SFS pioneer Hans Huber looking back on over fifty years of service.

The furniture people, IKEA, have just completed the first phase of one of their largest ever logistics centres in the south of France. Fasteners from SFS intec were a big part of the success story.

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The revolutionary LuK clutch ensures smooth gear changes. SFS intec provided two vital components to help ensure reliable functioning.

SFS commenced its manufacture of screws back in 1960. It was a far-reaching decision in those days by Hans Huber and his colleagues to initiate in-house production. They, quite literally, turned new ideas into reality. And so from humble beginnings emerged a world leader in the field.

Today – fifty years on – our employees are driven by the same passion which possessed those founding fathers. Creative solutions are always born out of a coalition of customer needs, real-life experience and knowledge gleaned from extensive production trials. Quite simply: we are always delighted to be given the opportunity to take on new challenges in partnership with our customers.

For some years now, we have been presenting the results of these projects in the In Practice reports. Once again you will read details of many new concepts and revolutionary solutions; but our guiding principle remains what it has been for the entire fifty years: “Customer benefit is our key corporate objective”.

Here’s wishing you an entertaining and informative read.

Yours,
Helmut Binder
CEO SFS intec
In-house production began for SFS intec fifty years ago. From humble beginnings the company, founded by Hans Huber, has developed into an international force. In this interview, Hans Huber speaks about those early years, long-term customer-supplier relationships; and about what it means to be the best.

You laid the foundation stone for today’s SFS intec back in 1960. What are your feelings today as you celebrate the 50th anniversary?

I feel as though it was yesterday, and that the time has flown past. It was a fascinating opportunity bringing new products and technologies to challenging markets. Above all else, I am full of gratitude for the many and varied relationships with suppliers, customers and colleagues which have helped bring the company to where it is today. I feel a deep sense of personal satisfaction that the company is being steered on to a promising future.

What persuaded you to invest so much at that time?

There was a massive demand for industrial products in the early “Sixties”. Rebuilding after the Second World War had made incredible demands on resources; but even in those boom times we were not that interested in standardised replacement components but rather what we could offer to meet specific customer needs. In those days everybody was installing double glazing; but it was virtually impossible to get the fasteners needed. They had to be manufactured by a special process. In order to meet this demand there was only one thing to do and that was to start our own production; though we did see it as a high-risk venture at the time. I tried to get at least a 50% coverage from the Swiss banking institutes, but in the end I had to hand over my savings passbook. We got the rest of the money from Stadler AG – Josef Stadler to be precise. Whenever we raised capital through share releases, we always
looked to SFS top management first for investments.

The company has continued to grow year-on-year. What were the factors for this success in your book?

Well, I would name two critical factors: firstly the extraordinary skills of the employees and secondly the fact that we have invested year-by-year in modern technology. Entrepreneurial thinking by our employees, coupled with a sense of personal responsibility for their actions, formed the corner stone of our philosophy. What’s more, close relationships with both customers and suppliers alike enabled us to overcome such major obstacles as the revaluation of the Swiss Franc. Customer closeness and mutual trust have been the key factors which helped to build the company step-by-step.

Were there any particular milestones in the development of SFS intec of today?

Definitely; there were developments like that right from the start. In the mid “Sixties”, we were approached by Sulzer and the Swiss government. Our commission was to develop the screws for the engine and fuselage of the prestigious Mirage fighter plane. It meant that we were confronted with two very special challenges early on in our corporate life: firstly, working with extremely high tensile alloys and secondly, achieving a complex component geometry. Multi-station presses were still in their infancy at that time; so that project asked a lot from us.

Back to the late “Sixties”: the license to produce Fabco construction fasteners was another success story. Spurred on by this step into industrial light building, we elected to develop our own power drill fixings. Then in 1975 came the move abroad – France to be precise – with the takeover of Boulonnerie Callibré and their daughter concern, Visserie Technique, bringing us further power tool know-how.

You have been directing the company for nigh on forty years, leading a massive international expansion process. It could not have been easy to hand over the reins in the mid “Nineties” to a new generation of younger managers?

Handing over responsibility was actually fairly easy, because everything was carefully planned. In 1995 I relinquished the leadership of our most important business, the industrial component division, to Helmut Binder. I stood down as president of the holding group at the 1999 AGM after delivering the 1998 Annual Report. Nevertheless, due to various remaining mandates and my shareholding company, I remain in the vanguard of business activity; together with my daughter and my two sons.

Last year was dominated by a spectacular global economic crash. Do you still follow day-to-day happenings at SFS intec?

Yes, of course I still do; very much so. We have experienced a number of economic crises, but the only one comparable to 2009 was the oil crisis in the “Seventies”. At such times it is vital that companies are financially sound, and within the SFS Group we have always organised ourselves well. That’s the only way to ensure long term survival. Everyone involved, be they an employee, customer, supplier, or shareholder, has to take responsibility, if you are going to get through such times. Everyone concerned has to exercise discipline, flexibility and a really innovative approach.

It is in such situations that the importance of partnerships comes through. The strategic orientation of the company has to be focused on the number one issue: long-term competitiveness.

One last question: with the benefit of hindsight, what would you do differently?

By and large, I’m bound to say the development of the company met my admittedly rather heady expectations. I think when you are taking over companies, you have to ask the question, “Is this going to truly bring us on, and further the development of the concern?” Looking back, I might have given more focus to the building business, especially light construction.

I think it might have been advantageous to pursue direct sales of construction fasteners; improving the real customer benefit, and getting the message across better. But as I said at the outset, I gain a deep inner satisfaction in looking at what we have achieved between us.

“In times of crisis it’s partner relationships that carry you through.”
Roof renovation in the People’s Republic

At the start of the massive economic boom of the “Nineties”, most industrial buildings in China were constructed using steel profiles, many of which are now badly in need of renovation. Thinking about environmental issues and long-term viability, the American electronics giant MOTOROLA has completely renovated all of its 14 plants in China.

A total of 50,000 square metres of insulation cladding was applied to the existing sub-structure. To accurately analyse the fasteners’ application, the Chinese marketing arm of SFS intec calculated values for the maximum wind forces likely to be encountered.

The ISO-TAK® fastener system fitted the bill for the chosen renovation concept, with a complete system of fasteners, matching sleeves and a special installation tool enabling rapid, secure fixing. What’s more, the SFS intec system met all the requirements of the American industrial insurance company FM Global (Factory Mutual).

Saving energy in Washington

Columbia Heights is one of the liveliest areas of the US capital, Washington. The region, which has recently undergone complete renovation, has taken on a particular new shine thanks in no small part to solar energy street lights arranged around the main squares.

The lamp posts are the product of the British company Telling Architectural Limited. The lamps both illuminate the surrounding areas and act as supports for the enormous solar cells provided by the Spanish photo-voltaic specialists Vidursolar. The complete system is held together with stainless steel point retainers and so-called “spiders” (spreaders) from SFS intec. The in-house, specially developed system solution both complements the exciting design and contributes significantly to the overall strength.
Wooden walkways for Berlin

On the 47,000 square metre “Palace Square” in central Berlin, where once stood the Palast der Republik, the historic Berlin City Palace is to rise again in 2013. Meanwhile, rather than leaving the enormous area empty, the city council opted to have extensive timber walkways installed, with information boards covering the history of the site.

This construction represented a complex project for the chosen timber build specialists, Holzbau Hunold GmbH. First off, medium and large timber sections were built into 6 metre long and 2.3-to-3 metre wide interlocking sections. Enormous care and precision were called for to ensure that the individual units could be pieced together without difficulty on site.

Planners chose WT double threaded fasteners from SFS intec to ensure reliable assembly of the individual timber sections. These stainless fasteners have two threads, one at each end of the shaft, enabling not only rapid building, but also providing secure fixing for timbers which would experience heavy foot traffic. The key issue is that WT fasteners remain firmly in place even under heavy loads and notwithstanding the deformation of the timber after prolonged exposure to the elements. Using conventional screws would inevitably see the floor covering gradually falling away. The result: raised screw heads, presenting a high risk of personal injury both directly and in causing people to stumble.

Just three months after construction commenced, there were celebrations to mark the opening of the walkways in July 2009. For the next three years locals and tourists alike will have the opportunity to discover the historic area for themselves. The timbers will then be dismantled and hopefully re-installed elsewhere – the city council is currently looking at nature conservation sites.

The planners in charge of the project chose WT fasteners from SFS intec for the installation of the timber walkways. That means the paths remain firmly in place even after prolonged stress from foot traffic and the inevitable shrinkage causing dimensional changes.
After five years of development, the German office furniture producer, Wilkhahn presented its revolutionary 3D adjustable office chair concept “ON®” featuring an intelligent seating mechanism. The revolutionary technology uses 3D synchronized kinematic supports to create an ergonomic balance between seat and back movements. In short, the seat follows every body movement. It’s made possible by two swivel-mounted arms capable of independent movement. These are mounted on the seat and back support frame via ball-joints.

Wilkhahn and SFS intec worked closely together on the development of the most efficient fixing system to attach the rotatable ball joints. The clever mechanism is fastened together using TAPTITE 2000® thread forming screws. In order to ensure that these are safe against spontaneous loosening under dynamic load, a spedcaps® adhesive coating is applied to the threads. No other security components are then needed, as proven by numerous application trials during the joint development phase. So it’s both a comfortable, ergonomically designed chair; and a safe one!

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**Reliable fastening for the ultimate in seating comfort**

The ball joint of the “ON®” office chair makes for comfortable seating in a wide range of postures. The ball joints are fitted with TAPTITE 2000® fasteners.
Harman/Becker optimised processes

From high-end audio systems to complete infotainment units, Harman/Becker transforms vehicles into entertainment centres.

Every Harman/Becker system consists of dozens of individual components, creating an enormous logistical burden, which, of course, has to be minimised.

It was against this backdrop that SFS intec was charged with creating an assembly solution for mounting the amplifier to a carrier frame. The solution was a TAPTITE 2000® thread forming screw with a captive isolation washer.

This combination provides both excellent fastening values and a high process capability. The captive isolation disc is pre-fitted at SFS intec; eliminating later assembly errors. And another advantage: Harman/Becker receive the assembly complete and ready-to-fit. That reduces the costs of the entire materials management system.

The perfect tone

People electing to buy a Porsche Cayenne are after comfort, quality and cutting edge technology. Attributes that the Cayenne sound system also has to meet. SFS intec provides the exclusive speaker grilles for the luxury off-roader. These contribute massively with their perfect sound transmission to the ideal sound quality in the vehicle interior.

The components are made in three complicated variants, incorporating the logo, decorative stripes and attractive frameworks. In each case they are matched to nine different interior colourways. Final assembly takes place at the SFS intec Hungary plant. From there, the ready-to-fit covers make their way to the Cayenne’s door cladding and final production units.
Efficient business processes thanks to a homogenised IT landscape

Stable, future-focused IT systems, featuring multi-tasking platforms, rationalised procedures and an optimised information flow, both within and outside the company: these were SFS intec’s aspirations in introducing SAP software ERP (Enterprise Resource Planning) company-wide.

Implementing SAP opens up new horizons in communication between business partners. Exchanging standardised data accelerates the information flow and all but eliminates interpretation errors. SAP also offers a platform for advanced communication systems featuring data scanning and e-shops.

SAP is used at SFS intec in every area from production, material management, sales and quality to personnel management; as well as finance, invoicing and controlling functions. This comprehensive set-up enables multi-tasking processes across different departments, making heavy demands on system users and their input data. But by applying integrated inputs, SFS intec minimises data collation time and enables rapid procedures with a high degree of process integrity.

SFS intec has been gradually rolling out SAP since 2005. The table below shows the current status and the impending projects. Each time another site adopts SAP, more time-consuming interfaces are eliminated. What’s more, systemised processes increase productivity and create complete transparency.

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Based on the tried and trusted TAURUS series, the latest FireFox installation tool from GESIPA is characterised by a particularly wide component range from M3 to M12 and a very rapid installation process. The system can be set for either a fixed stroke length or a fixed nut size – allowing blind rivet nuts of any length to be installed in differing material thicknesses with total security.

In terms of both speed and efficiency, the FireFox has launched a new epoch in the history of blind rivet installation.

Pulling the trigger creates radial deformation of the blind rivet shaft. This produces a sealing head on the blind side capable of withstanding considerable axial forces.

Cost saving renovation (or new build) for timber-concrete ceilings

Wooden floors often need to be reinforced when refurbishing old structures. In many cases, timber-concrete composite floors are the perfect solution. This is usually up to 40% cheaper than complete replacement; and also saves a lot of time. Further development of the VB fastener by SFS intec was targeted directly at the need to fix thin concrete sheets to timber frameworks. Efficiencies are increased from the planning stage on, thanks to specially developed planning software.

The VB fastener is now available in two lengths, increasing the productivity in most applications by a massive 70%. Also new is the ergonomically designed installation tool, allowing effortless, secure fixing time after time. An adjustment aid ensures constant installation parameters.

But the VB system is not only good for renovation work, it can be used in new builds to guarantee an absolutely tight seal between thin concrete slabs and timber frameworks.
A screw-rivet system for assembling modular buildings sounds a little unconventional, but is actually very much a state-of-the-art, future-focused fastener solution. The British modular building specialists, Wernick Buildings, make full use of the advantages offered by the SRB (screw rivet bulb) fastening system. This ensures the assembled building is completely secure for transportation, whilst greatly reducing the time needed by the assembly teams.

“Time is money” goes the saying and these days building economically means building fast. But speed coupled with high levels of build quality and security are only possible when the key structural elements are preassembled and the whole assembly process is in the hands of an experienced team. In this case the key words are: Modular Systems. Those developed by the British concern Wernick Buildings enable individual floor arrangements to be created for the most extensive range of applications.

Multi-faceted design possibilities

Individual design, complete flexibility and total functionality combine to form a very favourable service package at a remarkably affordable price. Offices and administrative areas, schools, nurseries, care homes, social centres, kitchens and canteens all spring up almost overnight from pre-fabricated panels.

Replacement of nuts and bolts

Previously, Wernick assembled their buildings using conventional fastening systems; but that is now well and truly a thing of the past. Ever since Andy King, their Sales Director, got to know about the benefits of the innovative SRB system from SFS intec, Wernick have sworn by the advantages of direct fastening. “The screw rivets are light, simple to use and significantly reduce installation time. Previously our traditional nut and bolt system was installed with an air gun which was extremely noisy, and meant that we were going to have to introduce ear defenders on the factory floor. However, the SRB rivet is much

Jamie Lewis, FasteningSystems, ljam@sfsintec.biz
quieter and has helped to reduce factory noise.”

Starting with feasibility tests

It was not long before the SRB system was being trialled by Wernick on one of their projects. “SFS intec had already carried out independent testing on its performance,” Andy King continues. “They issued us with the structural performance statistics for the rivet system and after our engineers reviewed the information, we tested the SRB screw rivets in a practice building which we were hiring. We were extremely impressed with the results.”

The insertion tool literally powers the fastener into the steel at high speed. The insertion tool front attachment stops over-torqueing: the sleeve is deformed at a defined torque of 8Nm, forming the sealing head. Meanwhile the noise level associated with our previous assembly system is reduced to a minimum. Also the increased installation efficiency means faster assembly and increased reliability. The requirements of cost-efficient building have been met in full.

Suitable for thin profiles

After setting out to use SRB rivets in specialised projects to make structural connections between hot and cold rolled steel sections, Wernick Buildings then adopted the system to connect light gauge steel floor and ceiling joists in their standard products. This created a roll out of the SFS intec screw system across all areas of the business and every structure now produced by Wernick uses SRB screw rivets. Andy King concluded: “We have been so impressed by the fasteners that I firmly believe all the modular building trade will be using the system within the next few years – although we would love to keep it our own trade secret!”

“The screw rivets are light, simple to use and significantly reduce installation time.”
The Swedish furniture manufacturer IKEA has created a new logistics centre in southern France. The facades and roofs had to meet tough quality and fire safety requirements.

When the Swedish furniture giant IKEA builds a new logistics centre, the dimensions are never less than impressive. This was certainly the case with the new Fos-sur-Mer complex in the south of France, near Marseilles. Close to the docklands, a 65,000 square metre, high-reach store and office facility has been created. As the southern European distribution HQ, the centre services France, Spain and Portugal.

Since July 2009, 80,000 pallet spaces have been available – a fair old number, but not enough according to the planners, who have scheduled a further extension for 2012. The existing dimensions are impressive, with the high-reach stores alone covering 18,000 square metres. 35 metre-high reinforced concrete pillars serve to support the enormous roof structure.

Environmental and fire-safety concerns

The project presented some out-of-the-ordinary challenges for the nominated contractor SCEBIS: “The wind force which the facades and roof have to withstand is enormous; not to mention the high summer temperatures, which can reach 50 °C,” explains CEO Richard Le Tallec. But that is not all: fire-proofing was another major issue. “The building did not just need to be resistant to wind and temperature stresses, it had to offer protection against smoke and flames.”
The first building phase saw 80,000 pallet spaces created in the new IKEA logistics centre. 40 employees of the construction company SCEBIS fitted the facades and roofs using exclusively fasteners from SFS intec.

Choosing the right fasteners

Richard Le Tallec has been familiar with the products and services of SFS intec for many years. “SFS intec always respond immediately and offer real support in solving problems. That helps me to meet tough deadlines even on demanding projects; without compromising quality.” Once again on the IKEA project, SFS intec were able to offer their know-how. After the French market organisation analysed the fastener requirements, the choice of fastener was obvious.

Throughout the building

The engineers in charge chose SXC 14 austenitic steel fasteners to fit the fire-proof Arcelor facade panels. In the roof region, the rockwool panels were covered with a secondary fire-proof cladding. These were fitted with IFP2 fasteners.

The roof construction again utilised SFS intec technology, with isofast® fasteners fitting the bill. The roof construction of trapezium profiles, 2 x 40 mm rockwool infill and PVC membrane had to withstand wind forces of 160 km/h. Finally, the SCEBIS team chose SDR2-L12 separator fixings for fitting the insulating outer layer.

Reliable logistics

Projects of this scale cannot be achieved without fully functioning logistical arrangements. SFS intec could, however, working hand-in-glove with other suppliers, contribute to a frictionless construction plan. Richard Le Tallec’s resumé is again positive: “SFS intec not only met our needs with first class products and support services, but also helped us to completely meet the demands of our client. These days more than ever, I see this as a very significant strength.”

“It pays to have a specialist like SFS intec by your side for fastener requirements.”

Richard Le Tallec, CEO of the construction company SCEBIS in Les Echets, France.
Form and function in harmony

To the Italian door manufacturer, BARAUSSE, doors are not merely functional: they are an opportunity for creative room design. That’s why the company launched a co-development programme with SFS intec for a suitable hinge system to reflect their style. An intensive development phase resulted in the innovative CAB-R 3D hinge system.

Function meets form: the products of the Italian door manufacturer BARAUSSE exude elegance and convincing simplicity. “Our special designs are not only about good looks: we also improve on the ergonomics and help reduce the installation costs. “That’s what added value for our customers is about,” says the chief development manager, Federico Brogliato, explaining the company philosophy.

For over forty years BARAUSSE has been turning out doors with style for living rooms, offices and hotel suites. From the start the objective was always to marry perfect function with a little Italian chic. All BARAUSSE products are made from top quality materials and can be installed with a high level of efficiency. At the Italian HQ in Vicenza, a lot of time and money is spent on anticipating customer needs and up-and-coming design trends. Employees in design and development use their wide-ranging knowledge of processes and applications to continuously improve their products and services. SFS intec is also on hand with specialist know-how.
Were any other advantages gained?

The CAB-R 3D provides us with a powerful, secure hinge system for solid doors. Previously four individual hinges had to be used to secure these doors; to ensure proper functioning and stability. The visual impact as well as the efficiency suffered under that system. But these disadvantages are all in the past. The new hinge is convincing from the design aspect and above all from its technical superiority. The doors can now be easily adjusted after hanging, whether it's the height, the sideways position, or the pressure needed to open and close them. Its revolutionary. There is simply no comparison to conventional hinges. Now our doors can be fitted quickly, securely and positioned perfectly.

What was it like working with SFS intec?

When you decide to devise a new hinge system, it stands to reason that you want to get it onto the market as quickly as possible. Working closely with SFS intec it was possible to get the system onto the market in a really short time.

What have you got planned for the future?

Following the really positive response from customers, we plan to extend the applications of the CAB-R 3D hinge system. In future we will be equipping more doors in our range with this hinge system. We will not limit ourselves to larger doors like the 80 x 270 cm, but will be increasingly fitting the hinges to smaller doors too.

By offering individually designed doors in quality of the highest order, BARAUSSE creates added value for its customers. In this interview, Federico Brogliato explains why he depends on hinges from SFS intec.

Mr. Bragliato, when did you first come across the SFS intec name?

Leafing through an SFS intec hinge catalogue, I came across an interesting hinge security feature. As we were using our own security device at that time, I was keen to find out what the differences were between the two products. In this way I became very familiar with the SFS intec product range. I became particularly interested in the hinge systems for fire-proof doors. It was not long before the first deliveries of SFS intec hinges arrived. We began with self-closing systems which were carefully matched to our products. As a result, we furthered our collaborative efforts. As we had been looking for a hinge solution for surface flush doors it made sense to initiate a development project with SFS intec. That resulted in the CAB-R 3D range.

Did this new product effect your manufacturing processes?

Manufacturing productivity for heavy doors could be massively increased, but it wasn’t just us that benefited. The user on site can really raise their efficiency levels because the doors and hinges are now supplied as a set; carefully matched to the needs of the installer.

The elegant CAD-R 3D door hinge allows height, sideways and contact pressure adjustments of flush doors. Every stepless adjustment can be done with one and the same tool. What’s more, the adjustments can be done easily by one person – without wedging the door.

- Contact pressure: ±2 mm
- Side inclination: ±1.5 mm
- Height: +3 mm
China: meeting local needs on the doorstep

China is becoming increasingly important for the entire automotive industry. Not merely as a sales market, but as a production area. Since 2008, the joint venture Sunil SFS intec has been operating a production facility in Tianjin producing special screws and other cold formed parts for the local automotive industry, which benefits from short response times and flexible product supply.

The economics are second to none: from an emerging nation to the world’s largest exporter. Since the beginning of the boom in the “Nineties”, the gross domestic product has increased ten-fold. It was against this backdrop that SFS intec has been continuously building up a presence. Marketing operations have long since been supplying the building and electrical industries with a comprehensive range of quality products.

Chinese production site

Developments in the Chinese automobile market have also been above average over recent years. Last year saw over ten million vehicles produced for the first time. SFS intec has been steadily increasing its interests in the region to meet the needs of the expanding sector. Now it has acquired a stake in the Chinese daughter company of the Korean concern Sunil Dyfas. The joint venture, operating as Sunil SFS intec, focuses on the automotive industry.

Modern technology

The production site is located in the coastal city of Tianjin. With ten and a half million inhabitants and just a ninety minute drive south east of Beijing, it is in an ideal situation. Currently 120 employees produce special screws and cold formed parts in the size range M8 to M24. These are used in a diverse range of vehicle applications: from chassis to engine, from braking to wheel mountings. The company boasts state-of-the-art equipment covering the complete production process under one roof, from the initial pressing and rolling processes to the final heat and surface finishing stages; not to mention 100% attribute control. Consistently high quality is guaranteed by a comprehensive ISO/TS 16949 certified quality assurance system. Looking to long-term partnerships, the Sunil SFS intec team can offer know-how from the initial development phase of a project.

With the aim of further improving response to customer demand, the machine park will be increased this year in the 5 and 6 station press range. This will enable difficult parts to be produced economically.
Substantial customer benefits

This development is in line with SFS intec’s strategic plans to strengthen their position as a supplier of ready-to-fit cold formed components to China. Focusing on their regional customer needs has enabled them to simultaneously considerably reduce delivery times and transportation costs.
A one-stop-shop for system components

Working closely with the German automotive supplier LuK, SFS intec has developed two components for a revolutionary clutch system.

Protecting our natural resources has become one of the central issues of our time. Key targets of reducing fuel consumption and CO₂ emissions represent major challenges to the automotive industry. LuK, part of the Schaeffler Group and a major first tier supplier to the industry, has come up with a revolutionary solution for automatic transmissions. The dry double clutch (DK) first launched in 2008, offers impressive fuel savings and ease of operation.

Efficient and dynamic

A straight comparison with existing automatic clutches clearly favours the LuK double clutch. The elimination of oil cooling used in conventional wet clutches and the associated hydraulics translates into fuel savings of between 6 and 10%, while the CO₂ reduction is between 12 and 18%.

Among the contributing factors is a new gear-shift activator which offers electro magnetic support to the gear change. SFS intec supply two critical system components: namely a threaded cylinder and a special nut. The two parts are precisely matched, contributing to a perfectly functioning system.

To ensure the best possible development process, SFS intec were involved from the outset; a decision which paid dividends. The path from the idea to a series production system was characterised by intensive collaboration among the many engineers involved. The sole objective was, however, to guarantee the efficient functioning of the LuK activator. The components from SFS intec played a critical role in regulating the spring pressure on the shift, enabling the appropriate torque to be applied to the clutch. This allows the gears to be selected with smooth, total precision and no loss of power.

Working closely together

There were many technical hurdles to be overcome along the way. The engineers from LuK and SFS intec had to almost feel their way forward at times, step-by-step, before a viable solution was finalised. The discussions were about tolerances of hundredths of a millimetre!

Optimising the threads after tests

Extensive tests were carried out to confirm the functionality of test series. The initial results were less than promising: it appeared that the parts could loosen spontaneously under high dynamic load. It was, however,
possible to address the issue by modifying the thread geometry. Thanks to their in-depth knowledge of cold forming and threading, SFS intec engineers met the component requirements in full and on schedule. LuK saw their aspirations for functional efficiency and cost met in full.

**Practice proven**

This revolutionary technology from LuK has already won over a number of major vehicle manufacturers, with the system already in use on some Renault and Ford models. SFS intec’s solution-focused engineering, backed up by technical expertise, helped get a brilliant idea off the drawing board and onto the road.

Matthias Ehrlich, Team Leader of the LuK engineering group, played a decisive role in the development of the new clutch. He was very satisfied with the outcome.

“This clutch was new ground for us too, so we placed great value on having a partner with know-how across the board by our side.

The opportunity to find all the required technologies under one roof was decisive in the choice of SFS intec as the supplier for the two parts. This concentration of expertise and excellent collaboration between all concerned significantly shortened the development time. Partners like SFS intec made a valuable contribution to helping us achieve the clear differentiation which the market expects of us.”

**Ground-breaking technology for the future of the automotive sector**

The double clutch from LuK marries the comfort of the automatic transmission with the efficiency of the manual shift. The system consists of two clutches operating via two separate drive lines. One clutch serves the odd-numbered gears, while the other controls the even-numbered ones and reverse.

The clutch plate is controlled by an electromagnetic activator, applying the required force through the two SFS intec components to a spring. The operation is so smooth and efficient that it is effectively unnoticeable to the driver.
The German fittings manufacturer SIEGENIA-AUBI is shedding light on a brand new window hardware technology. The innovative TITAN system offers convincing ease-of-use and exemplary adjustment capability. It means window manufacturers and fitters alike can increase productivity.

**A small part with a big role**

It does look rather unprepossessing, the mushroom head bolt supplied by SFS intec for the TITAN system; but there is a massive amount of innovation in this seemingly inconsequential little component; innovation that pays dividends.

The manufacturer SIEGENIA-AUBI uses these innovations to optimise their own manufacturing and logistics processes. Window manufacturers and installers alike benefit from increased productivity in both manufacture and installation. Householders meanwhile enjoy the easy action and effective protection against both cold and forced entry. So SIEGENIA-AUBI has succeeded in pleasing just about every one of their market partners!

**Big advantages in small spaces**

The secret of the TITAN fitting lies in finely honed details, supporting the continuously increasing automation in the industrial window manufacturing sector. Unquestionably the greatest system innovation has been the mushroom headed bolt. The component consists of an eccentric bolt attached to a head spacer. The two elements are fitted with a spiral spring at SIEGENIA-AUBI and riveted together. The completed device offers decisive advantages for the manufacturer and the window fitter in a very compact form. A stepless height adjustment means efficient and precise adjustment.

The TITAN range offers numerous system variants. This means that in addition to the mushroom head, a further sixteen eccentric variants are available. So SIEGENIA-AUBI were very keen to find a partner who could manage both the technical and logistical issues. This was behind the decision to involve SFS intec, already a long-term supply partner, in the TITAN development.

Cold formed part to replace turned component

Both the eccentric bolt and the spacer provided ample opportunity for SFS intec technicians to apply their extensive manufacturing know-how. The exact dimensions of the component had to be matched to the modified manufacturing route, while the existing SIEGENIA-AUBI production process was maintained.
The right part in the right place

But it isn’t just down to technology, SFS intec is committed to ensuring that each and every one of the sixteen variants is always correctly packaged, stored and dispatched. It’s made possible by a jointly developed logistics system, co-ordinated by supply chain management. But SFS intec goes the extra mile: as the individual variants only differ by tiny amounts, every part is individually labelled at manufacture. That ensures a proper material flow and gives SIEGENIA-AUBI the assurance that their production lines run effortlessly.

TITAN is among the most important products from the SIEGENIA-AUBI concern. Thomas Mohrbach explains why the supply of the mushroom head bolt mechanism was entrusted to SFS intec.

“Reliability of delivery and quality are of prime importance to us. We manufacture in massive series on automated production lines, and need to ensure that delays and major disturbances are eliminated.

This degree of automation means that we demand certain things of our suppliers:

- consistently high-quality products and support services
- rapid response to short-term delivery requests
- development partnerships

In SFS intec we found a partner who could meet these demands. What I value mostly is the reliability and flexibility of supply, which helps us meet short term demand peaks with the same high quality level – without compromise.”

High precision in tight corners: thanks to a highly refined design, the comfort mushroom head bolt provides stepless height adjustment for simple and exact window installation.
<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>Establishment of SFS Presswerk Heerbrugg AG, a manufacturing company for cold forming</td>
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<tr>
<td>1965</td>
<td>Acquisition of the Fabco licence and move into construction fastening</td>
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<tr>
<td>1966</td>
<td>Purchase of the first multi-station press for complex custom components</td>
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<td>1971</td>
<td>Acquisition of Fritz Haas GmbH &amp; Co. in Germany and establishment of the first foreign market organisation</td>
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<tr>
<td>1976</td>
<td>Establishment of a market organisation and the first foreign manufacturing company in France</td>
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<tr>
<td>1977</td>
<td>Establishment of a market organisation in Sweden</td>
</tr>
<tr>
<td>1980</td>
<td>The company generates consolidated sales of 60 million Swiss francs with 350 employees</td>
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<tr>
<td>1983</td>
<td>Acquisition of a market organisation and a manufacturing company in the UK</td>
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<tr>
<td>1984</td>
<td>Acquisition of the relevant licences for trilobular technology to manufacture thread-forming screws</td>
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<tr>
<td>1985</td>
<td>Establishment of a market organisation in the United States of America</td>
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<tr>
<td>1987</td>
<td>Acquisition of Sassba in Fontanafredda (Italy) and move into the hinge business</td>
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<tr>
<td>1990</td>
<td>The company generates consolidated sales of 240 million Swiss francs with 1250 employees. It has a presence in 9 countries and has 5 manufacturing sites.</td>
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<tr>
<td>1993</td>
<td>Consolidation of industrial activities under the umbrella of SFS Industrie Holding AG</td>
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<tr>
<td>1996</td>
<td>Acquisition of the Ego Kunststoffwerk in Altstätten (Switzerland) and move into plastic injection moulding</td>
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<td>2000</td>
<td>The company generates consolidated sales of 505 million Swiss francs with 2110 employees</td>
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<tr>
<td>2001</td>
<td>Acquisition of HB-Plastic GmbH with manufacturing plants in Korneuburg (Austria) and Jánossomorja (Hungary)</td>
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<td>2002</td>
<td>Acquisition of Construction Fasteners, Inc., with sites in the USA and Canada</td>
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<td>2005</td>
<td>Renaming of all SFS industrial activities to SFS intec</td>
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<tr>
<td>2007</td>
<td>Merger and amalgamation of Schwarz Verbindungs-Systeme GmbH (SVS) and Europa Fasteners GmbH (EUFA) into SFS intec Aircraft Components GmbH in Althengstett (Germany)</td>
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<tr>
<td>2008</td>
<td>Acquisition of a 50% interest in Dekim Metal AS in Izmir (Turkey)</td>
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<td>2009</td>
<td>Acquisition of the partners’ shares in the GESIPA company based in Mörfelden-Walldorf (Germany)</td>
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<tr>
<td>2010</td>
<td>Acquisition of a 50% interest in the Chinese subsidiary of Sunil Dyfas based in Tianjin (China)</td>
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<tr>
<td>2007</td>
<td>The company budgets consolidated sales of 735 million Swiss francs with 3320 employees. It has a presence at 45 locations in 21 countries.</td>
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**SFS intec**

*Turn ideas into reality.*