canias4 TECHNOLOGIES

INSYS icom

PROCESS FLEXIBILITY

Agility before standards


HIGH PERFORMANCE MULTI-CLIENT
WIRELESS STREAMING

AGILITY BEFORE STANDARDS

Process flexibility is important

Insys Microelectronics GmbH is a technology company located in Regensburg. It is operating in various areas: In addition to aviation electronics and safety technology, e.g. IP-capable and programmable lock systems, the company also offers testing technology solutions and equipment for service life simulation. In addition, one of the most important business areas is data communication: this includes communication between machines and technicians as well as between machines themselves. In an interview with the commercial manager, Bernd Schöppl, and IT/ERP system manager, Ronny Tippmann, the two explained the role that corporate IT plays in such a technologically driven environment.

Can you briefly introduce Insys as a company? SCHÖPPL: Our core activities include the development of modems, routers and switches for the B2B sector and offer these devices including the appropriate software solutions for the application. In doing so, we cover all transmission paths - WIFI, Ethernet, mobile or fixed network, so that the possible applications are very diverse. In the area of security technology, we also develop lock systems for banks, counter areas, cash-in-transit vehicles, etc. Not all locks are the same, but data communication, electronics and the right software play a major role, and not only in our most successful product TwinLock. TwinLock is IP-capable and can therefore be integrated into the network.

What services do you provide in the aviation electronics segment? SCHÖPPL: Our focus there is on internal communication in aircraft via Ethernet or WIFI as well as air-ground communication via mobile radio or satellite communication.

So in the field of data communication, this is what is currently referred to as „M2M" or also "Industry 4.0"? SCHÖPPL: Yes, that's what we've been doing in principle since we were founded. Industry 4.0 and the Internet of Things are, in a sense, the current framework within which industrial data communication is presented in its increased complexity and importance. Our devices enable machine-to-machine communication, but also communication from the machine to the technician. The technician is then informed, for example, when an oil level is running low. Or that the reservoir in the Swiss high mountains is transmitting its current water level. In short, we are developing B2B communication systems that are immune to temperature fluctuations and other stresses. At the same time, they have more functionality and programmability than consumer products.

What kind of customers do you have? SCHÖPPL: These include machine and plant manufacturers, municipalities, wind turbine operators, or decentralized energy producers who use our devices for billing and capacity control. Our components can be found in the charging station for electric vehicles from innogy (formerly RWE) as well as in toll bridges. Last but not least, we can be found in the monitoring and remote maintenance of heating systems ranging from single-family homes to large buildings. And even though we are rather unknown to the public, we are one of the leading providers in our market in Germany.

How fierce is the competition? SCHÖPPL: Competition is steadily increasing because suppliers from Asia have also joined the fray. In 2007, we were the first to offer a product consisting of a modem, router and switch, and now there are several providers for this.

Are you active throughout Germany? SCHÖPPL: Yes. But we also have sales offices in England and the Czech Republic. In other European countries, we sell our products through partners. We are currently working on further increasing our presence and improving our sales activities.

How many people are currently employed at Insys? SCHÖPPL: Here at the Headquater, there are over 100 employees, most of them are developers. Our production is carried out exclusively by five external service providers. So we don't produce anything ourselves.

Are the external manufacturers controlled by software? SCHÖPPL: At the moment, external manufacturers are not controlled directly via the ERP system. However, it is a long-term goal and possible in principle. We will tackle this project from the middle of next year, after we have completed other tasks such as project management and CRM.

What are the major IT projects you have implemented in recent years and which ERP system do you use? SCHÖPPL: We implemented the ERP system caniasERP from IAS GmbH in April 2012. It took until about the end of 2012 for all employees to become familiar with the new system, and then we spent the next two years collecting many suggestions for process changes. Adjustments were made again and again, about every 6 to 9 months. The focus on CRM was particularly interesting for us, which is why we decided in 2015 to change the release to caniasERP 6.04, which was close to a new implementation in terms of effort and which we have now, one year later, handled well. Now that the project management and CRM projects have been completed, we can and will move on to the next development steps.

„AT IAS THE CONSULTANT IS AT THE SAME TIME THE DEVELOPER, WE SEE THIS AS A GREAT ADVANTAGE“

How long did the selection process take and who was involved? SCHÖPPL: I was involved in the selection by myself, Ronny Tippmann was not at that time. We started the selection process in 2008/2009 - it then dragged on over a longer period of time. We conducted a database search via Trovarit with prior preparation of specifications, and on this basis we looked more closely at four or five providers. At that time, caniasERP was not yet in the selection. We first chose another provider, went into an ERP implementation project, and unfortunately this did not go as planned at all. Although the functionalities matched our requirements according to the database, the reality was different. The special nature of our external production with several third-party service providers requires a very special chain of process steps within an ERP system. In our eyes, this could not be sufficiently mapped by the software determined via Trovarit.

What is the peculiarity of mapping external production? SCHÖPPL: Although all documents up to the bill of materials and the production plan are created by us, we do not receive any feedback on the production progress during external production. System-integrated communication with the production service providers is one thing; we don't have it yet. But we have to tell our system that it doesn't receive feedback from any machine, because we don't have any. However, providers of ERP systems that are suitable for series production believe that their models would be suitable for us. In the end, however, some data, interfaces and indicators are missing. We therefore stopped the first ERP project and reoriented ourselves in the direction of caniasERP.

caniasERP was not included in the first selection of your research? SCHÖPPL: No, it was a little further down the list. But I knew the software and there were always calls from the vendor about the project status. So I signaled a willingness to talk if we could jointly prove that the software was suitable for us. Of course, we didn't want to repeat the mistakes from the failed project. We then worked with the Supply Chain Center department to find out where the special connection to the external manufacturers would take place and what functionalities would be required. When it became clear that IAS could basically meet these requirements, we jointly developed the solution we use today. In the process, the supplier made a bit of an advance payment, and we, for our part, had to have confidence. In the end, it paid off for both sides.

How did IAS present the software? SCHÖPPL: IAS gave a presentation on our premises with real data. In addition, some of our employees at the supplier in Karlsruhe described our work processes in detail. Then we checked all the functionalities for their suitability.

What makes an IT service provider trustworthy for you and what other requirements do you have of them? SCHÖPPL: The basic requirement is that he understands our main processes. At the same time, of course, the software must be suitable. The right people are also important, with whom you can map the processes. The chemistry must be right. Often, the employee who presents the software is not the one who later implements it. Then it's hard to tell whether the chemistry is right.

TIPPMANN: At IAS, the consultant is also the developer, which we see as a great advantage. Right from the start, there was an intensive exchange regarding the required functionalities and, above all, regarding the desired adjustments: The consultant usually presented his proposals after about half a day. Often we were able to agree, sometimes we had to make adjustments. In this way, we were quite fast in development overall, but moved away from our original specifications just as quickly.

So the development was rather agile? TIPPMANN: In the scope of the IAS project, we actually ended up focusing more on agile development and adaptation of the software. In some places we simply tried it out. Of course, this has advantages and disadvantages: if you get it wrong, for example, you have to go back to a certain point and start the process again.

SCHÖPPL: Nevertheless, we used the specifications we had drawn up at the beginning to map the QM management processes on the basis of the ViFlow software. After all, the preliminary work had been done completely. That was good, because we had a good template for the new ERP provider, who knew from the documents and our precise explanations how we work. The advantage of agile development, however, is that you can incorporate discussed process adjustments directly into the software and see their effects immediately. Through direct follow-up, we were usually on target within a few days. In the conventional variant with specifications, on the other hand, it is often the case that a theoretical process is developed over several days and then programmed by a developer from outside the process over three or four weeks. Once the process has been compiled in-house, the creators often no longer remember every reason for a particular procedure. This leads to complications and delays. The agile way of working was ultimately a key reason for choosing IAS.

Trovarit, with its perceived 2,573 crosses, is the exact opposite of agile.SCHÖPPL: Not in our case, because we already had this phase behind us and already knew the concrete requirements based on the in-depth knowledge in all specialist areas. We basically only needed to set up the agile process on top of that - and it worked. That doesn't mean that everyone immediately understands the result. But the processes that still need to be shaped, as with any software implementation, are shaped in such a way that they can be shaped and that the result is usable. And: Should we want or need to change processes over time, this is also easier to do because they are not too far removed from reality.

Looking back, would you go down the path of database research again? SCHÖPPL: No, we wouldn't do that again.

Instead, go straight for agile development? SCHÖPPL: Yes, if it involves company areas that are sufficiently regulated, documented and lived. If not, you first have to expose yourself to the process of documentation and description. But you can also do that yourself.

Does the use of an external consultant make sense? SCHÖPPL: Let me put it this way: If you don't feel like doing it yourself, external consulting certainly makes sense. In principle, however, the external consultant is just a structured protocolist. And you have to explain the processes to them first.

Don't the externs often take on the role of justifying important decisions? SCHÖPPL: That's not the case here, but it may be the case in some companies. We are decisive enough. I think the danger of justification strategies increases the larger and more regulated a company is. There, you tend to observe this hedging mentality. We, on the other hand, want to move forward.

On the subject of series production: Did you specifically look for industry solutions when selecting your software? SCHÖPPL: No, in our opinion, an industry solution is always just a means of setting the course. However, in our discussions with ERP providers, it became apparent a few times that their „industry solution" series production usually came closest to our processes.

TIPPMANN: I think industry solutions only work if the user is really only in one line of business and only manufactures a certain type of product. For our diversified business, industry software doesn't work. Our software could be called Insys/canias or canias/Insys.

How far have you deviated from the standard? SCHÖPPL: We have adapted about a third. I think that hardly any company can work completely within the standard, because there is no standard at all. There are certain basic processes, e.g. in financial accounting or in document flow, that have proven themselves. These are programmed in the standard. Apart from these, however, there are a wide variety of individual solutions, which is also a good thing.

Aren't customizations often problematic during release upgrades? TIPPMANN: We have taken this into account, so that the adaptations have not caused us any significant problems. There were bigger problems in other places. The key users from the specialist departments had to check the data and transactions, which meant a lot of extra work. After the changeover, it became apparent that some sub-processes had not been tested. But such things are normal. And on the subject of customizations and release upgrades: Some of the things that we had programmed for us in the past are now included in the standard in the new version.

So you as a user have an influence on the further development of the standard? SCHÖPPL: Yes, that's right. We are the first to do many things, which has the advantage that we are often the first to be served and that we receive a reasonable price/performance ratio for major adaptations. In the end, it has to give both sides a usable result. Quality has its price - in that respect, we feel we are in good hands with IAS.

Which areas have been significantly adapted? TIPPMANN: We made some adjustments in the customer master area. In the caniasERP standard, you would otherwise have had to create a new customer data record for each business area. We wanted to avoid this at all costs. That's why we have rebuilt and do not make bookings at header level, but at item level. In addition, we wanted to know where costs and revenues arise, and have adapted this in many places. Other examples are bills of materials: We always look at these in connection with the material master. In the standard, you could also create bills of materials that don't have much to do with the material master. We have also

„BECAUSE THE SOFTWARE IS SO FLEXIBLE, WE CAN BRING IN OUR OWN TRANSACTIONS OURSELVES. THIS IS A HUGE ADVANTAGE OF OUR SOFTWARE."

gradually built up our own reporting and query system based on caniasERP.

Is vendor support necessary for this? TIPPMANN: We received a programming course from IAS, which enables us to create useful queries ourselves in caniasERP to a not inconsiderable extent. Because the software is so flexible, we can bring in our own transactions ourselves. This is a huge advantage of our software. In comparison, I know of other ERP systems in which a similar procedure would involve disproportionately more effort. Incidentally, the requirements come from all departments: In purchasing, we have placed supplier evaluation completely on its own feet.

SCHÖPPL: Nevertheless, it is important that we maintain a constant exchange with the supplier. For adjustments that go deep into the code, we then need an IAS consultant here on site for one or two days. However, the fact that we can do a lot ourselves is unreservedly good, because otherwise we would not do certain things, or do them much less frequently.

Don't other users often already have the necessary enhancements in a similar form? SCHÖPPL: Rather not, because in the process of self-design, no one knows exactly what the final result will be. If you take a closer look at prefabricated processes, the process of adapting them usually

begins afterwards. If there is a possibility, we prefer to develop ourselves. Because in most cases, what others or the manufacturer have developed doesn't fit at all. In this respect, a standard can only ever be a theoretical optimum approach to keep the effort in the approximation low. Once we have come closer, however, the real work begins, and only then does it become concrete.

It's a pretty big goal to keep the effort down, isn't it? SCHÖPPL: After all, we Germans tend to always want to plan everything precisely. In my opinion, however, we spend too much time in planning. If, instead, we simply started projects once they reached a certain planning maturity, we would achieve results much more quickly and would already know on the way whether we were moving in the right direction. Then it would also be easier to make corrections, because enough thought had already been given to them. The last 30, 20 or even ten percent cannot be compensated by even more planning. And if so, then only with extreme effort. In the same time, you could also try out two ways and then know exactly which is the right one.

And in your eyes, this is a German problem? SCHÖPPL: I think the drive for perfection is already very pronounced in Germany. Whereas in other countries there is a greater willingness to simply start projects once, in our country every eventuality is discussed several times. There is often a lack of decisiveness, people always want to hedge their bets.
It's important to find the right balance, because otherwise at some point you'll only be concerned with yourself. It's the same with the ERP system: What's the point of 400 analyses that nobody looks at? One of our maxims is therefore that adjustments made must be used. Anything that is not used, perhaps because it was created on a whim, we switch off again. We don't want the system to become bloated and produce tons of reports that no one needs. That's just unnecessary ballast.

Do you have your own in-house IT? TIPPMANN: We run the IT here in-house, but it is managed by an external service provider. Servers and networks are outsourced on the personnel side, but the hardware is physically located here on site.

Are you thinking of outsourcing IT on a larger scale? SCHÖPPL: Yes, that is an issue we are looking into. We will certainly not outsource developments and patents, but in the long term we will have to outsource certain data, because without the cloud we will no longer be able to participate in many services. Of course, availability, stability and security must be right. We do development work for our customers, for example. This collaboration alone is crying out for this type of data exchange. But we also have large corporations among our customers, so we have to be on board with the cloud, otherwise we will lose projects in the future.

Are documents still secure at all if everything is permanently online? TIPPMANN: That's exactly why we operate a total of five different networks: test and development networks for product development and an „office" network for the individual business units. The network for development work is completely isolated at our company and has no Internet access.

SCHÖPPL: Since we know that industrial espionage exists and that we are a thoroughly interesting target, we are cautious. There is no such thing as absolute security, but you should try to make it as high as possible with a reasonable amount of effort.

Is cross-company exchange of production data also an issue for your customers? TIPPMANN: We don't always know whether companies are linking their machines or production processes. But we do find out when we program the devices individually to enable these couplings.

SCHÖPPL: This is again proof that there is no one standard that fits 80 percent of users. Not even in our field. If a network socket is installed four times in the standard, then company A needs it six times, while company B only needs it twice, but two other outputs. This is feasible in our case and is used frequently. I believe that you have to organize your flexibility. If, on the other hand, you always try to standardize everything, you create your own problems because you are always dissatisfied due to compromises. Standards only make sense for processes that are the same every day and that are used by many people.

On the contrary, many company managers strive for standard processes. SCHÖPPL: But they will always have to change and adapt their business processes. And that's not good, because processes were created because they work and set the company apart from the competition.

Is it conceivable that complicated processes could be simplified using standards in the software? SCHÖPPL: Yes, of course, there's nothing to be said against that. If, when mapping a process, you find that you can improve it by reducing the

number of steps, standards can be adopted well. But changing your process just because the software can't do anything else is bad. Because if you have to change the process again later, it's not possible because the software can't do it. However, a company as diversified as ours must remain flexible, especially when the issue of external production is added.

Are you currently running any major IT projects or are any in the planning stage? SCHÖPPL: We went live with our CRM module a few weeks ago after completing the release upgrade. In addition, we are currently completing the project management - after that, there will be peace in the ERP area for the time being. I'm not a fan of constant testing, because it only becomes apparent after six months of everyday operation at the earliest where improvements need to be made. All points that arise are recorded and at some point addressed simultaneously. If you allow changes to be made all the time, this unnecessarily stirs up expectations and many change requests, some of which are not necessary, can arise. When the color design becomes an issue, it is clear that a software works very well.

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