TREADING A FINE LINE
Interview with an extreme climber about visions, goals and limits

MEDIPAK SYSTEMS OPEN HOUSE 2016
Innovation and information: More about our pharma marketplace

INDUSTRY 4.0
Thoughts of a Think Tank founder about digitization in the modern world
DEAR CUSTOMERS,

Our 5th Medipak Systems Open House takes place right now at Dividella in Switzerland, under the banner “Onwards + Upwards”. This issue of our customer magazine therefore focuses on the event and Switzerland as a location also features heavily. Even when we are out and about as part of an international group of companies and visiting customers throughout the world, our origins – for Dividella this means Switzerland – remain an important part of our corporate culture.

As a guest at our Open House, this is where you will find some additional exciting information in the form of interviews, profiles and interesting facts. For all our other readers, this magazine provides an overview of the two-day event and the relevant topics which we discussed together: industry 4.0, protection from counterfeiting and Track&Trace or small lot sizes.

The stricter regulatory requirements for patient safety and the trend towards individualising medicines constitute challenges for the pharmaceutical industry, even though initially they have an adverse effect on equipment efficiency. It is our goal to show you the potential which lies not only in the individual machine, packaging or software application but also in the process chain as a whole and in the appropriate system solution.

From now on, “facts” will be a little different and is intended in the future not only to inform you but also to entertain you. I hope you have an enjoyable read!

Christoph Hammer
CEO Dividella AG
06  SWITZERLAND
Some facts and curious things about Switzerland, with no claim to completeness.

08  TREADING A FINE LINE
Interview with professional alpinist and extreme climber Stephan Siegrist on the common features of the world of the mountains and the world of business.

16  INDUSTRY 4.0
What does digitization mean for the future of manufacturing industry? Ideas and opinions from Dr. Stephan Sigrist, founder and director of W.I.R.E.

20  MEDIPAK SYSTEMS OPEN HOUSE
An overview and an inside view of the Medipak Systems Open House From 7 to 8 June 2016: Two days full of innovation and information.

24  IN CONVERSATION WITH CLEMENS BERGER
Interview with the CEO of Medipak Systems – personal goals, professional perceptions and strategic approaches.

WE ARE PARTNERS
28  MEDIPAK SYSTEMS
30  DIVIDELLA
32  MEDISEAL
34  RONDO
36  SEIDENADER
38  WERUM IT SOLUTIONS
40  WORLDWIDE
Did you know that Bern is not actually the capital of Switzerland?
It is the federal seat of Switzerland and also known as the federal city. And even that is not entirely official. Only de facto, not de jure. For although Bern was the winner in an official poll in 1848 against Zurich and Lucerne, to date there is no federal law which enshrines the status of the city of Bern as the federal city. Regardless, today about one eighth of Swiss people live in their federal city.

Some facts and curious things about Switzerland

1. Switzerland

Did you know that Bern is not actually the capital of Switzerland?
It is the federal seat of Switzerland and also known as the federal city. And even that is not entirely official. Only de facto, not de jure. For although Bern was the winner in an official poll in 1848 against Zurich and Lucerne, to date there is no federal law which enshrines the status of the city of Bern as the federal city. Regardless, today about one eighth of Swiss people live in their federal city.

2. Did you know that the pharmaceutical industry accounts for one third of the volume of exports from Switzerland?
In 2014, Swiss biotechnology and pharmaceutical companies exported goods to the value of more than 70 billion Swiss francs. In that year, Switzerland as a whole achieved a volume of exports of 208.4 billion Swiss francs. A teaser for anyone who believes there is a connection here: the life expectancy of a Swiss person at birth is currently 85.2 years (for women) and 81 years (for men). Compared to other countries, people live longer only in Japan and Spain.

3. Did you know that you can’t join the navy in Switzerland?
As a landlocked country, Switzerland has precisely zero kilometres of coastline. The Swiss army therefore has wisely opposed the establishment of a naval unit. Nevertheless, the Swiss have a thoroughly commendable relationship with water. Within the country there is no location from which you have to travel more than 16 kilometres to reach a lake. Quite understandable, when there are 1500 lakes in total. There are also excellent prospects for water-sports enthusiasts.

4. Did you know what the letters CH stand for on the country code of Swiss cars?
Strictly speaking and officially, Switzerland is actually the Swiss Confederation. In the country’s other official languages, in addition to German, this translates as the Confédération suisse (French), Confederazione Svizzera (Italian) or Conf федерации Великобритании (Rhaeto-Romansch). The icing on the cake is that the Latin translation is ... Confederatio Helvetica, or CH for short.

5. Did you know that apart from the pharmaceutical industry, Swiss tourism is a real export winner?
In 2014 tourism exports, i.e. revenue within Switzerland from foreign tourists, amounted to 16 billion Swiss francs. That corresponds to approximately 9 per cent of Swiss export revenues over the year. In total, tourist products and services generated more than 58.8 billion Swiss francs. No wonder that a good 4 per cent of all persons employed in Switzerland make their living from tourism. Another thing about Switzerland: Not only do foreign tourists love Switzerland; the Swiss themselves also like to travel. In 2014 16 billion Swiss francs were spent in Switzerland by foreign tourists; foreign travel by the Swiss was worth 15 billion Swiss francs.

6. Did you know that if you are a climber you can choose from more than 230 peaks?
Switzerland does not feature any mountain peaks higher than 8000 metres, but the Dufourspitze in the canton of Valais is a creditable 4544 metres above sea level. As we have pointed out, ambitious climbers can scale more than 230 peaks between 694 metres and 4544 metres. Bright prospects, in the truest sense of the word. You can read more about mountains, adventures and climbing in the interview with Stephan Siegrist, extreme mountaineer and professional climber from – of course – Switzerland.

7. Did you know that cheese is particularly appreciated in Switzerland?
The Swiss claim to know about, produce and consume cheese from 450 different locations. No wonder two of the three best loved Swiss dishes are prepared with cheese. The favourite for the Swiss national dish is the fondue, followed by rösti (from potatoes) and raclette cheese!

8. Did you know that Swiss have already been world champions twice?
Not at football, true, but in terms of the spirit of invention. In 2012 the World Intellectual Property Organisation (WIPO) for the second time chose Switzerland as the world champion for innovation. Since then, the country has been number one in the Global Innovation Index, which is compiled annually. Closely followed by the United Kingdom and Sweden, which alternate between second and third position.

9. Did you know that if you are a Facebook user you get a hit with the Facebook community?
One of the most popular Swiss Facebook pages is Roger Federer’s page. The tennis star is the world’s number one and the most popular Swiss Facebook page. With 14.5 million followers the world-class tennis player’s page seems to be a hit with the Facebook community.

DID YOU KNOW...?
Some facts and curious things about Switzerland

1. Switzerland

Did you know that Bern is not actually the capital of Switzerland?
It is the federal seat of Switzerland and also known as the federal city. And even that is not entirely official. Only de facto, not de jure. For although Bern was the winner in an official poll in 1848 against Zurich and Lucerne, to date there is no federal law which enshrines the status of the city of Bern as the federal city. Regardless, today about one eighth of Swiss people live in their federal city.

2. Did you know that the pharmaceutical industry accounts for one third of the volume of exports from Switzerland?
In 2014, Swiss biotechnology and pharmaceutical companies exported goods to the value of more than 70 billion Swiss francs. In that year, Switzerland as a whole achieved a volume of exports of 208.4 billion Swiss francs. A teaser for anyone who believes there is a connection here: the life expectancy of a Swiss person at birth is currently 85.2 years (for women) and 81 years (for men). Compared to other countries, people live longer only in Japan and Spain.

3. Did you know that you can’t join the navy in Switzerland?
As a landlocked country, Switzerland has precisely zero kilometres of coastline. The Swiss army therefore has wisely opposed the establishment of a naval unit. Nevertheless, the Swiss have a thoroughly commendable relationship with water. Within the country there is no location from which you have to travel more than 16 kilometres to reach a lake. Quite understandable, when there are 1500 lakes in total. There are also excellent prospects for water-sports enthusiasts.

4. Did you know what the letters CH stand for on the country code of Swiss cars?
Strictly speaking and officially, Switzerland is actually the Swiss Confederation. In the country’s other official languages, in addition to German, this translates as the Confédération suisse (French), Confederazione Svizzera (Italian) or Confederaziun svizra (Rhaeto-Romansch). The icing on the cake is that the Latin translation is ... Confederatio Helvetica, or CH for short.

5. Did you know that apart from the pharmaceutical industry, Swiss tourism is a real export winner?
In 2014 tourism exports, i.e. revenue within Switzerland from foreign tourists, amounted to 16 billion Swiss francs. That corresponds to approximately 9 per cent of Swiss export revenues over the year. In total, tourist products and services generated more than 58.8 billion Swiss francs. No wonder that a good 4 per cent of all persons employed in Switzerland make their living from tourism. Another thing about Switzerland: Not only do foreign tourists love Switzerland; the Swiss themselves also like to travel. In 2014 16 billion Swiss francs were spent in Switzerland by foreign tourists; foreign travel by the Swiss was worth 15 billion Swiss francs.

6. Did you know that if you are a climber you can choose from more than 230 peaks?
Switzerland does not feature any mountain peaks higher than 8000 metres, but the Dufourspitze in the canton of Valais is a creditable 4544 metres above sea level. As we have pointed out, ambitious climbers can scale more than 230 peaks between 694 metres and 4544 metres. Bright prospects, in the truest sense of the word. You can read more about mountains, adventures and climbing in the interview with Stephan Siegrist, extreme mountaineer and professional climber from – of course – Switzerland.

7. Did you know that cheese is particularly appreciated in Switzerland?
The Swiss claim to know about, produce and consume cheese from 450 different locations. No wonder two of the three best loved Swiss dishes are prepared with cheese. The favourite for the Swiss national dish is the fondue, followed by rösti (from potatoes) and raclette... cheese!

8. Did you know that Swiss have already been world champions twice?
Not at football, true, but in terms of the spirit of invention. In 2012 the World Intellectual Property Organisation (WIPO) for the second time chose Switzerland as the world champion for innovation. Since then, the country has been number one in the Global Innovation Index, which is compiled annually. Closely followed by the United Kingdom and Sweden, which alternate between second and third position.

9. Did you know that if you are a Facebook user you get a hit with the Facebook community?
One of the most popular Swiss Facebook pages is Roger Federer’s page. The tennis star is the world’s number one and the most popular Swiss Facebook page. With 14.5 million followers the world-class tennis player’s page seems to be a hit with the Facebook community.
TREADING A FINE LINE.
Stephan Siegrist has been an extreme mountaineer and a professional climber for nearly twenty years. The forty-four year old lives near Interlaken in Switzerland. From there he makes extraordinary expeditions throughout world. He was recently with his team in Kashmir. In addition to first ascents on all seven continents and challenging classics such as climbing the great north faces of the Alps, Stephan Siegrist also draws attention to himself through wide-ranging climbing projects and base jumping. In the context of his talk during the Medipak Systems Open House, Stephan Siegrist answered some questions about himself, his projects and his goals, as well as his personal philosophy.

\textit{Mr. Siegrist, is the Swiss mountain landscape to blame for you becoming an extreme climber?} 
To tell the truth, my homeland, the Bernese Mittelland, is fairly flat. As a boy I did have a great view of the mountains, but they were always far away for me. At fourteen, some acquaintance took me with them on a skiing trip. This was the first time I had stood on the summit of a mountain, and I was not at all inspired. In my view, the costs and benefits bore no relationship to each other. This changed when I was eighteen, when I was introduced to rock climbing and mountaineering. I felt immediately: this is my passion, this is what I want to do. From that time on I spent all my spare time and money on it.

\textit{So why does someone become a professional mountain climber when so many others just do it as a hobby?} 
At the beginning everyone advised me against it. In their opinion the whole thing was doomed to failure. Twenty years ago the industry was not yet really ready to support an athlete financially. But I stubbornly did what my heart told me. You have to have a lot of courage to undertake such a project against the generally accepted opinion. And yes, luck also plays a part.

\textit{What drove you on?} 
When rock climbing and mountaineering, I continuously have to get to grips mentally and physically with myself and my limits. For me, mountaineering means freedom, adventure, perseverance and living together as a team. One finds oneself in many different situations and one learns a lot about emotions. These emotions are also what keep me motivated and spur me on to tackle new projects.

\textit{What emotions do you mean?} 
During an expedition one lives just with nature for weeks at a time, trying to read it and understand it. Just like one’s own feelings and those of the team members. You can sense pretty well what’s going on in other people, what they are feeling. That is extremely important, because we mountain climbers are not exactly great communicators. We don’t talk much, so a lot depends on intuition. Intuition for each other, but also for nature.
Apart from his expeditions, Stephan Siegrist makes his living by enabling others to share his adventures and experiences as a professional mountaineer. He has published books and illustrated volumes and has shot documentary films about his expeditions. He gives multimedia presentations on how the experiences from his life at the edge can be made relevant to people’s everyday lives.

In his presentations for businesses, he draws parallels between the world of the mountains and the world of business and transfers experiences from his expeditions to the many different challenges faced by industry. He speaks of visions, goals, risk management and the consequences which even the tinest mistakes can have. In the mountains as well as in business.

By transferring his experiences to the commercial world, Siegrist wants not only to motivate employees but also to indicate how both successes and failures can be acknowledged for what they are.

What do you need to get right to the top?
Above all the conviction to want to do it and to want to achieve the goal. Plus self-assurance, ambition, perseverance and a team behind you.

So at the beginning there is the goal? Always?
In every case. It is hard for me to imagine a long time with no goals. Without a goal I lack motivation, even when I’m training.

And if you do not achieve your goal? What then?
For example, if I have to turn back? Then it’s a matter of learning from the mistakes which have been made. When I was a young climber I had some tough failures which haunted me for a long time; it was difficult for me afterwards. But I experienced getting support all the same from people who were important to me. From my sponsors, my friends, my family. That gave me the confidence to carry on, to start the whole thing afresh and to move forward. Failures are difficult, but one learns a great deal from them.

Just as in commercial enterprises, Stephan Siegrist’s expeditions involve the successful realisation of visions and ideas. To do this, strategies have to be developed and actions planned to implement them. When planning and carrying out his expeditions, Siegrist follows a personal philosophy he had espoused for more than twenty years. The mountains he climbs must appeal to him aesthetically; they must be technically challenging and they must be located in regions which are as remote as possible.

Philosophy and marketing… as a professional mountaineer you have to earn your living from your expeditions, are there ever any conflicts which arise?
From a marketing view and as a professional climber you have to climb mountains which people know about, which have a name. So my philosophy actually contradicts my profession, where I am for a large part dependent on public perception. Nevertheless I have always tried to do things I find fun to do, things which interest me. Even when it was unpopular and I was lacking support. Only then can I motivate myself. I earned the money in other ways or waited until I had enough for the trip. Then there are always pictures, impressions and experiences which we can publish to get attention.

When you choose the goal for an expedition, are you not changing precisely what fascinates you: Its unspoilt state?
It is indeed a double-edged sword. I choose locations where the culture is still original and the people have little or no contact with our part of the world. And then we come along and publish the climb, making people aware of the beauty. This naturally attracts other people – climbers, but also tourists. That can be good for the indigenous population, who make money from it. But at the same time one destroys old traditions, because, for example, material gets left behind, jackets, articles and equipment. And this in turn alienates the original image of these people and their culture.

FAILURES ARE DIFFICULT, BUT ONE LEARNS A GREAT DEAL FROM THEM.

When you choose the goal for an expedition, are you not changing precisely what fascinates you: Its unspoilt state?
It is indeed a double-edged sword. I choose locations where the culture is still original and the people have little or no contact with our part of the world. And then we come along and publish the climb, making people aware of the beauty. This naturally attracts other people – climbers, but also tourists. That can be good for the indigenous population, who make money from it. But at the same time one destroys old traditions, because, for example, material gets left behind, jackets, articles and equipment. And this in turn alienates the original image of these people and their culture.

What do you need to get right to the top?
Above all the conviction to want to do it and to want to achieve the goal. Plus self-assurance, ambition, perseverance and a team behind you.

So at the beginning there is the goal? Always?
In every case. It is hard for me to imagine a long time with no goals. Without a goal I lack motivation, even when I’m training.

And if you do not achieve your goal? What then?
For example, if I have to turn back? Then it’s a matter of learning from the mistakes which have been made. When I was a young climber I had some tough failures which haunted me for a long time; it was difficult for me afterwards. But I experienced getting support all the same from people who were important to me. From my sponsors, my friends, my family. That gave me the confidence to carry on, to start the whole thing afresh and to move forward. Failures are difficult, but one learns a great deal from them.

Just as in commercial enterprises, Stephan Siegrist’s expeditions involve the successful realisation of visions and ideas. To do this, strategies have to be developed and actions planned to implement them. When planning and carrying out his expeditions, Siegrist follows a personal philosophy he had espoused for more than twenty years. The mountains he climbs must appeal to him aesthetically; they must be technically challenging and they must be located in regions which are as remote as possible.

Philosophy and marketing… as a professional mountaineer you have to earn your living from your expeditions, are there ever any conflicts which arise?
From a marketing view and as a professional climber you have to climb mountains which people know about, which have a name. So my philosophy actually contradicts my profession, where I am for a large part dependent on public perception. Nevertheless I have always tried to do things I find fun to do, things which interest me. Even when it was unpopular and I was lacking support. Only then can I motivate myself. I earned the money in other ways or waited until I had enough for the trip. Then there are always pictures, impressions and experiences which we can publish to get attention.

When you choose the goal for an expedition, are you not changing precisely what fascinates you: Its unspoilt state?
It is indeed a double-edged sword. I choose locations where the culture is still original and the people have little or no contact with our part of the world. And then we come along and publish the climb, making people aware of the beauty. This naturally attracts other people – climbers, but also tourists. That can be good for the indigenous population, who make money from it. But at the same time one destroys old traditions, because, for example, material gets left behind, jackets, articles and equipment. And this in turn alienates the original image of these people and their culture.
And what does this mean for you?
It always means I have to weigh things up. Every time I ask the questions: what are the effects of what I am doing? What are the consequences of my actions? And how much and what do we want to publish?

In his presentations, Stephan Siegrist would like to share with his audience his enjoyment of mountaineering and the joy of the challenge. He wants to motivate people and encourage them to reflect, to boost their courage to face risks, and at the same time to get to know their limits – and if necessary to turn back.

Not just in his presentations, Stephan Siegrist argues for treading new paths and for belief in pursuing a specific goal with passion and commitment. His career also features peak performances and broken records.

How important are records to you?
If I had always focused exclusively on peak performance and the best media output, I don’t know if I would do all that again. Just to earn money that way – the whole thing is too stressful, not very lucrative and too risky.

And if you could no longer make a living from it?
Then I would continue to do much the same, continuing to go off on expeditions. Somehow. It is a life which means a great deal to me. I have taken up a profession which is not normal, not that there are any which are. But I love what I do.

And what does your homeland, Switzerland, mean to you?
It is my base camp to which I am always glad to return. Switzerland offers me many possibilities of pursuing my hobby and by profession. Only when one is travelling through many countries does one see how life in Switzerland is so beautiful and safe.

Are you a typical Swiss?
No! (Siegrist laughs). Not at all. And this sometimes makes things not so easy for me and for other people.
Looking Ahead to Industry 4.0

What does digitization mean for the future of manufacturing industry and what recommendations for action can be derived from the different scenarios? Dr. Stephan Sigrist talks about this at the 2016 Medipak Systems Open House.

Having seen intensive discussions about the possibilities of digitization over the past few years, intelligent systems and smart machines are now slowly becoming a reality. But what does digitization mean for manufacturing companies? There is no standard answer. “Prognoses are very difficult, because the future simply cannot be predicted”, says Dr. Stephan Sigrist.

In Dr. Stephan Sigrist’s opinion, the official future is characterized by increasing transparency, driven by digitization. “There are a multitude of possibilities for making our lives simpler and processes more efficient. Apart from this development, we are seeing the rise of smart machines - robots which take over human activities. However, this raises the question of the extent to which these smart machines will replace human beings.”

It is certain that digitization will affect and change industry over the next few years. “In this context, it is primarily a matter of the simulation of production lines and self-organizing manufacture, where machines agree among themselves in order to be more efficient.” This is the scenario outlined by the founder and director of Zurich’s W.I.R.E think tank. He also envisions a further element in expert support for employees, e.g. in deciding which tools to use for which assembly operation, or what torque to apply to tighten screws.

And if full digitization does not take place? Dr. Stephan Sigrist does not consider this to be at all improbable: “We are already generating more data than we can store.” For businesses, this means one must also first understand the processes to develop appropriate strategies and algorithms. The point is not to collect the data first and only then to think about what to do with it.

The volume of data is one aspect; the concomitant overload of human beings is another: “We have lots of data, but it is becoming more and more difficult to derive a strategy from it. In individual cases, very precise systems can indeed be optimized, but it is becoming more and more difficult to understand the overall interrelationships. Instead of an understanding of processes and procedures what results is an even greater lack of transparency.

“We have to get to grips with the consequences of the next industrial revolution and sketch out a differentiated view”.

Human understanding is the basis for innovation. Algorithms help but they do not remove our power of thought.

Dr. Stephan Sigrist
In parallel, Dr. Stephan Sigrist recommends adapting to the new basic conditions of the digital world by applying appropriate strategies. This includes, for example, the optimization of back-office processes and production lines in industry. Additionally, it would require tailored offerings based on analyses of customer data. In all these considerations, however, human beings must not be left behind. Because people will be needed even more in the future than previously in the context of strategic themes or complex consultancy services: “Human understanding is the basis for innovation. Algorithms help but they do not remove our power of thought.”

Dr. Stephan Sigrist
Founder and head of W.I.R.E., Think Tank for Business, Society and Life Science

Stephan Sigrist has spent many years analyzing interdisciplinary developments in business and society, focusing on trends in the healthcare system and life sciences as well as such topics as digitization, urbanization and new forms of production including 3D printing. With W.I.R.E., he advises companies and institutions in the political and scientific spheres on the development of long-term strategies and innovation projects.

After studying biochemistry at the ETH Zurich, he initially joined Hoffman-La Roche’s medical research team. He subsequently went on to work at Roland Berger Strategy Consultants as a management consultant and at the Gottlieb Duttweiler Institute. Stephan Sigrist is a member of the Governing Board of the aha! Swiss Allergy Centre and the Foundation Board of Science et Cité.

More information you will find shortly on our website: openhouse.medipak-systems.com
**INDUSTRY 4.0**

The concept of “Industry 4.0” is the idea to further develop the common manufacturing processes by using intelligent technologies and virtual systems. What can such intelligent technologies and systems actually provide now and in the future for manufacturing companies? The real world and the virtual world are converging, driven by new IT technologies. For the manufacturing pharma and biotech industry, this means new possibilities for increasing efficiency and saving time and costs in production. It also means: the physical world can be monitored and controlled via digital-real time mapping. And it makes digital life cycle management possible, including, for example, predictive maintenance. Smart production lines report problems promptly and ideally solve them themselves.

**Because the bottom line is:** to increase overall productivity and to improve flexibility and process stability.

---

**OEE OPTIMIZATION**

Overall Equipment Effectiveness (OEE) is an interaction of equipment availability, product quality and process quality. This means that even small tweaks can have a large effect: from cleaning, set-up times and downtime, through capacity fluctuations due to the speed of production, to effects on quality dimensions such as weight, hardness, abrasion or optics. Trends towards personalised medicine, the greater use of country-specific packaging markings or the approval of new security features will be able to be placed on the market. In addition to a 2D code, these also include a “tamper evident” feature. The solutions of the equipment manufacturers are many and diverse. They extend from tamper evidence labels, which are applied over the flaps on the upper or lower edge of medicine boxes, through direct gluing of the flaps after the pack has been filled, to the integration of tamper evidence directly into the design of the folding box. Dividella, Rondo and Seidenader offer their customers a range of tamper evidence solutions within the production process. Rondo offers integration into packaging, whilst Dividella and Seidenader incorporate tamper-evident seals into the serialisation process.

**The crucial factor:** a measurable and sustainable improvement in effectiveness.

**The desired result:** a fully traceable and therefore safe supply chain.

---

**TAMPER EVIDENCE**

On 9 February 2016 Delegated Regulation (EU) 2016/161 was published; it lays down the technical and organisational standards for the implementation of Falsified Medicines Directive 2011/62/EU. From 9 February 2016 in Germany, only prescription medicines which have the new security features will be able to be placed on the market. In addition to a 2D code, these also include a “tamper evident” feature. The solutions of the equipment manufacturers are many and diverse. They extend from tamper evidence labels, which are applied over the flaps on the upper or lower edge of medicine boxes, through direct gluing of the flaps after the pack has been filled, to the integration of tamper evidence directly into the design of the folding box. Dividella, Rondo and Seidenader offer their customers a range of tamper evidence solutions within the production process. Rondo offers integration into packaging, whilst Dividella and Seidenader incorporate tamper-evident seals into the serialisation process.

**Always in focus:** the performance and economic efficiency of packaging systems.

---

**TRACK & TRACE SOLUTIONS**

According to estimates by the WHO, up to 15% of all medical products worldwide are counterfeit. Apart from significant losses for the pharmaceutical industry, this puts the health of patients at risk and undermines their trust in medicines. Worldwide, more than 40 markets have already adopted state regulation in the fight against product piracy and for forgery-proof medicines, including the EU, the USA, South Korea, Brazil and China. It is expected that by the end of 2018 more than 75 per cent of all prescription medicines in the world will be protected by appropriate laws, so implementation throughout the supply chain will become essential. Consequently, many manufacturers are opting not only for identification but also for full traceability of their products, by integrating Track & Trace solutions.

**The desired result:** a fully traceable and therefore safe supply chain.
Things (IIoT) and integrated communication at all levels: from the sensor to the ERP system or the data cloud. Predictive maintenance therefore presupposes that one is not only able to collect data but also to interpret it meaningfully.

**Higher Availability and Efficiency Through Data-Based Services**

Every day, maintenance planning has to tackle the challenge of ensuring maximum availability of machines and at the same time minimising materials consumption for maintenance and repairs. This is a requirement which existing maintenance concepts generally cannot meet.

A solution for predictive maintenance opens up new possibilities for businesses: the status of machines is recorded using sensor technology and automatically checked against templates which indicate a possible fault. This means that impending breakdowns can be detected in advance and corrective measures can be optimally planned and initiated. This offers the possibility of avoiding unscheduled downtime and of optimising the deployment of both personnel and resources.

The route from reactive maintenance to predictive maintenance is based on smart products, the Industrial Internet of Things (IIoT) and integrated communication at all levels: from the sensor to the ERP system or the data cloud. Predictive maintenance therefore presupposes that one is not only able to collect data but also to interpret it meaningfully.

**NFC Technology**

Cashless payments of small amounts, keyless opening of a car, electronic admission and travel tickets: the use of Near Field Communication (NFC) is becoming more and more common in people's everyday lives. This is made possible by the widespread use of smartphones, which support this international transmission standard for contactless exchange of data using radio technology over short distances.

Pharmaceutical manufacturers have also shown interest in the technology. The possible applications are manifold. They range from reading out the enclosed leaflet via automatic re-ordering of medicines to the provision of additional information, for example on the correct administration of a medicine (patient compliance) or the correct use of a medicinal product.

The NFC chip is incorporated when the packaging is manufactured. Rondo is the first folding box manufacturer to present solutions for the use of NFC technology at the FachPack 2015 in Nuremberg. Two applications were presented: in the first case, after the smartphone was placed on the packaging, the enclosed leaflet was read out. In the second example, the medicine was able to be re-ordered electronically after the telephone was placed on the packaging. Other wide-ranging applications for improved direct communication with the patient or between patient, physician and pharmacist are conceivable.

**Werum’s PAS-X KPI Solution**

For efficient pharmaceutical manufacturing, it is essential both for operators and supervisors on the shop floor and for production site managers to constantly monitor the operating data. Thus, all stakeholders can use the key performance indicators (KPIs) from the production and packaging lines to optimize their processes or equipment.

Werum’s PAS-X KPI solution provides powerful functions for ensuring operational excellence and lean manufacturing by combining PAS-X data and equipment data for performance management.

Monitors on the shop floor display all important KPIs in real time so that operators and supervisors can view the status of their line at any time. Werum’s KPI tool is also available as a standalone solution for lean implementation.

**Shop Floor Performance Booster**

For efficient pharmaceutical manufacturing, it is essential both for operators and supervisors on the shop floor and for production site managers to constantly monitor the operating data. Thus, all stakeholders can use the key performance indicators (KPIs) from the production and packaging lines to optimize their processes or equipment.

Werum’s PAS-X KPI solution provides powerful functions for ensuring operational excellence and lean manufacturing by combining PAS-X data and equipment data for performance management.

Monitors on the shop floor display all important KPIs in real time so that operators and supervisors can view the status of their line at any time. Werum’s KPI tool is also available as a standalone solution for lean implementation.

-KPIs such as Availability, Effectiveness and Quality are displayed together with the resulting OEE in real time right where they are generated. Operators will be able to directly monitor the performance of their line on mobile HMI monitors or on the screen at the equipment.

More information: werum.com/pas-x-kpi_en
IN THE HEART OF THE MACHINE

The inspection carousel with the camera stations on the left, the product infeed for the ampoules below, and above: the high-voltage inspection module. With Seidenader’s Virtual Reality (VR) goggles, customers experience automatic and semi-automatic inspection as well as Track & Trace machines in a completely new dimension: the third dimension. They dive into the machines and from inside they can see and understand even better.

Via a smartphone with a corresponding 3D-App, data is transferred to the VR goggles which the user wears during the 3D experience. Every body movement and every turn of the head are captured and transferred to the virtual reality. Thus the user moves, as it were, through the entire machine. With a specific look he can activate several features, start the machine or look into the inspection carousel, for example. For that the single components become transparent and the user sees the secrets of the machine’s inner life, which would not be possible from the outside.

BEST COST SOLUTION FOR TAMPER EVIDENCE

The Rondo Tamper Evident solution sets new standards in safety. The innovative packaging offers much more than a standard folding box can usually provide: Unlike traditional boxes, the tamper protection is integrated directly into the packaging.

The Rondo Tamper Evident solution involves neither security labels nor glue. During the sealing process, cut-outs are activated in the bottom and top flaps; these clearly and irreversibly indicate the first opening of the box. At first glance, the consumer can see from the break in the perforation whether the packaging is intact or if it has been tampered with. The blanks can be erected, filled and sealed on existing packaging lines. Nor is the packing rate affected by the Tamper Evident solution. Opening and resealing is just as simple and easy as it is with Rondo’s conventional folding boxes.

THE SCALABLE APPROACH: SERVICE, SOFTWARE AND HARDWARE

Seidenader Track & Trace solutions enable serialization at any level of aggregation of pharmaceutical packaging. Both stand-alone solutions and integration into third-party systems are possible at each level of secondary packing. With their combination of 1D-/2D coding and readable text, these solutions support worldwide requirements combating the falsification of medicines.

Werum’s PAS-X Track & Trace software provides functions for serialization and aggregation in packaging processes and integrates ERP and Global Repository (as well as possibly an MES) with packaging technology and line control at production level. PAS-X T & T provides extensive, product-based, out-of-the-box functionality and also supports all relevant international requirements for the fight against falsification of medicines. PAS-X T & T can be used as an entry-level solution and as part of the Packaging Solution. The advantage to you: complete solutions for serialization and aggregation, from line integration through to full MES (Manufacturing Execution Systems), from a single source.
IN CONVERSATION WITH CLEMENS BERGER

CEO Medipak Systems

Mr. Berger, what motivated you to come to Medipak Systems?

The structure of Medipak Systems, along with the great potential for the future. We are fortunate to be active in a growing market, with very demanding customers, who appreciate having a strong and reliable technology partner at their side. Each individual company within Medipak Systems is strong in terms of its technologies. It is my goal to link the skills of the individual companies even more closely and in this way to generate even greater customer benefits as a group. In addition, Medipak Systems is part of the Körber Group. That gives us maximum financial stability and every possibility to act with long term in mind.

It also pleases me that the Körber Foundation, as our owner, is committed to society. Everything we earn is either reinvested or benefits our society directly. I believe that’s a very fine business model.

You have now been CEO of Medipak Systems since October 2015. How have the first nine months here been for you?

I am impressed. Impressed by the diversity within the Group. I am speaking here of the companies and their cultures, their activities and projects, and their expertise.

We know what we have to work on. A great deal is happening. And there is a good atmosphere in the companies. I can also say with certainty that I will not get bored for the foreseeable future.

Before Medipak Systems, you worked for many years in various positions with the leading manufacturer of machines and systems for the process, filling and packaging technology sectors in the beverage industry. What do you bring with you from that time for your new task?

In my time before Medipak Systems I was able to acquaint myself with the diverse challenges which arise in the complex process chains of challenging products in terms of their production and packaging.

In my previous work, top quality was the be all and end all. This understanding has accompanied me through all my professional positions and helped me get a good understanding of the pharma industry.

The things which the pharma industry and the beverage industry have in common in terms of production and packaging are more numerous than one might think. Although in the case of pharma production sometimes the complexity, and above all the potential for harm, are naturally distinctly higher.

The customers with whom I came and still come into contact cannot make any compromises in product safety. The products are often of enormous value. Apart from one hundred percent safety which our technology must provide, reliability is crucial.

For me, reliability is on the one hand reliable technology and on the other dependability in our actions and as a partner for our customers.

The third main requirement is flexibility. The investments by our customers in production and packaging technology are substantial. They need technology which can be applied to many different products, which is quick to convert for different applications and whose life cycle can be extended. Here there is no difference between my earlier responsibilities and my current ones.

How do you assess the current general conditions in the pharma market?

The pharma market continues to be a stable, growing market, but it does face a number of upheavals. The main driving forces for growth are rising life expectancy, the increase in chronic diseases and the introduction of innovative and frequently expensive therapies, for example against cancer or hepatitis C.

On the other hand, many countries have acted to curb costs in the health service. Among other things, these measures include price limits, mandatory discounts and benefit-based price structuring and reimbursement models. Our customers are therefore expecting growing demand, but they are also...
THE MEDIPAK SYSTEMS VISION MUST BE NOT ONLY THE FOUNDATION FOR OUR STRATEGY AND OUR ROADMAPS, BUT MUST ALSO GUIDE OUR DAILY ACTIONS.

Facing major challenges: high discounts and the trend towards patient care and treatment procedures which are based on quality or results are exerting pressure on margins. In addition, supervisory authorities worldwide are strengthening the regulatory requirements for the industry. The focus is increasingly on so-called “off-label” use, inadequate management of medicine safety and the disclosure of clinical studies. For example, the European Union has issued regulations for new data standards. By means of IDMP, the identification of medical products, identification of medicines without risk of confusion is to be guaranteed at an international level. This is possible thanks to a procedure for generating global product IDs which can be used for the entire supply chain.

Are there other driving forces which affect the pharmaceutical companies? Manufacturers are also affected by the trend towards individualising of medicines, for example by brand new approaches to the treatment of patients with the aid of personalised medicine or by country-specific markings on packaging. The trend towards smaller lot sizes involves a lot of work, because among other things it can have adverse effects on overall equipment efficiency. In this context, too, we are expected to provide solutions. Particularly in developed industrial nations, pharmaceutical manufacturers are also demanding sustainable and ecologically sound packaging which can be also for marketing purposes, for example using NFC technology, and for improving patient compliance.

How can you support your customers in these developments? One example: medicines are being developed more and more often for illnesses with comparatively small numbers of cases. That is very good news, because people suffering from rare diseases can increasingly be helped. But for the manufacturers this means more complexity and ever smaller lot sizes. On the equipment side, this increases the already significant requirements in terms of flexibility and fast convertibility. And all this has to be combined with maximum process safety. We therefore provide solutions for our customers with an emphasis on flexibility combined with maximum reliability. Many of these solutions are designed as modular, scalable platforms which give manufacturers the essential leeway to produce small batches as well and to use different packaging.

How do you wish to fulfil this aspiration? Primarily, I see close personal contact with our customers but also actually being physically close to them as important. We have set ourselves the goal of having a presence in many regions of the world, with our own locations. This year, for example, we will be opening a sales and service company in Shanghai, China. We will then be represented in Asia, as well as Europe, North and South America. From these hubs, we can provide our customers with excellent service from very well-trained personnel.

How do you get your customers out of it? In the final analysis, what counts for our customers are reliability, security and cost-effectiveness. And we support them in this. On a long-term basis, the Total Cost of Package, i.e. the costs per pack over the entire value-creation chain, has to be reduced.
We are the Pharma Systems Business Area of the Körber Group and combine the advantages of an international group with the strengths of highly specialized enterprises.
For more than three decades Dividella has been developing innovative pharma packaging systems for the secondary packaging of parenteral substances. Practical, individual solutions with the precision for which Switzerland is famous. As a pioneer in TOPLoading packaging, we provide only top quality and excellent customer service. For the worldwide success of your pharmaceutical products.

**PRODUCT PROTECTION & FLEXIBILITY**

Optimal product protection, flexible packaging design and consistent modularity distinguish Dividella’s patented TOP-Loading method. In combination with the matching product infeed, it enables vials, ampoules, blisters, etc. to be packaged reliably and efficiently.

**TOTAL COST OF PACKAGE**

Dividella’s TOPLoading method is based on flat box and partition blanks, reliable automated erection and gluing, followed by a reliable insertion process (100% verification after product insertion). This guarantees positive results for both TCO and TOP.

**SMALL LOT SOLUTIONS**

Personalized medicine and country-specific identification are resulting in smaller lot sizes. Flexibility and overall efficiency of the packaging process are therefore becoming more important. The modular NeoTOP x allows manual packaging as well as flexible robotic loading to retain efficiency when producing small lot sizes.
DOsing AND PACKAGING SOLUTIONS FOR THE PHARMA INDUSTRY

Mediseal develops the right dosaging and packaging solution for virtually any pharmaceutical and cosmetic industry application. Our blister, sachet, stickpack and cartoning machines are in use throughout the world. Our strengths are innovative and tailor-made line concepts and a personal commitment to our customers. Our motto for more than eight decades has been to make things safer, simpler and more economical.

CONTAINMENT SOLUTIONS
Highly effective medicines must be packaged safely. From controlled ventilation to the total isolation of corresponding production areas, Mediseal offers its customer containment solutions which are precisely tailored to their needs.

DOSING SOLUTIONS
The shapes and dimensions of solids become ever more diverse. Unusual geometries are a challenge for the packaging, and especially for dosing. This is where Mediseal’s solutions provide flexibility and diversity with no adverse effects on safety and efficiency.

SMALL LOT SIZES
Falling lot sizes, shortened time-to-market and improved equipment effectiveness no longer need to be mutually exclusive. Mediseal’s holistic approach to solutions focuses on the machines, the equipment and the entire supply chain – for a continuing high OEE, even with small lot sizes.
DEVELOPMENT AND PRODUCTION OF HIGH-QUALITY PACKAGING

Rondo sees itself as a partner to its customers in the pharmaceutical industry, in particular in the implementation of individual projects in packaging development. We consistently focus on long-term customer relationships. No matter whether standard folding boxes or special applications are involved, we deliver reliability and top quality.

PROTECTION FROM COUNTERFEITING
Rondo offers customized solutions to protect products from falsification. Special security features are applied to packaging visibly, concealed and/or forensically. Appropriate measures are drawn up after analysing the requirements.

TAMPER EVIDENCE
Rondo’s tamper evidence is integrated directly into the structure of the folding box. No glue, no labels. The machine speed is maintained and OEE is not impaired. Simple opening and closing and the clear evidence of first-time opening ensure convenient and safe handling.

OUTSTANDING!
2015 – Columbus Packaging Award (Cimzia® syringe packaging, UCB Pharma)
Pro Carton / ECMA Award (Multipack for Clinical Trials, Hoffman La Roche)
Seidenader develops and builds inspection machines and inspection applications for the pharmaceutical industry. Based on our combined know how in machine building and visual imaging we develop – together with our customers – integrated, sustainable solutions for all requirements. Innovative serialization solutions are our response to global regulations covering the traceability of medicines and protection from counterfeiting.

**LOCATION**
Markt Schwaben, Germany

**PORTFOLIO**
- Automatic inspection machines
- Semi-automatic inspection machines
- Inspection applications
- Tablet sorting machines
- External cleaning machines
- Conveyor systems for infeed of pre-filled syringes
- Track & Trace solutions (serialization and ePedigree)

**EMPLOYEES:**
350

**More information:**
www.seidenader.com

**INTELLIGENT AND FLEXIBLE**
When we develop our products, we have the entire service life of the machine in view: energy consumption, repair costs, maintenance cycles and the expandability of our systems. Intelligent solutions and flexibility offer great potential for savings on total operating costs.

**UP-TO-DATE AND ADAPTABLE**
GMP, FDA, governments. Standards, regulations, laws. Seidenader provides its customers with solutions tailored to their needs, meeting all current requirements, and being adaptable to meet new requirements at any time.

**INNOVATIVE AND SOLUTION-BASED**
New products with state-of-the-art technologies and innovative methods complement our proven solutions. No matter if standalone or integrated solution. Seidenader offers the application that fits your needs.
Werum IT Solutions is the world’s leading supplier of manufacturing execution systems (MES) and manufacturing IT solutions for the pharmaceutical and biopharmaceutical industries. Its MES product PAS-X is run by the majority of the world’s top 30 pharmaceutical and biotech companies, and by many mid-sized manufacturers. The key to success lies in its wide-ranging experience with about 800 PAS-X projects, market-leading out-of-the-box software product, and its unique MES implementation methodology.

**MANUFACTURING IT SOLUTIONS FOR PHARMA AND BIOTECH**

Werum’s manufacturing IT solutions help pharma manufacturers to increase efficiency, improve productivity, and meet regulatory requirements. Werum offers a complete solution that combines software, content and services.

**EFFICIENCY AND COMPLIANCE**

**FULL COVERAGE OF ALL PROCESSES**

PAS-X covers the product lifecycle in pharmaceutical and biopharmaceutical manufacturing from process development to commercial production and packaging including Track & Trace. It supports all major segments, e.g. for vaccines, biopharmaceuticals, solids, liquids and other manufacturing operations.

**INNOVATIVE: PERSONALIZED MEDICINE**

Personalized Medication considers not only the specific clinical picture but also the patients’ individual physiological constitution and effects of pharmaceutical products. Currently Werum works on new software solutions for personalized medicine – in lot size one.

**HEADQUARTERS**

Lüneburg, Germany

**OTHER LOCATIONS**

Sankt Augustin / Hausach, Germany

Alsachwil, Switzerland

Toulouse, France

Parippany, NJ / Cary, NC / Orinda, CA, USA

São Paulo, Brazil

Bangkok, Thailand

Singapore

Tokyo, Japan

**PORTFOLIO**

Manufacturing IT solutions

Manufacturing Execution System “PAS-X”

Consulting, Training and Support Services

Best practice MES content for pharmaceutical manufacturing technologies

**EMPLOYEES**

450

More information: www.werum.com
ALWAYS BY YOUR SIDE

As partners it is important to us to be close to our customers and to provide excellent service on the spot. Alongside our head offices in Germany and Switzerland, we provide our customers with a global network consisting of our own international locations and expert sales partners.

KÖRBER MEDIPAK SYSTEMS NORTH AMERICA

Based in Clearwater, Florida, Körber Medipak Systems North America is the local contact for our customers in the United States, Canada and Puerto Rico. Our site-based experts provide inspection, packaging and serialisation solutions as well as comprehensive service from a single source.

KÖRBER MEDIPAK SYSTEMS AMÉRICA LATINA

As a market leader for pharmaceutical solutions, Körber Medipak has been solidly implanted for many years, with a strong customer base and more than 100 installations. From São Paulo, our customers receive our solutions from Divideia, Mediseal, Seidenader and Werum from a single source.

KÖRBER MEDIPAK SYSTEMS ASIA-PACIFIC

In 2016, the newest location to open will be the sales and service company Körber Medipak Systems Asia-Pacific, in Shanghai, China. From a jointly operated location we are bundling our expertise and providing solutions locally from a single source.

KMS ON THE SPOT

Clearwater, FL, USA
São Paulo, Brazil
Shanghai, China

EMPLOYEES

50

More information:
www.kmedipak.com

More information:
www.medipak-systems.com.br

All locations at a glance:
www.medipak-systems.com/en/company/locations/