



SSF Ingenieure

# team

## 50 YEARS OF ACCELERATION

The founding fathers of SSF Ingenieure

**TALENT AND PASSION ARE NO  
COINCIDENCE**

Employee quotes

**FORMULA FOR SUCCESS: TEAM**

Issue 8 | 2021

The magazine of SSF Ingenieure AG





THE FOUNDING  
FATHERS OF SSF  
INGENIEURE



OUR BOARD



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# Dear customers, partners, and colleagues,

SSF Ingenieure is celebrating its 50th anniversary. I have been accompanying the company on its path to success for 34 years. I started working at Schmitt & Stumpf right after my studies – even before the “F” completed our company name. In the company portrait, the founders Victor Schmitt, Dieter Stumpf, and Wolfgang Frühauf talk about the beginnings before my time and the emergence of SSF Ingenieure (Page 6). They share a few nice memories with us and, above all, convey the values that have set SSF Ingenieure apart for half a century.

Looking back at the company’s journey so far, SSF Ingenieure has developed a number of innovative construction methods that have become well established on the market (Page 36). They have played a major role in shaping the creative, planning, and construction process of countless buildings and infrastructure projects and have thus helped generate lasting social value. This is clearly demonstrated by a selection of our projects (Page 14).

In 50 years, we have never travelled this path alone but rather always in close cooperation with our clients and partners (Page 20) – first and foremost our own SSF Group – and, of course, in a strong team with all our colleagues. I would like to take this opportunity to thank you for your contributions to this issue (Page 24).

With the expertise of outstanding employees, a corporate structure that has grown over 50 years, and a culture of open dialogue, we can continue on our path of success. An anniversary edition also offers the chance to look ahead. We know that our future will be determined by a number of major issues such as climate change, digitalisation, and urbanisation. They already extend far into our industry and our everyday work – whether it’s the responsible use of our resources, a sustainable and operationally friendly life cycle of structures and buildings, BIM, or construction in existing structures, which has meanwhile become commonplace. But we remain confident that we will master the challenges – because we act from the position of a healthy and diversified company with many clever and enthusiastic minds. Because, in the spirit of our founding father Victor Schmitt, we are always open to new developments. Because we have been combining precision and reliability with flexibility and agility for decades. And because we simply never stand still.

So with a 50-year success story behind us, we continue to move towards the future. No matter whether they are big or small or fast or slow: the important thing is that we take them. Together!

We hope you enjoy reading our anniversary magazine.



Peter Radl,

with SSF since 1987, Group Manager of Object Planning Engineering Structures for Roads since 1994



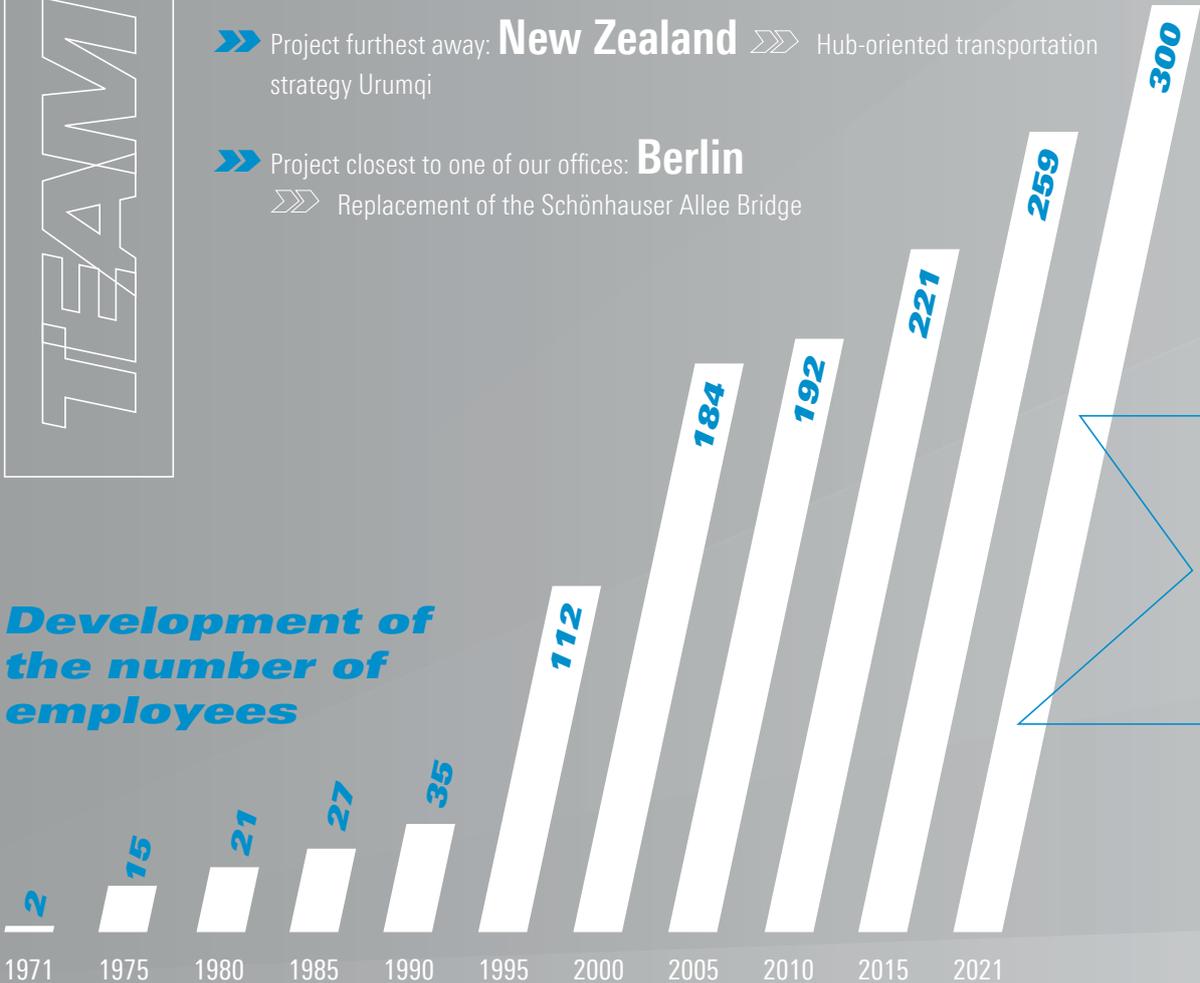
# 1971-2021

## Figures » Data » Facts



- » **17,100** projects handled
- » **37,300** running metres of plotter paper per year
- » Project with the longest duration: **21 years** » ABS Berlin – Frankfurt (Oder)  
20 August 1999: Start of the project with basic evaluation and preliminary design, 2003: Commissioning of the option of draft and approval design, later for individual planning sections, preparation of tenders, partly also final design. We are still planning individual buildings today.
- » Project with the shortest duration: **2 weeks** » Safety supervision of Teutschenthal construction project
- » Project furthest away: **New Zealand** » Hub-oriented transportation strategy Urumqi
- » Project closest to one of our offices: **Berlin**  
» Replacement of the Schönhauser Allee Bridge

### Development of the number of employees



**Our sites:**



300

**300 HIGHLY MOTIVATED  
EMPLOYEES**



# ***TALENT AND PASSION ARE NO COINCIDENCE***

SSF Ingenieure is celebrating its 50th anniversary. In the anniversary issue of our team magazine, the founding fathers Victor Schmitt, Dieter Stumpf, and Wolfgang Frühauf (the first letters of their surnames form the company abbreviation SSF) talk about growth, values, and the power of coincidence.

At the beginning of the 1970s, Munich experienced a building boom. In the course of the Olympics, underground and suburban railways, the pedestrian zone, and the Olympic stadium itself were built. And an engineer in the design office of the Karl Stöhr construction company – perhaps inspired by the spirit of optimism around him – played with the idea of setting out on his own.

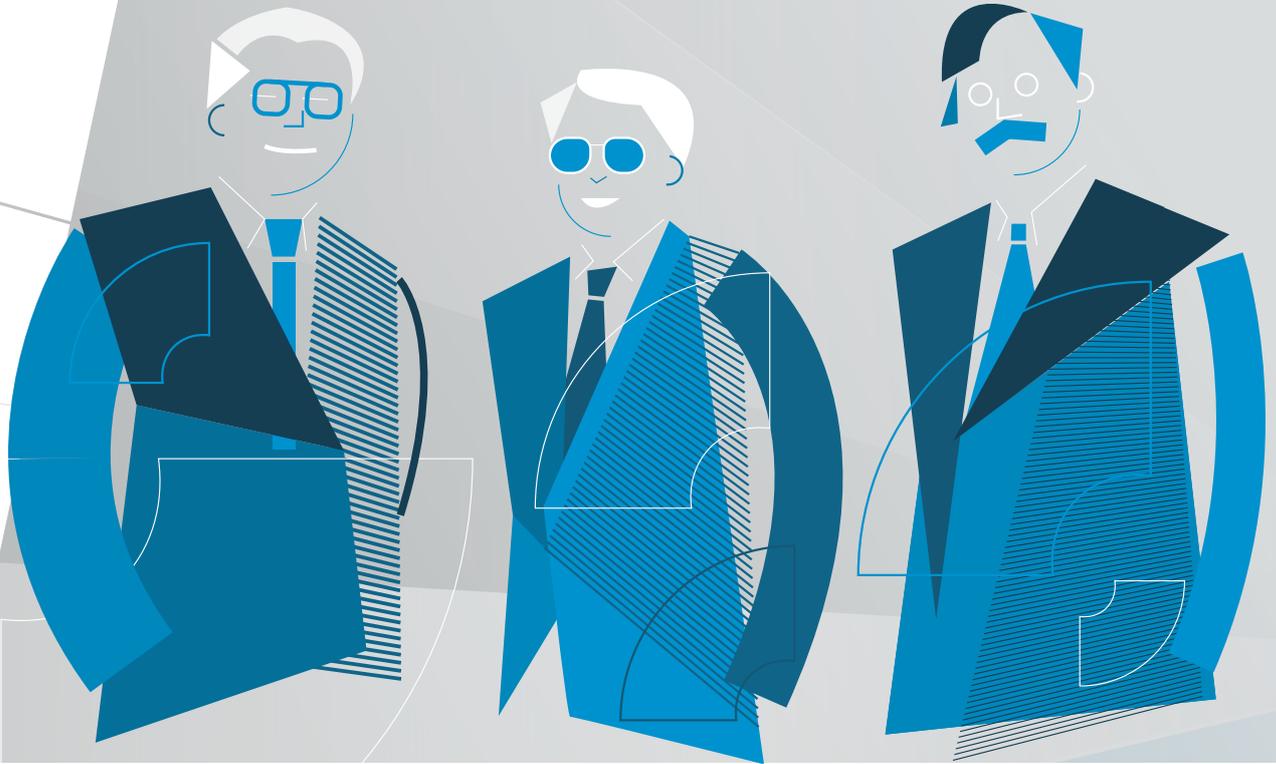
## ***Victor Schmitt and Dieter Stumpf founded their own engineering firm in 1971***

Victor Schmitt, a native of Saarland, had already gained a few years of professional experience after studying civil engineering at the TU Munich and was looking for allies. He met with a few colleagues for an after-work beer in the

Schuller bar and told them about his plans. “If we want to become something, we have to start our own business”, he explained. He was convinced of that. And he also knew: He would not be able to manage his own firm alone. “It’s one of my strengths that I know my limits”, says Schmitt. There were five interested colleagues at that time. Of these, only one remained in the end: Dieter Stumpf. He was born in 1943 and had been with Karl Stöhr for only two years. When Victor Schmitt asked for a structural engineering expert, Stumpf came forward – even though he had never planned a single structural engineering project and had never had anything to do with Schmitt. “All my friends are architects”, said Stumpf. And indeed, static calculations for Munich schools, for example, were among the first small orders for the young engineering firm Schmitt & Stumpf. “My father called me

**SSF: SCHMITT, STUMPF AND FRÜHAUF**

In 1989, the trio of engineers laid the foundation for the company's success.



crazy when I told him I wanted to start my own business. 'You can't even write an invoice', he said. Then I introduced Victor Schmitt to my parents – and they were reassured", recalls Stumpf. While Victor Schmitt was already a father of three at this time and had a family to support, Dieter Stumpf bought an English sports car with his first earnings. He was the one who dared to go forward; who made contacts and confidently quoted the right price from the start. "After all, we never wanted to do it cheaper", says Victor Schmitt "but rather better". Dieter Stumpf thus remained an irreplaceable door opener and skilful communicator for Victor Schmitt over the years.

***The early days were difficult***

At Karl Stöhr, none of them were blamed for leaving. At Karl Stöhr, none of them were blamed for leaving. And they were even able to take some orders with them. Because some of these were rather complex underground projects, their entrepreneurial spirit was mixed with a bit of fear. Whether by chance or persuasion, Victor Schmitt managed to get a third man on board: Werner Doss. "He was the main designing

engineer at Stöhr. The top quality of his performance impressed us from the very beginning", he says. The first office in Hörwarthstraße, which Schmitt had initially shared with a Germanist friend for reasons of cost, was bursting at the seams with three people. The beginnings were bumpy, and the family man Schmitt was always a bit worried about the next big job. He knew: "That's part of being self-employed. Especially in the construction industry. We had massive advance costs. A financial substance is enormously important".

One of the constant orders at that time was small motorway bridges. These were the beginnings of prefabricated bridges. And it was the module idea of the creative engineers, among other things, that would carry the firm for a good 10 years. Stuttgart was initially another large market. But soon there would be enough to do in the regional environment, and the orders became increasingly more extensive. In 1978, for example, Munich Airport made a big push. At the time, the Schmidt-Schicketanz architectural firm won a whole series of competitions, including the northern development strip at the airport. As chance would have it, Victor Schmitt was friends

with Hans Schmidt-Schicketanz. And so Schmitt & Stumpf also became involved as planners. Construction stopped after two years. The engineers, however, had increased massively in size for this purpose. Afraid of having too few employees, Victor Schmitt had hired too many. "That's how you end up with growth you don't want to have", he says. At that time, there were about 20 employees. They had moved from

Ungererstraße to larger offices in Leopoldstraße. Dieter Stumpf remembers: "In the beginning, it was an all-boys club. Sometimes it was almost embarrassing". He also remembers Werner Doss mixing punch in the bathtub and serving it by the bucket. Victor Schmitt had to set the record straight and explains that it was basically just a big bowl in the tub.

**» When Victor Schmitt talked about starting his own business, I thought: If he's willing to take on so much responsibility, I can surely join him!**

**Dieter Stumpf**



Victor Schmitt shares more personal memories in the video interview.

### **VICTOR SCHMITT**

In 1938, he was born as the ninth child into a farming family. He grew up in the community. The village environment and social interaction helped shape him. He has an unerring sense for people, whom he can guide intelligently and sensitively. His passion is planning in the public sector, where it is necessary to coordinate need, function, design, and economy in dialogue with each other. There's a reason why he wanted to study architecture. But when the university in Karlsruhe only put him on the waiting list, he studied civil engineering in Munich instead. In 1971, he was the string-puller and motor of the founding idea. With his expertise and creativity as well as his curiosity and inspiring attitude, he remains a driving force of SSF Ingenieure.



In the video interview, Dieter Stumpf talks about his passion for IT, among other things.

## DIETER STUMPF

Dieter Stumpf was born in 1943 and developed an early enthusiasm for building. He says it comes from the sandbox. Today, climate protection in particular is so important to him that he privately takes to the streets with the youths from 'Fridays for Future'. And in his professional life, he also firmly believes that sustainability in construction holds huge potential. His greatest passion, however, is digitalisation and the future opportunities that AI technologies open up. He was burning to take a pioneering role here. Because: "When you are able to rethink, brilliant projects open up!"



### **The "SSF" era began with Wolfgang Frühauf**

When Wolfgang Frühauf joined Schmitt Stumpf Frühauf und Partner GmbH as a partner and managing director in 1989, the engineering firm already had over 30 employees. "The office in Leopoldstraße was originally planned as a dormitory. The individual "cubicles" were only 9m<sup>2</sup> in size – including Wolfgang Frühauf's", he says with amusement. Like Dieter Stumpf, he was born in 1943. He also studied at the TU Munich at the same time. "But outside of lectures, Dieter Stumpf was never in the drawing room – which is why we never met", recalls Wolfgang Frühauf. At the time, he came from Bilfinger und Berger Bau, where he had built up his own technical office for the Munich branch and had most recently been promoted to authorised signatory. "I was thinking about what to make of the second half of my professional life. I no longer wanted to be dependent on others", he says. Victor Schmitt adds that he had long had his eye on the brilliant planner at Bilfinger. While swimming at Lake Pilsen, a friend told him that there was an engineer who was really good at tunnel construction and special-purpose excavation – someone who would work like a horse. And coincidentally

» **We are not afraid of digitalisation because Dieter Stumpf has pushed it so vehemently with us.**

**Wolfgang Frühauf**

that was exactly what Schmitt had been looking for. Each of the two seems firmly convinced that he would have taken the initiative at that time. They agree that they quickly decided on a common future path and that the three of them also formulated corresponding goals: together, they wanted to support large buildings from conception to handover. They wanted to act as a general planner for complex buildings. And they wanted to construct spectacular buildings.



**WOLFGANG FRÜHAUF**

Wolfgang Frühauf was also born in 1943. The modest and down-to-earth third partner describes himself as someone who pays attention to detail. And his two colleagues confirm that he is still working on technical optimisations and planning details with the utmost precision deep into the night. The China expert on the supervisory board emphasises the importance of international relations: “We must constantly compare the influences of the world and foreign cultures with our work and incorporate them into it”. He is proud and grateful for what has been achieved and looks to the future with great confidence in the next generation.



In the video interview, Wolfgang Frühauf talks about his early days and the success of SSF.

**The best performance and innovation are what drive SSF Ingenieure**

“What the firm initially lacked was the freedom and imagination that you need at the beginning of a project”, recalls Victor Schmitt. So they had to get into the first stages of planning. However: all three came from execution planning. With their sound knowledge of this, they were able to deliver quality. And so their company continued to grow. Also because SSF Ingenieure had the courage to develop its own ideas. Our society is moved forward by innovations. The SSF founders think that helping to initiate them is a special feature of their profession. “We cannot put a finished product in a shop window. We always develop prototypes on behalf of the customer and are always faced with competition. We try to develop procedures that the building contractor can also put out to tender and support our ‘product’ throughout the entire planning process”, says Victor Schmitt as he explains the

innovation principle. Wolfgang Frühauf adds that in civil engineering, there is actually never a patent solution on the table. But with the aspiration to meet the requirements of the building contractor, it’s possible to arrive at innovative solutions during the planning stage. Wolfgang Frühauf emphasises: “We always want the best possible individual solution – even in detail!”. Victor Schmitt is convinced that the German innovation market is not as bad as its reputation. But the realisation can be difficult. This is why SSF Ingenieure have been active in Poland and Romania for many years. These are now important reference markets, where new procedures can be realised quickly and unbureaucratically. A creative solution that also tells of the perseverance of SSF Ingenieure when it comes to new ideas. And because innovations are as much a part of the SSF DNA as the roof is to the building, Victor Schmitt also gives advice to the next generation: “Always be open to new developments!”

## » **With Wolfgang Frühauf, we have become respectable!**

Victor Schmitt

### **SSF Ingenieure have positioned themselves throughout Germany**

Against this background, Schmitt, Stumpf, and Frühauf have also cleverly anticipated socio-political changes and acted strategically at the appropriate time. The very day after the fall of the Wall in 1989, the three managing directors decided to position themselves in Eastern Germany. "The turnaround in the aftermath of the fall of the Berlin Wall was also a major turnaround for us!", says Victor Schmitt. "We have gone from being a regional Bavarian office to an all-German office". Wolfgang Frühauf adds: "The sinecure in Bavaria were already well distributed at that time. Here you had to face the competition and take something away from others. Infrastructure – one of our core competencies – was needed in the East, and the market was completely open". This is how SSF Ingenieure guided the new federal states into an all-German future. After more than 30 years, the branches in Berlin and Halle are still dynamic markets.

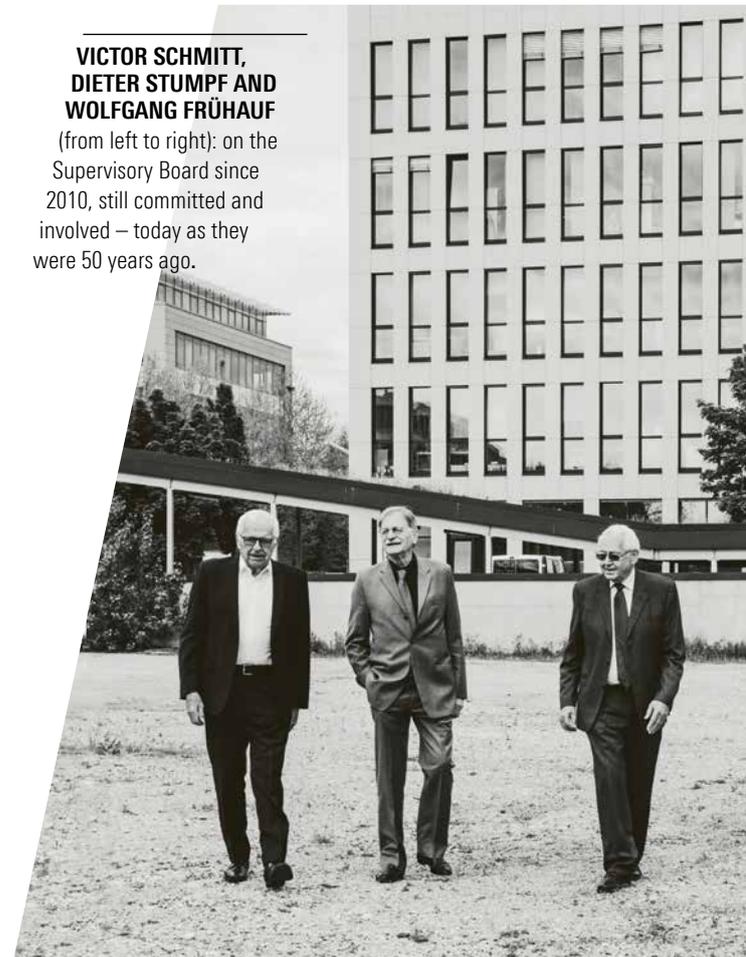
The success is not least because the branches are staffed with local people. Dieter Stumpf explains that excellent civil engineers were found in the East. "Every car mechanic earned better over there than a civil engineer. If someone did it, it had to do with enthusiasm and passion". But there were also happy coincidences at play here. Christian Ommert, who had long since come to Munich and SSF Ingenieure from the GDR, knew good engineers in Berlin. He was able to recruit them for the new capital office, which he would later lead himself as branch manager. "And the branch in Halle would not have existed without Dieter Stumpf's good contacts to the railways", says Victor Schmitt. Here, too, it was Christian Ommert who found an urgently needed design-based steel constructor for railway stations. He established contact with Peter Voland, who first set up the branch in Halle and later the steel building planning division in Munich.

### **The planners building in Domagkstraße brought the disciplines together**

Victor Schmitt explains the holdings in Poland and Romania as well as the branches in Halle and Berlin with another SSF speciality. "We have always oriented ourselves to the north – along the motorway axis of the A9". And indeed, the site of the current Munich headquarters fits this spatial strategy exactly. Victor Schmitt's vision for the Munich site was that of a "planners building" in which the most diverse disciplines come together under a single roof. The architects from Lang Hügler Rampp had first visited the office building in Domagkstraße with him during construction. Together with them and the entire current SSF Group at the same site, this wishful thinking became reality. Baugeschichtliches Büro Bauer, Prof. Schaller UmweltConsult, Wagner Ingenieure, PEC+S, and Buba Ingenieure and KüpperPartner were among the residents. "Planning and building is not solely an engineering or architectural process. It is a social process – but above all a joint process of all actors involved", says Victor Schmitt.

#### **VICTOR SCHMITT, DIETER STUMPF AND WOLFGANG FRÜHAUF**

(from left to right): on the Supervisory Board since 2010, still committed and involved – today as they were 50 years ago.



Mutual understanding of the different disciplines is more important than ever today, when projects are becoming more integral and complex. That's why he had a canteen in mind for Domagkstraße. "I'm all for presence, for meetings, for personal conversation – and the office landscape should encourage that", he says, regretting that this plan was not feasible with the building contractor.

"The move to Domagkstraße also had something to do with the fact that we didn't want our employees to have to travel a completely different or much longer way to work", adds Wolfgang Frühauf. They had to move their working centre from Leopoldstraße in Schwabing just a bit further north. In conversation, all three supervisory board members show how important their employees are to them. How seriously they take their needs. And how much they welcome their own initiative. Dieter Stumpf describes working together at SSF Ingenieure like this: "As a football fan, I like the image of a team. Our groups always consist of about 10 people – and their success is a collective effort. Each group manager leads their team individually. But if they manage to inspire their group so that they develop their own ideas, we have achieved our goal". He is convinced that it is this attitude that sets SSF Ingenieure apart from other firms. There are no closed doors – because everyone should have a say and join in. Perhaps

this is also the reason why the founders, like their successors on the board of directors, who all come from within the company, have so far always managed to find the right employees – with their own enthusiasm for planning and building. They train the best themselves and retain them. In the case of Helmut Wolf and Anton Braun, the development line at SSF Ingenieure leads from working student to board member. Perhaps coincidence has also played a frequent role in this. Like when Victor Schmitt took a hitchhiker from Leipzig to Halle and it turned out by chance that he was a civil engineer: Georg Operskalski still works at SSF Ingenieure today.

### ***The company values are passed on***

The three-member supervisory board has not only internalised the value of the entire team. They are also aware of the exceptional quality of their partnership. Schmitt, Stumpf, and Frühauf know that their SSF system would not have worked without each other. Because they complement each other in their individual skills to this day: one opens doors. The other creates and maintains the trust placed in the company. And the third takes care of the design details. It is impressive what a fine view the founders have of themselves and each other. Their interaction is so amicably familiar that they shoot the



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#### **FOUNDING TEAM:**

They stand up for each other and complement each other perfectly.

occasional pointed arrow at each other. They do this against the background of a special togetherness. A familiarity that is possible only when people have known each other for decades and have stood up for each other for just as long.

## » **Success is always a joint effort.**

**Dieter Stumpf**

It is this culture of togetherness, of open and democratic discussion, that sets SSF Ingenieure apart. The family spirit of the founders and their values have sustained a successful company for 50 years. And in 2021, this foundation is one thing above all: future-proof. It is based on flat hierarchies and on the fact that the board members – both the founders and the current second generation – neither stand out nor exclude each other: they sit in the middle of the team – on the same chairs and at the same desks. “For 40 years, Victor Schmitt and I even shared a desk. That’s saying something ...” says Dieter Stumpf with a twinkle in his eye. Perhaps it means that this partnership lives not only from the differences between the characters but also from what they have in common: from the courage to stand out with special ideas; from creativity in the realisation of these ideas; from passion and enthusiasm for what one does; and from a sense of responsibility and will.

### **SSF Ingenieure now looks forward to a successful future**

SSF Ingenieure has achieved the goals it once set. The company has developed from a simple bridge builder to a reliable general planner. It has triggered innovations that are still state of the art in the industry. Prefabricated composite girder (VFT) construction method is just as much a part of this as the principle of bridge shifting, which not only SSF Ingenieure has been practising for well over 30 years. And it has made possible spectacular buildings such as BMW Welt in Munich.

The question remains what the future will bring. The answer is that SSF Ingenieure will remain as true to its culture and values as it is to its commitment to innovation and performance. Victor Schmitt tells us enthusiastically and with satisfaction about the new Composite Girder Grid (VTR) construction method, which may soon also be used in Germany for the first

time. Wolfgang Frühauf is certain that SSF Ingenieure will continue to expand its fields of business and expertise. This is the case with the current optimisation of a challenging construction method for the new Elbe tunnel planned north west of Hamburg. For this purpose, an additional site – where young talents are challenged and promoted – is being built in Hamburg. For him, however, the foreign sector, where SSF Ingenieure has been holding its own for a long time, is crucial. SSF Ingenieure has now been active in China for 15 years. Here, the company is also proactively meeting the demands of increasing globalisation. And as an enthusiastic driver of digitalisation at SSF Ingenieure, Dieter Stumpf has a very special vision of the future. He sees building contractors, planners, and construction companies as one unit. In their partnership interaction, the engineer communicates, mediates, and advises to both sides in order to achieve the best possible result together. In his opinion, BIM in conjunction with appropriate contract models provides the prerequisites for this. “The worst thing on the site is when one party thinks: I know how to do it. But I’m not telling you because I want to make money with it. That’s not how I see our profession!” ■

**The fact is: SSF Ingenieure - both the supervisory boards and the employees - know how to work successfully. And they show what they can do. Because they love what they do and have a great deal of “enthusiasm for engineering”. No matter whether chance plays along or not.**



# PROJECT highlights

## » Challenges, innovations, team successes

In 50 years, SSF Ingenieure has been involved in such a large number of construction projects that we cannot provide a complete overview. But our selection tells of continuity, growth, construction methods, engineering benchmarks, and sometimes records.



*Dutch Steel Construction Award (Nationale Staalprijs 2012) in the D Infrastructure category.  
German contribution to the 9th Architecture Biennale São Paulo 2011 "Baukultur made in Germany".*

### IJssel Bridge

Hanzelijn, Netherlands // Building contractor: ProRail, Utrecht

Client: Bouwcombinatie Welling/Züblin, Didam (Steel, M. Bögl)

Main support width: Flow opening 150 m

Total length: approx. 930 m

Completion: 2012

Our services in joint venture with ABT, Velp, Netherlands and Quist Wintermans Architects: Competition, Object planning of engineering structures: basic evaluation; preliminary, draft, approval and final design; preparation and evaluation of tenders //

Structural engineering: basic evaluation; preliminary, draft, approval and final design; preparation of tenders // RAMS analysis // Coordination of all railway engineering interfaces

» As the winning design of a design & build competition, the design and structural implementation of the IJsselbrücke proves that an early and cooperative partnership between building contractor, architect, engineer, and construction company leads to ideal synergies and results in a railway bridge structure that is inspiring – both from an engineering and architectural point of view – in the flat Dutch landscape.

## Doha Metro, Green Line

Doha, Qatar // Building contractor: Qatar Railways Company, Qatar

Client: Joint Venture Porr AG Austria, Saudi Binladen Group Saudi Arabia, Hamad Bin Khalid Contracting Company Qatar (PSH)

Total length: 18.5 km // Coverage: 6 stations, 2 branching structures, 3 emergency exit shafts, 1 track changing facility, 1 trough structure

Completion: 2018

Our services: Object planning of engineering structures: preliminary, draft, approval and final design; preparation of tenders // Object planning of buildings and interiors: draft, approval and final design; preparation of tenders // Structural engineering: draft, approval and final design // Special services: consistent application of the Open BIM method

» An unrivalled project: the largest new urban underground network to be built – with the largest construction volume in the firm's history and the shortest construction time (6 years). From the concept for Qatar Rail/DB International to feasibility studies and execution planning (turnkey for PSH), SSF has managed all phases throughout.



## Underground stations of the 2nd core S-Bahn route



Munich // Building contractor/client: DB Netz, DB Station & Service, DB Energie, Munich

Our services: Ostbahnhof Station: Object planning of engineering structures: preliminary, draft and approval design; Structural engineering: preliminary, draft and approval design // Central station: Object planning of engineering structures: draft, approval and final design; preparation of tenders (including feasibility and variant studies), Structural engineering: draft, approval and final design; preparation of tenders (including feasibility and variant studies) // Marienhof station: Object planning of engineering structures: draft, approval and final design; preparation of tenders; Structural engineering: draft, approval and final design; preparation of tenders

» The largest project in the firm's history stands in particular for heavy special-purpose excavation and modern transport stations. Three of them (Central Station, Marienhof, Ostbahnhof) will be completely rebuilt underground, partly to depths of 42 m (diaphragm wall slats up to 55 m).

## B96, 2nd Strelasund crossing

Stralsund/Rügen // Building contractor: DEGES, Berlin

Main support width: Flow opening 583.3 m

Total length: approx. 2,800 m

Completion: 2007

Our services: Object planning of engineering structures: draft design (partly) // Structural engineering: approval and final design // Complete installation planning // Services provided in planning consortium with Büchting und Streit

» The new construction of the 2nd Strelasund crossing – a 2.8 km long bridge section consisting of six individual structures (pre-stressed concrete, composite) – connects the island of Rügen with the German and European long-distance road network. The defining structure is the 583 m long cable-stayed bridge with 46 m high piers and 87 m high pylons above: For the first time, stranded wire was installed instead of the usual fully closed spiral ropes.



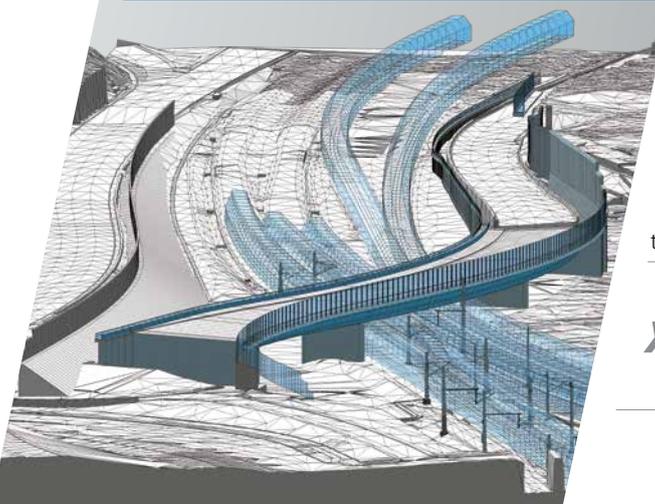
## A100/A115, modification of Funkturm motorway junction

Berlin // Building contractor/client: DEGES, Berlin

Completion: 2035

Our services: Object planning of engineering structures: preliminary, draft and approval design; preparation of tenders // Structural engineering: preliminary and draft design; preparation of tenders // Replacement of the Ringbahn bridge, Halenseestraße bridges and bridges over the service area, new construction of noise protection walls, various temporary structures // BIM planning in approval design // Coordination of railway trades Process and traffic routing planning

» The Funkturm motorway junction links the A115 federal motorway and the A100 Berlin city ring road. With over 220,000 vehicles per day, it is one of the busiest motorway intersections in Europe. Highest attention to detailed building sequence planning as well as fast and efficient construction. Performance in joint venture with Schüßler-Plan and Arcadis.



## Filstal Bridge



Mühlhausen im Täle // Building contractor: DB Project Stuttgart – Ulm, Stuttgart // Client: Max Bögl Construction Company, Sengenthal

Main support width:	150 m
Total length:	485 m
Completion:	2022

Our services: Object planning of engineering structures: final design // Structural engineering: approval and final design // Service provision in engineering consortium with Schneider & Partner Ingenieur-Consult

» SSF succeeds in setting an engineering benchmark: the implementation is carried out under the high requirements from a high-speed carriageway with slab track in a high and slender supporting structure with a demanding construction method and a change of the static system (fixed point installation) after the substructures have been constructed.



## Overpass of the St 2312 over the A3, "Monobogen"

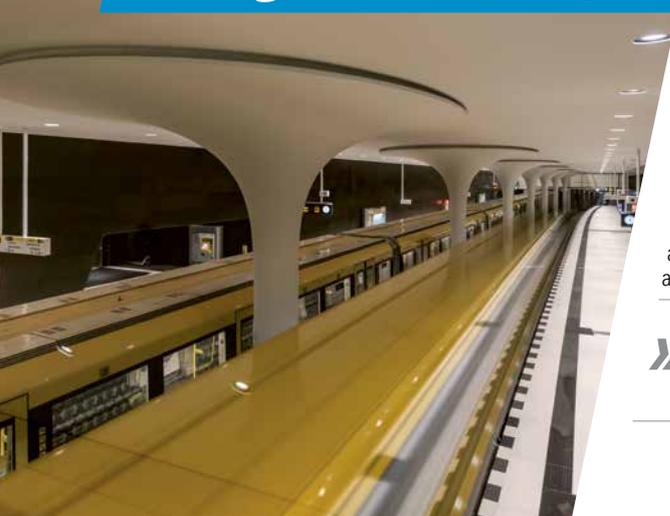
Building contractor/client: Motorway Directorate, Northern Bavaria, Nuremberg

Supporting width: 108.30 m / effective arch span 53 m / Total length: 108.30 m // Completion: 2018

Our services: Object planning of engineering structures: preliminary, draft and final design; preparation of tenders // Structural engineering: preliminary, draft, approval and final design; preparation of tenders // Demolition/deconstruction planning

» The gateway to the Spessart is a landmark entirely in the spirit of the competition initiated by the building contractor: the design was to be conceived without a central pillar in order to improve visibility. An arched supporting structure that spans the motorway almost vertically and the bridge deck diagonally over the shortest distance represents the optimal response to the static and design challenges.

## Underground line U5, Alexanderplatz-Brandenburger Tor



Berlin // Building contractor/client: Berliner Verkehrsbetriebe, Berlin

Total length: 2 x 2.2 km // Coverage: 3 stations, turning area // Tunnel diameter, outside = 6.90 m // Completion: 2021

Our services: Object planning of engineering structures: draft design (partly); approval and final design; preparation and evaluation of tenders // Structural engineering: draft design (partly), approval and final design; preparation of tenders // Object planning of traffic facilities (road): draft, approval and final design; preparation and evaluation of tenders // Object planning of traffic facilities (rail): draft, approval and final design; preparation and evaluation of tenders

» As the first large underground lot in Germany, the project was commissioned across almost all work phases. For SSF, it is the first underground project in Berlin (in joint venture with Amberg Engineering, Switzerland and ISP-ZT, Austria).

## Vistula tunnel, harbour crossing

Gdansk, Poland // Building contractor: City of Gdansk – represented by Gdańskie Inwestycje Komunalne Sp. z o.o

Construction length: approx. 1,380 m // TBM tunnel, outside diameter: 12.30 m

Completion: 2016

Benefits: Feasibility study // General planning // Object planning of traffic facilities: basic evaluation; preliminary, draft, approval and final design; preparation of tenders // Object planning of engineering structures: basic evaluation; preliminary, draft, approval and final design; preparation of tenders // Structural engineering: preliminary, draft, approval and final design; preparation of tenders // Environmental supervision // Transport economic investigations // Permits under water law // Position of Fidic Engineer "Red Book" // Service provision in engineering consortium with the object planner consortium Europrojekt Gdańsk S.A.



» The two tubes of the tunnel were excavated with a Hydroschild tunnel boring machine under very difficult ground conditions and with a maximum water column of 30 m under the river Vistula. The almost inner-city location and the crossing of the Dead Vistula (Martwa Wisła) at the entrance to Gdansk harbour make the road tunnel not only the largest in Poland but also unique.

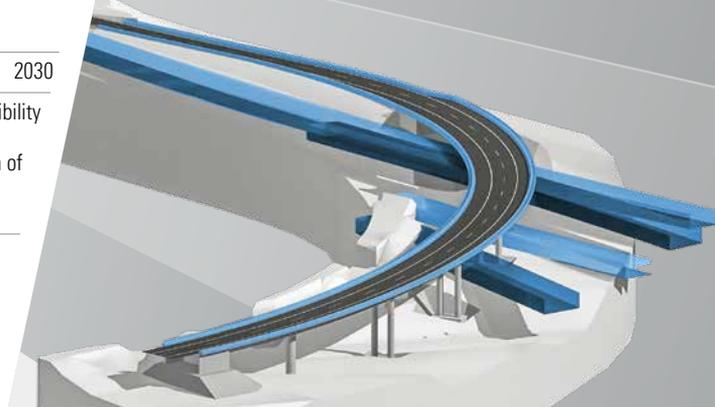
## A3 / A4 / A59, Heumar motorway junction

Cologne // Client: DEGES, Berlin and Düsseldorf

Completion: 2030

Services joint venture SSF Ingenieure, Bramey.Bünermann Ingenieure: Feasibility studies // Overall BIM coordination // Object planning of engineering structures: basic evaluation; preliminary and draft (partly) design; preparation of tenders // Structural engineering: preliminary and draft (partly) design; preparation of tenders

» The main challenge of the largest project in Düsseldorf to date was to minimise the impact on existing traffic at the junction of the A3, A4, and A59 motorways – with a traffic volume of 240,000 vehicles per day. The routes will be completely re-arranged, and the bridges and traffic facilities will be built in sections in a new position without lane reduction. Planning according to the BIM method right from the start.



## Baku Crystal Hall

Baku, Azerbaijan // Client: Alpine Bau Germany

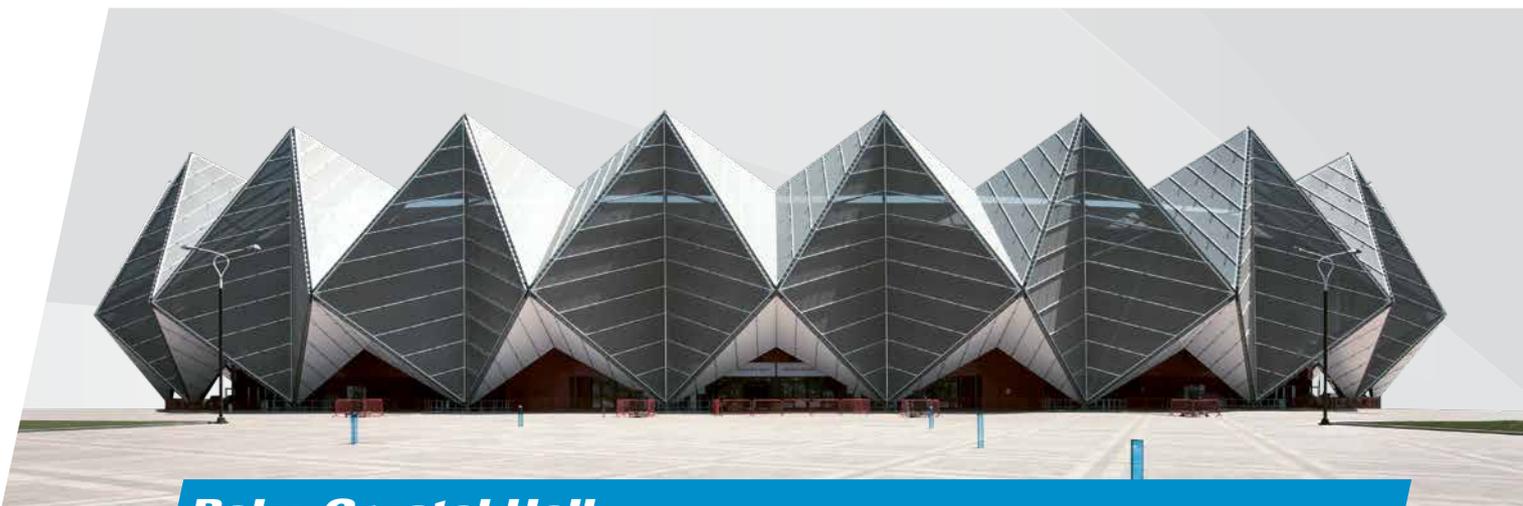
Building contractor: Republic of Azerbaijan State Committee on Property Issues

Architect: GMP – Architects of Gerkan, Marg und Partner

Completion: 2012

Our services: Object planning of engineering structures: final design // Structural engineering: approval and final design of grandstands and stadium roofing // Coordination of all interfaces, inspection of workshop planning

» From the geological survey (Baugeologisches Büro Bauer GmbH) to the design of suitable foundations and the steel skeleton construction with the elaborate façade membrane, SSF and its planning colleagues were able to deliver all phases in record time. In just eight months, the striking, multi-purpose hall for 25,000 spectators was ready in time for the Eurovision Song Contest 2012.



## Nanjing Big Bridge over the Yangtze River



Beijing–Shanghai high-speed line, China // Client: MOR Ministry of Railway, CARS, China

Speed: max. 300 km/h

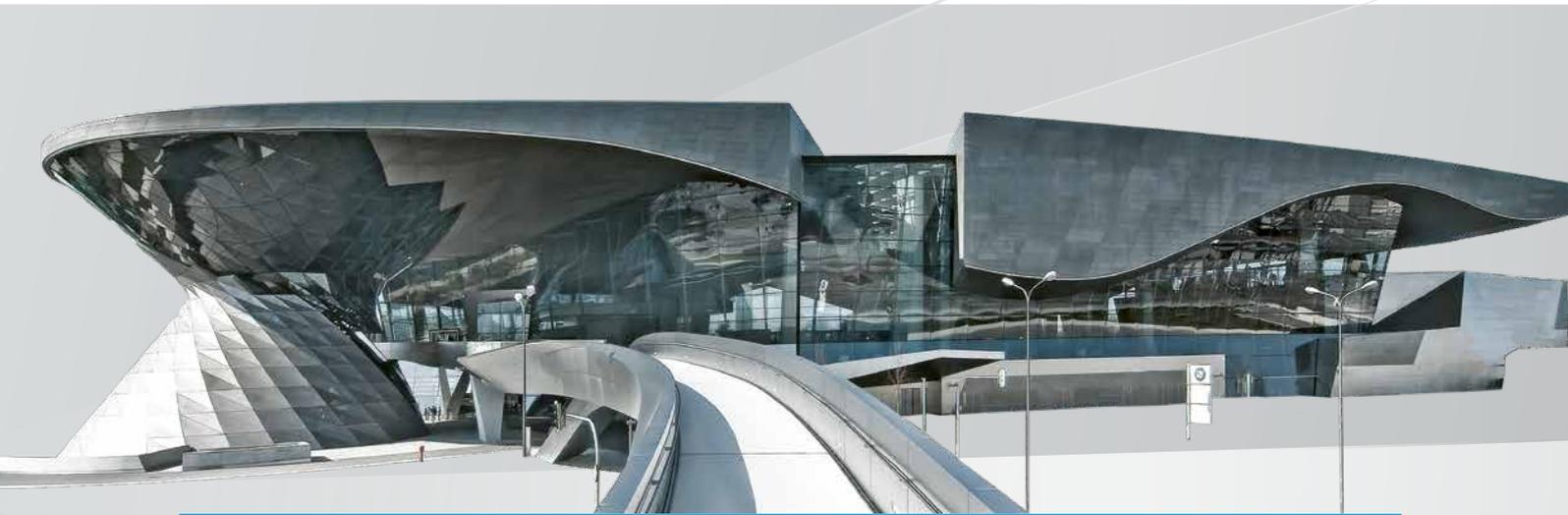
Total length: 1,615 m // Main spans 2 × 336 m

Completion: 2010

Our services: Supervision // Geotechnic Consulting und Supervision // Design Consulting and Supervision



The bridge consists of a 1,272 m long main girder in steel truss and two 336 m long arches spanning the Yangtze River. This makes it the longest truss bridge in the world. It was built in a record construction time of three years for a record sum of € 450 million. Further technical features: bored piles 2.50 m diameter with lengths of over 90 m; steel used: 82,000 t



## BMW Welt

Munich // Building contractor: BMW AG, Munich

Architect: Coop Himmelb(l)au Prix & Swiczinsky & Dreibholz ZT GmbH

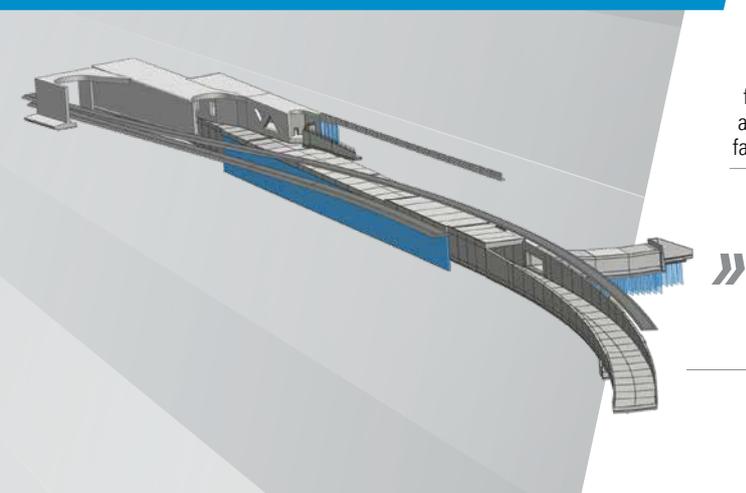
Completion: 2007 // GBV/GFA: 531,000 m³ / 75.000 m²

Our services: Object planning of buildings and interiors: final design; preparation and evaluation of tenders, supervision (in office partnership with Coop Himmelb(l)au) // Object planning of engineering structures: final design; preparation and evaluation of tenders; supervision // Structural engineering: approval and final design; preparation and evaluation of tenders; supervision



One of Munich's most striking and best-known buildings – with more visitors each year than King Ludwig's Neuschwanstein Castle. SSF also helped plan the curved Trias Bridge that connects BMW Welt to the BMW Museum. The cloud-like roof arising from a double cone is synonymous with movement, changeability, and dynamic forces.

## Feuerbach tunnel, PFA 1.5



Stuttgart // Building contractor: DB Projekt Stuttgart-Ulm GmbH

Tunnel length: 240 m // Clear width: 10.20 m // Completion: 2021

Our services: Object planning of engineering structures: preliminary, draft and final design; preparation of tenders // Structural engineering: preliminary draft, approval and final design; preparation of tenders // Object planning of traffic facilities: draft and final design // Complete BIM planning



For the tunnel construction (28 blocks, cut-and-cover method, open construction, partly in quasi mining construction) and the trough construction, two long-distance and suburban railway tracks had to be maintained, an existing tunnel had to be dealt with, and the Feuerbach station had to be rebuilt. Further underpasses, bridges, platforms, and overhead/civil engineering measures were newly built or renovated several times. All in all, an extremely demanding task.

## Münchner Volkstheater

Munich // Building contractor: City of Munich

Client: Georg Reisch, Bad Saulgau

Architect: LRO Lederer Ragnarsdóttir Oei, Stuttgart

GBV/GFA: 162,000 m<sup>2</sup> / 30,000 m<sup>2</sup>

Completion: 2021

Our services: Structural engineering: basic evaluation; preliminary, draft, approval and final design, preparation of tenders // Engineering Control // Planning of excavation pit, Design & Build Project

» A multifunctional, modern cultural complex integrating the listed existing buildings on the Munich Viehhof – our first major building construction project for the City of Munich as building contractor – planned from the initial competition design to the as-built BIM model of the structure.



## Dresden central station // Rehabilitation of the platform halls and basic renovation of the reception building

Dresden // Building contractor/client: DB Station&Service AG

Architect: Sir Norman Foster // Completion: 2005 and 2006

Our services: General planning, structural examination, preparation of as-built documents // Object planning of buildings and interiors: draft design (partly); preparation and evaluation of tenders // Object planning of traffic facilities: basic evaluation, preliminary, draft, approval and final design // Structural engineering: basic evaluation; preliminary, draft, approval and final design; preparation of tenders // Planning of construction technology/ construction conditions, noise protection planning, engineering control

» History meets modernity: The listed track halls and the reception building of the historic central station from 1895 were extensively renovated. Contemporary architecture and great design featuring a translucent membrane roof for the platform halls and innovative structural solutions make the Dresden railway station a modern, attractive, and highly regarded transport station of DB AG.



## ICE route Nuremberg-Ingolstadt, Northern lot

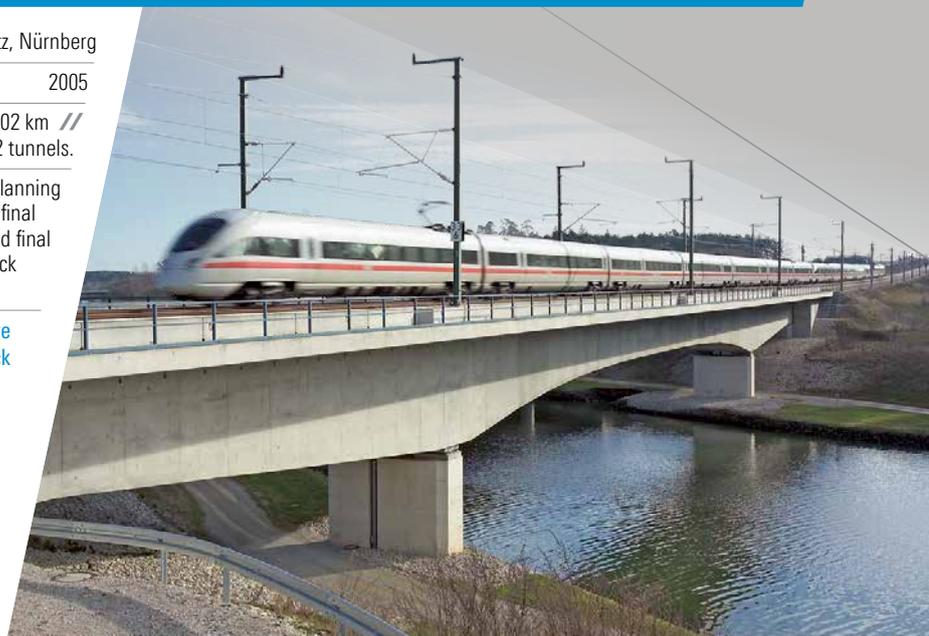
Building contractor: DB Netz, Nürnberg

Completion: 2005

Trackless: Length 35.02 km // > 50 bridge structures, 2 tunnels.

Our services: General planning for execution planning // Object planning of engineering structures: final design // Structural engineering: approval and final design // Interface management // Slab track planning // Building sequence planning

» SSF took care of the entire superstructure and civil engineering planning of the track section with geotechnical engineering, including all crossing paths and roads: among others, 22 road bridges, 32 railway bridges, a 3.5 km long elevated, and deep-founded track as well as two tunnel structures. For the open cut tunnel construction, a method developed and patented by SSF Ingenieure for this purpose was used for the cut-and-cover method with a curved invert.



# GREETING

In 50 years, we have supported and managed countless projects for a wide variety of building contractors and builders. The prerequisite for their success was – and is – a trusting cooperation. That is why we would like to take this opportunity to say thank you: for the trust you have placed in us – and for the kind, heartfelt words.



## **50 years of SSF Ingenieure - that's half a century of engineering excellence and bold innovation in civil engineering!**

For decades, the SSF Ingenieure office has been a reliable and extremely creative partner for the Bavarian State Building Administration when it comes to solving special technical challenges for which aesthetic demands are also paramount.

Over the decades, SSF Ingenieure has created numerous projects on behalf of and in excellent cooperation with the Bavarian State Building Administration, which today accompany the people of Bavaria on a daily basis as quasi landmarks of civil engineering. Every day, around 100,000 motorists experience the elegantly curved noise protection elements made of half shells as they drive into the state capital from the north. In cooperation with an architectural office, SSF Ingenieure created this large noise protection structure in the course of the expansion of the A9 motorway in the run-up to the 2006 Football World Cup in Germany.

Of course, SSF Ingenieure has also left a lasting mark on bridge construction throughout Bavaria: These are mostly aesthetic buildings – but they also feature bold technical innovations. For example, I have fond memories of working with SSF Ingenieure during my time as motorway president in northern Bavaria, where a district road bridge was built as a welded integral pipe-truss over the motorway where the A73 motorway entered the Main valley near Lichtenfels. Welding the truss nodes on this scale was associated with

enormous technical requirements and had to be tested several times by 1:1 test set-ups. This list of spectacular and technically extremely demanding structures by SSF Ingenieure could be continued indefinitely.

In addition to their planning achievements, I have also been impressed for many years by the commitment of SSF Ingenieure to the social and professional concerns of engineers. About 20 years ago, I got to know senior partner Victor Schmitt at VSVI Bavaria. And I have been closely associated with him ever since. He proved that he always looks beyond day-to-day business. For example, about 10 years ago at the Bavarian Engineers' Day when he gave a talk to an audience of over 500 at BMW Welt in Munich. I have been visited many times by Dieter Stumpf over the years; these visits were in no way about commissions for the office but rather exclusively about developments in planning and construction such as "Building Information Modelling".

Dear colleagues of SSF Ingenieure, I wish your office another 50 successful years and look forward to many more joint projects in the future!



**Helmut Schütz**

Head of Office of the Bavarian State Ministry for Housing, Construction and Transport

» **SSF has been a professional and reliable planning partner of DEGES for many years. We have already implemented numerous challenging transport infrastructure projects together. DEGES therefore extends its warmest congratulations on the 50th anniversary.**

As engineers, we know: although technical skills are essential for entrepreneurial success, it is only in combination with innovation, creativity, and aesthetic standards that outstanding results can be achieved. SSF repeatedly supports many projects under the leadership of DEGES as the building contractor with technical expertise in order to find economic as well as design solutions. To pick just a few examples: in the course of the six-lane extension of the A9, the listed existing structures of the Tautendorf viaduct (Thuringia) and the Hagen viaduct (Brandenburg) were extended by modern partial structures – the old next to the new in a successful symbiosis. But SSF has also proven to be a far-sighted project partner for current projects with a high degree of future orientation. The company is involved in the realisation of the new noise protection covers in Hamburg in the course of the A 7 motorway as well as in the planned reconstruction of the Heumar (A3/A4/A59, North Rhine-Westphalia) and Funkturm (A100, Berlin) mo-

torway junctions by means of the future-oriented digital planning methodology (BIM).

True to the motto “The future needs a past”, the 50th anniversary of the engineering company is the conclusion of half a century of successful work and, at the same time, the beginning of a time when innovative solutions in civil engineering are more important than ever for the sustainable design of road infrastructure. This awareness of the future challenges of infrastructure planning can already be felt at SSF today. I am therefore confident that DEGES and SSF will continue to work together reliably.



All the best for the next 50 years!

**Dirk Brandenburger**

Technical director of DEGES

» **I would like to congratulate SSF Ingenieure AG most warmly.**

For me, SSF is one of the most innovative engineering firms in Germany and an exciting partner in many joint research projects around the topics of BIM and digitalisation in civil engineering. I would like to refer in particular to the Bavarian research association ForBAU in which we jointly laid the foundations back in the late 2000s for what is now known worldwide as “BIM in infrastructure construction”. We are currently working together to test the use of artificial intelligence methods in the design of railway stations – a very exciting and promising topic. SSF is undoubtedly one of the pioneers who bring innovative developments in digitalisation into practical application at an early stage. I am looking forward to many more years of fruitful cooperation.



*Prof. Dr.-Ing.*

**André Borrmann**

TU Munich

» **Dear SSF Ingenieure AG,**

When your company was founded in 1971, the Munich suburban railway network, including the core S-Bahn route, was in the middle of construction. 50 years later, the infrastructure must be expanded and made future-proof with the 2nd core S-Bahn route. Your firm has recently played a major role in shaping the planning for the civil engineering of the future stations – from the integration of the U9 at the central station to further optimisations in the project. I would like to take this opportunity to thank you for the trustful cooperation and congratulate you warmly on your 50th anniversary on behalf of the major project “Munich’s 2nd core S-Bahn route”.

I look forward to continuing to work productively with you and your staff.



**Kai  
Kruschinski-Wüst**

Engineering of Munich’s second core S-Bahn route, I.NI-S-M

**50 years of SSF Ingenieure - The Building Department of the City of Munich offers its congratulations!**

The founding year of SSF Ingenieure was also of special significance for the state capital of Munich. On 19 October 1971, the Munich underground started operating on the approximately 10 km long route between Kieferngarten and Goetheplatz. By 2010, the underground network had been extended to over 100 km. SSF Ingenieure have successfully worked on many underground projects. A recent example is the extremely complex platform extension of the Marienplatz underground station in the run-up to the 2006 Football World Cup.

Here, SSF Ingenieure was responsible for the structural engineering. But SSF Ingenieure is an important partner of the City of Munich not only in underground construction.

The employees of SSF Ingenieure also contribute to the successful progress of numerous other structural engineering projects in Munich. A very warm thank you for the trusting and reliable cooperation and congratulations on the 50th anniversary!



*Dr.-Ing.*  
**Frank Frischeisen**

Head of the Underground and Tunnel Construction Department in the Building Department of the City of Munich

**50 years of SSF Ingenieure AG - a partner and companion for 50 years**

Being an adult means knowing what you want and where you want to go. SSF Ingenieure AG knows where it stands and where it wants to go. With countless personal contributions and constant commitment, SSF Ingenieure AG and its partners have grown into a valuable building block and companion of the professional chambers and the Federal Chamber of Engineers.

On behalf of the Federal Chamber of Engineers, I would like to extend my warmest congratulations to all partners and employees on the occasion of the 50th anniversary and say thank you for many years of trusting cooperation and commitment to the profession. In recent months, we have experienced what it means to act responsibly and to take responsibility in many areas of our social life. Engineers in-house at SSF Ingenieure AG – but also beyond – offer a proven framework for safety and quality through their performance. They belong to the professions that are highly trusted in society.

Engineers deserve attention and praise for their achievements not only on this day. They are systemically relevant but unfortunately often go unnoticed. It is astonishing that they appear so rarely on talk shows. There is much to be pointed out. For example, that the value and the associated appreciation of engineering work must not be increasingly decoupled. We have to ask ourselves: "Can something still be particularly good if it is only cheap?"

Every day, engineers make decisions that, if the wrong choice is made, can cost not only money but also human lives. Their work is based on a responsible attitude and personal expertise. An expertise that is based on hard-earned knowledge; there is no speculation here. We do not live on fake news.

In all areas of engineering, we work with risks or – more precisely – with determining the probabilities of their occurrence. This applies equally to ensuring the stability of structures and the safe operation of sewage treatment plants as well as designing of safe curves when planning roads. The safe control and assessment of risks is a natural part of our work. Last but not least, for every engineer, this also means being personally responsible for the consequences of their own actions or inactions.

The personal commitment to safe and functioning social coexistence has accompanied SSF Ingenieure AG for 50 years and led it to numerous successes.

All the best for the future. Let's stay curious about everything that is already waiting for us in the coming time.



*Dr.-Ing.*  
**Heinrich Bökamp**

President of the Federal Chamber of Engineers



***I am pleased to send you a greeting on the occasion of your 50th anniversary on 1 July 2021.***

To be able to celebrate such an event is a great feat and also shows that your work is recognised and appreciated by the road administration.

The cooperation also has a long tradition. It took on a new quality with the establishment of the Road Administration in 1990. Many building projects have been realised together since then. In particular, it has always been a matter of maintaining or improving the structural substance of our road transport facilities.

Through the commitment and expertise of your employees, you have been instrumental in assisting us with numerous construction projects. The major challenges in recent years were not so much the extensive construction measures but rather the fact that the realisation of the construction measures had to take place under enormous time and performance pressure – with ever decreasing staff. Nevertheless, we have always set ourselves the goal of meeting the requirements for every building and every construction project to a high degree according to the state of the art.

Despite all the problems and sometimes insufficient financial resources, we have proven our ability to build efficiently and to create modern road transport facilities that meet the requirements of social development. SSF also actively supported us during the building supervision and represented us very well as an extended arm of the state road administration.

I would like to take this opportunity to offer you my best congratulations on the 50th anniversary of your firm. I wish us all many more new tasks and challenges and hope to continue our excellent cooperation.

For this, I wish you and your employees health and creative energy.



***Petra Witte***

Regional Division Manager of  
Saxony-Anhalt State Road  
Administration Regional Division  
South



***Since the foundation of the Bavarian Chamber of Civil Engineers, representatives of SSF Ingenieure have actively volunteered in various committees.***

“SSF Ingenieure” sets itself apart through holistic interdisciplinary planning. This results in innovative solutions with high architectural standards. In 2018, Victor Schmitt received the Klenze Medal on behalf of the entire SSF team from the then Minister for Construction Ilse Aigner. The laudatory speech states: “As exponents of Bavarian building culture, the award winners stand for inspiration and encouragement”. On the occasion of the company's 50th anniversary, the Bavarian Chamber of Civil Engineers wishes SSF Ingenieure prosperity, the freedom to be creative, and continued enjoyment in the sustainable design of the built environment for the benefit of our society!



*Prof. Dr.-Ing.*

***Norbert Gebbeken***

President of the Bavarian Chamber of Civil Engineers



**MORE  
GREETINGS**  
of our partners

# FORMULA FOR SUCCESS: TEAM

SSF Ingenieure pay tribute to their most valuable asset: with a small selection of employee quotes – and with a big thank you to everyone involved!

» I really appreciate being able to pass on my knowledge from 45 years of professional practice and even learn from the young engineers myself! I wish SSF Ingenieure many bright minds for the next 50 years so they can successfully master future challenges.

Andreas Weidemann has worked for SSF since 1992 and from 2010 in the area of execution planning for railway bridges in Munich.



» For me, SSF means interesting projects and great – sometimes very funny – colleagues. Here, there is not only social commitment but also very concrete support with problems. And, of course, I should also mention the legendary company parties ...

Anja Gratzner, in execution planning in Munich for 27 years.



» Steel bridges have fascinated and impressed me since I was a child. One of my biggest professional challenges so far has been the highly complex transverse launching of the one-kilometer-long Lennetal bridge.

Daniel Deutsch Vargas, structural engineering, large bridges department, in Munich for six years.



» I am proud to be involved in buildings that are visited, used, and perhaps appreciated for their functionality and architecture by many people every day.

Florian Landauer, project manager and structural engineer for structural engineering at the Munich site for two years.



»» We are currently converting and extending an office building on the Oberbaumbrücke. My flat is only 400 metres away. I'm thus helping to shape my own neighbourhood – and tinkering around with solutions in existing buildings is also very appealing to me.



David Nieter, project manager for structural engineering in Berlin for three years.

# TEAM 2021

»» It was a highlight to have been involved in BMW Welt: the time pressure – the construction site was always two floors below schedule – the cooperation with Coop Himmelb(l)au, and, of course, the opportunity to actually visit the building after the project was completed!



Arne Rucks, architect, since 2002 structural engineering and now also BIM or Revit specialist.

»» At the beginning of composite construction the first VFT plans were on my desk – it was quite a challenge. But at SSF, performance is acknowledged. There is real appreciation for the employees here – especially by the board.

Bärbel Brandl has been creating design and execution plans at the Halle site for 30 years.



»» What I have always appreciated about SSF is the short distance to the bosses, the personal conversations, and the exchange of opinions. I hope that the spirit of the founders will be felt for a long time to come.



Andreas Wildt was branch manager in the Construction Management division from 1990 to 2019 and is still working for SSF in the Construction Management division.

»» As a railway construction supervisor for almost 20 years, I have been responsible for safe railway operation. For example, when auxiliary bridges are used as construction aids. I have had a few sleepless nights because of this! My favourite project? The impressive circular ring and taxi bridges built at the airport from 2000 to 2002.

Daniel Deutschland, Construction Management group in Munich since May 2000.



»» Every project is a new challenge – because every construction project is unique. My favourite project is the Scher-konde Valley Bridge, which was awarded the German Bridge Construction Prize in 2012.



Georg Opperskalski has been with SSF for almost 30 years and currently works in the Construction Management division in Halle.

»» My favourite project is Münchner Volkstheater. For this, I familiarised myself with Revit according to the "learning-by-doing" principle. For the future, I would like to see an SSF Academy as an internal education and qualification programme.



Florin Pavel, Structural Engineering Department in Munich for four years.



# TEAM 2021

»» **As a career changer, it was a great challenge to learn how civil engineers think, work, and plan. Their performance and knowledge confirm what we hear from clients: SSF stands for experience, quality, and innovation.**



Christoph Feilke, responsible for project steering at the Berlin site since September 2017.

»» **The three Bayerwald bridges are currently my favourite project: complex tasks, many participants, and really beautiful designs from us! Being allowed to plan the renovation of Munich's Paul Heyse underpass would be another dream assignment for me.**



Holger Knippschild has been with the company since April 2002 and is currently head of engineering structures/traffic facilities rail division at the Munich site.

»» **In addition to my project work, I see it as a natural task to pass on my knowledge to young colleagues. Because everyone started 'small' once.**

Ulli Gallus has been with the company since 1992 and is currently project manager in the road engineering structures design division at the Munich site.



»» **After almost 30 years, I thank SSF for the diversity of my tasks at home and abroad. The most important thing for me is that there is no standstill at SSF but rather continual further development – and thus always new challenges!**



Hermann Stoiberer has been with the firm since 1992 and is currently a group manager for design engineering and tunnel construction in Munich.

»» **At SSF Ingenieure, I particularly enjoy the freedom and personal responsibility that I already experience as a young engineer. I hope to expand my expertise and continue to work on challenging projects.**



Isabella Schömig was an intern/working student from 2014 to 2017 and has been a structural engineer and junior project manager at the Munich site since 2018.

»» **I am particularly pleased to be able to work on complex, interesting, and varied projects and highly appreciate the collegial interaction at SSF as well as the available opportunities for further training.**



Luise Hille, execution planning since 2019, Berlin.

»» **My favourite project is the Hengstey railway station bridge because it was the first bridge I accompanied as building supervisor. I think it's great to be part of the SSF team and I'm proud when I cross a bridge that I've been involved in.**



Halil Gür, construction supervisor in Düsseldorf since June 2018.

»» **It makes me proud that SSF has developed into a brand known for continuous development, adaptability, and trust.**



Matthias Scholz has been with the firm for around 25 years and is currently Branch Manager for the international/tunnel construction/infrastructure division at the Munich site.

»» **I would like to see more young colleagues enriching SSF with their verve and enthusiasm. May the founders be able to follow the successful development of their company for many years to come!**



Maren Koppernock, with SSF for 27 years, now project engineer and quality manager, Halle.

»» **Great minds work at SSF. An infinite number of creative solutions were worked out here – and a great deal was learned. I would therefore like to see an even more intensive exchange of experiences across the groups.**



Mathias Dassler, with SSF for 10 years, today project manager for bridge construction in Halle.

»» **It's nice to be able to be part of the solution to a big problem like climate change. That's why I think it would be great to be able to work on buildings such as solar thermal power plants.**



Marwin Kalkum, working student in the Berlin structural engineering group for just under a year.

»» **I really appreciate that SSF is committed to a pleasant working atmosphere and is open to the suggestions of the employees. I'm currently supervising the Marienhof stop (2nd core S-Bahn route Munich) and look forward to strolling through my 'own' station at some point.**



Jana Neubauer, structural engineer in the international and tunnel construction group since 2018.

»» **The thought that the buildings we plan will outlive us and make everyday life easier for future generations makes me really proud.**



Mateusz Paczosik, structural engineering division at the Berlin site for three years.

»» **I hope that SSF will continue to be open to further development so that we can continue to grow in changing times and remain an attractive and modern employer.**

Michael Schneider, with SSF in Munich for eight years and is a project engineer in the international and underground division.



»» **It's great that the term 'SSF family' is not an empty phrase. Here, the experienced colleagues are always on hand with advice and support. I hope that we continue to live this out and pass it on.**

Tobias Hintzke, project manager in Düsseldorf since 2018.



»» **With our innovative underground projects, we decisively support a sustainable and future-oriented transport and environmental policy. That is why I could or can identify very well with our major projects Transrapid Munich, Metro Doha/Qatar and 2nd suburban railway trunk route.**

Nathalie Zeiler has been with the firm since 1999 and is now overall project manager for object planning traffic infrastructure in the international, tunnels, and infrastructure group.



»» **It makes me proud to contribute to the development of more sustainable mobility – in my fantastic group at one of Germany's leading engineering firms.**

Stella Weissenburg has been with SSF since 2020 in the object planning railway division at the Berlin site.



»» **I am currently working on my dream project: the new construction of the three railway bridges Weiße Elster railway flyover, Luppe railway flyover, and Nahle railway flyover in Leipzig. Because my life at SSF began with their redevelopment in 1992. The project at that time was also my first major professional challenge – because it was also my first construction supervision project.**

Peter Kilian has been with SSF for 29 years and is currently Branch Manager and Group Manager for Construction Management in Halle.



»» **Especially in the current pandemic, SSF has given us the security we need to focus on the work. What we need as young engineers is the input of experienced colleagues so that we can also achieve the quality of conventional planning in BIM, for example.**

Ronald Weinert, started as a working student in 2020, design engineer at the Düsseldorf branch.



»» **At SSF, I appreciate not only the freedom to organise my time but above all that everyone is supported according to their talents. I would like to have the opportunity to receive additional training in order to be able to supervise trainees.**

Volker Wehrmann has been with us since 1992 and is a design engineer and NX specialist in the execution planning division in Munich.



»» **I have had the chance to work on many projects for different departments and sites over the past year and a half. It was exciting and a challenge to learn from colleagues and to quickly get involved in the team.**

Sarah Lestage, project management division in Munich since 2019.



»» I would like us to take advantage of all the opportunities that arise in the context of the BIM transformation. In order to increase the quality of our planning yet deliver our services faster and more effectively.



Thomas Vorweg, in the engineering structures/rail traffic facilities group at the Munich site since 2019.

»» At SSF, mutual appreciation and cooperation on equal footing are always the focus. This is perhaps one of the reasons why – even after two decades in the profession – I am still deeply connected to each and every one of my buildings. Each is an inspiration for new ideas.



Thomas Götzinger, with SSF since 2003 and is Project Manager and Deputy Head of the Structural Engineering division in Munich.

»» I have the great fortune that at the end of a project I supervise, it becomes visible to everyone how an idea has become a reality. As an employer, SSF knows that its employees are its greatest asset. I am grateful for this appreciation.

Uwe Schulz has been with the firm since 1991 and is currently Group Manager of Construction Management in Berlin.



»» Civil engineer is not just a job. Building is also always realising an idea – for others, with others. I hope that we will continue to help build the future and pass on our knowledge.



Volker Eitel has been with the firm since 1995 and is currently project manager for the International division. Currently in Azerbaijan.

»» As a designing engineer, I have considerable influence on the design and function of large and important buildings – starting with the initial idea – and thus create added value for our society.



Christian Hofstetter has been with SSF since 1998 and is project manager in the object planning of railway structures division, and office manager in Regensburg.

»» It makes me proud when we complete projects successfully, when satisfied clients return, and when we master topics like no one else.



Norbert Luft, with SSF since 2014 and is Head of Project Management Services in Munich.

Video messages from some staff members



TEAM  
2021



# ***OUR BOARD: responsible, committed, approachable***

Two of the three board members are prime examples of a professional career at SSF Ingenieure: Anton Braun and Helmut Wolf started as working students. Together with Christian Schmitt, they are now leading a company with a 50-year success story into the future. Their professional expertise and appreciative cooperation shape a guiding culture that they themselves live out.



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**THE SECOND GENERATION OF THE SSF LEADERSHIP TRIO:**

Christian Schmitt, Helmut Wolf and Anton Braun (from left to right) share a love for sport and for their profession.



Even more information and insights into the work and everyday life of Anton Braun can be found in the video interview.

# Anton BRAUN

## What do you do at SSF Ingenieure today?

As one of three board members, I am responsible for structural engineering in civil engineering. Everyday life doesn't exist for me. Every day is different and often full of surprises. There are many meetings – staff meetings, coordination of offers with the group and project managers, customer meetings – as well as contract reviews and negotiations. Another focus of my work is processing offers with the necessary presentations. And of course, my commitment is also in demand when things go wrong with a project.

## How long have you been with the company? And what did your start in the company look like?

I started as a working student at the engineering firm Schmitt & Stumpf on 1 November 1991. In parallel to my diploma thesis at the Chair of Concrete and Masonry Structures at the TU Munich, I calculated prefabricated pre-stressed concrete bridges. At that time still using a Xerox and an internal SSF programme.

## What distinguishes SSF Ingenieure most in your opinion?

That I have felt at home at SSF for almost 30 years. Trust, mutual appreciation, collegiality, and cohesion: that's what SSF is all about for me. And the many long-standing employees, some of whom have spent their entire professional lives at SSF, show that it's not just me.

## Why is civil engineering a great profession today?

In planning, we have increasingly better tools at our disposal: CAD, 3D planning, BIM, and finite elements. Mastering the tools is becoming increasingly important and complex. However, the same applies to me today as it did 35 years ago when I decided to go to university: the central yet most beautiful challenge is – and remains – the intellectual creative achievement.



» **Trust, mutual appreciation, collegiality, and cohesion: that's what SSF is all about for me.**

## How will civil engineering change in the future?

Digitalisation and industrialisation are already changing civil engineering – and this trend is expected to increase significantly. Production will increasingly shift from the construction site to factory halls.

And the topic of sustainability will also increasingly influence construction. Building projects are determined by a holistic view – from planning to production, operation, and deconstruction – with a view to life cycle costs, material use, and CO<sub>2</sub> emissions.

## What are you most interested in – apart from planning and building?

I like to do sports and exercise in nature – preferably in the mountains or in the sea. For me, this is like food for the soul. ■



Even more information and insights into the work and everyday life of Helmut Wolf can be found in the video interview.

» **Building will move increasingly in the direction of serial and modular production.**

## Helmut WOLF

### **Why did you become a civil engineer?**

Like almost every boy, I was interested in construction machinery and cranes. My brother gave me loads of Lego and Fischertechnik to build and tinker with. I won 1st place in a Lego building competition in Kempten with my replica of a lignite bucket-wheel excavator. After that, it was clear that I wanted to become an engineer.

### **What do you do at SSF Ingenieure today?**

We are three board members and naturally share the various tasks. I am responsible for the area of construction and project management. I also support the Berlin and Düsseldorf branches and perhaps soon also a branch office in Hamburg. Our core tasks as board members include keeping a constant eye on the employment and order situation as well as all important organisational or personnel issues. And not to forget the medium and long-term development of the company.

### **How long have you been with the company? And what did your start in the company look like?**

I have been with the company since 1988. My first job was to draw the transverse launching of a railway bridge. I was certainly a bit overwhelmed with it. But I received a lot of support. Even if a few plans had to be redrafted – of course, by hand with ink and stencils.

### **How will civil engineering change in the future?**

We are in the middle of the digitalisation process. The BIM method will be standard in a few years: as a contemporary planning tool for even more quality and cooperation in planning and construction.

Construction will also (have to) move increasingly in the direction of serial and modular production. On one hand, to reduce the need for craftsmanship on the construction site. On the other hand, to speed up construction, especially in the case of the highly stressed transport infrastructure.

### **And what do these changes mean for SSF Ingenieure?**

Our colleagues at all sites are among the best in their field. We rely on a mix of “old hands” and young talents. With this expertise and our stringent sidelong glance mentality, we offer our customers individual, optimised, economical, and, of course, sustainable solutions. With our flexibility and agility, which we have always practised, and our agile corporate culture, we are well positioned for current and future changes.

### **What are you most interested in – apart from planning and building?**

Family and friends as well as good food and sports. ■



Even more information and insights into the work and everyday life of Christian Schmitt can be found in the video interview.

# Christian SCHMITT

## Why did you become a civil engineer?

I guess it's in my genes. However, unfortunately I was not able to pass it on to the next generation.

## What do you do at SSF Ingenieure today?

As CEO, I am responsible for Structural Engineering and Object Planning in Munich as well as for other general areas such as IT, the BIM team, and economics.

## How long have you been with the company? And what did your start in the company look like?

In 1992, I was at SSF for only four months straight after graduation. I then worked as a traffic facility planner at Wagner Ingenieure for three years. After that, I joined the object planning department at SSF Ingenieure. This was still being set up at the time.

## What distinguishes SSF Ingenieure most in your opinion?

What sets us apart is our strong presence in structural engineering (i.e. for approval and final design). We are able to directly apply this knowledge directly from the construction site and further develop it in the other work phases – from object planning to construction supervision – with a high degree of flexibility and innovation.

## How will civil engineering change in the future?

Digitalisation is certainly at the top of the list. In the future, we will work with our partners with object-based models in virtual project spaces.

## And what do these changes mean for SSF Ingenieure?

We have already embarked on this path. And indeed, we have already built up a great deal of digital expertise. But standing still is not an option here: we need to continually develop these skills.



## Do you have a vision of what SSF Ingenieure will look like in 50 years' time?

When I started my career almost 30 years ago, we already worked partly computer-based. But all communication was by letter or fax. And most of the planning documents were also still in paper form. Back then, I would never have dreamed of the communication possibilities and working methods we have today. The same applies to the overall development of the company: at that time, SSF did not have a hundred employees. In this anniversary year, however, we will probably have to carry out consolidated financial statements for the first time. These are extreme changes in just 30 years. That's why I would rather not venture a prognosis for the state of affairs in 50 years' time.

## What are you most interested in – apart from planning and building?

Leisure time has a high value for me. I spend most of it outdoors in the mountains – for example on a mountain bike or on ski tours. But I also like to spend time in the garden. ■

# COMPANIONS FROM THE EARLY YEARS

## Reminiscences by Victor Schmitt

### ***The company launch: with big plans and brilliant partners***

Alongside Dieter Stumpf and myself, **Werner Doss** was a founding member of the firm. Shortly before the start in July 1971, however, he surprisingly backed out. At our employer, the construction company Karl Stöhr KG, he was urgently needed and did not dare to resign. This is how the engineering firm Schmitt und Stumpf, a firm of two structural engineers, first came into being (instead of the planning firm SSD Ingenieure as intended) with the aim of planning projects as a whole. In the beginning, we limited ourselves to drawing up and checking stability certificates as well as the execution planning of simple structures. We did not stop courting Werner Doss and ultimately convinced him that with his skills and experience we saw the best prospects for success in the planning market. Parallel talks with the management of the Stöhr company ensured that his job change would not lead to a break in business relations. After a year's delay, he finally joined the engineering consortium Schmitt und Stumpf as an equal partner and did not insist on a name change. Only then were we complete, as originally planned, and able to get started. And it quickly went steeply uphill. With execution planning on behalf of the Härer company for projects of the Stuttgart Motorway Maintenance Authority, we were able to gain the trust of the building contractor so that they commissioned us with the object planning of several underpass and overpass structures on the Stuttgart–Singen motorway. This was followed by the civil engineering office of the state capital Stuttgart, which entrusted us with the design and execution planning of the Vaihingen tunnel, and finally the DB, which accepted us as execution planners for a large suburban railway lot in the centre of the city of Stuttgart. Our office location was Munich and was to remain so. But the

majority of orders came from Baden-Württemberg. We were fortunate to find three professional, confident, and large building contractors in Stuttgart. They took a leap of faith on our young team. We endeavoured to justify this with success.

We also recognised our weaknesses and sought collaboration in design with architects who were better trained in this area. With architect **Hans Schmidt-Schickel** and his firm, Werner Doss designed a large number of buildings. One highlight was winning the competition for the Berching South Bridge over the Main–Danube Canal; this resulted in a large number of further planning contracts for bridges. Werner Doss passed away much too early in 2011. He laid the foundation for the design orientation and success of the firm.

### ***Our employees have always been our most important asset***

Another colleague from the design office of the Karl Stöhr company played a major role in setting up our office. In the sixties, there were several civil engineering computer centres throughout Germany. It was in these centres that the internal forces of load-bearing structures were determined. The design office of the Karl Stöhr firm used the RIB computer centre in Munich on Schwanthaler Höhe and was one of the centre's main customers. When it was time to decide on a new computer, Karl Stöhr committed to covering 50% of the leasing costs and computing time. From that point on, the design office had access to the latest computer, an IBM 1130, and I suggested **Eberhard Möckel**, a graduate of the Technical University of Munich, for training in the Fortran programming language. The choice of person was a stroke of luck.



Brilliant planners, reliable partners, and employees with as much talent as commitment have made SSF what it is today: a broad-based engineering firm with a 50-year history of success.

After the foundation of our firm, we took over 25 percent of the computing time, were able to win Eberhard Möckel as a collaborator, and were thus optimally equipped in terms of IT from the very beginning. Eberhard Möckel developed customised software for us and was an important pillar in the development of the office. Unfortunately, he also passed away far too early at the age of 40, and we struggled for years to compensate for the loss.

For calculations, there was the support of computers. They were built according to plans that had to be drawn by hand. From the beginning, it was difficult to recruit enough design engineers – especially to bridge the holiday season in summer. We sought and found help at the universities in Graz and Innsbruck after we posted notices that we were looking for holiday interns to draw up form work and reinforcement plans. In the selection process, we preferred students who had graduated from a higher technical education institute because they had good training in technical drawing. An agreement between the tax authorities of Austria and Germany that remuneration for holiday interns is tax-free up to a certain limit also contributed to the success of the search.

In the summer of 1971, the first student to arrive was **Walter Hebsacker** from Graz. He managed to recruit many other students from civil engineering and architecture as holiday interns, who came for several years. Walter Hebsacker was our first employee and later became the city planning director of the city of Salzburg. He was responsible for the city's civil engineering department for 28 years. Other summer interns later founded offices in Austria and South Tyrol and are still in contact with us today.

**Herbert Zechner**, who worked for us for several years as a student, was recruited as a long-term employee in 1987 as a graduate of the Technical University of Vienna. He laid the foundation for the bridges object planning division of SSF, which is now one of our most important pillars. After the branch in Halle was opened, he built up the construction management there and trained young graduate engineers, who are leading the way for us today. Herbert Zechner later set up his own business in Vienna. We owe him a great debt of gratitude and remain closely associated with him to this day. ■

# BECAUSE NEW IDEAS MAKE A DIFFERENCE

Simply put, innovations mean the search for the better. In civil engineering, this means finding the best solution – for the building contractor and the future use. It means sustainable economic efficiency and short construction times. It creates buildings of lasting social value.



Our first visualisation of a VFT girder.

Against this background, new, innovative solutions are one of the most important success factors at SSF. The ideas for this come from practical experience and are based on the aspiration to meet even the most complex requirements of building contractors. These requirements are, of course, project-related. But it is always about efficiency: of course, with a view to profitability, deadlines, and costs while maintaining a consistently high level of quality.

It was against this background that the idea of transverse launching of railway bridges was born over 35 years ago. Instead of working with auxiliary bridges, the bridge is built completely next to the rail and later pushed into the track. This significantly minimises the intervention in railway operations and means enormous cost savings. SSF Ingenieure have con-

sistently thought this principle through and developed it further – in the cut-and-cover method in railway bridge construction or under compressed air in tunnel construction.

Another ground breaking development is the VFT construction method. It has developed via secondary offers in everyday business and ensures that large supporting widths of bridges with a high degree of prefabrication can be bridged effectively, quickly, and economically. This method, which has been used successfully on well over 300 road bridges, was also adapted for the railways, which had been looking for construction methods that were fast, reliable, and cost-effective. As completely prefabricated superstructure girders in reinforced concrete composite prefabricated construction, the VFT-Rail girders are suitable for small railway bridges or as auxiliary bridge replacements. On the other hand, VFT-WIB is based on the tried-and-tested WIB-girder-construction method of the railway and, like all the other methods mentioned, is now state of the art.

“When innovative processes from SSF become the standard construction method, it is a confirmation of our work for me”, says Thomas Lechner. Together with Andreas Baumhauer, he is in charge of the application development division at SSF Ingenieure. Both are postgraduate engineers involved to research and development. Lechner and Baumhauer started as project engineers in 2016 and 2010 respectively and are now group managers in the execution planning of major bridges. According to Andreas Baumhauer, it is precisely in this area that there are difficult structural engineering problems from which new procedures can be derived time and again.

**1A Deva-Orastie,**  
Mures Viaduct Simeria, Romania.



“We focus on further development and innovation because only the best solutions sustainably advance the construction industry”, explain the two bridge experts. That is why SSF Ingenieure regularly supports the research work of universities and the development work of construction companies in order to drive things forth. “For example, three years ago we designed a bridge in ultra-high performance concrete (UHPC). “We were approached by the Chair of Concrete and Masonry Structures at the Technical University of Munich”, says Lechner. He had already dealt with UHPC in his doctorate. In the course of the cooperation, the first small railway bridge was built from this innovative building material.

One example of cooperation with construction companies is the segmental construction method in bridge construction, which SSF Ingenieure has been advancing with Max Bögl for years. “In order to build such a bridge, we must still fight with the building contractors. In fact, planning, dimensioning, and realisation have long since become part of our daily business”, says Thomas Lechner. He also assumes that VTR is a process that can become established in the same way as VFT. VTR, largely driven by founder and idea generator Victor Schmitt, stands for the production of a bridge superstructure as a “composite girder grid” and is currently on the development path. This construction method, which can fundamentally shorten construction times, has been successfully implemented in projects in Romania for years. In 2021, it is also being discussed for the German market for the first time. “I recently presented VTR in a lecture at the German Construction Technology Day. And we received some good feedback”, says Lechner. A construction company then requested to work out a side offer with this construction method together with SSF Ingenieure. A nice success for promoting themselves, which is also part of their job, he says.

“However, innovations are a very slow business”, says Andreas Baumhauer. “They are difficult to implement in Germany because the market is extremely conservative. Yet SSF Ingenieure wants to provide impetus to accelerate and improve construction processes or at least offer partial solutions”. He knows how important innovations are for us as a society: “Creative ideas as well as their development and implementation are ultimately how we finance our prosperity”. Against the background of their social relevance, innovations also reflect corresponding mega-trends. Thomas Lechner predicts that the keywords resource efficiency and CO<sub>2</sub> savings, for example, have accompanied the general research and development work of the past three to four years and will become increasingly important. That’s why the topic of concrete is becoming increasingly important at universities: is it possible to form cement in such a way that less CO<sub>2</sub> is released during production? How can structures be made using less concrete? These issues are currently at the top of the agenda in the construction industry. “Our infrastructure sector is also about less CO<sub>2</sub>; the faster we can build a bridge, the shorter the traffic standstill, and the fewer exhaust gases are emitted”, summarises Lechner.

Steel has a special place in Andreas Baumhauer’s heart. “The use of resources is certainly somewhat more optimised here. But environmentally harmful chemicals are used for corrosion protection, and it has to be continually renewed”, he explains. He therefore wishes to get a better grip on this building material on the design side. He says: “Concrete is still the cheapest building material. But we should nevertheless try to find a balance”. Steel and concrete are, without a doubt, an important foundation of civil engineering. In any case, the concrete and steel enthusiasts at SSF Ingenieure are in exactly the right place in application development in order to keep things rolling. ■

# » *The future cannot be taken for granted!*

***This sentence by founder Victor Schmitt also contains an appeal to the SSF Ingenieure: always remain open to the world that surrounds us - to social changes and technical developments. Those who want to be trailblazers must never stand still!***

Together with Dieter Stumpf and Wolfgang Frühauf, he has laid a company foundation that is built on values: trust, respect, and partnership. It is thus also based on the knowledge of successful team building. For 50 years, SSF Ingenieure have been proving that expertise and experience plus the innovative impulses of the new generation lead to success. Together they drive progress. Progress that moves the firm.

The issues that occupy SSF Ingenieure today are huge. They affect not only companies and entire industries. They mark global trends and developments: digitalisation is just as much a part of this as climate and environmental protection. But the construction industry is particularly challenged here. Because it's about sustainable economic efficiency, quality, and safety

for future generations as well as holistic approaches that take into account the entire life cycle of buildings. And it is about environmentally sound and socio-economically justifiable urban development and infrastructural concepts. Whether it is innovative solutions such as modular construction or the challenges of building in existing structures – all future models and instruments must be geared towards securing quality of life. People find this quality of life today (and in the future) in a well-planned and functioning environment. A built environment that is of lasting social value.

The bright minds at SSF Ingenieure – the experienced ones together with the young talents – contribute to this by doing everything they can to make construction more effective, more economical, more environmentally friendly, and more sustainable. They will continue to drive developments in the coming decades because standing still is not an option for initiators and idea generators. ■



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