What we achieved in 2014/2015

30

More than 30 major projects with sustainable label certification. Seven further projects are in realisation.

"schorenstadt" built to the "Swiss Sustainable Construction Standard" which we actively helped to formulate.

Customer feedback: 9 out of 10 clients are satisfied with Implenia and would recommend us to others.

GeNaB®

Internal sustainability impact assessment system refined and launched for self-developed projects in the field of Modernisation.

Our goals for 2017

- We are rolling out our sustainability strategy to international locations.
- We are ensuring our self-developed projects follow the Swiss Sustainable Construction Standard (SNBS).
- We are auditing our top suppliers against sustainability criteria.
- We are defining and implementing binding sustainability criteria for civil works and infrastructure projects.

Sustainable products and services

Whether acting as a project developer, general contractor or builder, and whether it's working on a building or a civil engineering or an infrastructure project, Implenia always aims to provide its services sustainably. The company can have the most influence on sustainability when it is developing its own real estate projects. Beyond this, Implenia also requires its suppliers to operate sustainably and is actively committed to sustainable construction standards.

The Pont-Rouge sustainable housing development in Geneva is being built to the German DGNB sustainability standard.

A family moves into the "schorenstadt" development in Basel, which was built to the new Swiss Sustainable Construction Standard (SNBS).

2.1

Sustainable building construction

There is now a whole series of sustainability standards for building construction, some more broad-ranging than others, some more specific and detailed, and all with slightly different priorities. Over the last ten years, Implenia has executed around 100 building construction projects that have been awarded one or several sustainability labels, including Minergie, Minergie-Eco and the SIA Energy Efficiency Path. Twenty of these have been projects the company has developed itself. During the period under review Implenia also gained experience on major projects built according to the German DGNB sustainability standard, such as Pont Rouge in Geneva (see Pont Rouge reportage) and the Aeschbach-Quartier (AQA) in Aarau. The Group now has a very deep understanding of how to implement sustainability standards in building construction projects.

Implenia has also helped develop various sustainability standards. It was involved, for example, in formulating the "Standard Nachhaltiges Bauen Schweiz" (Swiss Sustainable Construction Standard, SNBS), which integrates various existing approaches, such as 2000-Watt Society and Minergie-ECO. A list of criteria was published for the pilot phase of the SNBS in autumn 2013. Implenia delivered its own beacon project – the sustainable "schorenstadt" residential development in Basel – to test the suitability of the standard.

The aim of the SNBS is to ensure that the "three dimensions" of sustainability – environment, society, economy – are considered in a balanced and comprehensive way when projects are planned and built. It has been possible to certify projects under the standard since summer 2016.

Certified Minergie projects

	2011	2012	2013	2014	2015
Minergie	2	10	10	6	15
Minergie-P	–	–	2	1	1
Minergie-P-ECO	1	1	1	1	2
Minergie A-P-ECO	–	–	–	1	–
Minergie ECO	1	2	2	–	2

Building construction projects with sustainability labels

	Completed	Ongoing
SIA 2040	1	3
LEED	1	1
SNBS	1	2
DGNB	–	3

Sustainable construction

A building is sustainable if:

Context and architecture
it is appropriate to its location and takes account of its surroundings.

Costs
its costs are optimised over its whole life-cycle.

Energy
it uses the minimum amount of non-renewable energy.

Planning and target groups
the target groups are properly involved in the planning process.

Marketability
its marketability is ensured at every stage.

Climate
it causes minimal greenhouse gas emissions.

Usage and layout
it is fit for the intended purpose.

Earnings potential
its potential earnings are commensurate with its costs.

Resources and environmental protection
its creation and operation are environmentally friendly and economical with resources.

Wellbeing and health
it offers comfort, convenience and the best possible indoor air quality.

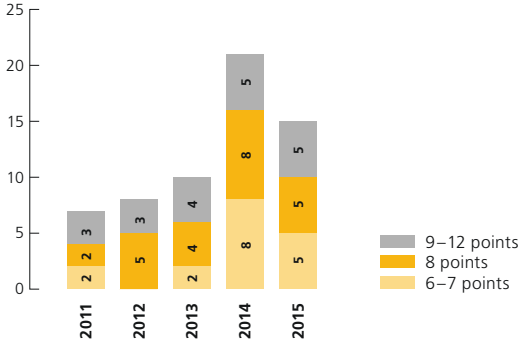
Regional economy
it makes a positive contribution to the regional economy.

Nature and the countryside
it doesn't have a negative effect on the natural world or the countryside.

Swiss Sustainable Construction Standard (SNBS): Twelve themes covering three key areas – the economy, society and the environment; source: Netzwerk Nachhaltiges Bauen Switzerland.

GeNaB®: projects approved by Investment Committee

(number of projects by points)

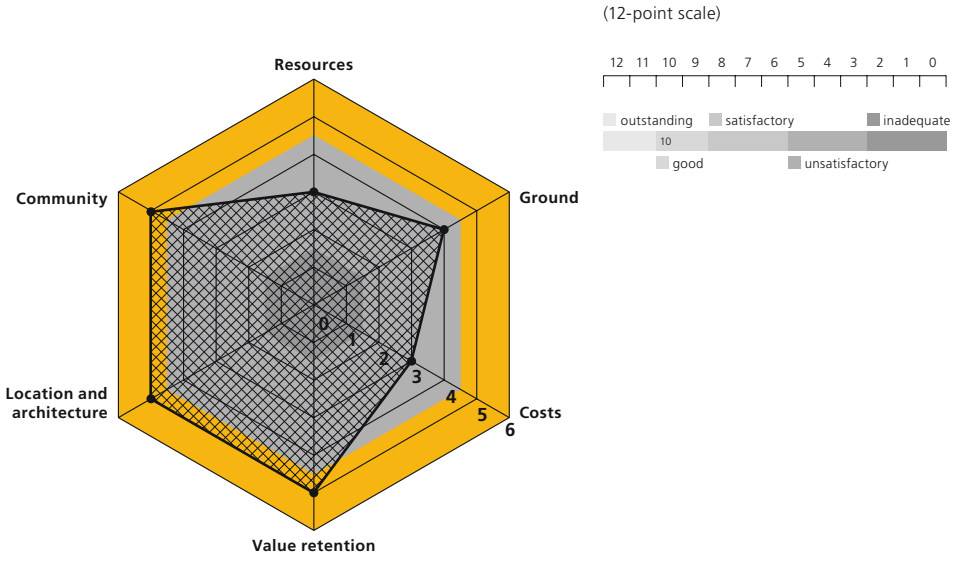


The Investment Committee will only approve Implenia's own development projects if they score at least 8 on the GeNaB® scale. Projects are only authorised if they meet Implenia's sustainability criteria. Projects with 6 or 7 points require special approval from the Investment Committee.

Implenia has the greatest scope to ensure sustainability when it is developing its own real estate projects. As project developer, Implenia plans, designs – and often builds – these buildings itself, meaning that it can influence key factors, such as location, architecture, construction methods and energy plans, at an early stage. This has a decisive effect on sustainability in all the subsequent phases of construction.

As a project developer, Implenia doesn't just implement external sustainability standards, but also uses a tool it developed itself to assess the sustainability of building projects. This is called GeNaB® (see box). It allows Implenia to develop its own construction plans according to sustainable criteria right from the start. Experiences of the last few years have shown, however, that there are not enough assessment points built into projects between initial planning and completion. Sustainability indicators can give very high readings at the start, but as the project progresses, these readings sometimes slip. We must concede that this is sometimes a result of indiscipline within the Group with regard to implementation. Slippage can also occur if different materials are used, thus changing the grey energy profile, or if the selected energy standards or cost models are altered. It is essential, therefore, that project managers and sustainability specialists all agree on the fairness of the indicators.

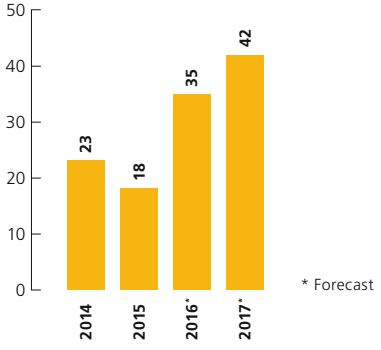
GeNaB®, Implenia's internal assessment tool, covers environmental, social and economic criteria.



GeNaB®

Implenia created its own proprietary tool for assessing construction plans in 2008: GeNaB® (GeNaB = Gesamtbewertung Nachhaltiges Bauen = total evaluation of sustainable construction). This helps the people responsible for the building work to assess sustainability when planning, reviewing and optimising new builds and conversion/renovation projects. The GeNaB assessment grid can be applied to four categories of building, and to two types of project: new build or modernisation. The degree to which each criteria is fulfilled is given a points score which is then translated into a very clear traffic light system. For Implenia, GeNaB® evaluations of its own project developments are an important factor when deciding whether or not to go ahead with a project.

Implenia's use of wood
(Implenia Wood Construction's revenue in CHF million)



Ground-breaking ceremony for the construction of the modern production hall in Rümlang, which will double the Wood Construction department's capacity.

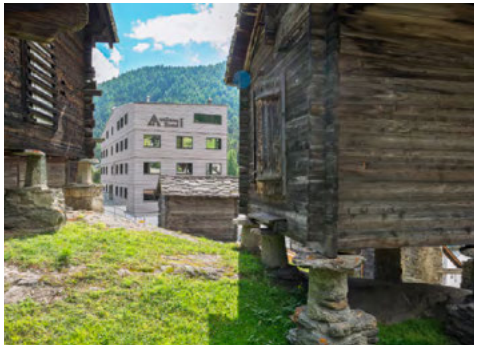
2.2

The increasing importance of wood

Alongside its conceptual tools, over recent years Implenia has developed extensive expertise in the use of sustainable construction techniques and materials, including wooden construction. Timber is becoming increasingly important as a building material thanks to its low grey energy rating. Market demand is growing, and as a result Implenia is using more and more of this sustainable material. This can be seen in projects like sue&til in Winterthur, a wellness lodge in Saas-Fee, Implenia's own new workshop in Rümlang, and the award-winning multi-generation "Giesserei" housing development in Winterthur (see next page). Implenia is optimistic about the future too: it believes that its revenue from wooden construction will have nearly doubled by 2017.

Implenia Wood Construction used to have its main base in Rümlang, plus a production site 15 kilometres across Zurich in Schwerzenbach. Prompted by growing demand, the company is merging the two locations, and since the end of 2015 it has been building a modern production hall in Rümlang. This will roughly double its production capacity. Employees will also benefit in terms of their health and safety at work: every workbench in the new hall will be equipped with a lifting device to relieve the backs of the 50 or so workers; each workstation will be supplied directly with power, compressed air and extraction, and equipped with a shelf for hand-held machinery. Each will also have a computer with a monitor, so all the work can be done with a minimum amount of paper. The production of large wooden elements will be made much more efficient and flexible thanks to new machinery and streamlined production processes.

Implenia is proud of the "Giesserei", the sustainable multi-generation house it developed itself in Winterthur. This is one of the largest wooden buildings in Europe and was awarded the 2015 Prix Lignum.



Working in tricky conditions, Implenia finished building Switzerland's first five-storey wooden hotel in Saas Fee in 2014.

Impression of "sue&til" the sustainable residential development being built in Oberwinterthur to 2000-Watt Society standards (illustration by weberbrunner architekten AG/Soppelsa Architekten GmbH).

Prix Lignum for "Giesserei" in Winterthur

Every three years, the umbrella organisation for the Swiss forestry and timber industry awards the Prix Lignum prize for the best Swiss achievements in wood construction and workmanship. In 2015 the silver award went to the multi-generation "Giesserei" residential building, where Implenia was responsible for the woodwork. With 155 apartments on 6 floors, this is one of the largest wooden buildings in Europe. As a Minergie-P-Eco development, it is also ecologically, socially and economically ground-breaking. Apart from the basement and the stairwell, the building is made entirely of timber, demonstrating how good a construction material wood is, even for large structures.

"Wellnesshostel4000" in Saas-Fee

Swiss Youth Hostels opened this 168-bed hostel in the tourist destination of Saas-Fee, Canton Valais in autumn 2014. The first five-storey wood-built hostel in Switzerland meets the Minergie-ECO standard and is made predominantly of European spruce. At the heart of the structure is a wood and concrete ceiling system that provides a very high standard of sound proofing and fire protection. Wood and concrete are used in tandem to exploit their respective virtues: concrete, poured on top of thick wooden boarding, absorbs the compressive forces, while the massive and visible wooden slab on the lower side handles the tensile forces. The innovative ceiling elements were prefabricated by Implenia Wood Construction in Rümlang, which also took on the tricky task of installing them in the building.

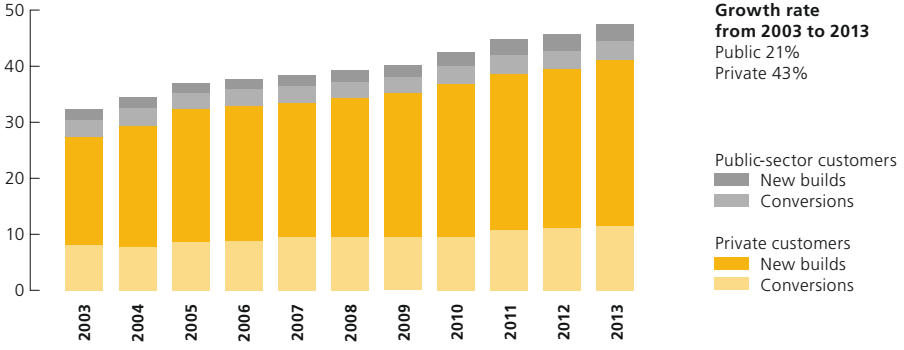
"sue&til" in Winterthur

On the huge former Sulzer site in the Neuhegi district of Winterthur, Implenia, which owns the plot, is building the sustainable "sue&til" residential development in close cooperation with the city authorities. The development, which includes apartments and public-use ground-floor units, is Switzerland's largest ever wood construction project. Implenia, as total contractor, started the building work at the end of 2015, and in 2018 the first residents will begin to move in. The project meets the highest sustainability criteria. "sue&til" is being built in accordance with the Minergie standard and meets the 2000-Watt Society objectives for buildings (in accordance with the SIA energy efficiency path). One special feature is the mobile building material recycling plant set up by Implenia to refine excavated material on site and use it to make concrete (see also chapter 4 and the report in the 2013 Sustainability Report).

Operational Excellence

During the last financial year, Implenia continued to develop lean construction principles for building construction, infrastructure and project development jobs. One example of this is the "sue&til" residential development in Winterthur. The introduction of lean, well-coordinated processes leads to better use of resources, shorter construction periods, reduced costs and fewer defects. Implenia also introduced IMS 2.0 to its Building Construction and Modernisation businesses in 2015. The updated Implenia Management System allows better integration of systems, processes and people within construction projects. IMS 2.0 is already being used to manage almost 100 projects, with a total volume of nearly CHF 3.7 billion. By the year 2017, IMS 2.0 should be used for all new projects..

The growth of building refurbishment
(in CHF million)



The Swiss government's new energy strategy aims to double the rate at which the building stock is refurbished. Instead of today's 1%, by 2050 2% of the country's total building stock should be upgraded for energy efficiency each year.

On Zurich's Bahnhofstrasse, Implenia is refurbishing UBS's head office according to ambitious sustainability standards and aims for a LEED Platinum certificate – a prestigious project for our Modernisation department.

2.3

Modernising the building stock

Around two thirds of Switzerland's building stock was built prior to 1980. As part of the Swiss government's 2050 energy strategy, it wants to see the rate at which this stock is renovated go up from the current one to two percent. The renovation and refurbishment of old buildings offers enormous market potential and can also play a significant role in optimising energy use, densification and the better use of existing properties. Prompted by these considerations, Implenia set up its first interdisciplinary modernisation teams in the Basel and Zurich regions three years ago in order to consolidate its expertise and increase its impact on the market. The Modernisation unit has successfully positioned itself with a comprehensive range of consultancy, planning and execution services.

The Wood Construction Department has become part of this Modernisation unit. Densification is becoming an increasingly important factor in housing. With its lightweight methods wood construction can play an important role in, for instance, adding new floors to existing buildings. Implenia is also busy updating its own GeNaB sustainability standard for modernisation projects. Its aim is to embed sustainable construction more firmly in the fastest growing area of its business. GeNaB was successfully tested in pilot trials at two residential buildings in Basel and Langenthal.

Renovation of UBS's head office in Zurich

At the end of 2015 Implenia was commissioned by UBS AG to comprehensively renovate its head office in Zurich and adapt it to future client and user requirements. UBS wants to enhance the impact of the complex on the surrounding area and also meet the latest energy-efficiency standards. The properties on Bahnhofstrasse and Pelikanstrasse are being refurbished to comply with the demanding LEED Platinum Standard (Leadership in Energy and Environmental Design). Construction work will last until the second half of 2018.

In 2015, acting as general planner, Implenia installed a 36,000 square metre photovoltaic system, Switzerland's most powerful, in Zuchwil (SO).

Implenia is using BIM technology more and more, including at the "sue&til" project.

2.4

Engineering: Renewable energy and energy management

Implenia also uses its engineering capabilities to help optimise the sustainability of buildings. The company was, for example, responsible as general planner for engineering services at Switzerland's largest photovoltaic system in Zuchwil, Canton Solothurn (see box).

Tetrag Automation AG – a subsidiary of Implenia – has many years of experience with systems designed to optimise energy use at buildings and facilities. It helped to develop the e3m integrated energy monitoring and alarm solution, which is now a leading product on the market. e3m is a turnkey package that offers everything from energy meters to a completed energy report. During the period under review, for example, Tetrag installed the system in 60 Swisscom premises.

Photovoltaic plant installed in record time

The most powerful roof-mounted photovoltaic system in Switzerland began operating at the "Riverside" site – a huge factory building owned by Swiss Prime Site AG in Zuchwil (SO) – at the end of September 2015. The solar panels cover a total area of 36,000 square metres, or the size of five football pitches. The system can generate enough electricity to supply more than 1,000 average family homes. As general planner, Implenia was responsible for engineering services. The installation was completed in a remarkably short time: it took just under a year from the initial idea to the point when the system was connected up to the grid, even though the construction work had to be done while the factory was operating.

2.5

Investing in digitisation

The onward march of digitisation is as evident in the construction industry as anywhere else, and Implenia is leading the way. When the company established its digital strategy in 2014, digital planning of the construction and operation of buildings, known in the trade as "Building Information Modelling" (BIM), was a central feature. New technology allows us to visualise construction projects and building processes as 3D models. When the dimensions of time and cost are added in, the 3D model becomes a 4D and then a 5D model, which improves decision-making, quality assurance and communications. Project processes are thus made more effective and project management more professional. From a sustainability perspective, this means less material is wasted, energy efficiency is increased and the quality of the buildings improves.

Implenia is already using BIM on building construction and infrastructure jobs with a total contract volume of more than one billion Swiss francs. In 2014 the new elephant enclosure at Zurich Zoo became one of the first construction projects in Switzerland to be built with the help of BIM. And at the first "Werk 1" project in Winterthur, simulations based on digital models are being used to optimise sustainability parameters in advance. BIM is helping judges in the architectural competition for the project to assess costs, space utilisation and sustainability criteria.

2.6

SIA 112/2: The new standard for civil works

Buildings are the main focus of the construction industry's sustainability efforts, because buildings contain a lot of the technology that consumes so much energy when the finished project becomes operational. But there's a lot that can be done to improve the environmental profile of civil engineering and infrastructure projects too. Consequently, SIA (the Swiss Society of Engineers and Architects) has been working in recent years on a new set of norms for civil works: Standard 112 / 2 Sustainable Construction – Civil Engineering and Infrastructure.

With its wide range of targets, the new standard specifies various different ways of improving sustainability when planning and building infrastructure. One goal is to use secondary (recycled) raw materials – the mobile concrete preparation plant is a good example of this – as well as primary raw materials that have good long-term availability (see chapter 4).

As a leading civil engineering company, Implenia was actively involved, financially and in terms of manpower, in the formulation of the new standard. Daniel Hardegger, an Implenia specialist, sat on the advisory committee alongside representatives of the federal authorities, research institutions and industry associations.

2.7

Sustainability in the value chain

Sustainable procurement is very much part of Implenia's construction efforts. When working as a general or total contractor, Implenia awards large volumes of work to suppliers and subcontractors. Around 70 to 80 percent of revenue is accounted for by such third party contracts. Professional supplier management is therefore crucial for Implenia, helping it to forge fruitful long-term relationships with its suppliers.

This is why Implenia requires key suppliers and subcontractors to undergo a qualification process in which they must declare the actions they are taking to meet social, environmental and economic standards. Health and safety at work, protecting the environment, risk management, compliance and quality are key priorities within this process. By the end of 2015, 521 key suppliers had been evaluated in 841 qualifications, meaning that around 65 percent of suppliers (by revenue) had been recorded.

Implenia's management of subcontractors and suppliers

Securing sustainable supplier relations

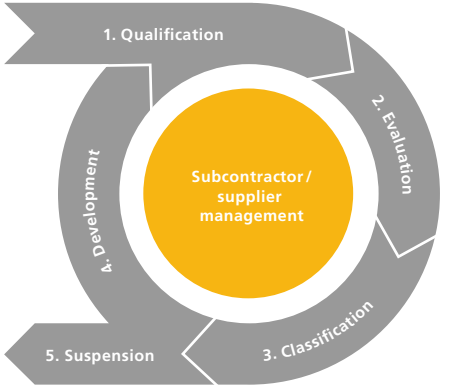
1. Qualification
- Registration
- Self-declaration
- Credit check
- Sustainability
- Selection

2. Evaluation
- Project evaluation by the Warranty department
- Project evaluation by the Buyer services department

3. Classification
- Significance strategy
- Status allocation
- Strength/weakness analysis
- Norm strategy
- Recommended actions

4. Development
- Development measures
- Agreeing goals
- Visit report
- Controlling

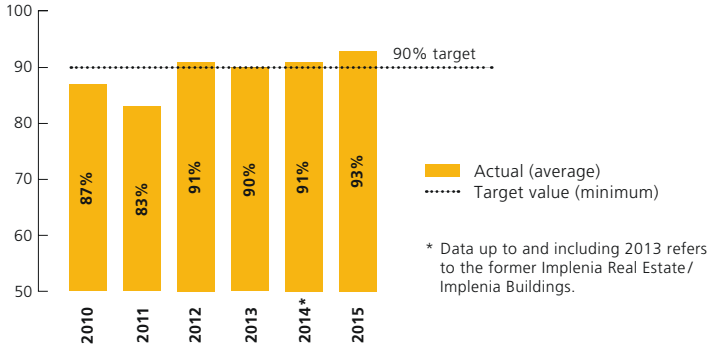
5. Suspension
- Type of suspension
- Lifting suspensions



Implenia tries to expand relationships with suppliers who gain a good classification and to develop these relationships for the long term. Companies that fail to meet Implenia's minimum criteria are removed from the supplier portfolio in the short to medium term. This ensures that companies within the value chain make a positive contribution to increasing sustainability – for example by actively providing innovative, sustainable solutions and using environmentally friendly materials.

The information provided by suppliers is currently being compared with the assessments made by project managers and procurement. Implenia wants to improve quality here, so in future the Sustainability department will also evaluate a sample of the supplier portfolio. Several supplier audits are currently being carried out. This process is helping us identify key themes and update the existing questionnaire.

Customer satisfaction
Percentage of customers that would recommend Implenia



2.8

Systematic customer satisfaction surveys

Satisfied customers are essential to the long-term survival of any business. Implenia regularly tries to find out how its customers view its services. As well as talking to them directly about their experience, Implenia carries out systematic customer satisfaction surveys.

A standardised survey method was introduced throughout the Group at the start of 2014. Since then it has been possible to make statements about customer satisfaction across the whole Group. Overall satisfaction is assessed using a 5-point rating system based on whether the customer would recommend Implenia. If customers give a score of 4 or 5, they are seen as "satisfied". Last year, Implenia's tried and tested methodology was introduced to the newly formed Business Unit Implenia Germany & Austria.

Implenia carries out around 4,000 separate jobs a year. In 2015, 93 percent of customers across all Business Units were satisfied (previous year: 91 percent). This is an extremely positive result, because it suggests that Implenia is a partner of choice for most of its customers. Implenia has actually slightly exceeded its goal of at least 90 percent satisfied customers.

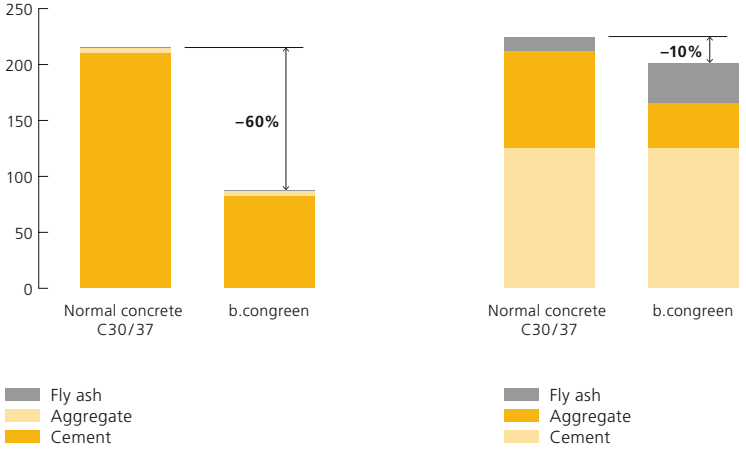
About four fifths of the feedback came from professional clients, and the rest from private individuals (e.g. home buyers). It is pleasing to note that feedback from these private individuals, which had been much more critical, has improved sharply. In 2015, 90 percent of individual customers were satisfied, which is comparable to the figure for professional customers.

The highest marks were given for the commitment and skill of employees (89 percent), followed by compliance with quality standards and response to customer concerns (both 88%). The marks for the sustainability and innovation of proposed solutions (80 percent) and sorting out problems (83 percent) were slightly less positive, but still reflected a high level of customer satisfaction. While the 2015 score for sorting out problems remained at the prior year level, the mark for sustainability / innovation was 4 percentage points lower. Further efforts are required to achieve greater customer satisfaction in these two areas.

Customer satisfaction Implenia 2014/2015 according to criteria

	2014	2015
Criterion	Customer satisfaction	Customer satisfaction
Quality achieved	87%	88%
On budget	83%	85%
On deadline	87%	87%
Sustainability and innovation of proposed solutions	84%	80%
Engagement with customer's concerns	86%	88%
Project management	85%	86%
Commitment and competence of employees	89%	89%
Correcting defects	83%	83%

b.congreen – CO_2 emissions comparison
(CO_2 equivalent in kg per m^3 of material)



b.congreen – cost comparison
(cost comparison in % by material)

Comparison of carbon and steel-reinforced concrete in terms of weight and tensile strength

2.9

Climate-friendly concrete products (Germany)

After water, concrete is the most used product on earth. Its main ingredient, cement, requires a lot of energy to make, which is why concrete is often called the "climate killer". This bad reputation could be significantly improved by an optimised concrete recipe that doesn't compromise on quality or push up costs. The Construction Technology Department is working on two significant new concrete recipes with very promising environmental attributes.

The first is a climate-friendly concrete called "b.congreen", which is especially well suited to large elements such as floor slabs, diaphragm walls and drilled piles, and which has had international approval since 2003. The basic idea behind b.congreen is that some of the energy intensive cement in the mixture is replaced with fly ash, a waste product from power plants. This reduces the amount of cement required per cubic metre of concrete. A CO_2 emission comparison has shown that this can cut climate-damaging greenhouse gases by up to 60 percent. According to calculations, Implenia has avoided over 20,000 tonnes of CO_2 emissions by using b.congreen since it was first invented. Fly ash is also much cheaper to buy than cement, reducing production costs by around 10 percent, so b.congreen makes economic sense too.

The second concrete product out of the laboratory is called C3 – Carbon Concrete Composite – which won the 2015 German Sustainability Award for research, as well as the 2015 German Raw Materials Efficiency Award.

C3 is a carbon-fibre reinforced plastic used in this case to reinforce new concrete elements or retrofit reinforcement to existing structures. Bundled carbon fibres have an exceptional ability to bear bending stress and shear stress. The innovative and sustainable carbon concrete composite should help save 50 percent of the material required and reduce the need for reinforcing steel by 20 percent.

And the new composite material has additional advantages over conventional reinforced concrete: carbon is up to 5.2 times lighter than steel, but still has up to 7.4 times higher tensile strength. Carbon does not corrode, meaning that elements used in building can be thinner and will last longer. This smaller size facilitates more adventurous architecture while reducing the use of resources and cutting transport costs. Last but not least, carbon concrete has a better CO_2 profile. The additional manufacturing costs are offset over the course of the whole construction process. Carbon concrete thus has decisive advantages from the sustainability point of view, and over the long term will probably replace reinforcing steel. At the moment the much higher purchasing cost puts a lot of builders off, but this cost is offset by the smaller quantities required and the longer lifespan.

Michael Doppler, a master electrician and mechanical engineer at the Vienna branch, developed the i-Cont system following the principle of only using as much heat and ventilation as necessary.

2.10

i-Cont: Saving energy thanks to a heating management system (Austria)

Heating, cooling and ventilating building site cabins has an environmental impact and also affects a site's energy costs. During a cost optimisation exercise on a site in Austria three years ago, it was noticed that in some cabins the heating and lighting were often left on day and night, even when nobody was using them. The group leader and the senior electrician at the Implenia site in Vienna quickly decided to develop a heating management system for cabins to save electricity. Finally, two years ago, they introduced their smart energy saving system, which follows the principle of "only as much heating and ventilation as necessary".

The "i-Cont" system can be controlled remotely by smartphone or touchpad. Heating, cooling and ventilation for each container can be programmed to suit current needs with just a few taps. If a container is empty, everything is switched off. The parameters can be set to switch off a heater at the end of the working day, for example, and then switch it on again a little while before work begins the next day. On a construction site with 30 containers in Vienna, the system helped cut electricity costs by about 30% across the whole site.

The figures are impressive: a container generates electricity costs of around 200 euros a month if operating around the clock; the i-Cont system cuts this by about half. If there are 50 containers being used on site, this comes to a saving of around 5,000 euros a month.

The Austrian team is currently working with the Technical University of Graz on an integrated solution where the technology is pre-installed in the container. This will save on assembly and installation costs and improve performance. The i-Cont system should become the group-wide standard solution in future. Implenia will then be able to offer innovative and environmentally responsible construction site management, while at the same time cutting operating costs.