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Impact

The Implenia Employee Magazine
Summer 2020

1/20

Implenia®



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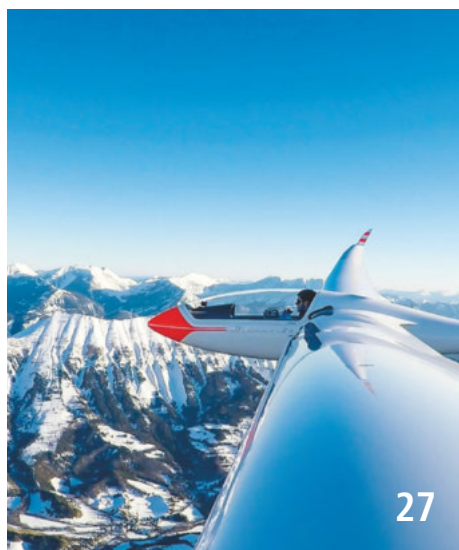
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The Implenia Employee Magazine 1/2020

Summer 2020

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The past few weeks have been intense. Coronavirus has significantly changed day-to-day working life for us all, whether on the construction site, in the office or working from home. **But in these challenging times, we have proved once again that we are forging a strong corporate culture at Implenla, marked by cooperation and agility. And we have shown that together we can achieve incredible things.** We are protecting each other's health, and we can rely on each other. We are keeping focused, adapting quickly to new circumstances – and we recognise that the crisis can also be an opportunity. Meanwhile, we are keeping our business going. This is important because it enables us to minimise the economic effects of the pandemic on our company and our partners. On pages 4 and 5 you can read more about the measures we have taken over the last few weeks and months. **I am very grateful to you for your hard work and dedication in these unprecedented times.**



We have come to the end of the highly eventful first half of 2020 and are now in the middle of the summer period, when work on our construction sites is at its most intense and we make substantial progress on our projects. This is also a good opportunity for us to make up for any delays that may have occurred over the last few months because of COVID-19 restrictions. I'm excited about working with you all to take our projects to successful conclusions, and doing so with commitment and enjoyment as a team – while also moving ahead together with the strategic initiatives that will improve our performance.

I hope you enjoy reading this edition.

André

Thank you team

COVID-19

Protective measures keep day-to-day business going

The COVID-19 Pandemic has changed our working lives significantly: the overriding priority has been and remains to protect everyone's health. At the same time, it has been important to keep our day-to-day business going so that we minimise the economic damage for our customers, partners and company, and protect jobs.

By the end of February, we had already set up a global task force, as well as local task forces in all our markets across Europe. These task forces have followed the situation very closely each day and, with your help, have been able to take measures quickly in line with the latest official guidelines.

On the construction site

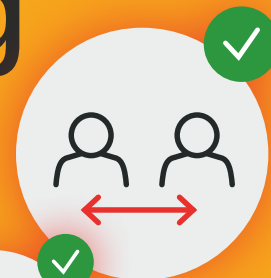
Despite having to close some construction sites temporarily in Switzerland, France and Austria, we have been able to keep most of our operations going. Sites have remained open in all our other countries, though the COVID-19 situation has caused some delays to the building schedule. Our operations have been relatively unaffected because we have rigorously implemented the official protective and precautionary measures set out by governments, and carried out all the necessary controls. This has presented considerable challenges for our construction site teams, who have had to adjust the way they work. Our on-site employees have implemented all the measures very efficiently and creatively, and have

adhered strictly to all the rules. This has allowed them to continue providing our customers with a top-level service even under these difficult conditions. They deserve huge thanks!

And in the office

Office-based employees were told in mid-March that they had to work from home and replace all their meetings and business trips with virtual meetings. Thanks to everyone's great commitment, new routines were soon established in people's homes and in the virtual world. This was another important factor in Implen's ability to keep its operations going. We owe all these employees our gratitude, too.

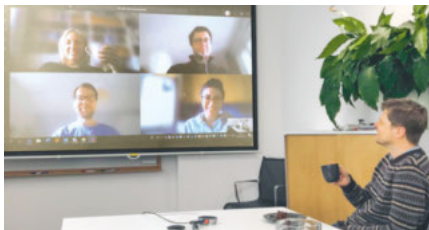
From mid-May onwards, as restrictions have begun to ease, a "new normal" has gradually begun to emerge for us all, on our construction sites and in our offices. As long as the necessary precautions are taken, it has become possible to hold some initial physical meetings again.





Germany – Mülheimer Bridge construction site, Cologne

Info posters: information posters with the measures to protect against COVID-19 are hung up on the bulletin boards.



Sweden – office and home office

Coffee break: Implenias country president and the rest of the (half-sized) office staff get together every Friday for a coffee break with colleagues working from home.

REINIGUNGSLISTE (TÄGLICHES DESINFIZIEREN)				
DATUM	ZEIT	NAME	WO & WAS	UNTERSCHRIFT
26.05.20	10:40	[redacted]	Door + floor, wall	[redacted]
26.05.20	15:32	[redacted]	Door + floor, wall	[redacted]
26.05.20	15:55	[redacted]	Door + floor	[redacted]
27.05.20	8:40	[redacted]	Door + floor	[redacted]
27.05.20	15:47	[redacted]	Door + floor	[redacted]
27.05.20	15:53	[redacted]	Door + floor	[redacted]
27.05.20	16:20	[redacted]	Door + floor	[redacted]

Austria – SBT 2.1 construction site

Cleaning schedule: the toilet block is disinfected at least twice a day.



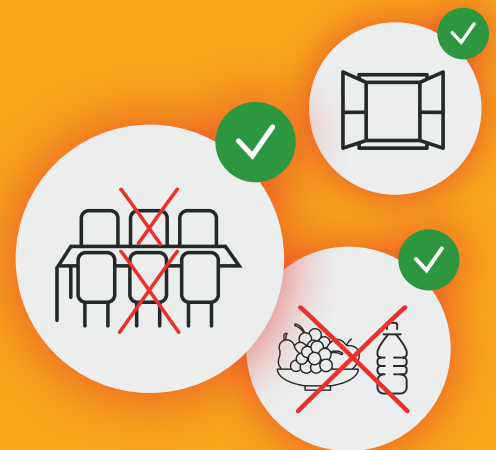
Switzerland – Evolution+/Quartier de l'Étang construction site, Îlot E, Vernier

Distancing and hygiene: markings help people keep the right distance away from each other when queuing for the hand-washing stations.



Romania – Lot 4 CFR construction site

Protecting each other by keeping the right distance apart.



Crisis as opportunity

We still don't know all the ways that the pandemic will affect our business. Every Implenias employee has so far met the challenges of COVID-19 with great fortitude. However, there is no doubt that this exceptional situation also presents us with an opportunity to adapt our corporate culture, whether through a stronger feeling of togetherness as a team, or through rapid and agile implementation of changes. Owing to the pandemic, some projects, and especially those relating to digitalization, have been realised much more quickly than would have been possible under normal circumstances. And the experiences we have had with digital tools and new ways of working during this period will help us collaborate even more effectively in future. —

You can find all the latest about Implenias and COVID-19, plus more pictures, at: implenia.com/covid-19



Two new digital communication channels



You are now holding the new, slimmer print edition of Impact in your hands. Does that mean that suddenly there are not so many interesting things happening in Implenia's world? Far from it! But in the printed edition, we are now focusing on what is really important to us: on our construction projects and on you, our employees. You will also find these, along with all the other latest Implenia stories, in the online edition of Impact at impact.implenia.com – enhanced with interesting photos and videos. You can access the online version on your work or private smartphone. There is no need to log in with e.g. an Implenia e-mail address, so you can happily pass the link on to your family and friends.

Over the last few months, we have developed another digital communication channel in addition to the Online Impact: "Implenia on Site", which you can find at: implenia.com/implenia-on-site. One of the main advantages of these two channels is that they allow us to reach our employees on construction sites, who often don't have access to the Intranet, more effectively. Please do use these new ways of accessing information on important topics like COVID-19. We are always pleased to hear any feedback or suggestions for improvements via redaktion@implenia.com. Enjoy browsing through the Online Impact and "Implenia on Site". —



Creating added value by pooling demand

The initiation of a "Value Creation Plan" at Implenia marks a further step towards "Procurement Excellence" and the company's strategic priority of profitable growth. Preferred suppliers and subcontractors are being consolidated and new suppliers are being developed, while group-wide cooperation between Procurement and the operational units is being improved. The full report online will tell you what measures are included in the plan and what savings potential they bring. —



Use your skills to help out in Cambodia



Several times a year, a number of dedicated Implenia employees (like our site manager Tanja Stucki in the photo) spend three enriching months in Cambodia as part of the Smiling Gecko school building project. In doing so they are helping hundreds of children get a school education and prepare for a better future. In the online edition of Impact you can find out more about the aid project and how you can get involved. Applications from employees with practical construction experience (including CV) can be sent at any time to: smilinggecko@implenia.com —

Go here for Online Impact:



Click for further education



Do you know about Implenia eCampus? It's where you find all the seminars and training courses that we are currently offering. More options are being added all the time. The registration and approval process is fast and simple and can be completed in a few mouse-clicks.

Our HR department has received a great many applications and plenty of positive feedback since eCampus was rolled out in Switzerland and Germany in February 2020. And gratifyingly, the number of applications for training has doubled compared with the same period of the previous year.

The COVID-19 situation has meant that we have unfortunately had to cancel or postpone some of the courses that require physical presence; but we'll ensure that they are held as soon as possible.

In the meantime, we're making up for the lost courses by continually adding digital solutions, including e-courses, webinars and MOOCs (massive open online courses) to our country-specific offerings. It's always worth taking a regular look at what's new in eCampus!

Following the successful launch of eCampus in Switzerland and Germany, all the other Implenia countries are now gradually publishing their training courses on eCampus. We'll let employees in these countries know as soon as the courses are available. The HR team hopes you enjoy our range of training and development options. Keep learning! —





Implenia spin-off aims for long-term growth

Ina Invest's IPO in June marked the successful completion of the spin-off and transfer of a part of our development portfolio. Ina Invest can now develop and grow these projects at pace.

Implenia has transferred about half of its development portfolio to newly established real estate company Ina Invest Ltd. While Implenia could only take these projects to the planning permission phase before selling them, Ina Invest can retain them within the portfolio. This is because its business model covers the whole value chain right up to the management and letting of finished properties. Ina Invest can use new financing options to develop and expand its initial portfolio more rapidly, creating significant growth opportunities for both Implenia and Ina Invest. Division Development continues to develop the portion of the portfolio that remains at Implenia, running it as before as a leading trader-developer and adding new acquisitions as appropriate.

Switzerland's most sustainable real estate portfolio

Ina Invest has set itself the ambitious goal of managing Switzerland's most sustainable real estate portfolio. To do this, it aims to tailor the portfolio to the specific needs of today's and future



generations while following the highest environmental principles. All projects should be certified under national or international sustainability labels.

Close partnership for long-term success

Implenia and Ina Invest are bound together by an integrated cooperation model that benefits both companies. A newly created Real Estate Services unit within Division Development is providing Ina Invest with services including project, portfolio and asset management, as well as coordinating construction services. This generates recurring revenue for Implenia and in doing so diversifies our risk profile, while Ina Invest gets access to the skills of Switzerland's leading construction services provider. As a significant minority shareholder, Implenia also participates in Ina Invest Ltd.'s success. Implenia and Ina Invest both benefit from early involvement in the conception, concretisation and realisation of their projects. —



Marc Pointet, CEO Ina Invest

"We're proud that with Ina Invest we are setting new standards in the Swiss real estate industry, and we're delighted with our close partnership with Implenia, which is going to be of long-term benefit to both companies."

Ina Invest managed by experienced real estate experts



Stefan Mächler, Chairman of the Board of Directors

Stefan Mächler was the driving force behind the foundation of listed real estate company Swiss Prime Site AG, where he was Chairman until 2005. From 2009 to 2014, he was a Member of the Group Executive Management and Chief Investment Officer for Asset Management at Mobiliar. Since September 2014, he has been Group Chief Investment Officer (Group CIO) and Member of the Group Executive Board of Swiss Life Group.



Marc Pointet, CEO

After earning his master's degree in architecture at ETH Zurich, which he later augmented with an Executive MBA from the University of St. Gallen HSG, Marc Pointet worked as an architect and project manager for well-known companies in the banking and construction sectors. As Head of Project Management at Mobimo from 2006, he realised numerous major development projects. From 2013, as a Member of Mobimo's Executive Board, he was responsible for all activities in western Switzerland, including the planning and execution of several innovative, large-scale development sites.

Want to know more about Ina Invest? Visit the website: ina-invest.com



New look Annual Report

Over the last year, we have fundamentally redesigned our financial communications. Starting with the publication of the 2019 Annual Report in February, we are now following a consistent “online first” approach. The online Annual Report has been integrated into our corporate website for the first time. In addition to the rather dry figures, the report contains lots of fascinating stories, some of which are accompanied by videos. We hope you enjoy discovering it. —



The path back to work



Martin Dickau, Luciano Santos Delgado and Aurelio Santos (photo) are three of the many employees who have been able to return to work at Implenía following an accident or illness. In the online edition of Impact, you find out more about their path back to working life and about the important work done by our occupational health management teams. —



Building the future

Industrialisation and digital change open up opportunities for new, disruptive models and methods that promise greater productivity. Technologies such as drones are becoming increasingly common. Artificial Intelligence and RFID/IoT are also on the rise. In the medium term, Implenía aims to provide a range of standardised, industrially manu-

factured products in the property and infrastructure sector. This will not only save costs and time, but also increase quality and thus generate significant added value for our customers. Learn more in one of the upcoming issues of Impact. —





Interns make depots more sustainable

In our cover story, interns Laura Barfuss and Pierre Razurel help make Implenia's depots in western Switzerland more sustainable. The two environmental engineers have developed a sustainability concept that can be implemented at all our depots. Check out the online edition of Impact to see what the concept involves and what measures have already been taken. —

INSPIRE – a game changer

INSPIRE, the project started in March 2019, is helping us improve our operational work processes and thus strengthen our position as a leading construction services provider. The aim is to standardise all processes throughout the company and support them with a modern IT platform. Since the kick-off, more than 100 employees from all countries, divisions and functions have been defining the processes to be standardised and implementing them in our systems. We started the next phase of INSPIRE – the roll-out in Switzerland – at the start of April 2020. Systems are being adapted to country-specific requirements where necessary, first in Switzerland, and then in the other countries. Read more about INSPIRE and the benefits it brings for all employees in the online edition of impact. —



Go here for Online Impact:



Sustainable, climate-friendly concrete

A small Implenia team, based at various locations in Germany, is researching the sustainable building materials of the future. Around 15 years ago, they developed the first b.congreen® special concrete at Implenia's materials engineering laboratory in Mannheim.

Around 100,000m³ of this concrete has since been used in construction. You can read about what makes it so special in the online edition of Impact. —





A modern, networked workplace: Implenia's new head office

Innovation and collaboration need space – the requirements for office workplaces are changing. Cooperation across divisions and functions is one of the central components of our new operating model. And this cooperation should be encouraged not just digitally, but also physically. For all these reasons, the IEC has decided to move our head office to Ambassador House in Opfikon, Switzerland.

Our move from Dietlikon to Opfikon over the course of the next year will bring our existing offices around Zurich – in Dietlikon, Wallisellen, Oerlikon and Winterthur – together under one roof. As part of our transformation into a multinational construction services provider, we are creating a modern and collaborative work environment in our new head office that is designed to meet our future needs. The Implenia Executive Committee (IEC) has decided that our employees – including our most senior management – will all have the same type of workstation in a multi-space office environment. This cultural change is being accompanied by communication measures and supported by the DWS (digital workspace) concept that we are already rolling out.

Everything under one roof

Ambassador House is located right on the edge of the up-and-coming Zurich-Nord district. It is very well connected by public transport, easily reached by car and is close to Zurich Airport. The building is divided into three sections. We will be moving into the middle one. Sunrise occupies the northern unit, while the southern one houses several different companies. The building has been restored to a high standard in recent years and now meets the "LEED Platinum" standard, making it very operationally sustainable. Hybrid ceilings for ventilation and cooling ensure an optimum indoor climate. Project manager Isabelle Nützi is excited by the possibilities of Ambassador House: "A variety of servi-

ces that we can share are already in place: a cafeteria, espresso bar, small gym and great conference infrastructure, including a spacious auditorium for events." There are shops, a post office and an excellent fitness facility just opposite the office building.

Space for agile teamwork

Our project team, led by Adrian Wyss, Head of Division Development, is currently in the middle of planning. The dedicated team is aiming to ensure that the needs of all divisions and functions are met. We have submitted planning permission, and construction work should start in October. We have worked with representatives from the divisions and functions, as well as interior designers, to assess user needs. These are now being integrated into a new and attractive workplace concept. Adrian Wyss: "We will be getting an open and innovative workplace in a sustainable building that encourages collaborative and agile work – precisely in line with our Implenia values." The project team will be giving regular updates about significant milestones on a dedicated Intranet site, where you will also be able to find out when our new head office can be visited. ■

Interested in our new head office? Go to intra.implenia.net/hauptsitz on the Intranet to find all the latest information (in German).



The professional approach to change orders



For all sorts of reasons, change orders are a common feature of many construction projects. Implenía follows a comprehensive and strategic Value Assurance approach to change orders which, combined with other measures such as standardised and harmonised processes, increases our cost efficiency and profitability. The careful documentation and management of change orders (Claim Management) plays an important role. Since March, therefore, responsibilities for Claim Management have been more clearly defined: "As well as our legal department, our financial department

is now involved in change orders as standard," says our CFO Marco Dirren (photo). Elements from the responsibilities matrix and the Value Assurance process are being added to the Accounting Manual. Please see the overview below for the new and binding responsibilities that apply to requests for and decisions about change orders. "Compulsory documentation is and will remain at the heart of our change order management," Marco reminds us: "Because without full and thorough documentation of order amendments, we cannot enforce our claims." —

Responsibilities in Claim Management

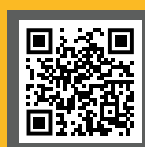
Sum of all claims for a project	Applicant	Decision-maker
< CHF 5 million	Project-/Profit Center Manager and/or Head Business Unit Country/Region	IEC Member (after prior assessment by the Legal and Financial Department)
CHF 5 - 10 million	IEC Member	CFO and General Counsel
CHF 10 - 25 million	Applicant 1: IEC Member; Applicant 2: CFO and General Counsel	CEO
> CHF 25 million	IEC Member (after prior assessment by the Legal and Financial Department)	Value Assurance Committee (VAC) responsible for the project



The Game

Win a trip for two to Paris!

This issue provides another opportunity for you to win a trip – this time to the city of love. All you have to do is to find the crossword puzzle in our online edition at **impact.impenia.com**. **Solve it and use the form to send the correct keyword to the editorial department. Good luck!**



Deadline for
the Paris competition
31.8.2020

Home straight on the Berlin underground



“Lückenschluss U5” is one of the biggest transport infrastructure projects in Germany’s capital city. Literally translated as “closing the U5 gap”, it will extend Berlin’s existing U-Bahn line 5 from Alexanderplatz to Brandenburger Tor, where it will link up with the existing U55 line. The project also includes the construction of 2.2 km of tunnels and three new underground stations: Rotes Rathaus, Museumsinsel and Unter den Linden. The clients are the Berliner Verkehrsbetriebe (BVG) and the project is being managed by BVG Projekt GmbH. After roughly nine years of construction work, the new U5 is scheduled to open for business at the end of 2020.

↓ Technically challenging: the location of the Museumsinsel U-Bahn station below the Spree Canal (©Meyerfoto/Iwo Hoffmann)



Key project information

Customer: Berliner Verkehrsbetriebe (BVG)
Project management: BVG Projekt GmbH
Scheduled opening: end of 2020
Budget: EUR 525 million (federal and state funding)
Usage of the new U5: up to 155,000 passengers a day (estimated)

Henning Schrewe, Managing Director of Implenia Construction GmbH

“This technically difficult construction job allowed us once again to prove our skill and our ability to collaborate across different disciplines. Our tunnel construction, special foundations and civil engineering units have worked hand-in-hand, and we have always been able to find a solution, even for unforeseeable events.”



This is a win-win project for Berlin in various ways: the link-up means that people living in the east of Berlin can now get into the historical centre, the government district and the main railway station without changing trains. Similarly, for places that until now could only be reached by the U55, like the main station and government district, there is now a continuous connection to the whole U-Bahn network. And in future, when the connection to the U6 is ready, there will be a new link to the north-south axis route. In addition, the extended U5 will create a denser network, meaning that Berliners and tourists will be able to get to their destinations more quickly. It will also help achieve sustainability goals for transport and mobility by cutting the number of car journeys in the centre of Berlin by around 3,500 a day.

Implenia has built two parallel tunnel bores, each 1.7 km long, for the new line. The job also includes the basic build for two stations, Unter den Linden and Museumsinsel, as well as building a track-switching system.

Biggest city-centre ground-freezing in Europe

Implenia was able to hand over the Unter den Linden station, tunnel bores and track-switching system to the customers at the end of 2017. Another major milestone came in February 2020 when Implenia completed the basic build for the Museumsinsel station. Quite a challenge, because this work could not be done using cut-and-cover methods. The site lies directly beneath the Spree Canal, the historic Schlossbrücke bridge and the Bertelsmann building. So once the Bärlande tunnel boring machine had done its work, Implenia's special foundations experts had to freeze 28,000m³ of subsoil between the shafts at the Humboldt Forum and the Kronprinzenpalais. Work to dig out the platform area between the tunnel bores could only proceed when this ice shield was in place to prevent the intrusion of groundwater. “This was the largest amount of ground ever artificially frozen in any European city. Thanks to our expertise we managed it very smoothly,” says Peter Hoppe, Project Manager at Implenia.

Swiss star architect in action

The Museumsinsel U-Bahn station was designed by renowned Swiss architect Max Dudler. Inspired by the lack of natural light below ground, his theme was “eternal night”. When passengers disembark here, they will immediately sense that they are at a cultural hub, right next to the Humboldt Forum in the Berlin Palace, as well as Berlin Cathedral, the German Historical Museum and the museums on Museum Island. 6,662 points of light and a luminous

ultramarine blue will create the impression of a starry sky in the station. Dudler is making a reference here to the famous stage design by Karl Friedrich Schinkel for Mozart's opera “The Magic Flute”. Museumsinsel station is scheduled to open in summer 2021. Until then, trains will pass through the station without stopping.

Implenia now has to do various bits of remedial work – including rebuilding the banks of the Spree Canal – as well as extensive road mending before people can start riding the new U5 at the end of 2020. —



Jörg Seegers, Technical Managing Director, BVG Projekt GmbH

“A construction project of this size can only succeed if everyone involved

acts fairly and honestly and treats everyone else as equals. This was the case throughout the U5 project, even during the most difficult phases of construction.”



↑ Underground topping-out ceremony: On 10 February 2020, Implenia, BVG Projekt GmbH and the BVG held the topping-out ceremony for the Museumsinsel station with around 160 guests, including the Mayor of Berlin, Michael Müller (second from left).



Frankfurt Airport – a look at the façade

Our façade technology experts are heavily involved in two landmark projects at Frankfurt Airport: construction of the new fire station 3, as well as a substantial part of the façade for the new Terminal 3. The fire station will be one of the largest in Europe. “These are two really pioneering projects where we have been able to prevail against our competitors,” says Carlos Pinto, Managing Director of Implenia Fassadentechnik (Façade Technology). But what exactly are we doing there?

The new fire and rescue station 3 being built on a plot of around 22,000m² in the south of Frankfurt Airport will be one of the largest airport fire stations in Europe. The complex consists of four vehicle halls, a training centre with a chemistry classroom, a stair tower, respiratory aid training facility, workshops for equipment and vehicles, a multi-function hall and offices.

Colours have been used in the design of the new fire station to demarcate and identify the different parts of the complex. The taller elements, such as the fire drill tower, which is made of exposed concrete, and the fire house, with its white metal façade, stand out sharply from the dark grey metal façade of the main body of the building. Construction began in June 2018 and the topping-out ceremony was held in November 2019. Our colleagues

have been working there since May 2019. A brief look at the numbers shows how diverse their tasks have been:

- 5,800 m² siding façade system (curtain wall) made of extruded special profiles
- 2,500 m² serrated façade (curtain wall) made of extruded special profiles
- 245 punched windows
- post-and-rail façades plus 41 façade doors
- 21 motorised glass folding doors
- 25 motorised sectional doors
- approximately 40 t of steel substructures installed



© B.C. Horvath



Christian Wüstefeld (photo) is our project manager at Frankfurt Airport. His jobs include planning just-in-time delivery and installation of the wide variety of services – on time, on budget and at the required quality. This is always a huge challenge, because all the different trades have to be coordinated with each other.

High-impact project

The wide range of tasks is what makes the project special for Christian Wüstefeld: “Cooperation and communication with the large number of people involved is, at least for the most part, a lot of fun. And then there’s the outside impact of the project, the location at Frankfurt Airport and the fact that we are working on one of the largest fire stations in Europe.”

Work on the fire station is already well advanced. About 80 % of the façade job has been done. Christian Wüstefeld is confident that the rest of the work will be completed on time so the new fire station can be opened on schedule later this year. While this project has nearly reached the finish line, our work on the façade for Terminal 3 is only just starting.

Terminal 3

The Terminal 3 project officially started in 2015, but construction delays mean it has not proceeded as quickly as originally planned. The construction pit has now been excavated, however, and the various trades are all working at top speed. The building shell is still taking shape, so there is no sign of a façade yet. In fact, work on the façade is unlikely to begin before the end of the year. “We are still at the very beginning,” says our project manager Ralf Diederich. The kick-off meeting with everyone involved in the project was held in May, and planning is now underway for the following work:

- 5,400m² of post-and-beam structures in the wall and roof, including 150t of steel substructure
- 3,000m² of window elements, all with different requirements with regard to ingress and egress, fire protection, ventilation, smoke extraction, etc.
- 24 automated door systems
- wind- and weather-proof revolving doors
- 3,000m² of weather protection grilles and façades
- 4,000m² of sheet metal cladding fitted as curtain façades, coverings or circular column finishes

Our Terminal 3 team is looking forward to getting started soon. Impact wishes everyone involved much success and a safe build!



Thinking Lean in Norway

In Moss, about 40 minutes by train from Oslo, our colleagues from Implenla Norway are handling their largest construction project ever: SMS 2A – the new double track railway Sandbukta – Moss – S  stad. The project is also a pilot project for the Lean method “Last Planner”, which eliminates delays and assures a continuous improvement process. Impact spoke to Project manager Carsten Rosskamp (main photo) and to our client Bane NOR.



What’s happening where?

Engineering and construction work for the main works of the new double track railway through Moss started in 2019 and are well underway now. Here is an overview of the status after the first quarter of 2020:

The scope of the project is impressive (see box). But Implenla is not in it alone. MossIA, a joint venture between Implenla Norway and Acciona Construcc  n, is the main contractor for this EPC (Engineering, Procurement and Construction) project for the new   stfoldbanen railway line through Moss. An important working method in the planning of this project is the Lean method Last Planner. “Last Planner is a management system that helps drive efficiency, communications and collaboration between the various project parties,” says Ahmed Rashid (small photo), Implenla Lead Planner for the project.

SMS 2A as a pilot project

With such a large project as SMS 2A, production control is necessary to ensure that we reach planned goals and can find alternative solutions whenever needed. Ahmed Rashid: “Last



Planner helps us to follow the plan, gives us answers on the status of the planned activities, lets us see reasons for delays, lets us define actions to be taken and areas to focus on. The result will hopefully be higher productivity, openness and visibility, as well as a commitment to follow the plan.”

SMS 2A in short

Bane NOR is building 10km of new double track between Sandbukta and S  stad. A 2.7km long railway tunnel is being created between Sandbukta and Moss centre. A 400m long concrete tunnel connects this rock tunnel to a new railway station in Moss. The new railway station is being built on an area about 800m long. A 2.3km long railway tunnel is being built between Kleberget and Carlberg-Gaard. The main works will be completed in 2023/2024. Then the new tracks will undergo a commissioning procedure and the trains will run on the new tracks from 2024 on. After that, MossIA will remove the old tracks, complete the station in Moss and perform landscaping works.

Hand in hand with our joint venture partner

Our joint venture partner Acciona Construcc  n has been using the method for a long time, and Acciona’s planning experts have helped us with the implementation of Last Planner in the first months of the SMS 2A project. In collaboration with the global Lean team from Switzerland, the goal now is to implement the method at all Implenla projects in Norway.

“As well as its role as Last Planner pilot project, SMS 2A is an important project for Implenla in Norway, because it involves a lot of our disciplines: special foundations, ground-



1

Tunnel operation at Carlberg:

The 2.3 km long railway tunnel from Kleberget now comes out at Carlberg-Gaard. We are in the process of blasting an escape and maintenance tunnel.

2

Ground stabilisation in the centre of Moss:

There are challenging ground conditions in this area, including the presence of quick clay. To work safely, we need to take several measures to ensure stability. There now are two high lime cement column rigs that whip a mix of lime and cement into the ground. Extensive work ongoing for several months.

3

Tunnel operation at Verket:

MossIA is building 10 km of double track through Moss. This includes a 2.7-km-long railway tunnel from Sandbukta to Moss centre. Construction officially started at the end of November 2019 with the first blast at the Verket escape tunnel. It is through this tunnel that we will operate the main tunnel for the double track.

4

Establishment of temporary road on Kleberget:

The new station area extends from today's area along Værlegata towards Kleberget, where the trains will run into the Carlberg tunnel through the Northern portal at Kleberget. This means that the road connection to Kleberget must be closed during construction. As a replacement, a new access road for residents is being built.

5

Other activities at Carlberg:

Carlberg is the most labour-intensive area of the project. In addition to tunnel works, we recently set up the construction site and built construction roads to separate construction traffic from local traffic. Just as in the centre of Moss, there are demanding ground conditions with deposits of quick clay which require ground stabilisation. Lime cement piles will be placed in the ground where needed.

works, earthworks, truck works, concrete works and, of course, tunnel blasting works," says Carsten Roskamp, MossIA Project manager.

Good relations with the client

So far, Bane NOR has experienced a very good collaboration with MossIA. Bane NOR is the state-owned company responsible for the Norwegian national railway infrastructure. "The contractor has been solution oriented and we work together towards a common goal," says Jarle Rasmussen (small photo), Project manager at Bane NOR Sandbukta–Moss – Sâstad. ■



Watch the video on our YouTube channel about the Moss project and find out even more:



A project video filmed with a drone by our client Bane NOR can be found here:





↑ Work on the Getterö Bridge (Getteröbron) ...

Who is the main driver for Building Information Modeling (BIM) at Implenia in Sweden? Impact has a chat with our Country Head BIM Sweden, David Santos, who started the implementation of BIM in Sweden. He tells us all about its advantages, taking our Varberg project as a good example.

When engineer David Santos joined our Swedish project Kvarnholmsförbindelsen in 2015 as an intern, he knew he had come to the right place. After the six-month internship was over, he was asked to stay until the end of the project. This was a no-brainer for David, he stayed, and his decision ended up being a life-changer. Alongside his studies for a BIM Management Master's degree in London, he was made responsible for the development of BIM at Implenia in Sweden. Back then, he was the only one there with BIM expertise, but as a result of his committed work, there are now seven BIM coordinators working on different projects and several more people working with BIM part-time.



David Santos' BIM words of wisdom

For David Santos, there are three important things about BIM: 1. BIM needs to be involved in everything we do in the projects. 2. BIM cannot be treated separately – everyone needs to work with it. 3. And even more clearly: BIM cannot be successful only through the work of the coordinators. It needs to flow through the whole organisation of a project.

BIM from day one at Varberg

"The Varberg project has been a first for us in many ways. It is the first two-phase Early Contractor Involvement (ECI) project for which we won the second execution phase because of well-prepared work in the first planning phase. It is also one of our first paperless projects in which we have focused on digital workflows and BIM. All of the construction work is based on digital models," says David.

David started working on the Varberg project in January 2018, during the tender phase. There was no hesitation about already using BIM in phase one: "On the contrary: BIM was part of the contract and the client was very interested in our ideas and how to get the best out of the project using BIM. This support from the client allowed us to push the boundaries, and I think now we can call it a flagship BIM project. We have had the opportunity to create a good platform for the project, and now it's important that everyone makes use of these tools and takes the benefit from them." Three people now work full time with BIM at Varberg.

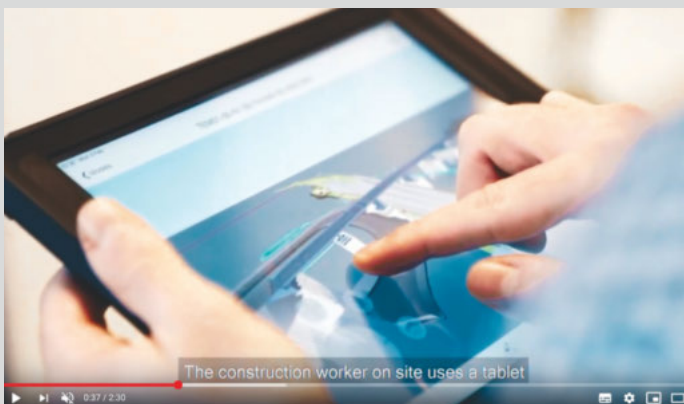
This project was one of the first for which Implenia in Sweden could create a BIM master model, picking and choosing its definitions and rules at a very early stage. Thanks to BIM, our colleagues in Sweden are not limited to delivering only what the client wants. It gives them the opportunity to deliver even more. David Santos summarises: "Through BIM, we are living up to our values of excellence and collaboration. The natural result is an extremely collaborative spirit and a strong exchange of knowledge. Implenia's BIM expertise, also applied to Civil Engineering projects, will allow the company to extend its leadership position. In this way, we can actively shape the construction industry's future. We need to be part of this BIM movement, so let's just jump right in and embrace it!" ■



↑ ... is progressing – also thanks to BIM.

Make data more manageable

To make the data more manageable and easier for people to find and access in the BIM model, David Santos' team defined additional property sets (information fields) for all objects: "IMP" (specific to Implenia), "VRBG" (specific to the Varberg project) and "QTO" (for Quantities-take-offs).



Check out our Varberg video!

David Santos is definitely not alone in his enthusiasm for BIM. Watch our Varberg video to see how excited our colleagues Carolin Haueis, George Moir and many more are about the digital management of this complex construction site.



A new town within a town

“Evolution + / Quartier de l’Étang”, the largest real estate project in western Switzerland, is creating a new neighbourhood on an 11 ha former industrial site in the town of Vernier. With 870 homes planned, the new district will help alleviate the housing shortage in Canton Geneva. The project is divided into six separate building plots. Implenla was commissioned to build two of the plots (E and F) in 2018. Having worked successfully with the client on these, in 2019 it won the contract for a third plot (A), worth CHF 270 million. Various Implenla divisions are providing services for this major project.

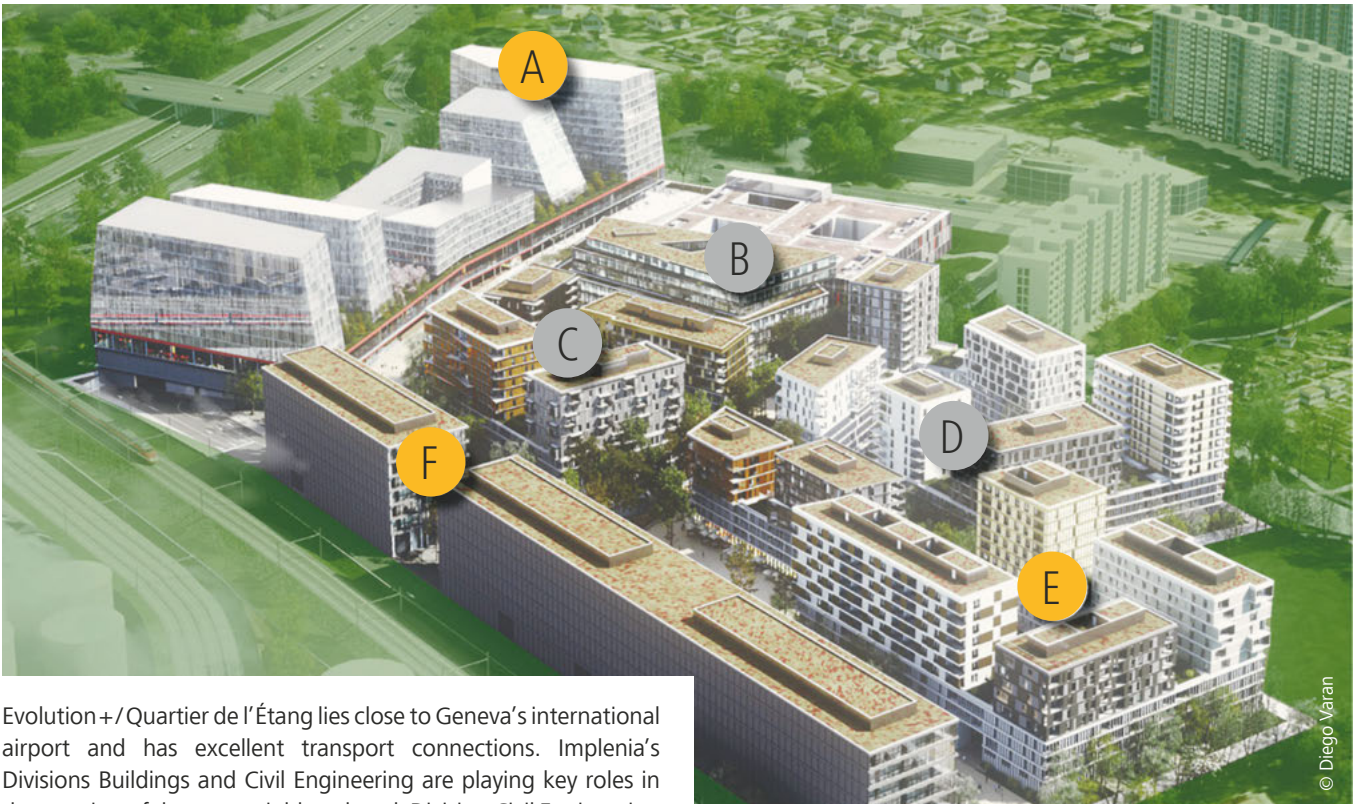


Key project information

Plot A / Cluster+
Area (gross): 96,300 m²
Contract volume: CHF 270 million
Usage: 670 hotel rooms and apartments, 230 student apartments, 90 apartments with integrated services and around 15,000 m² of office space
Scheduled opening: August 2023

Plot E
Area (gross): 27,668 m²
Size of contract: nearly CHF 70 million
Usage: approximately 270 rental apartments
Scheduled opening: June 2021

Plot F / Creation+
Area (gross): 36,767 m²
Size of contract: around CHF 12 million
Usage: numerous shops and offices
Scheduled opening: September 2021



© Diego Varan

Evolution+/Quartier de l'Étang lies close to Geneva's international airport and has excellent transport connections. Implenia's Divisions Buildings and Civil Engineering are playing key roles in the creation of the new neighbourhood. Division Civil Engineering was involved in the major infrastructure work required: the Special Foundations team built the construction pit retaining walls for Plots **A** and **F**, while teams from Civil Engineering, helped by our microtunnelling experts, built the sewage system for the neighbourhood. We were also delighted to be given the contract for the landscaping work for the whole neighbourhood, which is being handled by a consortium led by Implenia. "Coordinating things with all the other work that's going on here at the same time has certainly been a challenge. We started our work on Plot **F**, for example, while the old buildings were still being demolished and the masons were getting ready on the opposite plot", says Nicolas Chabert, site manager for special foundations on plots **A** and **F**. With the foundations in place, Implenia was able to start building construction work on Plots **A** and **E** as total contractor.

A new 2000-Watt Site

The area has already been certified as a 2000-Watt Site. This certification is only awarded to sites that are proven to use resources sustainably, including during construction. By utilising Lean methods, Implenia is improving the efficiency of the whole project, especially with regard to meeting scheduling, quality and cost targets. Since September 2018, Implenia has been building approximately 270 rental apartments on Plot **E**. Progress has been good: the façade of the building is almost finished and the whole thing will be ready in about a year. Residents will enjoy an incomparable view of Mont Blanc. Meanwhile, a six-storey building is currently going up on Plot **F**, marking the southern edge of Evolution+/Quartier de l'Étang. This building will provide large work spaces for industrial and craft businesses. "We're moving forward as planned on Plot **F**. The construction pit is technically the most challenging thing because it's so close to the railway tracks," explains François Grobel, special foundations manager in Geneva.

↑ Overview of the plots at Evolution+/Quartier de l'Étang

Good work is rewarded – with follow-up orders

After more than a year of smooth and successful infrastructure work on the individual buildings and after several years of helping with project management – advising the client on phasing, logistics and planning – Implenia was awarded a follow-up job contract in 2019 to build five buildings for commercial use on plot **A**. "I firmly believe that this major additional contract was the result of all our efforts to listen to the client and ensure it was satisfied at all times. It's a great example of how well our divisions complement each other on such projects," says François Grobel. The multifunctional buildings, which stand at the entrance to Evolution+/Quartier de l'Étang, are connected architecturally and give an outward face to the new neighbourhood. Highlights of the new complex include panoramic views and a link to the nearby shopping centre. "The biggest challenge is the diversity of the building work: from student apartments to hotel rooms and apartments, to office premises," explain Laurent Jarlégant, Head of the General Contracting Department, and David Géroutet, Senior Project Manager Buildings. ■

Want to know more about the Evolution+/Quartier de l'Étang project? Scan the QR code, take a look at the project page and read the project description (only in French):





A modern logistics hub to supply the city

Implenia, working as total contractor, is building the “West-Log” logistics and office hub in the up-and-coming Altstetten district of Zurich. This is a top-class, contemporary project development by Implenia that uses an architecturally challenging design to combine the exacting requirements of a city-centre logistics hub with the features of a modern and accessible office location.

Online commerce is booming. Consumers like the variety of delivery options available to them these days, and expect things to arrive quickly. Companies want their new city logistics platforms to be closer to their clientele and need buildings that can accept deliveries from large trucks, that allow automated inventory management and client-specific picking, and that facilitate rapid delivery to customers. They also need office space. The success of the project we have developed for city logistics is based on the location, layout and accessibility of the site, and on the way the building is structured to suit the goods it deals with. Implenia happened to own a perfect plot of land in Altstetten and found a main tenant that also appreciated the advantages of this central location, with its excellent links to the public transport network and the motorway.

Tight schedule and difficult conditions

Tricky conditions on the site meant that our project developers faced major challenges, as well as having to cope with new storage technologies, technical fire protection measures, difficult geological conditions and a tight schedule. In parallel with the planning, we had to fend off an appeal against planning permission, negotiate the rental contract and sort out the purchase and construction contract with the investor. It all came together in the end, and the successful deal with Swiss Prime Site Immobilien was signed as planned before the end of first half of 2018. Around 85 % of the rental space needs to be handed over in stages for tenant fit-out this summer.

Key project information

Investor: Swiss Prime Site Immobilien

Usable floorspace: 17,500 m²

Building volume: 105,840 m³

Construction begins: July 2018

Architect: Felix Partner Architektur AG

Implenia's jobs: project development with user input from anchor tenant EM, and execution as total contractor (including specialist planning, building construction services and special foundations)

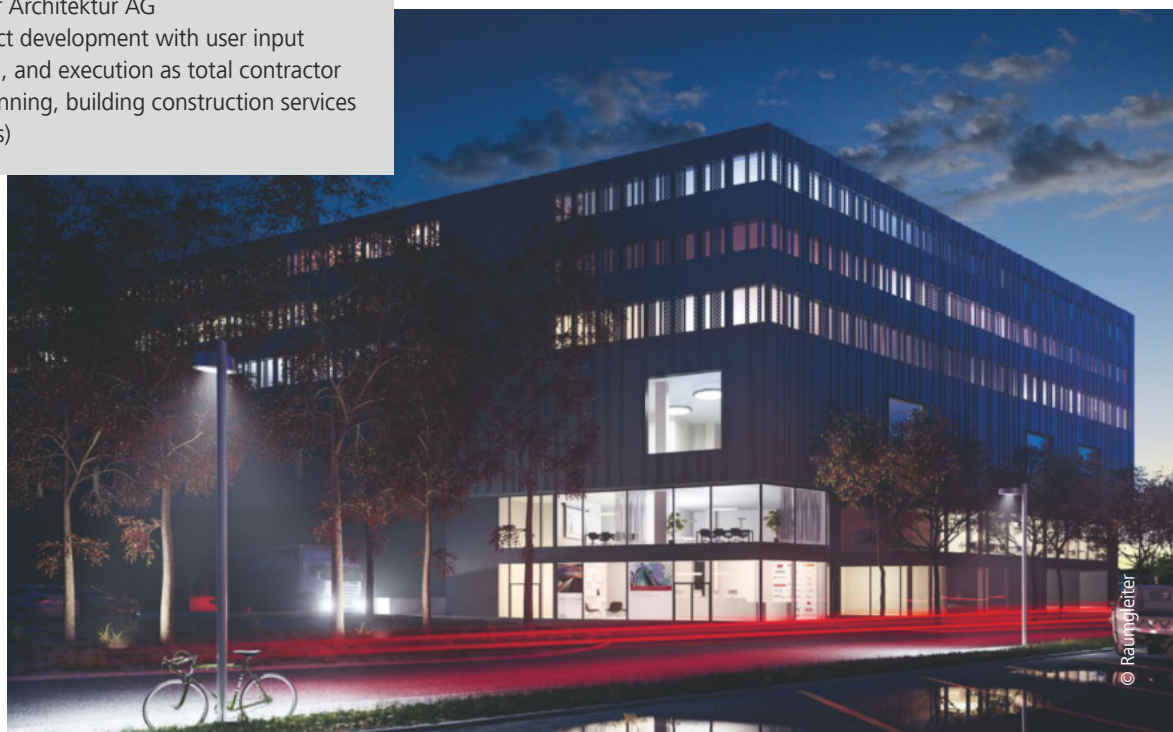
Mastering challenges through dialogue

EM Elektro-Material AG, the main tenant, had already presented us with its requirements for the building during the planning phase. Integrating these specifications into the overall project demanded a high level of planning, architectural and structural engineering skill, not least because the requirements had to be reconciled with the investor's desire for a flexible structure. Everything also had to take account of future usage so that the building remains competitive for the long term. While the main tenant only wanted a certain number of vertical service shafts and floor levels in specific positions, it was important to the investor that the rental space could be divided into smaller units and that its usage for logistics could later be converted to office use if required.

This required diplomacy from Implenia, as well as creativity and skill when finding structural solutions. Thanks to intensive dialogue with the investor and main tenant, combined with continuous market testing, our project developers managed to work out an optimal solution despite the great time pressure.

Modern building with a strong identity

The compact and powerful building body is being clad on all sides by a uniform metal façade that evokes electrical trunking. Architecturally, it blends well into the existing cityscape. The trafficked areas for separate inward and outward delivery determine the surrounds and the cubature of the building. But the building and the whole site have a strong identity, helping to make it a desirable address. A two-storey recess with a green roof terrace provides a quality environment as well as bringing daylight into office areas. —



A working day underground



The Grand Paris Express (GPE) is currently Europe's biggest infrastructure project. When finished in 2030, it will provide better links between Paris and its surrounding residential areas. H       Pruvost is driving our TBM and working on the construction of Metro line 11. She talks to Impact about her typical working day.



The Grand Paris Express (GPE) project is pursuing an ambitious goal: by 2030, the Paris Metro will have four new lines for driverless underground railway trains that will improve links between the French capital and the suburbs of the Parisian metropolitan region.

Implenia France has technical responsibility for the tunnel boring work on line 11. The project includes building a 3.2km long tunnel, a 200m long cut-and-cover tunnel, four underground Metro stations, and three ventilation shafts. An EPB-type tunnel boring machine (TBM) is being used to make the 3.2 km tunnel, which has a diameter of 9.12 m and an excavated cross-sectional area of 65.3 m². The tunnel is being lined with prefabricated elements, each one 1.5 m long, 1.8 m wide and 40 cm thick.

We talk to H       Pruvost, who drives our tunnel boring machine, about the technical aspects of her work and especially about the career path that has taken her to Implenia in France. We were keen to find out from the first woman to drive a tunnel boring machine for us in France what a typical day looks like, what challenges the work brings and what she particularly likes about her job. But she's not just a TBM driver! H       is also a biker and has ridden all sorts of motorbikes ever since she was young. —



Read the whole interview in the online edition of Impact:



Find out more about H       and the GPE project by watching the video on our YouTube channel:



Go high

Arnaud Chalut works for Implenia as Deputy Head Buildings Canton Vaud in Crissier. In his free time, he is a glider pilot. The dream of flying has been with him since he was little, and at the age of 14, he sat in a glider for the first time. His passion has remained undimmed to this day. "Flying is the perfect counter-balance to work," says Arnaud. Twice a week he is catapulted 400 m into the air in 30 s with the help of a

winch. He then accelerates from 0 to 100 km/h in 3 s before cruising at up to 250 km/h over the Alps, enjoying incredible views. One highlight for the 27-year-old was his flight to around 4,300 m over a glacier on Mont Blanc. He now also passes on his skills to young pilots as an instructor at his club's flight school. If you would like to know more about Arnaud's passion for gliding, just click through the online edition of Impact. —



↑ Enjoying the high-life: our colleague and glider pilot Arnaud Chalut



"A depot is a micro-laboratory for sustainable business ideas."

Laura Barfuss, environmental engineer and intern at Implenla (see page 11 and at more length in the online edition of Impact)

