Interview: Roger Hunziker â?? Country Sales Director; Martin Petrick â?? Life Science Strategic Account Manager, Rockwell Automation Switzerland

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Working at the convergence of information technology and operational technology, Rockwell helps clients to unlock value by giving them the right data to make smart decisions. For the life science industry in particular, there are many unexplored opportunities to unlock value within supply chains.

The buzzword in automation is Industry 4.0. What does Industry 4.0 mean to Rockwell?

Roger Hunziker (RH): Rockwell is working to help drive the convergence of information technologies and operational technologies within our clientâ??s organizations, and then leverage that convergence to unlock value within their business. Essentially this means helping industry get their manufacturing execution system and plant floor connected to their ERP system, and then finding ways to harness the data this provides to make smart management decisions. Together with our partners such as Cisco, we are able to provide complete automation solutions to our customers, and we call these solutions â??The Connected Enterprise.â?•

However, implementing these solutions is not a one-off process, rather it is a continuous improvement journey that a company embarks upon. Rockwell Automation started its own journey to becoming a Connected Enterprise back in 2008 at which point we had over 30 ERP systems and 15 different plants globally, none of which were properly connected to each other. We wanted to increase our product availability on the market, decrease total cost of ownership, increase efficiency

of production lines, and assess quality risk. Ultimately, we decided to embark on a complete transformation program for the entire company, as not only did we have to put significant new technologies in place to move to a single ERP system and connect all of our plants, but we also had to carry out a comprehensive overhaul of management processes, and retraining and deployment of people and teams to follow the changes to our technology. By carrying out this transformation program, we increased our rate of on-time deliveries from 85 to 96 percent, reduced our stock level from 120 days to 82 days of inventory, cut our rate of defects per million in half, and increased utilization of our production lines by 4-5 percent per year for the last five years.

It is with this experience behind us that we can engage with C-Level executives and help them plan their own transformations to become connected enterprises, or Industry 4.0 capable, helping them manage all three aspects, technology, processes and people. Importantly, investing in the technology to capture data is pointless if you are not able to find the right data that can be used to make better management decisions, and this is where we can really leverage our experience to make a difference. We are happy to share our expertise â?? gained from practicing what we preach. We see it as an investment, as eventually we will be compensated if and when we end up providing the technological solutions adding business value to the customer.

Switzerland is known to be the most innovative and productive country in the world. Why do you believe this is the case?

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Martin Petrick (MP): Switzerland is a high-cost economy, and yet there is still a lot of manufacturing activity taking place in the country. For the Swiss manufacturing industry to survive, it has had to be and will need to continue to be competitive, and the only way it can do that is by investing in technology. In this sense, the pressure to adapt and invest has always been higher in Switzerland than in Germany for instance, and thus the Swiss have done what was needed to stay ahead, taking decisions quickly while other countries are still just talking about the possibility.

RH: Switzerland is not blessed with natural resources like gold or petroleum, so historically the Swiss people have succeeded by developing and investing in human capital. Today we invest a lot in education as this is extremely important to our nationâ??s prosperity, and will only be more so as time moves forward.

With more and more pressure on our currency, it is more important than ever that Swiss companies innovate and invest in technology to increase productivity and drive competitiveness. Clearly, we have managed to adapt and react quite well because even after the significant shock to the value of the CHF in 2015 we still only have an unemployment rate of 3.5 percent which is quite low. Education is absolutely critical to our ability to adapt to a changing global economic environment, and the changes being driven by new technologies. With the arrival of Industry 4.0, many jobs will be replaced by robots, but others will be created. This is where the Swiss system of apprenticeships and vocational training is very much important, as through these programs we can train people on practical skills that have a real application in the workplace. Not everyone can have a PhD, or work as a lawyer or economist, but with the right training programs in place we can ensure everyone can find a suitable job in the industry 4.0 world, and alternatively that people with the skills needed by businesses operating in our country are relatively available.

MP: Further to what Roger has said, I would like to add that the pharma industry has made several very large investments here in Switzerland recently, and a key reason for this is the skilled labor base for biopharmaceutical manufacturing. For the production of these highly innovative, difficult to produce biologics, it is essential to operate in a stable environment like Switzerland where you have

access to the best talent.

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Considering several leading pharmaceutical companies are based in Switzerland, how would you assess the progress of the most innovative pharmaceutical companies toward becoming connected enterprises?

MP: It certainly depends on the company, as some have taken greater steps in this regard than others. In general, the pharma industry started investing in the use of IT in manufacturing quite early, simply to manage the regulatory recording and documentation requirements for pharmaceutical production; in fact, a lot of Rockwellâ??s business with the life science industry in this region began with setting up these electronic batch record systems. On the other hand, the level of automation on the shop floor still varies greatly. Regulations require production processes to be validated, and thus it is difficult to implement new more automated systems as the new processes would have to be revalidated. As such, there is a lot of room in pharma to do more and unlock value at the shop floor level.

RH: Certainly, the life sciences industry has made significant investments to meet the new requirements for serialization which manufactures must comply with by 2019. But beyond that, from Rockwellâ??s perspective, the life science sector represents USD 1 billion of our USD 6.3 billion global revenue. We work with 95 percent of the Fortune 500 companies, and all of the big pharma players on that list make extensive use of IT systems and Industry 4.0 capabilities at the global level â?? yet as Martin said, there is certainly space for them to do more at the operational level inside plants.

What would you highlight as an opportunity to use automation to unlock value that most pharma companies have not yet explored? Are they aware of these possibilities?

MP: If you look at many of the devices used in pharmaceutical manufacturing and the value of the spare parts that many companies keep in storage to use in repairs, the amount of capital tied up in these spare parts can be very substantial. This is where if you have your production facility properly networked and use the available data to manage the maintenance schedules for the facility more effectively, you can reduce faults that require unplanned maintenance substantially, and thus reduce the inventory of spare parts you keep on hand. There are of course other benefits in terms of minimizing downtime, improving operational efficiency and utilization rates.

As far as awareness goes, usually we do need to create some awareness for these things. Interestingly, we see that the companies that tend to be more open to these discussions are not the most innovative pharma companies, but rather larger volume generics manufacturers and even veterinary medicine manufactures, as they are far more cost aware. Of course, it is still quite difficult to get them to take a decision, but if they see real cost savings that they can capture it can happen. For the highly innovative big pharma companies, the truth is that innovation in manufacturing is not central to their business, and while cost pressures are increasing manufacturing costs are still a relatively small portion of their overall expenditures.

There are other companies that provide companies with solutions for integrating IT and OT systems and creating Industry 4.0 enterprises. What is unique about the Rockwell Automation approach and The Connected Enterprise?

RH: Rockwell Automation is fully focused on automation. It is the only business we do. We invest all our resources into creating business value for customers with our products and services.

We for example do this by offering a unified control system with multidisciplinary capabilities. This means we can control all types of systems: safety systems, continuous process, batch process, discrete systems, motion or drive systems all with common controllers and infrastructure. Information flows seamlessly across and through these systems. Engineering is efficient â?? there are standard pre-validated object libraries â?? configured not programmed. We have a single engineering environment for all of these different control disciplines. None of our competitors offers such multi-discipline capabilities. There is no need for separate systems for process, safety, packaging, qualified building automation etc. The business value lies in reduced training of engineers, operations staff, ease of maintenance, reduced spare parts holding, just to start.

The other key differentiator is that all our systems use industry standard connectors and protocols, and thus are compatible with almost any other system. From the beginning, we have used a standard Ethernet IP protocol, unchanged and compatible with other systems using Ethernet IP. Partnering with Cisco helps on the IT side to provide practical architectures for rolling out secure and scalable Ethernet based solutions globally while being able to guarantee performance.

On top of that, we are a significant manufacturing execution systems (MES) vendor. We have software and expertise that can be used to connect our own MES or automation to that from other vendors.

Critically, what this means is that for companies that have existing non-Rockwell systems in place, this doesnâ??t mean Rockwell isnâ??t a good partner to work with. We can come in on top and provide the solution to connect that facility and MES to assist creating a connected enterprise unlocking business value across their supply chains.

MP: One area of strength I would highlight is scalability. There is a lot of talk about modularization â?? supplying pre tested and qualified modules instead of the large plants of the past. Rockwell can automate both very large systems and very small systems with the same technology. The scalability on the downward side to the very small is something that I feel we do exceptionally well compared to our peers. Similarly the ability to integrate many small modules into large integrated systems is unparalleled.

The other aspect of that is getting the Connected Enterprise connected downwards to use the intelligence of the many small devices and modules, of which there can be hundreds now, growing to thousands in a facility soon. The limiting factors here are the amount of work needed to get each sensor or device to reliably and securely exchange data with the rest of the system and putting in place infrastructure that allows growth in the number of devices over time. Rockwell has invested quite a lot in getting these low-level devices to effectively be â??plug and play,â?• where you just plug them in and they work.

Moreover, our use and adoption of open standards that are used by the industry at large means that our systems can interface with other vendors devices in both the upward and downward direction, and this is where we have a lot to offer. When you look at the installed base of automation equipment in the DACH region there is a lot of diversity, but this doesnâ??t pose a challenge for Rockwell. We provide solutions where we can create value, and being able to work in a diverse world with other vendors equipment is really a strength of our organization.

To wrap up, what is your vision for Rockwell Switzerland five years from today?

RH: I want Rockwell Automation to be recognized as the company to approach when you have questions about digitization of your production, and the partner of choice for automation and Industry 4.0 capabilities with the â??Connected Enterpriseâ?• Solution.

To this end, as a company, we are investing a lot in the DACH region, and in April 2017 we will be opening a Connected Enterprise Center in Karlsruhe. This will be a facility for providing workshops to prospective clients to demonstrate how all our systems work, the information and capabilities they provide, and then show them examples using our own plants which we will be connected to in real time.

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