules and responsibility areas

To ensure a responsible and proactive approach to risks and opportunities, we integrated a comprehensive **risk management system (RMS)** with an **internal control system (ICS)** in our management system on the basis of the internationally recognised COSO Enterprise Risk Management Framework (COSO: Committee of Sponsoring Organisations of the Treadway Commission). Risk management is a **core activity of the management** with responsibility at the corresponding management level. The

organisation and responsibilities for the risk management are determined according to the three lines of defence approach supported by the European Confederation of Institutes of Internal Auditing (ECIIA). This end-to-end corporate governance model applies to all disciplines of risk management and establishes clear roles and responsibilities for risk management to ensure a functioning and efficient control and monitoring framework.



The **first line of defence** is the operational management, which has responsibility for identifying, analysing, assessing, managing and monitoring risks and opportunities. As **risk owner**, the operational management is responsible for establishing preventive measures to avoid or mitigate risks, for taking advantage of opportunities that arise in the day-to-day business and for ensuring that all activities coincide with the company objectives.

The **second line of defence** supports the operational management in **risk control** as well as in further developing the risk management system and the internal control system. This includes the central functions for risk management, compliance, quality management, health/safety/environment (HSE), IT security, and controlling and reporting. The central divisions establish standards, methods and processes for the risk management along with related standards and

guidelines, manage and monitor their implementation in the operational areas, report periodically to the company management and review the level of sophistication and further development of the management system.

The **third line of defence** comprises the internal audit department as an objective and independent audit and consulting entity for **risk assurance**. The internal audit department supports the company management, the operational management and the monitoring entities in early risk recognition and reviews the effectiveness of the measures established to minimise or avoid risk.

Complementing the above, the **financial auditor**, as part of its annual audit activities, assesses the effectiveness and efficacy of the risk management system and the internal control system and so supports the ongoing monitoring of the efficiency of the three lines of defence. The

essential success factors of our integrated governance system are explained below:

#1 – MANAGEMENT SYSTEM WITH ASSOCIATED POLICIES AND RULES

The management system of the STRABAG Group is described with the associated policies in the Management Manual and is documented with superordinate and subordinate rules. The rules

apply across the group and have been translated and communicated in all relevant group languages.

#2 – ORGANISATIONAL STRUCTURE WITH CENTRAL ENTITIES

The management of the risks and opportunities receives significant support from the group's organisational structure. The uniformity of the organisation creates economies of scale and results in efficient controlling and reporting. Under the roof of the parent company STRABAG SE, a number of legally independent subsidiaries are active in their respective national markets. The top level of organisation are the segments North + West, South + East, International + Special Divisions and Other (this segment comprises the central divisions and the central staff divisions), each of which is headed by at least one member of the Management Board.

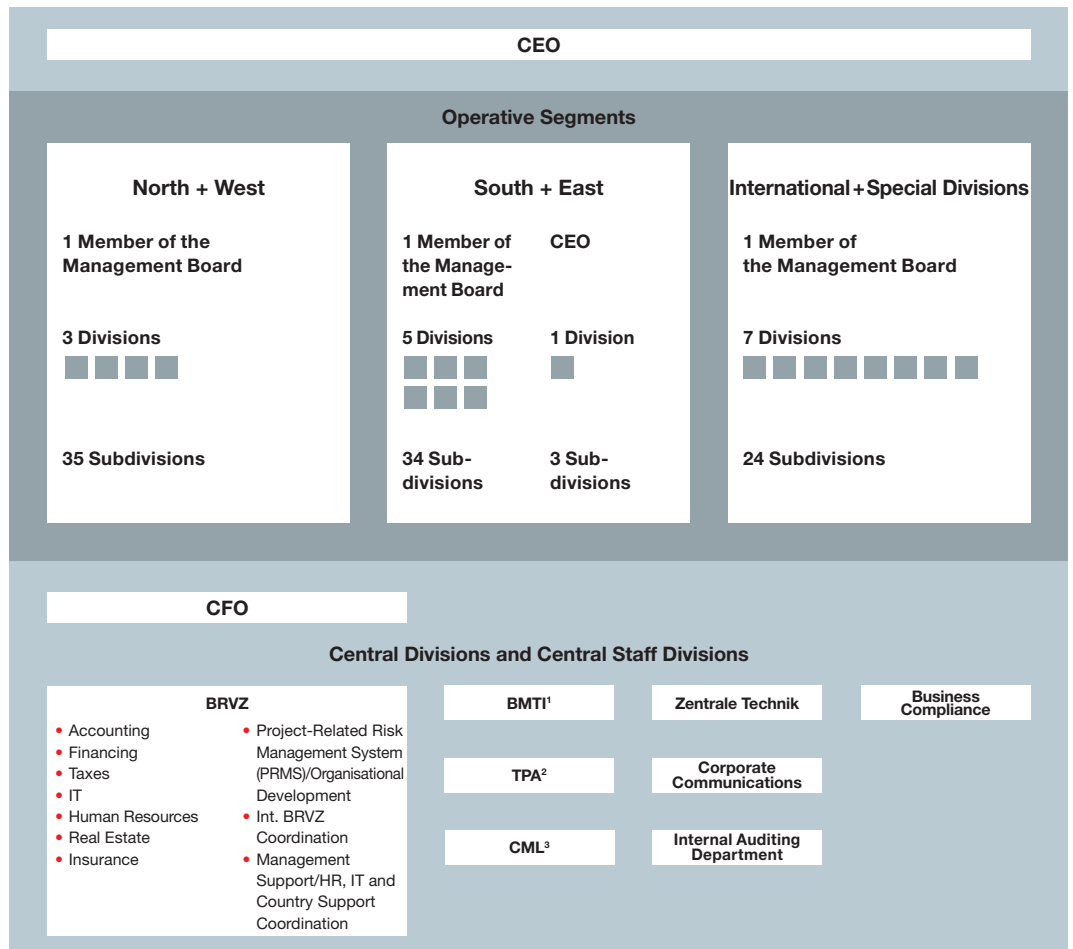
The STRABAG SE **Management Board** is the group's top management body. It is responsible for maintaining the group's financial balance and determines its strategic goals. The Management Board regularly discusses matters of corporate responsibility and sustainability. During the execution of these tasks, the Management Board is supported by the **divisions** as well as by the central divisions and central staff divisions (service companies).

The division managers coordinate and steer their subdivisions and report directly to the member of the Management Board responsible for their division. They manage their business independently and on their own responsibility within the framework of the group's business policy. It is their responsibility to reach the

objectives laid out in the strategic and operational planning and to realise the specified individual measures. The operating business is managed by the **subdivisions**, which in turn are organised into individual business units. They are responsible for the greatest possible success in their regional markets or business fields and are managed by the superordinate division managers.

The **central divisions** handle the group's internal services in areas such as accounting, financing, taxes, IT, human resources, real estate, insurance, project-related risk management system and organisational development, equipment and vehicle management, quality management, safety/health/environment and energy management, technical consultation, quality assurance, innovation management, prequalification, contract management and legal services. As competence centres, they support the operating units so these can concentrate on their core business and deliver their services to the clients in an efficient manner. The **central staff divisions** are responsible for internal audit and communications and report directly to the CEO.

While important decisions at the Management Board level are made during regular board meetings, the **four-eyes principle** applies at the levels below. For us, this dual management structure ensures efficient risk management and foresees that responsibility is largely assumed jointly by one technical and one commercial manager.



1 BMTI: equipment and vehicle management

Last updated: 1 January 2019

2 TPA: quality management, technical consultation, quality assurance, innovation management, safety/health/environment and energy management

3 CML: prequalification, contract management and legal services

#3 – PROJECT SELECTION AND INTERNAL PRICE COMMISSION

Project-related risks often have their origin long before contract signing. In order to recognise significant risks and opportunities at an early stage, we select projects before participation in a prequalification or before the start of bid processing on the basis of defined criteria and disclosure thresholds. Especially with large projects, the management can set framework

conditions for the further bid processing and for the early inclusion of specialists from the group's central divisions and central staff divisions. When defined disclosure thresholds are exceeded, a bid, before it is submitted, must be closely reviewed and approved by internal **price commissions** composed of members from various hierarchy levels depending on the project size.

“We have a self-developed management information system that helps us to apply the same standards in all regions in which we operate. That means clear criteria for the assessment of new projects, a standardised process for the submission of bids, and control systems that serve as filters to avoid loss-bringing projects.”

#4 – MANAGEMENT INFORMATION SYSTEM

Our management information system gives us an up-to-date overview of the financial status of all our projects with data that can be compared from country to country. In addition, evaluations are analysed by the respective management and members of the STRABAG SE Management Board at regular intervals.

Thomas Birtel, CEO of STRABAG SE

Objectives and indicators

A primary objective is the **long-term existence of our company**, which we strive to ensure by maintaining our focus on cost efficiency and the

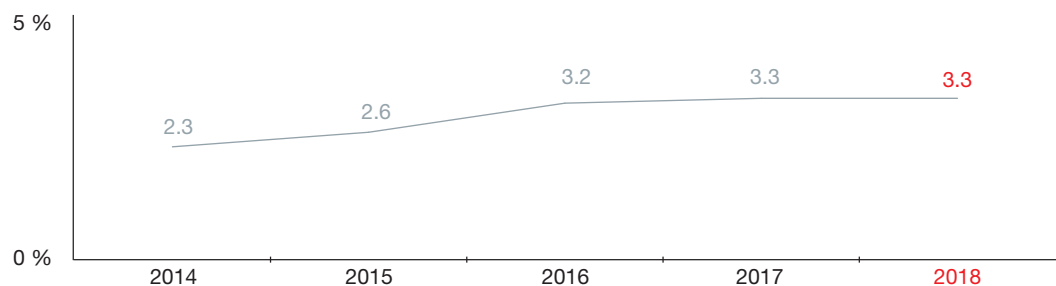
disciplined use of capital. To reach this overriding objective, we set ourselves the following specific goals:

REACH AND SUSTAIN THE DEFINED EBIT MARGIN TARGET

The **EBIT margin** is our **most important financial indicator**. The margin is especially crucial for our investors. Given our policy of paying out 30–50 % of the net income after minorities in the

form of a dividend, our investors are especially interested in seeing a sustained achievement of the EBIT margin target.

DEVELOPMENT OF EBIT MARGIN¹



Since 2016, we have made it our goal to confirm a sustainable EBIT margin (EBIT/revenue) of at least 3 %. In the 2018 financial year, with an operating EBIT margin of 3.3 % – the same as in the previous year – we again succeeded in

reaching our self-imposed target. The margin was adjusted for a non-operating step-up profit related to the full consolidation of a German concession company.

¹ 2016 adjusted for non-operating income in the amount of € 27.81 million
2018 adjusted for a non-operating step-up profit in the amount of € 55.31 million

CONSTANTLY INCREASE THE EFFICIENCY OF THE PROJECT-RELATED RISK MANAGEMENT SYSTEM

To maintain the EBIT margin at the level attained, and raise it if possible, we must consistently and sustainably reduce the flop rate by constantly improving the efficiency of our project-related risk management. We have implemented a risk management system (RMS) with an integrated internal control system (ICS) across the group to help us in the early identification, accurate assessment, effective management, and transparent end-to-end monitoring of significant project-related risks and opportunities. We periodically review the efficiency and effectiveness of the systems, processes and controls for early recognition of all material risks and related countermeasures in order to deflect impending damage to the company and rule out any potential threat to its existence. Weak points that are identified in the process are transparently documented and immediately rectified.

For the monitoring of the overriding objective, several **indicators** are periodically measured and tracked on the basis of multi-year comparisons. These indicators include:

- Financial figures
- Project-related and organisational figures
- Economic and industry situation

- Market position and competition
- Client situation
- Services offered
- Management quality

However, the effectiveness and efficacy of the risk management system cannot be measured or assessed on the basis of an isolated observation of individual risk parameters. Many different indicators must be observed in the context of various influencing and correlating factors.

We are working on developing a more uniform, group-wide understanding of risk and a standardised, end-to-end method for the identification, categorisation, assessment and tracking of risks and opportunities. On this basis, the project-related documented risks and opportunities can be aggregated over the long term and the associated risk indicators can be ascertained. Using cause/effect analyses, we also evaluate the degree to which this allows us to derive correlations or dependencies that could serve as early-warning indicators to deliver important information for the management of risks and opportunities.

ENSURE COST EFFICIENCY AND DISCIPLINED USE OF CAPITAL

To sustain an EBIT margin of at least 3.0 % in the long term, it will not be necessary for the market – i.e. the macroeconomic environment – to change. Besides our increased efforts to improve the project-related risk management, we are maintaining our focus on **cost efficiency and the disciplined use of capital**. This was at the centre of the work of the internal **STRABAG 2013ff task force** that over a four-year period visited the locations of all our organisational entities, viewed construction sites, and engaged in conversations with the local management. The aim now is to stabilise and consolidate the efficiency

improvements achieved by the work of the task force with regard to the organisational and strategic position of the group. Help and assistance in this regard should come from the **central division Project-Related Risk Management System/Organisational Development/International BRVZ Coordination** that was created in 2015. The main tasks of this team include the development of organisational indicators and benchmarks for efficiency improvement as well as the consultation and support in organisational development measures at individual company entities.

Projects and initiatives

Also see the “Strategy” chapter of the Annual Report

Based on the strategic principles for the management of risks and opportunities, the measures we are taking include the following:

MEASURES TO STRENGTHEN THE PROJECT-RELATED RISK MANAGEMENT SYSTEM

The STRABAG Group’s risk management system was improved through the following changes and enhancements in the 2018 financial year:

- Coordination and implementation of improvement processes with regard to the minimum standards with group-wide validity for the procurement and execution of construction projects (common project standards) on the basis of an evaluation of the core processes of “selection” and “price commission”, including, but not limited to:
 - Extension of the matrix of reporting thresholds
 - Expanded rules and stricter requirements for the preparation and implementation of selection and price commission among large-scale and megaprojects
 - Deregulation and de-bureaucratisation in the region-wide business through extension of the problem-solving and decision-making ability for operating entities when establishing specifications for selection and price commission for smaller projects (< € 5 million)
- Extension of the common project standards through rules and regulations specific to the respective business units and countries
- Further development of the decision-making foundations in the project procurement phase to support the decision-making process in final tender meetings or price commission
- Implementation of workshops on the use of the evolved catalogue of possible causes, based on the common project standards, for the categorisation of material positive and negative earnings causes
- Further analysis of cause-and-effect relationships
- Improvement and extension of the data management for the gradual establishment of a knowledge database complemented by analysis and assessment options for the promotion of a needs-based exchange of experience among the project participants

- Improvement of system interfaces to avoid redundant data capture and to improve quality and transparency in data management and the determination of key performance indicators

In the 2018 financial year, we also continued the following long-term developments which are either in the evaluation and conception phase or are finding implementation in subprojects:

- Improvement of the project data management in the areas of data structuring, archiving, functionalities and interfaces to support the decision-making processes during the project procurement phase
- Extension of the standardised reporting through project management tools for the early recognition of opportunities and errors (including comparison of target/actual quantities for main works)
- Development and introduction of an IT tool for the standardised, systemic end-to-end documentation and tracking of risks and opportunities
- Derivation of indicators and the development of efficient early-warning systems on the basis of the periodically analysed lessons learned and experiences in order to avoid errors or the repetition of errors
- Stabilisation of the efficiency improvements initiated by the STRABAG 2013ff task force through the development and complementation of suitable organisational indicators as a decision-making basis for sustained structural optimisations
- Planned merger of the reporting in a modular controlling portal

An essential prerequisite for the improvement of our project-related risk management system is the active contribution of all employees with a clear commitment to an open error culture. This is where our values of partnership, trust and respect, based on honesty, fairness and mutual appreciation, are of particular importance, as they form the foundation for a learning organisation.

DIGITALISATION TO PROVIDE NEW TOOLS FOR THE REDUCTION OF CONSTRUCTION RISKS

Also see chapters
“Innovation” and
“Digitalisation”

The new tools being used in **BIM 5D**[®] processes facilitate, among other things, regular consistency reviews of the construction designs, a model-based quantity, cost and performance assessment, and schedule planning, and, on this basis, an end-to-end rendering of the construction sequence with digitally linked processes and consistent data across the entire lifecycle of a building. This can help uncover and correct

errors at an early stage, thus minimising the risks in a construction project, the roots of which are often found in the design phase. The digitally retrievable data can then be used for different analyses (including building analyses and simulations, sustainability studies or building certification). The digital tools also promote an efficient and transparent working relationship with clients, designers and partner companies.

INNOVATION

STRABAG is a technology group for construction services. For a technology-focused company, it is essential to embrace innovation in order to remain competitive in the long term.

The trend towards **integrated end-to-end solutions** is increasingly taking hold in the construction sector as well. Clients want benefit, rather than things and individual functions. This results in complex changes. The function of buildings and transportation infrastructures is increasingly seen over the entire lifecycle – in terms of technology, profitability and environmental impact. Yet **production costs** still **decide** over most contract awards. This price competition can be countered not only through increased efficiency but also by applying innovative solutions. Customers are increasingly looking at the operating and lifecycle costs; rarely, but more and more, an assessment of the environmental impact of the relevant construction-related processes is wanted. In the future, construction companies will be asked to build highly functioning buildings with maximum comfort, high health standards and low impact on the environment. The bid submission for and execution of the Axel Springer Campus in Berlin is a distinctive example of this development.

In the meantime, policymakers have also recognised the role of the resource-intensive construction sector when it comes to tackling challenges such as **climate change** and **resource scarcity**. There is a considerable need for energy-efficient residential and non-residential buildings and, considering the increasing traffic volume, for modern transportation infrastructures. This finds expression in extensive national and EU subsidy programmes and announces large investment volumes.

All these demands fit in well with the basic understanding and the role of a **main contractor**. Whereas in the past contractors were usually invited to join the process at the construction stage – which is quite late in the game –, in the future they will participate earlier and more extensively during the design phase. But “front-loaded design”, which involves comprehensive planning early in the project’s lifecycle, also means that the people, information, means and materials necessary to carry out a project are made available promptly, fully and comprehensively. This is why we offer our clients the STRABAG teamconcept contract model which commits all participants to the project as early as possible.

The aim is to recognise the scope and, ideally, the implications of the changes. Because entrepreneurial success in the future will depend on the ability to recognise trends in time and to be prepared for this new complexity. Our innovation activity must therefore be steered strategically.

Initially, an organisation’s desire to innovate stands in conflict with the aim to successfully do business using tried-and-tested technologies, methods and products for as long as possible. Because innovation stands for a process leading to novelties. That requires changing routines, overcoming resistance and adapting the organisation. For innovations to become successful, they must be introduced into the organisation’s structure as prudently as possible and under consideration of the varied interests of the different stakeholder groups – including shareholders, clients and employees. Allowing a balanced **freedom to try out** new ideas makes it possible to better estimate and manage risks; moreover, such freedom is often crucial for new solutions, it motivates employees and it is seen as especially attractive among job applicants.

Production costs usually still decide over award

Strategically steering innovation

Rules and responsibility areas

One **STRABAG SE Management Board member**, Peter Krammer, acts as a sponsor of innovation and digitalisation within the group. **Innovation managers** at the **divisions and central divisions** collect development proposals and approve their realisation in line with the strategic alignment of their business field. They

are supported by the **Innovation Management** team from Zentrale Technik on how to recognise relevant trends; on questions pertaining to the systematic development of new solutions, public funding or development partnerships; and on the internal and external rollout and reporting on the group-wide innovation activities.

Objectives and indicators

We want to develop new solutions (products, processes, systems and services, materials and constructions), tap new business fields and be a forward-looking employer. The following indicators show us if we are on the right path to reach our objectives:

- Provision of research and development funding by the company: € ~14 million

Objective: maintain at least the previous year's level

- Number of subdivisions with at least one person responsible for innovation: 23 (out of 118 subdivisions total)

Objective: increase the ratio of innovation managers per subdivision to total number of subdivisions in the group next year.

- Number of participants at STRABAG events on the topic of innovation: 72 people from 22 organisational units attended the event "STRAcadémie: Innovation as a Factor for Success within the Group".

Objective: maintain at least the previous year's level

- Publication of relevant development projects to inform of the group's innovation activities (via "Research, Development & Innovation" brochure and digital channels): 47

Objective: As the communications strategy for innovation projects is currently being re-worked, the objectives will be redefined in 2019.

Projects and initiatives

On average, about **100 development projects annually** are carried out in the group, which cover the entire construction value chain, including drone-supported digital site surveying. In general, a clear trend can be seen to data-driven design, construction and operation. Our subsidiary EFKON AG is developing software and hardware with which traffic data can be captured and analysed more comprehensively. Model-based working, e.g. for design and construction logistics, can be complemented through tools such as the HoloLens data glasses whose use in facility management we are currently reviewing together with Microsoft – and it expands our possibilities for assessing the complex facts quickly and extensively. Our annual **group brochure** "Research, Development & Innovation" features reports on

the most important works in this area and serves to network management, clients, investors and our employees.

To further support the research and development activities, the company established a professional in-house funding management in 2018 with the goal of subsidising the necessary development tasks through the public sector as much as possible. The services offered jointly by the group entities TPA and Zentrale Technik include the systematic identification of funding possibilities for development projects as well as applicant support at all stages from request submission to project execution. In 2018, a total of 14 projects were carried out with public funding.

An important networking tool at STRABAG is the in-house platform **connect**, which allows our employees to exchange ideas and propose solutions quickly across organisational and geographic boundaries. An especially active community is the LEAN.Construction community. Here improvements resulting from the use of LEAN methods are shared with other interested persons.

STRABAG has been a proactive member of the European Network of Construction Companies for Research and Development (**ENCORD**) since 2004 and has held the chair of the network since 2018. STRABAG also is a member of the European Technology Construction Platform (**ECTP**).

SKAIO – Record-breaking timber building



SKAIO, the 34 m hybrid high-rise

© Architecture: Kaden+Lager, visualisation: JSB Stuttgart

The tallest timber building in Germany was constructed 2018/2019 in the Neckarbogen neighbourhood of Heilbronn: 34 m high, ten storeys. Timber high-rises already exist, but none had ever exceeded a height of 22 metres.

The decisive element behind this project idea was not the height of the building, however, but its sustainability. All building materials were designed according to the cradle-to-cradle principle, meaning they can be dismantled or recycled so that all raw materials can be reintroduced into the cycle. SKAIO was built exclusively using PEFC-certified spruce wood harvested mainly from German forests.

SKAIO is not a pure timber high-rise but a **hybrid building**, as wood is simply not the best or most suitable material for all uses. For fire safety reasons, for example, the façade was clad with aluminium panels instead of the wood cladding that had been originally planned. Steel and concrete were also required to provide the necessary structural stability. The base floor and the stairwell consist of concrete, while steel was used for the pillars, beams and corbels. But the walls and ceilings, which comprise the majority of the building, were made of wood.

The greatest benefit of timber construction in comparison with conventional building materials is the **short construction time**. The timber elements were all prefabricated at the group's facility in Aichach, Germany. The parts were then assembled straight from the transporter at the construction site. This, together with good planning, made it possible to build a whole floor in just one week.

DIGITALISATION

Digitalisation is currently one of the most important issues within the context of innovation at STRABAG. It is a megatrend that will change the traditional construction processes by allowing the fast, global **networking of things and machines** (Internet of Things) and **people**. Components that gather and send data can be built into nearly everything, even into construction materials, construction machinery and construction parts, to provide information during the construction of buildings or to send status updates during their operation. This makes it possible to monitor and optimise processes from almost anywhere – whether from the office or the construction site. Using model-based renderings that present the information in an extremely compact and easily understandable form, people are able to work together in real time from different locations no matter where they are.

Self-learning algorithms will support the decision-making in ever more complex processes – decisions made not only by management but also by robots. Robots can already lay bricks, perform freeform welding operations and “print” structures, structural elements and construction parts using cementitious pastes. Still, robots won’t be replacing human workers any time

Robots will not replace people.

soon; even in the future, people will continue to put their skills to good use on our construction sites. At the same time, we see the opportunity that digitalisation gives us to let machines perform routine tasks so that people can spend more time looking for creative solutions to specific problems.

For STRABAG, the trend towards digitalisation means that **all material business processes** – design, construction, production, operation and administration – must be **gradually adapted** to this new way of processing information. We want to introduce digitalisation in the design-and-build process and use the “digital twins” in all phases of construction because we want to remain competitive and viable as an attractive employer and construction partner, and because we expect that the connectedness of all project participants will lead to increased quality and efficiency as well as better time and cost planning. This means that we must also look at the processes of our suppliers and examine possible intersections. In keeping with our corporate value of partnership, we have therefore begun to offer BIM 5D[®] training to our external partner companies so that we can elaborate the standards of the future together.

Rules and responsibility areas

Steering Committee for Digitalisation

To develop and continuously track the digitalisation processes, a **Steering Committee for Digitalisation (SCD)** is in place as a committee of the Management Board. The committee meets regularly. The SCD is advised by the Team Digitalisation STRABAG (TDS), which consists of one representative each from the operating business, from Zentrale Technik and from BRVZ-IT and who have direct responsibility with regard to digitalisation. The operating business is represented by a Head of Digitalisation, a position that was created in 2017.

Additionally, the **group directive for a BPM organisation** (business process management) regulates the management of those business processes requiring central IT support. Local BPM representatives were appointed to serve as speakers for their respective divisions. The BPM evaluation board set up within the BPM organisation, consisting of representatives from the operating business and the central divisions BRVZ-IT and Zentrale Technik, is responsible for the evaluation of the submitted project ideas and coordinates the preparation of the decision-making foundations for the SCD together with the TDS.

Objectives and indicators

More efficient design of existing processes

STRABAG is actively driving forward the digital transformation of construction site processes and is working on the resulting new business models. The company is convinced that the focus here must be on the expectations of the customers and the more efficient design of existing processes.

A focus of this process optimisation is on a higher penetration of digital methods such as BIM 5D® (Building Information Modelling), another is on the development of more efficient and more collaborative ways of working with customers and partner companies with the support of suitable tools. To this end, we are investing in the **continuous qualification** of our existing employees and are strengthening our teams with the right specialists. The following indicators refer to the digital penetration on the construction site and at the workplace – because the digital transformation influences not only the object of construction and the people involved, it also changes the processes within the group organisation:

- **Collection and analysis of machine data starting with 2019:** Increasingly higher expectations are being placed on quality and performance documentation and on a more sustainable use of environmental resources. For this reason, we plan to increase our use of telematics systems with key equipment in 2019 to record and analyse their movement and operation – at the end of 2018, around 26 % of the key equipment was outfitted with telematics systems.
- **BIM 5D® workstations:** STRABAG is gradually upgrading its CAD workstations for use with BIM 5D® technology in building construction and civil engineering, transportation and infrastructure projects. The number of BIM-capable workstations has been growing continually and in 2018 reached 1,350 across the entire group. That corresponds to a dynamic year-on-year increase of 38 %. The goal now is to achieve further double-digit growth in 2019.
- **Digital workplace:** STRABAG is investing in the digital workplace and is driving ahead the digital transformation with cloud applications. The complete penetration of an organisation with state-of-the-art working tools is a fundamental requirement for flexible and efficient collaboration. A first step is the STRABAG-wide introduction of Office 365. The migration to Office 365 reached 68 % at the end of 2018 (2017: 17 %). A target of 88 % has been set for 2019.
- **Mobile end devices for a more flexible work design:** Digitalisation is changing the work routine – for example, with a shift towards mobile working. Using end devices such as tablets, employees can benefit from the more flexible work design that digitalisation makes possible. The percentage of employees using tablets for work purposes currently stands at 10.8 % (2017: 5.4 %).

Projects and initiatives

Find out more about these projects in our brochure “Research, Development and Innovation”.

The construction sites are supported in the digital transformation by STRABAG specialists. These specialists **work on-site** with the **construction site teams** to advise them in their day-to-day business and take on the practical requirements. This should help persons responsible on construction sites to choose among the many digital tools offered by the group – such as software, platforms and apps – and so increase efficiency. The focus is currently on the operating units in building construction and civil engineering.

We continued to drive the **development of BIM 5D®** during the 2018 financial year. On the one hand, we are growing our experience when we apply our know-how of digital building in specific projects, such as the construction of an office building and a production hall for Siemens in Zug, Switzerland. On the other hand, we are engaged in research projects to help us apply BIM.5D® in all relevant construction phases if possible. The “eEmbedded” project, for example, aims at using BIM methods already during the design phase. The focus here is on energy considerations and the integration of the planned building into the surroundings.

The training offer in this regard was also further expanded in 2018. In addition to the established BIM 5D® training at our company locations in Stuttgart and Vienna, the first participants successfully completed their BIM management training in autumn of last year. The internal programme, the only training of its kind, will be further developed in scope and depth in 2019 in order to prepare future STRABAG BIM managers even better for their role.

In transportation infrastructures, we are looking into the use of sensors to monitor the load-bearing behaviour of asphalt roads to better forecast the operating life of a road section. The sensors are currently deployed along the A2 motorway in Germany in a project commissioned by the Federal Ministry of Transport and Digital Infrastructure. Additionally, a new undertaking started in 2018 is the group project **BIM 2020 Roadmap in Transportation Infrastructures**, which, among other things, is testing BIM 5D® applications in several pilot projects on the basis of the German Transport Ministry's 2020 Roadmap for Digital Design and Construction.

Increasing efficiency requires the digitalisation of the construction sites. The large construction sites of tomorrow will be automated. Drones are already common on job sites, and intelligent construction machines or the networked connection of devices and construction parts via smart

sensors also aren't that far off. The **Connected Construction Site** group project is an important STRABAG lighthouse project in transportation infrastructures. The focus is on concrete, application-based solutions to efficiently support the digital and seamless interaction of all project participants. This project was concluded at the end of 2018 but to further pursue the goal of digitalisation on the construction site, the project will be continued in 2019 under the name Connected Construction Site 2.0.

For an international group for construction services like STRABAG, the close cooperation with suppliers and subcontractors is of vital importance. The goal of the group project **SPS (STRABAG Procurement Solution)** is to digitally depict the supply processes in purchasing using platform functionalities – with the aim of simplifying the processes for everyone involved in purchasing and to establish an even closer relationship with the suppliers and subcontractors. A development in this regard was the concept for a modular purchasing solution and its gradual rollout.

In 2018, STRABAG established the business unit **Digital Object Surveying and UAV** as the organisation for a new business field. The entity offers first-rate services with innovative measuring systems for object surveying. The entire value chain – from data capture to 3D data analysis – will be depicted digitally.

CLIENT SATISFACTION

Long-term, sustainable success is our goal. This is why the demands and **expectations** of our **clients** are at the heart of each and every project. “We create added value for our clients by our specialised entities integrating the most diverse services and assuming responsibility for them. We bring together people, materials and machinery at the right place and at the right time in order to realise even complex construction projects – on schedule, of the highest quality and at the best price.” In line with this central message of our vision, the issue of client satisfaction was given top priority in the stakeholder dialogue from both an internal and external perspective. Under our strategy, we assign client satisfaction to the strategic field of “Economic Responsibility”. Because **on-time delivery, quality and price** (or, more precisely, cost) are all decisive factors for the economic success of each individual project and of the entire company.

So there is good reason why reliability forms part of our guiding principles. From the prequalification and bidding process to contract awarding and repeat orders to **permanent client relationships**, the satisfaction of our clients always drives our image – which substantially increases our opportunities and is ultimately reflected in our order backlog. Risks – such as those arising from non-fulfilment of client expectations in terms of quality or legal and normative requirements – are systematically countered through the STRABAG management system with measures for **quality assurance, environmental protection** and project-specific **risk management**. In this way, we aim to prevent the negative impacts our business activities may have on the safety of users, on the environment and, consequently, on our reputation.

Rules and responsibility areas

As part of our efforts to increase client satisfaction, the management in the group entities, during the operational corporate planning and assessment, establishes, implements and evaluates specific targets, structures, tools and measures under consideration of the relevant markets and business

fields. The systematic measurement and evaluation of client satisfaction is laid out in the STRABAG Management Manual. The **central division TPA** oversees all coordination, reporting, and monitoring through the use of internal audits.

Objectives and indicators

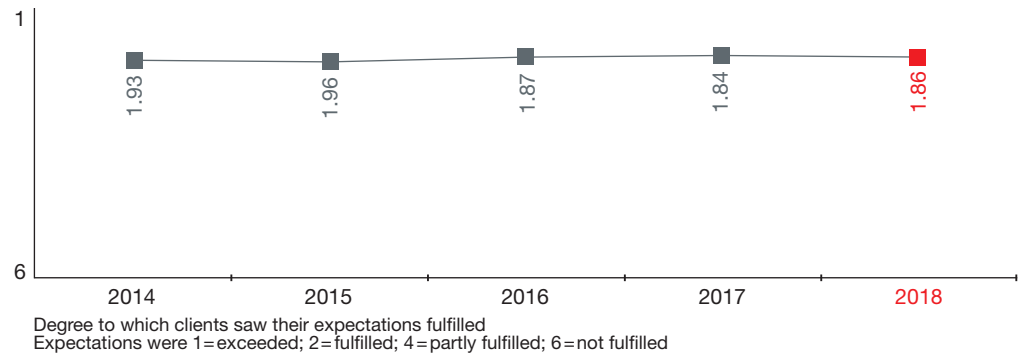
The stated objective of the Management Board is to increase client satisfaction in order to win and maintain the highest possible share of regular clients.

The measurement of client satisfaction via a **client survey** has been carried out for construction projects using a uniform group standard since 2005. A written questionnaire is sent to clients in all group countries, asking for their project-specific or contract-related evaluation of the following five aspects: response to faults and complaints; documentation and reporting;

competence of the site manager; competence of the foreperson; orderliness and cleanliness on the construction site. The operating entities can add specific questions to the survey or implement additional procedures for measuring client satisfaction. The evaluation of the questions specified by the group is performed by the central division TPA. The assessment of the results and the extrapolation of objectives and measures is the responsibility of the operating entities during their annual planning and assessment process.

During the review period 2014–2018, we were again able to fulfil our clients' expectations:

RESULTS OF THE CLIENT SURVEY (ALL GROUP COUNTRIES)



Projects and initiatives

In 2018, the research project with the Graz University of Technology to evaluate the current procedure for measuring client satisfaction was successfully concluded. The aim of the project was to determine which factors influence the clients' satisfaction with the construction projects and which methods could be used to increase the quantity and quality of the customer feedback. This was done by comparing the assessment of construction projects from an internal point of view and from the viewpoint of the client. In this regard, about 70 interviews were carried out with project managers and customer representatives.

The client representatives gave the construction projects an average mark of 1.6 on a scale from 1=very good to 5=insufficient. The strengths they cited included the competence of the project participants, the quality of the communication

on the construction sites and the quality of the partnership – one of STRABAG's core values.

The results of the study will be taken in 2019 to optimise the feedback questionnaire for the written client survey and to develop an application-supported process for survey and evaluation. The positive experiences with an online survey tool from the year before will also be used.

The switch-over of the internal system for measuring client satisfaction is expected in January 2020, pending a corresponding resolution. Specific knowledge about variables of client satisfaction and the increased quality of the feedback of our clients provide support in determining quantitative objectives and concrete measures for customer loyalty.

STRABAG LEAN.CONSTRUCTION: ANALYSING. UNDERSTANDING. IMPROVING. BUILDING.



More than 300 group employees support the construction teams in the planning and on-site in order to realise the projects more easily and efficiently – and thus also contribute to customer satisfaction. Different LEAN.Construction methods are used. Here are two examples:

- **Pull planning** is used to establish the construction milestones as a team (including all internal and external project participants), starting from the date of completion and going all the way back to the very first task to be performed on the construction site. Potential interface conflicts and construction site problems are continuously visualised using takt control boards, discussed in good time and solved accordingly.
- **The STRAtakt paving planner** ensures even, continuous asphalt paving and avoids waiting times for the trucks.

BUILDING IN PARTNERSHIP. TEAMCONCEPT



New Axel Springer building, Berlin

How do we avoid conflicts in our construction projects? How can we work together with our customers as partners? How can we make complex construction projects profitable for all involved?

teamconcept is a partnering scheme with a clear goal: realising complex construction projects without stress, with commitment and in partnership. We include the interests of all project participants even before we begin, and we create a clear framework, binding rules and common goals. This creates a sense of security and helps to jointly keep the costs under control. We believe in trust through absolute transparency and open communication. Our incentive: cost, scheduling and quality advantages for our customers as well as a more conflict-free work routine for our employees.

Projects realised under our teamconcept model include:

- New Axel Springer building, Berlin
- Oosterdokseiland, Amsterdam
- adidas World of Sports ARENA, Herzogenaurach

Villach, 5 April 2019
The Management Board

Dr. Thomas Birtel

Mag. Christian Harder

Dipl.-Ing. Dr. Peter Krammer

Dipl.-Ing. Siegfried Wanker

Dipl.-Ing. (FH) Alfred Watzl