

Interview: Stephan Sonderegger - CEO, Swisslog

Healthcare, Switzerland



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Tags: [Switzerland](#), [Swisslog](#), [Automation](#), [Digitalization](#), [Medication Management](#)

Strongly positioned in automated materiel and medication management, Swisslog Healthcare's CEO Stephan Sonderegger is working to leverage the company's physical infrastructure to collect data and become a leading player in the 'smart supply chain' field - and to disrupt certain existing business models along the way.

To begin, what are some of the challenges currently facing hospitals in managing medicines and how can automation help?

Hospitals and healthcare providers generally have a number of pain points around medication management. Patient welfare is of course the key concern, and unfortunately serious errors do still occur every day in hospitals. In fact, in the US more than 250,000 deaths are attributed each year to preventable medical errors according to a March 2016 report by usnews.com. Efficiency is also a key concern, as healthcare professionals and other hospital staff expend significant time on managing supply of medications, inventories, and transportation of medications within a hospital that could otherwise be deployed to patient care activities.

At Swisslog, we are developing new technologies that promote closed-loop medication management. Robots assemble the patient therapy patient and bar code the dosage. When the dosage is administered to the patient that bar code is registered at the patient's bedside, where the patient is also tagged and scanned. Having this step-by-step workflow in place ensures the

right patient gets the right medication at the right time.

For the future, the next step is automating the entire process. Our systems already handle significant portions of the medication management workflow. However, we aim to introduce new robots to the market in 2018 that will transport doses all the way to the patient's bedside - "meds to beds" as we say in North America. At this stage, we see significant opportunities for robots to interface with patients and play a role in improving the discharge process, by helping to communicate information regarding the patient's treatment regime and thus support treatment adherence. Eventually this could be supported by a companion mobile app where patients and their family members could support medication compliance.

The other aspect to consider going forward is of course data, and the value that can be unlocked by leveraging critical information to drive predictive analytics. Today, we offer solutions that span the entire drug distribution pathway from the warehouse to the individual patient dose, and soon to the patient's bedside. That means Swisslog is in a unique position to collate and analyze data from across the drug distribution pathway, and then use that information to conditionally monitor and manage automated systems. Eventually, this might mean that the system could detect, for example, a spike in the usage of medicines used to treat the flu, then automatically trigger shipments of those meds from consolidated service centers to the affected hospitals, and ultimately place an order for new stock from the pharmaceutical manufacturer.

How aware are most hospitals and healthcare systems of the benefits associated with investing in automation?

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The market for automation and robotics in medication management is still in the early stages of development, both in terms of market penetration for current capabilities, and the innovation pathway ahead. Broadly speaking, there is relatively low awareness regarding the potential savings that can be realized by automating medication management inside hospitals as the focus has traditionally been on the safety increases. Awareness in the US is relatively high and the market is well developed relative to other regions with USD 1.5 billion spend on automated medication management solutions each year. Europe as a whole lags a bit behind. By contrast, France, Spain and the Netherlands have been very forward thinking. I would also highlight that a specialized Paraplegic Center in Notwill, Switzerland will actually be the launch customer for one of the newest Swisslog robots - TheraPick - a unit-dose blister pack dispenser that uses lasers to cut apart the blisters for automated unit dose packaging and dispensing.

Generally speaking, the market fundamentals make it clear that there is immense growth potential for the automation of medication management, purely due to the cost pressures being experienced by healthcare systems around the world. For example, as many as 30 percent of hospitals in Europe are currently reporting losses. Hospitals are looking for opportunities to improve efficiency and profitability, and automation can be a path to do that. When you break down the costs associated with medication management in a hospital, around 46 percent of expenses are for clinical labor, meaning salaries for doctors, nurses, and pharmacists. Non-clinical labor – who for example transport drugs from the central pharmacy to the various departments – accounts for another 24 percent, and supply chain expenses constitute another 20 percent of the cost. If we make the assumption that we could automate 30 percent of the medication management tasks currently being handled by employees, then clearly there is tremendous potential to reduce overall costs in hospitals via investing in automation.

While the potential to realize these savings may be substantial, putting such automated systems in place clearly requires upfront investment. How are you seeing the current political environment in the US and elsewhere affecting the willingness of healthcare institutions to invest?

The change of administration in the US creates some future uncertainty, as the Affordable Care Act (ACA) has been an accelerator for our business. The ACA heavily incentivized healthcare institutions to become more efficient by reforming the payer mix, which has put pressure on hospital margins. If the new administration really does challenge, change, or repeal the ACA, then this will certainly have a big impact on investment decisions in the short term as it will reverse these incentives, and remove some of the sense of urgency.

However, over the longer term I remain completely convinced that hospitals will need to invest in achieving this cost savings in a significant way, purely based on the fact that in the US 19 percent of GDP is spent on healthcare. This is absolutely unsustainable, particularly given global megatrends in healthcare driving further demand for healthcare. In addition, predicted labor shortages in healthcare will drive the need for new ways to provide quality care. As such, Swisslog will not be impacted by this short-term situation. We know where we want to go, and the fundamentals of our business have not changed so we will maintain our current strategy.

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Interestingly enough however, there is real appetite to invest in automation in Europe at present. With awareness regarding the value of automation reaching a sort of critical mass, many

healthcare systems are realizing they may be a bit behind in terms of putting automated systems in place and thus we have seen strong interest in several countries.

We understand that you took over as CEO of Swisslog Healthcare Solutions in April 2016. What are some of the new directions that you are working to take the company in?

My first goal as CEO was to ensure we have a high-quality standard, and industry-leading portfolio in the market. There was and still is some work to be done in this area. Getting our full ecosystem of physical systems, which will soon span the entire pharmaceutical supply chain from the distribution center to the patient's bedside, is the top priority. The next step, where we have already made significant progress, centers around establishing a comprehensive software offering for our clients, with applications for pharmacy inventory management, chain-of-custody tracking, and even warehouse management for pharmaceutical companies' consolidated service centers.

Launching services that leverage the internet of things will be a big step, and it is in this space where we have a significant advantage over many software companies trying to leverage big data capabilities to improve supply chains. Our advantage comes from the simple fact that we are building the machines that are in the hospitals, recording the data regarding when and what drugs are being administered to which patients. Today we already have an install base that spans 2300 hospitals in the US alone. No one has access to this type of data, and not only are we in a position to pool the data and use it to drive predictive analytics, but we can then use these results to conditionally monitor and control the robots that are active in hospitals. When we get to that point, we will not only be able to drive value through helping hospitals to better manage drug inventories, but also help them optimize the behaviors and utilization efficiency of the automated resources themselves.

Finally, we foresee a future where we move away from a product-based business model, and - like many businesses in the software industry - provide automation as a service. This lowers the hospitals' barriers to acquisition and allows them to pay only for the solutions they need, when they need them. We are looking for opportunities to sell improved efficiency to hospitals as a service, where we would effectively be paid a subscription fee equivalent to a proportion of the savings our solutions help to generate.

With Swisslog aiming to compete with other companies who are working on 'smart supply chains', what elements of existing business models does Swisslog aim to disrupt?

As CEO of the healthcare business, my focus is primarily on the supply chain activity within hospitals, but Swisslog is of course still active in the warehouse and distribution industry through our other division. While these two divisions operate independently for the most part, we have had some collaborative projects with big pharma customers and wholesalers to develop Consolidated Services Centers (CSC). With the emergence of home delivery distribution models, everyone sees that a substantial consolidation is happening in supply chains, and this shift to CSCs is significant in terms of operational efficiency and cost savings.

In this space, Swisslog sees two opportunities. First, CSCs are basically a warehouse where individual packages are prepared for patients – this is a process that Swisslog is well positioned to automate from end to end. Second, as this shift continues we actually see the potential to significantly challenge currently distribution models by replacing wholesalers with a virtual business model – much like an Amazon.com business model, but for pharmaceuticals. Under this vision, hospitals or patients in their homes would order new medications online or via an app from these virtual wholesalers – I hope to position Swisslog here – and they would then would arrange for the medication to be shipped from a pharma company’s CSC directly to the customer, without going through a wholesaler’s warehouse. The app we spoke about earlier could be used by caregivers and patients alike to ensure that medications at home are being administered as intended.

What changes have you had to effect within the Swisslog organization to ensure you have the right teams and capabilities to be successful in these new business areas?

Simply put we have and are recruiting a new talent in a lot of areas, particularly software engineers and data scientists. To facilitate this shift we are relocating our US headquarters from Denver to Broomfield, Colorado to be closer to the University of Colorado and the pool of professional talent around the university. Similarly, we are also making plans to move our headquarters in Switzerland from Buchs, which is near Aarau, to be closer to Zürich, and also to start collaborating with the ETH Zürich, which is a leading university in the field of big data analytics.

From another perspective, Swisslog has had to undergo a dramatic cultural change, which is still underway. To have a real impact in the market today, Swisslog as an organization must be able to raise awareness and drive a change within healthcare systems and institutions.

Swisslog as it was in the past was not particularly well suited to this task. Descended from Sprecher + Schuh, which was a leading Swiss industrial automation pioneer founded back in 1903, the Swisslog name was born when the company entered the warehouse and distribution logistics

market in the 1990s. This is essentially the business that still operates today as the Swisslog Warehouse & Distribution Solutions division. More recently in 2014, we were acquired by the KUKA Group. As a consequence of this heritage, the Swisslog Healthcare business has inherited a lot of experience and capabilities in terms of managing workflows and logistics processes, along with technical and engineering expertise that was then scaled down from the warehouse and applied to logistics challenges within hospitals. With that expertise, the company also inherited a mentality characterized by a strong focus on engineering and products, and has not been particularly customer oriented or market driven.

As such, we have had to make a concerted effort to drive a change management program to transform the company culture into a more customer-centric and marketing-driven organization. This means there has been a strong shift from talking about the features and advantages of our robots to discussing the challenges of our customers that we can address. In making this change, the biggest challenge has of course been people, as we had to find those within our existing organization with the skills and attitude needed to start thinking and communicating in a more customer-centric way, and then recruit new personnel to fill in the gaps.

To wrap up, in tangible terms, what will be some of these quick wins and next steps over 2017, 2018 and 2019?

For 2017 we have three significant launches planned in different regions. First, we are substantially strengthening our software offering for pharmacy inventory management and introducing our chain-of-custody solution, which we call Delivery Manager. The latter is particularly relevant for our US business. Second, we are launching a new central pharmacy robot, the TheraPick Automated Packaging and Dispensing System, with our first customer being the Swiss Paraplegic Center in Notwill. This system already has additional buyers in France as well as Bangkok Thailand. As this robot handles tablets packed in blister packs, it is directed primarily to markets where blister-packed medications are prevalent. Third, we are introducing a new IV compounding robot for the Chinese market, which is significantly faster and has higher capacity than any other IV robot on the market. Interestingly, the Chinese deliver 20 percent of their meds in liquid form versus 6 to 8 percent in most other markets, and thus there are significant demands for IV drug management.

For 2018, we look forward to launching our first “meds to beds” solutions. We will be launching a mobile robot that fully automates delivery of medications to the patient’s bedside, and also has functionality to interface with patients being discharged to help drive medication adherence. With these and our other solutions, we look forward to delivering solutions that solve hospitals challenges in providing quality patient care.

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