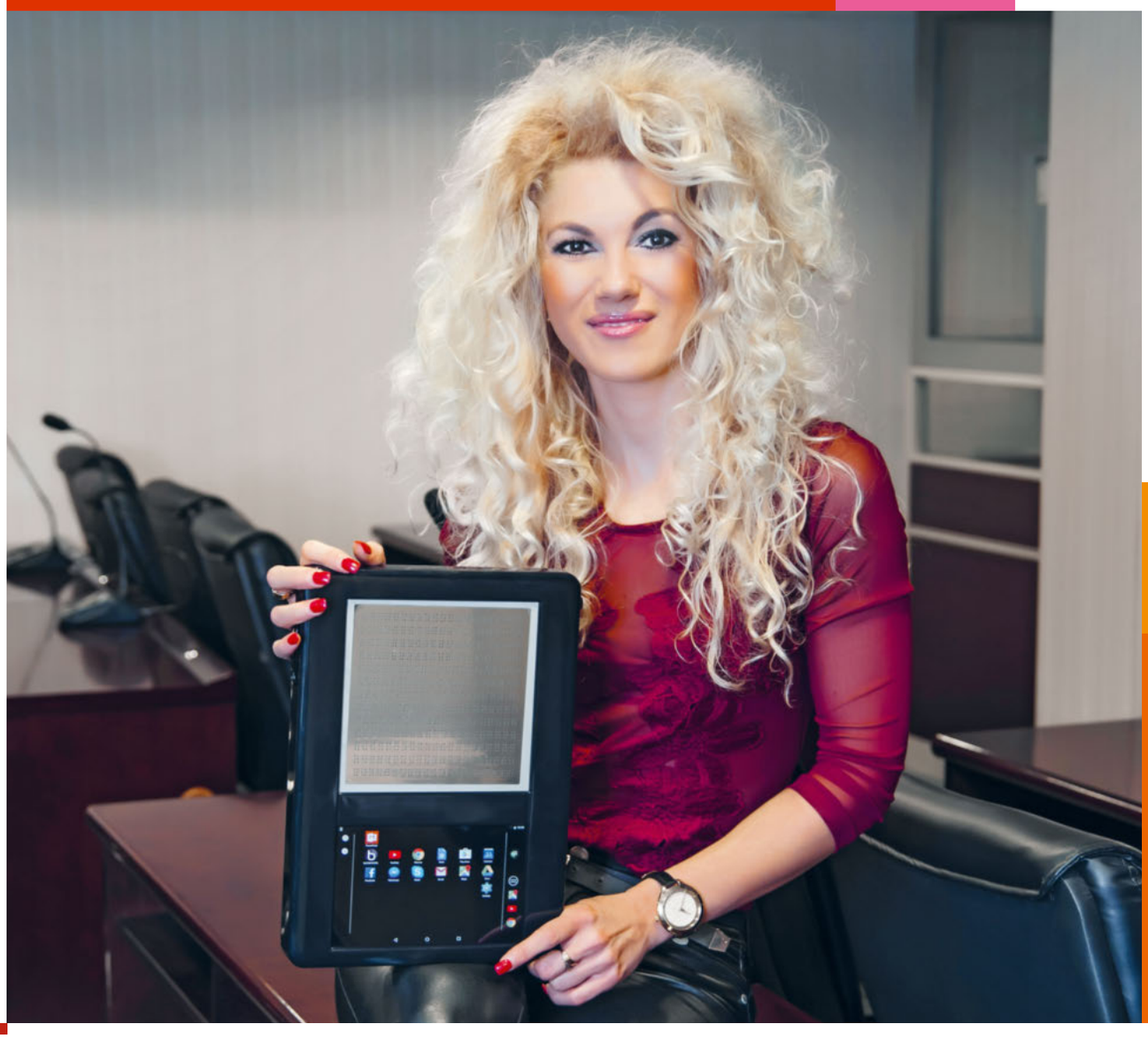
June 2018

# ceo

The magazine for decision makers

# Homo digitalis



pwc

# Man at the centre of digitalisation

The ways and means we all go about life, work and self-realisation are changing: be it in terms of banking, shopping or dealing with our health, digitalisation is having an increasing influence on the most diverse areas of our lives. Digital assistants and networked devices have meanwhile become a matter of course for millions upon millions of people and play a natural role in their daily dealings. This of course raises questions: What distinguishes man in the digital age? What does this mean for our self-realisation and our way of working together and communicating?

In this issue of ceo, we portray outstanding personalities as well as small and large companies from a wide variety of industries – all of whom speak their piece on these and other compelling issues.


*Publisher:*
PwC, Birchstrasse 160, 8050 Zurich, Switzerland

*Layout/graphics processing/print:*
Linkgroup AG, Mühlebachstrasse 52, 8008 Zurich, Switzerland

*Title photo:* Blitab

The opinions expressed by the interviewees may differ from those of the publisher.

This issue of our “ceo magazine” is available in German, French and English.

*Circulation:* 10,000.





FSC www.fsc.org MIX Paper from responsible sources FSC® C007447

climate neutral powered by ClimatePartner°
Print product | ID 11665-1805-1013

**Man and machine have a lot in common – they think, they work, they learn. But the two still differ in one important way: man can empathise, machines not yet. Emotions make life something special, and man for the time being superior to any digital achievement.**

**Andreas Staubli**
CEO PwC Switzerland

We wanted to know how digitalisation is changing everyday life and work – for better or worse? In search of an answer, we reached out to personalities from the realms of business, science, culture and society. For some of our discussion partners, digital technologies are a core competence; for others, merely a modern work aid. But they all see valuable opportunities in this brave new world. Yet as progress marches on, not only will it be met with waves of appreciation, but also howls of rejection and attempts at abuse. Alas, digitalisation indeed presents us with daunting new challenges.

In one respect, though, our interviewees are of the same mind: face-to-face interaction is and remains central. When the sun comes up day after tomorrow, the focus will still be on people. Because encounters and experiences make us special. Because people chat, laugh and live. Hence: the more that things digital influence our everyday life, the more we seek the human dimension. Offline.

The 4.0 era automates processes, simplifies communication and gives us the gift of spare time. Only, what do we do with it? Work more? Consume more? Go online more? For some, the price of heightened efficiency is heightened stress – from constant availability, anywhere, anytime. So we must learn to deal sensibly and responsibly with the opportunities that digitalisation has opened up. Perhaps self-learning algorithms make more accurate decisions than we mortals do. But they don't bear the ultimate responsibility for the mistakes, do they?

And speaking of learning: artificial intelligence (AI) is much more than just hype. It offers new forms of self-realisation and makes jobs more creative. The assembly line worker becomes a process manager; the salesperson a lifestyle consultant; the clerk a data agent. Nonetheless, AI is nothing other than a clever recogniser of patterns based on millions of samplings.

And just a post scriptum on data protection. Especially private persons don't seem to care much about it. They voluntarily disclose the most diverse aspects of their lives via sharing platforms or social networks. Stricter regulation will surely be required to prevent abuse of such data. But at the end of the day, it's up to each and every user and company to find the right measure in the way they go about handling sensitive data.

So with that said, you can now look forward to a delightful digital dissertation – all of it in analogue, for once!

Andreas Staubli

# Human value in the digital age

Digitalisation changes the interaction between man and machine – and with that, the value framework of tomorrow's workaday life. Precisely which skills will be demanded in this brave new world are highlighted in the 2017 PwC study entitled "Human value in the digital age".

## New technologies eliminate jobs – yet simultaneously create new ones.[1]

**Million jobs**

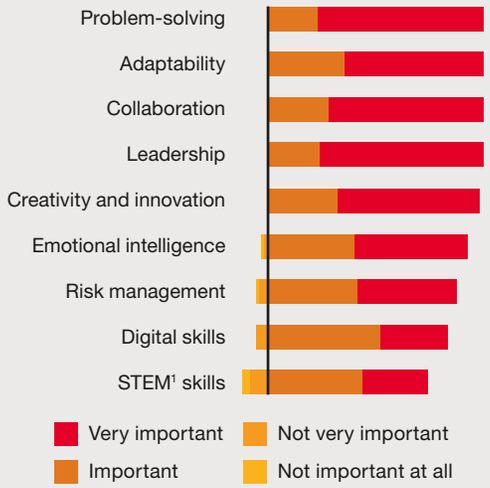
**+21.1** Total effect

**+12.4** Product demand multiplier effects

**+8.7** Product demand effects

**–9.6** Substitution effects

## CEOs view these skills as being crucial in the future.[2]




[1]Science Technology Engineering and Mathematics

## The key competencies and characteristics of the 21st century[3]

**Competences**
Critical thinking, problem solving, creativity, innovation, communication, collaboration

**Character qualities**
Curiosity, initiative, empathy, persistence/grit, adaptability, leadership, social and cultural awareness, emotional agility

**Foundation literacy**
Literacy, numeracy, scientific literacy, ICT literacy, financial literacy, cultural and civic literacy

## Skills that are in high demand and make people irreplaceable:

*Social competence*
*Creativity*
*Adaptability*
*Empathy*
*Integrity*
*Fantasy*
*Lifelong learning*

## The entrepreneurial aim – the WHY – will become the core of the corporate culture. For that reason, those who wish to remain attractive and successful must revamp their ways and mindset.

| *From* | *To* |
|---|---|
| Rules and procedures | Purpose |
| Uninvolved stakeholders | Involved stakeholders |
| Internal focus | External focus |
| Acting in silos | System thinking |
| Hierarchical | Networks |

## Companies with an unmistakable corporate culture are demonstrably more successful.[4]

Their revenues grow some **1.9 ×** faster than those of their rivals.

They are **1.7 ×** more profitable than the industry average.

They translate strategic and tactical decisions into reality **2 ×** faster than their peers.

## Meaningful, value-oriented work prevails over rules, processes and output.

**97%** of employees of purpose-led and values-driven organisations feel their organisation performs well.

*compared to*

**80%** of employees of rules-based and process-driven organisation.

*and*

**30%** of employees of power-driven and task-based organisations.

[1] "Racing With or Against the Machine? Evidence from Europe", ZEW, 2016
[2] "Global CEO Survey", PwC, 2017
[3] "World Economic Forum", PwC Insights, 2016
[4] "Culture's role in enabling organizational change", Strategy&, 2013

#manandmachine #ethics #datasecurity #education

# "Man should be conscious of how he goes about using machines"

Does progress also mean betterment? How is digitalisation changing the relationship between man and machine? PwC expert **Peter Kasahara**, Leader PwC Digital Services, on the trinity of man, machine and data – and their significance in everyday life, work and education.

**Peter Kasahara**
Leader PwC Digital Services

***Netflix, a digital butler, electronic parking assistants, a robotic vacuum cleaner – how deeply rooted is digitalisation in your private life today?***

Digitalisation plays a major role in my private life these days. Netflix is kind of like my tag-along little brother – currently, I'm watching Troy and how Homer's "Iliad" ran its course. I use what you might consider to be digital butlers, however they're in the form of speech recognition applications like Siri and other chatbots. I've also set up relatives and friends with Amazon Echo devices so we can become familiar, so to speak, with these technologies. Until now I haven't had any need for parking assistants or a robotic vacuum cleaner. In other words: digitalisation has gained entry to my home when and where it makes sense and is useful to me, this of course under strict observation of potent IT and data security protocols. I'm fully aware of the security loopholes and possibilities for abuse in cyberspace. For that reason, I don't even use certain gadgets in order to maintain at least some semblance of privacy.

***How are the roles of man and machine changing? What influence does digitalisation have on everyday life – private as well as professional?***

The way I see it, there are three dimensions here: man, machine and data. All three of these dimensions used to be distinct, but today they're steadily converging. The machines are compiling an ever-increasing amount of data on people and have taken over certain tasks. This trend is unstoppable. So for me, there is no "man or machine" choice, but instead only a "man with machine". In day-to-day life, it's all about using machines in a positive, ethical way. People should be sensitive about how they put machines to use and define the limits. They don't have to give them free rein. A decisive factor in the man/machine construct is trust: How much trust should I place in an algorithm? Which activities do I entrust to a robot; which not? The topic of "trust" is one of the main issues our clients have to contend with when it comes to digital transformation. And it will continue to have a considerable influence on the further development of digitalisation and hence the interaction between man and machine.

***What do these changes mean for the labour market and ultimately the education system?***

Digitalisation is having a major impact on the education system. Information technologies have been gaining in importance for years now and will be promoted even more in the future. Glibly put, a programming language is the most important language in the world today. If we look at individual areas, such as healthcare, we see that technology is rapidly advancing. It has the power to shape an entire industry and its players. So the question arises as to whether today's education system is still up to snuff, meaning sufficient to satisfy the job profiles of the future. How many computer science courses does a medical student have to complete in order to practice as a doctor in a high-tech environment? Jack Ma, the founder of Alibaba, puts it differently: "We need to teach our children something unique that machines can never do." Obviously, the question of uniqueness has to be clarified in advance. Nevertheless, it is indeed worthwhile – especially in Switzerland, where education is perceived as one of our few natural resources – to tackle this issue head-on and invest in it.

***New technologies like blockchain, artificial intelligence, robotics, etc., are already finding broad application these days. How can a company identify the opportunities and potential threats and use that insight profitably?***

At any company, it's ultimately the customer who decides what added value is. And it's a matter of offering it to the customer in a way that's still consistent with supply and demand. The result: a profit, but one which shouldn't just be of a financial nature. Pathbreaking technologies increase the pressure on companies to gain an advantage in the market by means of newly gathered information about customers and their proclivities, as well as through the use of blockchain, artificial intelligence, robotics, etc. This entire exercise is usually still based on a reactive approach and requires a lot of sweat equity and cold, hard capital. However, courage, visionary inspiration and speed often represent the fine line between success and failure. Accordingly, a company has to muscle up so it can make quick decisions while keeping an ever-watchful eye on its core competencies. The investments in new technologies necessary to achieve and maintain market leadership can hardly be bankrolled by one company alone. Moreover, the essential technological skills often can only be found outside the core business. So it follows that strategic partnerships have become critical to success – they enable companies to achieve an overall, and above all exponential, increase in added value for their customers. A large number of companies can only assert themselves against giant global platforms like Amazon and Tencent by joining forces and contributing their comparative strengths, at least regionally or in certain segments.

**“Will the increased productivity attributable to digitalisation create more quality time for us, or will we merely end up investing it in other tasks? And this brings us back to the issue of how to simply chill out and stay on an even keel.”**

**Boris Beaude**
**Professor of Sociology and Political Science**

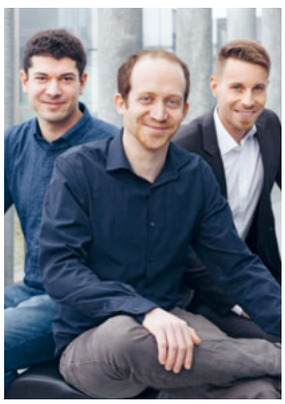




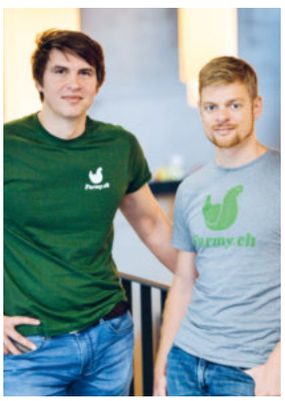












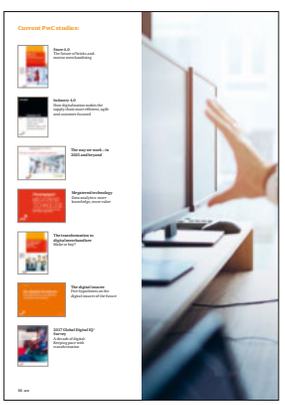















# “We mustn’t delegate the emotional dimension of life to any sort of gadget”

***Simona Scarpaleggia,*** *CEO of Ikea Switzerland in Spreitenbach, considers it her duty to foster the empowerment of women in the business world. The same staunch commitment applies in terms of data protection and loyalty to her employees.*

**Text:** Regula Freuler
**Photos:** Markus Bertschi

**You joined the Ikea Group in 2000 and rose from personnel manager in Italy to CEO of Ikea Switzerland. How has digitalisation changed the working world since then?**
Above all, it’s shaped the way we communicate – not only in private life, but also on the job. With that, I don’t mean just the faster pace of everything. Today, we’re practically joined at the hip with technology, so much so that we can hardly live or work without it anymore – unless of course we opt for an ascetic existence. But we also have to realise that technologies like smartphones open up entirely new possibilities and have given us a variety of freedoms we never had or knew before. Nonetheless, two side effects gave me reason to think twice about my use of these devices. For one, I started to get the impression that I was spending too much time surfing around; and secondly, it sometimes felt like an addiction. What suddenly dawned on me: I don’t want to be a slave to technology. The gadget has to serve me, not vice versa.

**What does that mean for you as a CEO?**
Fighting or otherwise simply ignoring technological progress is the wrong way to go. Rather, we need to accept technology as a given, recognise its potential and take responsibility for how we use it.

**What has digitalisation afforded most to you personally?**
The biggest relief came from the simplified possibilities for archiving stuff. At the beginning of my career, there were these huge filing cabinets full of folders – OMG, it was a nightmare! Today, computers take care of that. At the click of a mouse, we have access to any and all information we need. It makes my life much less stressful.

**You alluded to a sense of dependency on digital media. What are the consequences of this for society?**
I have three children who are now grown-ups. There was a time, especially when they were still teenagers, when all they did was sit in front of their damned devices. Basically, they’re very sociable kids. But when I was their age, I was out and about much more than they ever were. So I ask myself: To what extent do these devices help us to connect with other people, or do they in fact effectuate the exact opposite because we can hide behind them?

Originally from Italy, **Simona Scarpaleggia** has been CEO of Ikea Switzerland since 2010, after having worked for the Swedish interior design group for ten years in her home country. Prior to that, she gained experience in the chemicals, consumer goods and engineering fields. For many years, she has been committed to the interests of women in the business world: she initiated the “Valore D” association in Italy in 2009 and Switzerland’s “Advance – Women in Swiss Business” network in 2013. Simona Scarpaleggia is co-chair of the United Nations High-Level Panel on Women’s Economic Empowerment. She is also a member of the advisory board of the Zurich University of the Arts.

Scarpaleggia studied political science in Rome. She is married, has three adult children and lives in Kilchberg ZH.

*"As employers, we have a moral obligation to think hard about what will happen to people whose jobs have become superfluous."*

**What do you mean by that?**
When you use a device to communicate, you automatically conceal at least some of your identity as a person. Nothing beats good old face-to-face interaction, where you can look each other directly in the eyes. We mustn't delegate the emotional dimension of life to any sort of gadget. It's precisely this interpersonal emotional link that makes us human.

**Do these devices take away some of our inhibitions?**
Sometimes when I read the public comments in response to articles posted on news websites, I'm shocked by the threats and anger that are frequently voiced. But I also think that the person who wrote such a comment would never have the nerve to say or do stuff like that to the object of their ire. It takes guts to say what doesn't suit you directly to another person's face. Those who do it by means of an online comment box haven't got the backbone.

**Many people fear that artificial intelligence (AI) will be a job killer. Others are convinced that, thanks to AI, more or at least a wide array of other jobs will be created. To which camp do you belong?**
I'm one of the optimists. We need to embrace the opportunities AI opens up for us. The nature of many jobs will change entirely, or perhaps they'll no longer even exist. Countless studies vouch for that likelihood. But in the end, is it all that bad if tedious repetitive work is taken over by a machine? By the same token, the creative dimension of jobs will increase. As employers, we have a moral obligation to think hard about what will happen to people whose jobs have become superfluous. What do you do for instance with sales personnel who are suddenly redundant because you've launched a web shop? Should they become consultants? After all, they're highly qualified to help customers make decisions about products that suit their lifestyle from a price/performance standpoint. Of course, machines make impartial decisions, and they're much more precise in what they do compared to us humans. But there's also beauty and dignity in man's imperfections.

**Would you buy a household robot?**
I'm not an old fuddy-duddy – except when it comes to food. I wouldn't dream of cooking with a microwave, for example. I love the handicraft that goes into a good meal. But who knows … ? Maybe in five years, it'll be possible to turn the oven on just by saying: "Heat to 180 °C." I'd probably get one of those!

**Would robots like that fit into Ikea's product range?**
We don't have anything like that yet, but we're working on expanding our home electronics offerings. Just recently, we announced a collaboration with Sonos in order to add audio components to our Smart Home programme.

**Which digital assistants do you use on the job or at home?**
I really like FaceTime and Skype because I want to see the face of the person I'm talking with. I'm kind of old-fashioned that way.

**What things would you never communicate digitally, but instead only in person?**
I'd never convey especially good news by digital means. Take for example someone's promotion – I want to be there to hug that person. Unpleasant feedback is also something I only convey verbally – unless it's impossible to do so, for example because I'm travelling.

**How important to you is data protection?**
Extremely! Ikea has an enormous commu-

**"We must not delegate emotional engagement to devices. It's this personal emotional interaction that differentiates us as human beings."**


An Ikea bedroom from one of the more than 355 furniture stores in 29 countries.

**Ikea,** "Still just inhabiting – or are you already living?" This advertising slogan (loosely translated from the German) has practically become a household expression in reference to Ikea, the Swedish furniture giant founded by Ingvar Kamprad in 1943. Spreitenbach, a few miles west of Zurich, was site of the company's first non-Scandinavian satellite store, which opened its doors in 1973. Today, Ikea employs nearly 194,000 people worldwide and generates annual revenues in excess of CHF 40 billion.

**ikea.com**

nity of over 1.1 million Ikea Family members. These people entrust us with personal information and we make a promise to use it prudently and responsibly. Therefore, we're currently revising all data-relevant processes and routines in keeping with the new EU General Data Protection Regulation (GDPR). Many companies are already far along that path. Unfortunately, there's the danger that this otherwise laudable quest will turn out to be one monstrous bureaucracy that ultimately benefits nobody. We need to take a close look and decide what we want to change.

**Do you share private information online?**
No. Nothing. I had a Facebook account some 12 years ago, but then I deleted it. Why should I tell the whole world what I just saw at the movies? At the time, I was simply curious and wanted to know how Facebook worked. In the end, I decided it's not the right thing for me.

**Did you make your kids aware of the risks?**
Yes, but of course they said: "Mommm … you don't get it!" (laughs) And okay, they post a lot of personal things, but nothing embarrassing that could cause them problems later on.

**Do you arrange for personal offline oases?**
Essentially, I want to be reachable at all times. Only when I'm on holidays do I have a deputy. But last summer I had an "Oha" experience. I was with a travel group in Mongolia. Of course, there's no electricity, no Internet, no anything in the Gobi Desert. That totally stressed me out the first few days. Everyone else in the group, too. After seemingly endless hours of driving across terra incognita, we finally reached something vaguely reminiscent of a city and, voilà, an antenna! Everyone immediately ran over and turned on their phones. And what did we find out? The company was doing just fine, thank you; family and friends were healthy; and in the world – unfortunately – the same-old, same-old: war and chaos. So you ask yourself, was it really so urgent to merely get confirmation of all that? And was it really so terrible that for ten hours we didn't know what was going on in the world?

**How did you all react to that revelation?**
We talked a lot more than one usually does on holidays. In hotels, you often observe how each guest is doing something on their own, heads bent down, fiddling around with their electronic gadget of choice. But in our group, we talked to each other. Someone had a book on Genghis Kahn with him and he read portions of it aloud for us! We gazed at the millions of stars in the sky and discussed the Grand Khan of the Mongols. It was a wonderful communal experience.

**Will you go on another adventure like that?**
Oh yeah! But to get the same effect, you don't have to wander around the desert for weeks on end. With a bit of self-discipline, you can integrate it into your workaday life. Something like "An Apple-free hour a day keeps the doctor away." (chuckles)

**But self-discipline is hard for us humans to keep up, simply because it's not very fun.**
You're right. But I think self-discipline is something quite positive. It helps us in many life situations.

**“The interpersonal dimension and social structures are likely to become more important again, a reset in which we consciously attempt to keep digitalisation and robots out of certain areas of our private life.”**

#digital #local #analytic

# “A robot doesn’t need to be able to do everything”

With Twint, CEO **Thierry Kneissler** wants to vastly simplify the point-of-sale payment process and simultaneously accelerate the move towards digitalisation in Switzerland. He’s convinced that in the years ahead machines will make daily life ever-easier for human beings – but he can’t and doesn’t even want to envisage the day when they also develop emotions.

**Thierry Kneissler** has been CEO of Twint since 2014 and engineered a merger with its competitor Paymit in mid-2016. Earlier on, he pursued a career at PostFinance, where he held numerous management positions after joining the company in 2004. Now 47 years old, the Berner young boy studied economics at the University of Bern and University College Cork, Ireland, and earned an Executive MBA from the University of St. Gallen (HSG) in 2001. Kneissler is married and the father of two children aged ten and twelve.

**Text:** Roberto Stefàno
**Photos:** Markus Bertschi

“I refuse to entertain the thought that at some point I could be talking to a robot just like I do with another person,” insists Thierry Kneissler. Nonetheless, the 47-year-old boss of mobile payment app provider, Twint, is convinced that man and machine will be cohabitating much more closely and intensively in the coming years. Already today, digital assistants replete with artificial intelligence have invaded our living rooms, even as robots are now accomplishing more and more tasks away from the factory floor. When in future AI and robotics technologies merge to an even greater extent, the possibilities are virtually limitless. “For many people – I’m thinking of those who live alone or are in real need of physical assistance – these machines will certainly be a blessing,” says Kneissler. But he’s quick to put that into perspective: “I do believe, though, that it will always be more – how should I say? – interesting to speak with other human beings.”

## Countertrend to digitalisation

But there’s also a glimmer of hope to be discerned in his remark. After all, existential questions arise as technologies take on more and more human forms and characteristics: What actually defines a human being? How do we differ from these machines? Are emotions reserved solely for Homo sapiens? “I don’t think that a computer or mechanical man has to be able to do everything,” Kneissler points out. Robots should assist people, not be their ersatz. For that reason, he also expects that there will be a counter-reaction to the seemingly relentless trend towards digitalising everything in everyday life – similar to the anti-globalisation movement that has manifested itself in people’s reawakened preference for locally produced goods. “The interpersonal dimension and social structures are likely to become more important again, a reset in which we consciously attempt to keep digitalisation and robots out of certain areas of our private life,” he believes.

## Customers should hardly realise they’re paying

But for all that, Kneissler’s own mission with Twint is actually to drive digitalisation in Switzerland and fundamentally change the way people go about things – at least when it comes to their payment habits. Because with his solution, payments are made via smart-

phone, money can be transferred directly to a counterparty regardless of location, and the app also facilitates e-commerce transactions. “In most dealings, a payment is due at some point,” explains the graduate in economics. And with Twint, this process should run so smoothly that the customer hardly even notices it. Take for example a visit to a restaurant: after a meal, guests should simply be able to leave the restaurant without having to stew in their own juice until the waitperson brings the tab. Not because they’re bill-dodging, but because the amount owed has already been paid automatically via Twint.

## Behavioural change takes patience

Technically, such an application is already available today. However, it will probably take some time before the app gains traction. First, the smartphone needs to become more widely recognised as a payment tool. There are already many people who use this new technology and integrate it into their daily lives. “Twint is clearly the leader here in Switzerland, with 800,000 registered users. But as always, the broad masses will only jump on the bandwagon once they get the feeling that everyone else is doing it that way,” says Kneissler. Until then, patience is needed.

By way of comparison, he gives the example of contactless payment with a credit card. In fact, this is merely a function that was added later on to an otherwise well-established means of payment, i.e. plastic. “More and more people are now paying by simply swiping their card along the side of the terminal instead of inserting it into the slot. However, this contrivance was launched already seven years ago – and in the first several years, the adoption rate was low,” says the Twint boss. Unlike in Asia or Scandinavia, it just takes longer in Switzerland for innovations to gain a foothold in the market.

## Ambivalent attitude towards anonymity

The fact that innovative payment methods frequently meet with scepticism has mainly to do with concerns about security or the loss of anonymity. However, this hesitance is at odds with the behaviour of the local population in other matters. “Compared to foreign consumers, the number of Swiss who are members of a merchant’s loyalty programme is indeed large,” notes Kneissler. This type of data provides far deeper insight into one’s private life and personal proclivities than his mobile payment application ever could. And when it comes to social media, many users voluntarily relinquish their anonymity. “Just take a look at how people usually behave and it becomes clear that this scepticism is hardly warranted, especially since Twint consistently applies the security standards of Swiss banks,” he argues. “Of all mobile payment methods, Twint is the safest. This also applies to data protection, because with Twint you needn’t disclose highly personal data such as your credit card number and CVV code when transacting online.”

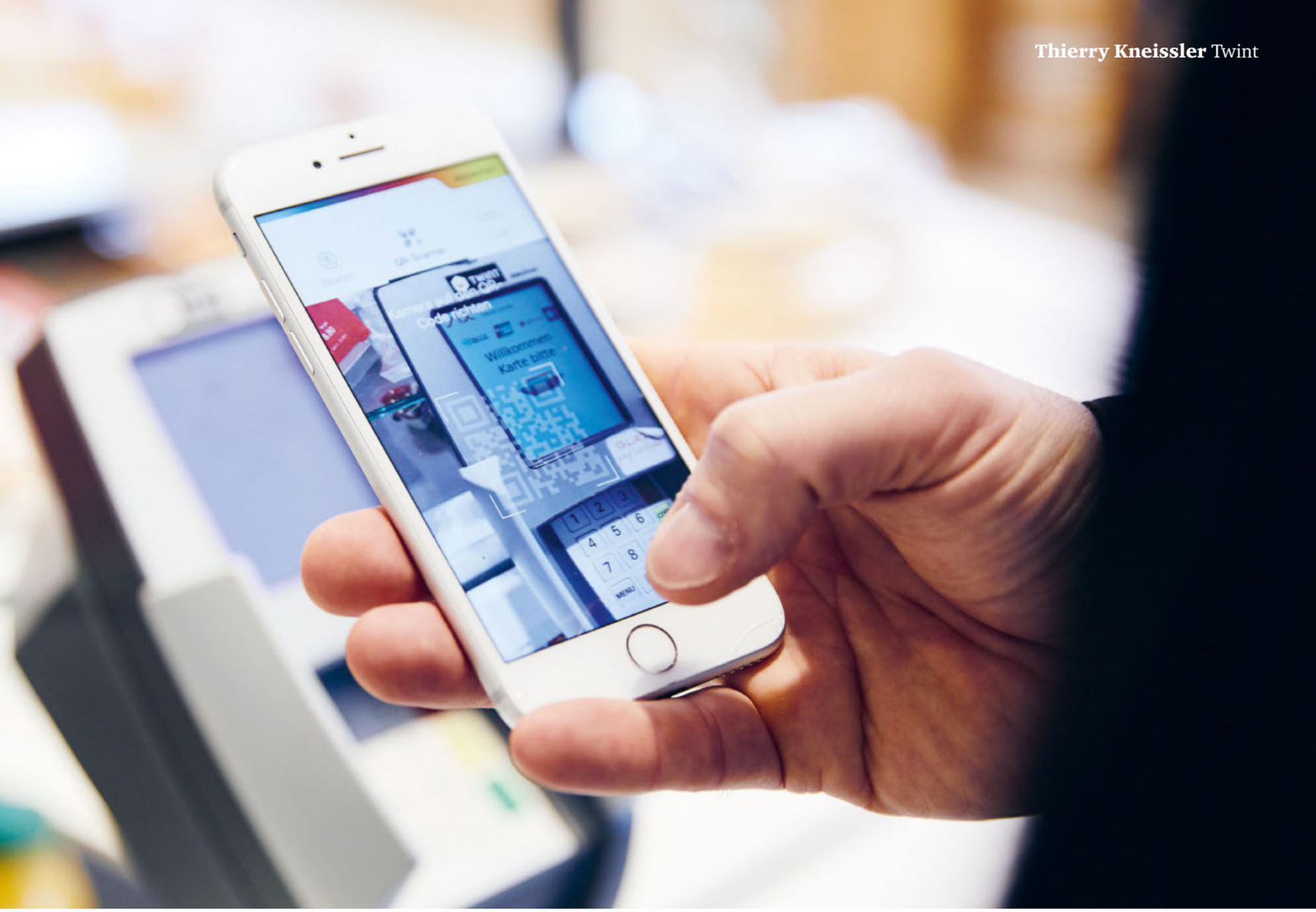
## No rest for the weary (almost)

On the whole, though, people seem to be quite amenable to digitalisation. The majority own a smartphone and have a private Internet connection. Things that used to take several hours to accomplish are now done in a few seconds. “But along with that, life has also become much faster-paced and hectic than ever before,” sighs the Twint CEO. People end up being reachable anywhere, anytime, and often forget to take a step back and question whether everything absolutely needs to be done immediately. “I try to draw the lines as best as possible,” says Kneissler. Nevertheless, the more tumultuous his day-to-day work becomes, the less he succeeds in doing so. Even during holidays he can’t let go completely. “I do my best to keep to a fixed schedule, and devote myself to work when duty calls,” he says. The father of two rejects constant availability. He also tries to instil this philosophy in his children. Evenings, the electronic gizmos stay in the kitchen. Hopefully.

***“Today’s high degree of mobility is a blessing as well a curse for me as a boss.”***

With the **Twint** mobile payment app, users can instantly charge their bank account for transactions they conduct in e-commerce, at the checkout counter and via ATMs. Direct person-to-person money transfers are also possible with Twint. The app, which is offered by 65 Swiss banks, is the co-owned intellectual property of Switzerland’s six largest banks as well as financial infrastructure service provider SIX. With over 800,000 registered users, it is the most widely used payment app in Switzerland.

**twint.ch**




"The digital wallet." Twint wants to drive digitalization in Switzerland.

## Mobility – a blessing and a curse

Work life without at least some aspect of digitalisation has become unimaginable these days – and Kneissler has put the paperless office into actual practice: thanks to his notebook and smartphone, he works from any location and no longer needs his own workplace with a nameplate on the door and a rubber tree plant in the corner. Like his other employees, he uses one of the free desks in the Bern offices of Twint situated in a former co-op creamery. Communication takes place via email, instant messenger or telephone conference – and much more frequently than before. However: "This high degree of mobility is a blessing as well a curse for me as a boss," he says. For this reason, he tries to ensure that as many participants as possible are physically present at management board meetings. Managing decentralised teams requires a great deal of trust. Since there are fewer control possibilities due to the distances involved, 100 per cent faith in the reliability of the team is an absolute must. Accordingly, Kneissler is exceedingly thorough in the selection of partners with whom he wants to work.

## Learning responsible comportment

All in all, Kneissler believes the advantages of digitalisation far outweigh the downsides – and those plus points will likely increase as time passes. Especially in terms of healthcare and mobility, he expects to see significant progress: "In 20 years, we'll probably no longer have cars of our own, and this will have a considerable influence on the cityscape," says the devoted public transport user.

And ultimately, the leisure industry should also be a beneficiary as people gradually have more time to themselves thanks to digitalisation. "However, whether we use those extra hours for self-realisation or instead piddle them away in the social media space is an entirely different question," he adds. As always, when something is new and habits change dramatically, people must first learn to deal with the novelty responsibly. "There will no doubt be excesses that need to be corrected," he's convinced. But one thing is clear to Kneissler: people won't want to go back.

# "I am far from a cultural pessimist"

*Author **Jonas Lüscher**, recipient of the 2017 Swiss Book Prize, has concerns about the social consequences of digitalisation. But neither can he, nor does he want to abstain from using the devices and applications that aid him in his work.*

**Text:** ceo magazine editorial staff
**Photos:** Marc Wetli

**Two of your works, "Frühling der Barbaren" (Barbarian Spring) and "Kraft", have received prestigious awards. Which type of electronic device did you use to write the manuscripts?**
My laptop. But I need to keep focused. So for my writing, I use a minimalist program, the iA Writer, which hides all possible distractions and formatting options. Also, I've installed a self-control app that denies me access to the Internet for a certain period of time – no password or reboot will help.

**Which other digital assistants do you use for private or professional purposes?**
My novels are generally very time-consuming to research. I use all possible sources – but the Internet is absolutely indispensable as a research tool. One application I would hate to do without is Google Maps. It helps me to organise things and get my bearings during book tours when I stop in cities that are unfamiliar to me.

**How do these digital gadgets influence our everyday life?**
We haven't got the faintest idea where all this will take us, now that everyone's equipped with some sort of powerful minicomputer. It seems to me like one huge experiment on humanity. Naturally it irritates me when I sit in the Munich tube and see everyone staring at their devices. But at least they're communicating, even though it's not with the people around them. And in the past, passengers on the train anyway didn't converse very often with each other. Just how much this proclivity changes our society and the individual in the longer run is anyone's guess.

**You have publicly distanced yourself from one social network – Facebook. What led to the divorce?**
I was active on FB only for a short time – about three months – mainly to stay in touch with fellow writers in Egypt. But the auto-translation from Arabic into German was utterly useless. Then of course the endless willy-nilly flow of content in my timeline, this mixture of private posts, advertising, recommendations of sometimes even very interesting articles, cat videos and selfies – ultimately, I found it arbitrary and unedifying; it simply didn't bring me anything. But the real deciding factor for my departure was when a terror attack took place in Munich. The social media spread rumours and false reports in real time, and in doing so fuelled terrible hysteria. The day after, I deleted my account.

**In "Kraft", your latest novel which was published in 2017, you deal critically with the consequences digitalisation will have on humanity. How is it that, unlike the mainstream, you view the promises of technology with a jaundiced eye?**
Personal experiences I had during a nine-month research stay at Stanford University in California certainly had an influence on me. Right in the heart of Silicon Valley, I had many discussions and came to realise the method in the madness of people who make their careers there in research and the high-tech industry: to succeed at all, they need to sell their ideas aggressively. But they often lack an eye for the truly relevant problems. I think we should first off be sceptical of all grandiloquent promises. And particularly so when a lot of money is involved.


Writer **Jonas Lüscher** (42) is a philosopher, essayist and dramaturge. Born in the Zurich suburb of Schlieren and raised in Bern, where he initially trained to become a primary school teacher, Lüscher moved to Munich 17 years ago, where he now lives with his family. He worked as a film dramaturge and later studied philosophy. His most recent novel “Kraft”, published by C.H.Beck Verlag, was awarded the 2017 Swiss Book Prize. It focuses on the pessimistic worldview of “old Europe” as opposed to Silicon Valley’s upbeat take on technology and the future. The idea for the book came to him during a research sabbatical at Stanford University, funded by the Swiss National Science Foundation. Jonas Lüscher gained notoriety with his debut novel “Barbarian Spring”, which deals with the aftereffects of the 2007/2008 financial crisis. He is a member of the German PEN Center.

**Is digitalisation changing our social structures and coexistence? And if so, how does this become evident?**
We're witnessing just the dawn of a new evolutionary epoch. I see in myself what comes from dealing with things digital even on a small scale. My attention span decreases. My ability to concentrate on a specific task wanes. I used to spend hours totally immersed in a novel. Today, when my smartphone is within reach, it's easier to get distracted and I'm always looking for references and sources. But I don't think this portends the downfall of the Western world. Change per se is neither good nor bad.

**Man versus machine: who wins?**
Cultural pessimism is not my thing. But technology does have the fundamental potential to spawn a dystopian future. It's important to keep an eye on that potential as well as on the bigger issues. Will constantly evolving technology reduce or increase inequality? Does it serve only the wealthy, or everyone? Technological achievements may seem harmless in democracies, but what effect do they have in authoritarian regimes and dictatorships? For instance, I'm concerned about the trend in China, where the transparent citizen has almost become a reality.

**Where are we still superior to robots, and how long will it stay that way?**
I think a distinction has to be made here. Artificial intelligence as we know it today is confined to individual skills such as autonomous driving, playing Go or doing everyday tasks. We're still a long way from the kind of multipurpose artificial intelligence that finds creative solutions for a wide array of tasks, like we humans can. I'm also not sure whether multipurpose AI would be interesting at all from an economic point of view, or whether machines that perform exactly one task – and do it extremely well – make more economic sense.

> “We are still far away from the general type of artificial intelligence that can find creative solutions to a wide variety of tasks the way we humans can.”

**And what does the development of AI mean for interpersonal communication?**
Already today, there are applications we can’t trust anymore: bots that run automated scripts in the background, photo manipulations, and video interviews that never took place – just to name a few examples of digital hocus pocus. At some point, we probably won’t even care whether a real person is speaking to us or instead if it’s a robot equipped with oodles of self-confidence, a cool voice and Einsteinian intelligence.

**Which communication paths do you prefer personally?**
I still prefer face-to-face conversations where I can look the other person in the eye. I use emails intensively, but I’m also aware of the downsides. It’s far too easy, and the result is a flooded inbox. I don’t particularly like telephoning, but Skype is wonderful. I use it to keep in touch with my brother, who lives far away.

**Many of us are always online and constantly available. How important are offline oases for you?**
They’re a must – especially since the lures of the digital world harbour a certain potential for addiction. I already mentioned that I use my own app as a preventative measure. The mere fact that we yearn for such oases gives me the feeling that a counterreaction is in the making. Constant availability is no longer a do-or-die thing. I often take my good old time before replying to mails.

**Does digitalisation make our life better or worse?**
Both. It depends on the application. “Digitalisation” doesn’t in fact exist; there are only an incredible number of new platforms, applications, technologies, algorithms and “stuff”. So actually, we need to evaluate each of them individually. With any technological gimmick that’s new: does it make sense; is it potentially dangerous; how can we use it best; how can we minimise the risks? These are not questions we can answer when addressing “digitalisation” as a whole.

**What do you think carries more weight: the risks or the opportunities associated with digital progress?**
That’s perhaps not even the most pressing issue here. Technological progress will continue one way or the other. So the really big question is how we go about dealing with it.

**What development will shape our lives most in the future?**
I don’t like to make forecasts – you end up being wrong too often. Look at all the stuff that was promised to us in days gone by: the smartwatch and 3-D cinema are two good examples of unfulfilled expectations. I’d like it if we not only spent our time dreaming up new digital gadgets, but also by addressing the major challenges that ultimately affect “old industries” – matters like urban development, housing, our energy supply and transportation. Digitalisation can help us in this regard.

**You’re an author, writer, essayist, dramaturge, ethicist and scientist: which comes first?**
The author.

**In what type of environment do you feel most comfortable?**
At home in the evening, spending time with friends.

**Value of the awards?**
For me, prizes aren’t just a recognition of my work – for us writers, they’re also a source of income!

**Next projects?**
I have several essays in the works and am preparing my next novel. However, I’m not far enough along with all of this to want to talk about it.


**Patrick Warnking** has been Country Director of Google Switzerland since 2011. From 2007 to 2010, he headed a number of teams in the Media, Games, Entertainment and Classified units at Google in Germany. Before joining Google, he spent ten years building up digital at the Kirch Group and ProSiebenSat.1 Media SE, most recently as Commercial Director for Digital. His educational path has taken him from bank trainee, to business graduate, to international MBA in Berlin, as well as to Milan, New York and the Stanford Executive Program. Along the way, Patrick Warnking has lived and worked in Germany, the USA, Italy and Switzerland.

#addedvalueforpeople #lifelonglearning #moreinnovation

# You never stop learning

**Patrick Warnking,** Country Director of Google Switzerland, talks about digitalisation as an everyday helper and as the basis for democratising public opinion and education. Plus why it gives us time for the more important things in life.

**Text:** Sara Meier
**Photos:** Google Switzerland / © SLiphardt

**A summer on a secluded alp – no phone, no tablet, no laptop, no Wi-Fi: dream or nightmare?**
Reality. My wife and I make sure that our children and we ourselves stick to clearly defined principles in the way we go about dealing with all modern media. Of course, media competence is very important to me. Nonetheless, personal – and with that, I mean face-to-face – interaction with other people remains central to one's satisfaction and success, both in private and business life.

**Do you still google? If so, what?**
Sure, in fact often. The search for relevant information never ends, and learning is a lifelong undertaking. A robust search engine identifies the relevant links. Most of my queries are about practical matters such as public transportation schedules, opening hours, the availability of products – stuff like that. But for me, the most helpful hits are "how-to" videos.

**Why has mankind gone digital? Is digitalisation a modern-day form of evolution?**
Man hasn't "gone" digital – things have become digital. Digitalisation aids people in their everyday lives. Take the smartphone: it saves time. It helps me to communicate, get my bearings and transact. It also lets me capture beautiful moments with photos as well as enjoy music and videos. But of course, we have to ensure that security, transparency and control remain 100 per cent in our own hands. We decide what we use, as well as when and how we use it. And it's easy: every registered googler can specify their own personal settings in "Google: My Account".

**In business, "digitalised" means being (even more) customer-oriented or (even more) user-friendly. What does it mean in private life?**
Digitalisation needs to provide added value, also in the private realm. By performing routine tasks, it gives people time for more important things in life.

**With today's digital transformation, you're helping people to shape their future in a more positive way. But to what extent?**
We're driving digital change very directly, right to your home: for instance, with accurate search results, the public transport info and bike paths displayed in Google Maps, a highly secure browser, powerful filters to protect against spam in Gmail, and Android as a stable operating system for mobile phones – to name just a few ways. And indirectly, we drive digital transformation by offering useful tools and free training for companies. One example: many SMEs are asking us how they can optimise their websites for viewing and use on smartphones; or they want to be found more immediately, win new customers, or explain their products and services more effectively through the use of videos.

**In Zurich, Google has built up its largest development centre outside the USA. Why here?**
Google invests in innovation. And in accomplishing this, we're dependent on the top-quality work of highly trained individuals. With its strengths, Switzerland in many ways meshes with Google's success factors. This "love story" has been going on since 2004. Switzerland also stands for staunch values, language diversity, culture, export orientation and stability. All of these factors form an excellent foundation for globally exported software, "made in Switzerland".

**What opportunities does the digital world offer?**
By its very nature, the Internet facilitates the fundamental elements of democracy – the sort of thing that has been the hallmark of Switzerland for centuries. What's important for me personally is having access to a broad spectrum of opinions and insights; but the

way education and advanced training have become democratised thanks to digitalisation also fascinates me. These elements have the potential to level the playing field in our world, as well as to reduce poverty and injustice.

**Millions of people can interact with each other via the Web these days. To what extent has this dialogue changed?**
Face-to-face encounters are still vital; simply swapping selfies on the Internet doesn't cut it. But people who know each other can certainly exchange thoughts online. For example, video conferencing is not just an efficient way to address business matters; it also has the side effect of reducing $CO_2$ emissions, as no car travel or flights are involved. Of particular relevance in my opinion are online training opportunities like the MOOC courses at the EPFL or the Khan Academy. Offers like this bring about a positive change to the dialogue between tens of millions of people.

**How has digitalisation changed your own life?**
I have a wife, five kids, a dog and many hobbies. Thanks to today's apps for photos, music and video clips – all neatly packed in one device – digitalisation enriches every day for me and often brings a smile to my face. In my youth, I was still using old-fashioned things like music and video cassettes, CDs, DVDs and floppy disks. Wow. The progress we've made since then is incredible!

**Artificial intelligence was invented by man. Whose IQ is higher – man's or the machine's?**
AI smarts will always fall short of the human mind, simply because the emotional component is missing. IQ and EQ, meaning the emotional quotient, are like two peas in a pod. That's why I don't believe that values and the joy of success that people have in common can be artificially replicated. What we refer to today as artificial intelligence is actually just a mechanism for advanced pattern recognition based on millions of examples.

**How does the machine aid people in everyday life? And vice versa?**
Man thinks, guides and controls – and the machine needs this help. It executes only what it has "learned" from patterns and routines. Today, the most common application is image and speech recognition. For example, doctors can use pattern recognition for the interpretation of X-rays and MRI images, thereby facilitating the early detection of diseases.

**Can you briefly describe the archetype of talent 4.0?**
Frankly, there will never be one because people are too different. Individual skills and strengths will continue to be decisive in the future. In general, talents such as analytical thinking, critical reflection, team orientation, a feedback mindset, mutual respect, minority acceptance and above all lifelong learning will have priority.

Google is famous for their unusual workplace concept. "Feel good in order to be creative" is the motto.

*"Individual skills and strengths will continue to be decisive in the future."*

**In your opinion, which forms of digitalisation are the most influential?**
Those that enable people to get to know each other and engage in dialogue, or otherwise save energy, do routine work, provide information and entertainment via video, foster innovation, or allow pattern recognition and training.

**Digitalisation has made real time into society's most important speedometer. What about yesterday? What about the day after tomorrow?**
The way I see it, digitalisation doesn't change anything about the fact that the experience and learnings of people from the past constitute the most important success factor for the present and future.

**In what way do you have reservations about digitalisation?**
At this point in time, we're probably underestimating both the opportunities and the risks. I'm worried about people who either categorically spurn digitalisation like the devil shuns holy water, or view it completely in good faith. And it disturbs me greatly that access to the Internet could be excessively impaired through the elimination of net neutrality. But for me, the positive aspects prevail – as long as we view people and humanity as the most important success factors.

**Where are your personal Internet-free zones?**
At home, on holidays and in Mother Nature's arms.

**What question have you always wanted to answer?**
"Which app do you use more frequently than Google?" To tell the truth, it's the SBB app.

**Google Switzerland** is the Google's largest development centre outside the USA. Nearly 2,500 employees from 85 nations now work at two locations in Zurich. They refine the algorithms of Google Search and other functions such as Google Assistant and Calendar. Another example is the company's map app, which was developed here in Switzerland. Zurich is also home to the largest YouTube development team in Europe and the Google Machine Learning Research Center.

**google.com**

#pregnant #global #gender_equality #digital_health

# “I am an un-dying believer in focus”

***Pascal Koenig**, CEO of Ava AG in Zurich, came up with the idea of a multi-sensor wristband that helps women detect the right moment for getting pregnant. His medtech start-up owes its success mainly to the capabilities of big data – which is why he’s eminently aware of how important data protection is.*

**Text:** Regula Freuler
**Photos:** Marc Wetli

With him, a typically formal German term of address is out of place. “Hi, I’m Pascal,” says the CEO of Ava AG, extending his hand to us. But just to be on the typically Swiss safe side, we shyly inquire whether proceeding on a first-name basis is okay. “We only do first names here,” Pascal Koenig chuckles. “At meetings on Paradeplatz, though, I regularly put my foot in my mouth with that type of informality.”

Koenig, outfitted in a blue sweatshirt and jeans, is obviously in jolly good spirits. He gestures towards the office: voilà, his Zurich team. Some 40 men and women are sitting at randomly arranged tables in front of computers; the sofa and a small standing table in the corridor also serve as optional workplaces – whatever floats your boat. To the left, a coffee machine and beverages; in the middle, a foosball game and mini ping-pong table; and in a corner, empty prosecco bottles suggest a recent fest. Behind a room divider, a meeting is in progress at a long table.

Here, on the first floor of an office building in Zurich’s Binz district, the Ava team tinker on a solution to an increasing problem in our society: human reproduction. Or in other words, they help women get pregnant.

## *Big data means big responsibilities*

In 2013, Pascal Koenig, a native of Aargau, founded the medtech start-up Ava together with ETH graduates Peter Stein and Philipp Tholen, as well as with Lea von Bidder, who like Koenig had studied at the University of St. Gallen. Their product: a bracelet equipped with sensors that is worn at night by women who wish to have children. While they sleep, the bracelet records three million data points relating to nine physiological parameters such as skin temperature, blood circulation and heart rate. Thanks to the data obtained in this manner, ovulation – or as it were, the fertile phase – can be detected during a woman’s menstrual cycle, and this with an accuracy of 89 per cent as revealed by a one-year clinical study conducted at the University Hospital Zurich. That’s far better

**Pascal Koenig** (born 1975), co-founder and CEO of Ava AG, has many years of experience in the field of wearables and medical technology. After studying at the University of St. Gallen and Columbia University in New York and spending one year with management consultant McKinsey, he joined Synthes as a product manager. There he learned the basics of the medtech industry. In 2008, he established the Zurich-based company Limmex, which manufactures emergency call wristwatches, and then market research company Smartwatch Group. A high-tech specialist, he has won several awards and was named one of Switzerland's 300 most influential individuals by business magazine "Bilanz". He lives in Zurich with his life partner and their two children.

## "Anyone who turns a blind eye to personal privacy is totally naïve."

© Ava

The Ava wristband measures pulse rate, respiratory frequency and skin temperature.

Every third couple has difficulties having a child. Whether it works or not is influenced by many factors – one of them is timing. The Ava AG wristband is the first ovulation test that makes use of an array of sensors to detect in real time the beginning of the fertile days within a woman's menstrual cycle, and this with a uniquely high accuracy rate of 89 per cent. The tracker measures pulse, respiratory rate and skin temperature, among other things. Ava AG was founded in 2013 by Pascal Koenig together with ETH engineer Peter Stein, as well as Philipp Tholen and Lea von Bidder; the latter ranks in the latest Forbes "30 under 30" list. The initial concept of the sensor wristband was successfully tested in a one-year clinical study at University Hospital Zurich. The Ava bracelet debuted in the US in July 2016; sales in Europe started in January 2017, and an office is currently being established in Hong Kong. By 2020 at the latest, Ava AG also wants to be fully engaged in the mainland Chinese market.

**avawomen.com**

than the track record of classical ovulation tests, which measure body temperature or test urine samples for the luteinising hormone responsible for triggering ovulation. "Our core competencies are data science and machine learning," says Pascal Koenig. He leads us to the café on the ground floor, as no vacant seats are left in the Ava office. The start-up has grown rapidly; soon, the company will move to larger premises.

Dealing with the data is a huge responsibility. "We have to distinguish between personal and physiological data," explains Koenig. "Personal information is the sole property of Ava users – they can delete it or save it to their own devices – whereas the physiological datasets are anonymised and stored on our servers. We're allowed to use them for scientific purposes only." Data protection laws dictate that this be the case. "And the rules have become even more stringent of late," says Koenig in reference to the new EU General Data Protection Regulation, which took effect on 25 May 2018. "Although initially, this makes things a bit more complicated and perhaps even bothersome for companies like ours, I think stricter regulation is a good thing. Anyone who turns a blind eye to personal privacy is totally naïve."

Most people don't take data protection seriously enough, he believes. "Including me!" Everything is so easy and practical, like storing passwords or catching up with the latest comments in social media. All too spontaneously, people post their gut reaction or give a thumbs up without thinking that they might regret it later. "We don't have to go too far back in history to remember that only a small detail like one's religion was enough to get you eliminated," Koenig points out. Granted, lax data protection doesn't always lead to such tragic consequences. But transparent as we are today, we sometimes get to experience first-hand the negative side of living in our virtual glass houses. For example, Koenig recently had trouble with a visa application because he was in Iran with friends years ago.

The CEO also has great concerns about the opacity of self-learning algorithms. "Sure, maybe they make more precise decisions than a human being; but then no one can take responsibility or be held accountable for those decisions."

Basically, however, Pascal Koenig strongly believes in the advantages of digitalisation. Without those benefits, Ava would not exist nor would have Koenig's previous start-up projects (e.g. a mobile monitor for heart patients and an emergency call wristwatch for the elderly). His own quality of life has also improved thanks to digitalisation – yet he's very aware of the value of offline phases. "Of course, it's tempting to occasionally make a quick check for emails on weekends, and I have to wrestle with myself repeatedly so as not to become captive to this kind of distraction." And he does it at home just as undogmatically as he does in business life. Meals together with the family should remain undisturbed by technology. "It would really bend me out of shape if our children, now nine and ten years old, were chatting or gaming at the dinner table." As digital natives, the youngsters have their own iPods and their parents' old cell phones.

"And that's okay … they, too, need to be familiar with digital media," Koenig says. "Ultimately, as with so many other things in life, it's all about moderacy."

## *CEO has done away with paper*

Only thanks to digitalisation has Ava been able to grow so rapidly in such a short period of time. Privately held as it is, the company discloses no financial figures. What Koenig can reveal, though: last year, Ava generated 14 times more revenues than in its 2016 launch year – "naturally from a relatively small base, but we're growing strongly month after month; and in the USA, which accounts for roughly 70 per cent of our sales, we're already in the black". A year ago, the start-up had a staff of 20; meanwhile, that number has risen to almost 60. And for next year, Koenig thinks 120 is feasible as the company expands its international presence. This only works if a digital platform is in place. Ava made its official debut in the USA in 2016, followed by Europe in 2017, and an office is currently being set up in Hong Kong with the aim of conquering the Chinese mainland in one to two years' time. "This morning, I've already conducted eight video interviews with applicants in Hong Kong – thanks to the digital age."

Advertising and distribution at Ava are accomplished exclusively online. And when it comes to accounting, the CEO has abolished paper. "I had so many fights with accountants, whether it really works without folders. Of course, there are grey areas here, but as a start-up we can be more radical than any old run-of-the-mill company. Paper is going the way of the dinosaurs."

What many start-ups are doing wrong in Koenig's opinion is trying to handle everything from soup to nuts, both in terms of products and sales. "They get bogged down. I, on the other hand, am an undying believer in focus. As a start-up, you have to ask yourself where you can be the world's best, and then zero in on it like a hawk." This is also one of the reasons why Ava doesn't sell its data and is very reluctant to allow others to conduct research based on it. Many have already come knocking in the hope that they'll be granted access to the data – but to no avail.

How does Ava manage to win the trust of its customers by digital means alone? "Clinical studies are one of the most important things," says Pascal Koenig. The first study was completed prior to the 2016 market launch, and there are currently seven more under way. As to the PR aspect, Ava does not promote itself aggressively but gladly responds to any outside inquiries. According to Koenig, the most important thing is the team: "Our people are intrinsically motivated, smart, they think globally, they have lofty visions and yet a healthy portion of modesty."

The CEO is convinced that artificial intelligence is more than just hype. "Especially in the healthcare sector, there are still countless opportunities just waiting to be grasped. The human factor and personal contact with doctors will always remain important, but with the right databases we'll be able to raise the bar substantially in terms of medical treatment and health maintenance." Ava is also working on that.


Overnight, the cycle-related data are recorded.

*"It's precisely this search for meaning that makes man human."*
***B. H.***

*"The question of singularity has yet to be answered."*
***D. W.***

*"The more important a business matter is, the more personal the interaction should be."*
***M. G.***

Fellow students **Damian Weber** (1984), **Benjamin Habegger** (1984) and **Michael Gasser** (1985) founded Axiamo as a limited liability company in March 2015. All three young entrepreneurs are graduates in electrical engineering and today work as equally entitled proprietors of Axiamo GmbH. They live in the greater Bern environs and are also friends in private life. Michael Gasser will become a father for the first time in September; Benjamin Habegger is already the father of three children.

#performance_sensor #athlete #personal_contact

# The digitalised athlete

Three engineers at Axiamo have developed sensors that measure motion and performance parameters of professional athletes. The aim: to optimise the way those sport pros train for their specific discipline. Will the living, breathing trainer become obsolete as a result? **Damian Weber, Michael Gasser** and **Benjamin Habegger** offer insight into digitalisation in the field of sports and venture a peek at the future.

**Text:** ceo magazine editorial staff
**Photos:** Marc Wetli / Markus Bertschi

**Is your technology an instrument for digitalising human beings?**
**Michael Gasser:** No, it's a technical aid for achieving enhanced performance. The device gives professional athletes objective digital feedback on the way their body moves in competition. This helps them to prevail against their opponents, given the hundredths of a second that can make the difference between victory and defeat in top-class sport these days. Our XRUN product is a tool that makes training more controllable and helps to prevent injuries.

**But doesn't it somehow rob the athlete's ability to sense what their own body is telling them?**
**Benjamin Habegger:** What our product measures are things the athlete can't even feel or measure, such as ground contact time. He may sense his fatigue and overall fitness, but very specific performance-critical parameters can only be recorded with modern technology. Thanks to the data our sensors provide, you can evaluate precisely whether or not certain parameters have improved and consequently determine whether a particular training method works well.

**How did you come up with the idea for this product?**
**M. G.:** We went to the same school and ended up working together on a project sponsored by the Federal Office of Sport FOSPO. Our findings turned into a master's thesis, at which point we decided to run with the concept, so to speak, by founding our own company. It was clear to us from the very start that our product had a future.

**B. H.:** We developed the technology in order to meet trainers' needs for deeper insight into body mechanics and their requirements in terms of metrics. So it was they who provided the impetus. We now have a very long list of parameters from them, and most likely we could fulfil each of those wishes. But because of the tremendous demand for individual applications, we ultimately have to decide which ones can be developed with reasonable effort and whether in the end there's a viable market for them.

**Your focus is squarely on digitalisation and sport, but which area of our lives do you think has been most affected by digitalisation?**
**Damian Weber:** More than anything else, the way we communicate has changed dramatically as a result of digital technologies. And of course accessibility: today, it's almost a must that we're reachable round the clock, everywhere. It didn't used to be that way.

**B. H.:** Right, but digitalisation has also intensified competition in the marketplace. Today, you can buy practically anything you want online, the related user information is also available on the Web, and if one virtual shop isn't accessible at any given moment, you simply click through to the next one. Competition is fierce, and the customer has gained more clout.

**Are you personally available 24/7 for business purposes?**
**D. W.:** I enjoy being unplugged once in a while, but it grows a beard quickly. Even on holidays, I catch myself repeatedly checking for emails.

**M. G.:** I agree – offline oases are not at the top of my bucket list. Sure, I've also enjoyed being offline during the occasional one-week holiday, but I didn't make a special effort to avoid connectivity.

**B. H.:** When I'm away on summer holidays for 14 days, I make absolutely sure that I'm not reachable. Hey, we've got the entire rest of the year to be constantly in touch with the world, or am I wrong? But I guess, this availability compulsion has to do with the fact that it's our own company. If we worked for some other firm, it would probably be easier to step away from things occasionally.

**What remains of the human factor; or, stated differently, when do you actually communicate face-to-face with people?**
**M. G.:** The more important a business matter is, the more personal the interaction should be.

**B. H.:** The lion's share of communication these days takes place digitally. But I think it's important that you have the opportunity to meet your opposite in person at least once so you actually know whom you're communicating with. This makes things a lot easier.

**Can we shut ourselves off completely from the influence of digitalisation?**
**D. W.:** Not in our society, my friend.

**Where do you see the boundaries of digitalisation? Will there ever come a time when we have a chip implanted in us and are constantly monitored?**
**B. H.:** As far as surveillance is concerned, we're already very far along that slippery slope. If you don't explicitly disable it, Google knows exactly which restaurants you go to, which shops you buy stuff in, where you work and where you live. Most people carry a smartphone with them – talk about trackers! You don't even need an implant! It's hard to say where the borderline will be. Probably far beyond what we can even imagine today.

**Isn't that frightening?**
**M. G.:** It is indeed. And that's why we should start enlightening people early on and make them aware of the problem. Many youngsters post comments and images on social media that they might regret in five or ten years' time.

**What do you think carries more weight: the risks or the opportunities associated with digital progress?**
**M. G.:** In the end, it's the same with any new technology: what you do with it is up to you. I'm convinced of the good in people and therefore that the opportunities will outweigh the risks.

**Many people view artificial intelligence as being an adjunct risk of digitalisation. Can AI develop a life of its own?**
**B. H.:** Intelligence of any kind always requires some sort of motivation, and in this regard I don't think AI can develop beyond itself, at least not yet. A chess robot can teach itself chess through trial and error and logic, but the robot doesn't think that chess is something bad and therefore doesn't look for a new, more meaningful task. It's precisely this search for meaning that perhaps makes man human and causes him to seek other areas that interest him more or seem more important.

**In that case, let me rephrase the question: Is it theoretically possible that an AI robot could find a new field of activity for itself, or must it be specifically programmed by a human to do so?**
**D. W.:** You touch on the question of singularity; in other words, the threshold where artificial intelligence takes over. And until now, there has been no reliable answer. Researchers are neither in agreement on whether this can happen nor when it could happen. The discussions have been going on for 20 years, but today the topic is becoming hotter everywhere.

**In your estimation, how great an influence will AI and digital assistants have on our lives in the decades to come?**
**D. W.:** It most definitely will grow, and we'll be surrounded by an increasing number of digital assistants.

**Does that also apply to your company's range of products? Are you developing a digital assistant of your own?**
**B. H.:** An AI-driven processor that generates standardised training suggestions based on the data measured by our sensors is certainly conceivable and to a certain extent is already being applied in some mass-produced devices. In our customer segment, though, this is somewhat less the case. Professional athletes have a trainer who evaluates the data and translates those readings into concrete measures. So our intention is not to replace trainers – we trust that they can do more than any form of artificial intelligence.

**Daily life has changed rapidly in the last ten years. As engineers and experts in digitalisation, can you envision a scenario of what our lives will be like ten years from now?**
**M. G.:** The trend will certainly go even further in the direction of personalisation. Advertisers will know a lot more about me and what I like, so their offers will be more precisely suited to my needs and interests. To a certain extent we're already witnessing that today, but the whole process will probably become even more intelligent.

**B. H.:** The framework of life in the broadest sense won't change all too dramatically; the really meaningful things for people – like love, interpersonal relationships, work and the quest for self-realisation – will stay the same.

**D. W.:** Day-to-day life will be different in a number of ways: many shops will no longer need cashiers because customers scan their goods themselves or order online. Specific jobs or entire professions will disappear, but new ones will emerge.

The sensor (visible above in red) measures movement and performance parameters, thereby facilitating optimal training approaches.

**Various studies have drawn the conclusion that thousands of jobs are being lost as a result of digitalisation. Are you concerned about the risk of a social schism?**

**B. H.:** The cleft between low-skilled and highly qualified workers is likely to widen even further. On the whole, digitalisation will benefit the economy, and more new jobs will be created than old ones that fall by the wayside. However, this inevitably results in constant pressure to become evermore highly qualified, and not all people are up to that task. So probably there will be the need for some form of social evolution, and the question of how we distribute the efficiency gains will have to be resolved.

The history of **Axiamo GmbH** begins with a research project between the Institute for Human Centered Engineering HuCE of the Bern University of Applied Sciences (BFH) and the Swiss Federal Institute of Sport Magglingen (SFISM) from 2010. Within the scope of the project, three electrical engineers – Michael Gasser, Benjamin Habegger and Damian Weber – developed the prototype of a sensor for field studies in the area of motion monitoring. The encouraging results and excellent collaboration between the developers, sport scientists and trainers motivated the three engineers to found Axiamo GmbH in Nidau in March 2015 and "run" with this promising analysis system. Today, the start-up develops and sells various motion sensors for application in sports. The products support trainers and athletes in their work by providing feedback on objectively compiled performance data for training and monitoring purposes.

**axiamo.com**

# Bits, bytes and bio beets

**Tobias Schubert** and **Roman Hartmann,** co-founders of Farmy, want to revolutionise online food retailing with reliable logistics and a wide range of regional and organic products. Urban customers are eating it up!

**Text:** ceo magazine editorial staff
**Photos:** Farmy

Affixed to a finger like a thimble is a tiny scanner. In the cold-storage room for fresh produce at Farmy, an employee nimbly picks the goods on order from a jungle of racks and places them in brown paper sacks that pass by slowly in boxes on a conveyor belt. Four pounds of apples and a bunch of carrots, a bag of Brussels sprouts and three red beets – the time, quantity and origin have already been zapped with the finger scanner.

And whoosh … the box is gone – off to the next room, where perhaps some milk and meat are added to round things out. The entire process repeats until everything ordered the previous day by Farmy's customers is packed and ready to go. "Tonight, this whole place will be empty again," says Roman Hartmann with no small pride. Later, just past midnight, the orders are already under way. In the morning, at latest by 10:30, the goods arrive at one of the company's two logistics centres in Zurich or Lausanne, where they're prepared for delivery to consumers.

Farmy.ch brings organically grown produce direct from the farm, directly to your house door.

## Gold medal discipline in e-commerce

Due to the perishable nature of the products, speed and reliable logistics are the alpha and omega in the online food retailing business. "Ours is the gold medal discipline in the field of e-commerce," Tobias Schubert is convinced. Four years ago, he and Roman Hartmann, who got to know each other while working for a major food retailer, founded Farmy.ch, an online market for transparent, farm-fresh food shopping. Their first move, though, was to conduct an exhaustive analysis of the potential demand in select European markets. Switzerland, where the online share of food retailing is a mere 2 per cent, clearly stood out as an ideal test market.

Depending on the season, between 4,000 and 7,000 products, the majority of which come from Switzerland, are now on the company's virtual shelves. The goods themselves are showcased in a small studio, where digitalised producer profiles enable customers to gain insight and inspiration from stories about the origin and cultivation of the produce. "Through virtual visits to farms and farmers, we create affinity and transparency," says Tobias Schubert. Not everyone has the possibility to go to the weekly farmers market at the break of day. "For most people, farms are not just a short hop around the corner, and the range of produce at individual farm stands – if you can even find them – is limited."

Today, close to 600 different small-scale producers are suppliers to Farmy, including vegetable farmers, bakers, vintners and butchers. 35 permanent employees work at the offices in Zurich, Lausanne and Barcelona. In addition, at peak times as many as 50 part-time employees attend to the storage, packaging and transport of the food on order. And a subsidiary in Spain is responsible for programming Farmy's apps and software routines.


**“Through virtual visits to farms and farmers, we create affinity and transparency.”**

The **Farmy.ch** online food market, with physical locations in Zurich and Lausanne, offers a wide range of regional and organic food from a large number of mostly local farmers and producers. The company provides home delivery throughout Switzerland – in the metropolitan Zurich, Lausanne and Geneva areas via its own electrically powered vehicles and without a delivery charge. This start-up company, founded in 2014 by **Tobias Schubert** (35) and **Roman Hartmann** (37), succeeded in obtaining a further round of financing in 2017 thanks to several prominent investors.

**farmy.ch**

Hartmann and Schubert are convinced that the future lies in digital shopping. With the company’s affordable delivery costs and exemplary ecological footprint, they want to set Farmy apart from the competition in a Swiss market that is otherwise dominated by powerful retail food giants.

## Digital assistant proposes recipes

The possibilities are almost limitless – one simply has to take advantage of them. This also applies to the sensitive handling of data. Hartmann and Schubert like to try out new things – they accomplish a lot of their daily tasks via smartphone and laptop. “We’re early adopters,” say the young entrepreneurs, both of whom have more than a decade of experience in e-commerce.

The next evolutionary steps for Farmy include verbal prompts in the ordering process and the launch of digital assistants. Perhaps then consumers will be asked: “How about the chives? Maybe you’d like a few more vegetables to go with that.” When the software recognises which dish is likely to result from the items on the shopping list, it can make suggestions for further ingredients and even a suitable dessert.

Nonetheless, the Farmy boys still consider a personal and individualised approach to be one of the key factors for success – not only on their digital channels, but also in real life. For example, the company organises special events where members can get together for farm visits as well as “homemade” dinners in the company’s kitchen or at pop-up restaurants. What’s more, Farmy fruit baskets can be delivered weekly to offices to help employees maintain a healthy diet.

# In the land of the blind…

*…PCs, smartphones and other electronic gadgets are in certain instances difficult-to-impossible to use. A Vienna-based start-up, led by **Kristina Tsvetanova**, aims to overcome that, to offer "digital inclusion" for the sightless. The product is Blitab, an e-tablet that functions in Braille.*

While studying Industrial Engineering in the early millennium at Bulgaria's University of Sofia, Kristina Tsvetanova saw visually impaired students struggling to learn and to communicate. Their tenacity inspired her to try to end their "digital exclusion". After several technical jobs in Sofia and then Vienna, in 2014 she joined two other Bulgarians (brothers Slavi and Stanislav Slavev) to found Blitab. She lives a typical "start-up life", with a hectic schedule full of problem-solving, investor relations and travel. Indeed, ceo magazine spoke to her while she was on a fund-raising tour of Silicon Valley.

**Text:** Eric Johnson
**Photos:** Blitab

She's used to pioneering. As one of the few women in her year to study Industrial Engineering, she went on to win awards from her university and from Bulgaria's Ministry of Education. Now, she's one of the rare females in the manly technology industry, and she's championing a product that takes e-tablets into unexplored territory. Kristina Tsvetanova talked to ceo magazine about her product and about modern, digital life.

**How does a blind person typically use Blitab?**
First let me tell you what blind people used before Blitab. There are "blind reading" devices in the market today: they look something like a PC keyboard, and they display one line of Braille (the tactile writing system used by the visually impaired). So users can read about five words at a time. To read a full book the size of, say, "Harry Potter", can take months! If they fall asleep or lose their place, it's very difficult for them to find where they left off. They can't "see" graphics or images. And on top of that, the current devices retail at prices of USD 5,000 to USD 10,000.

This is why we set out to create Blitab. We present an entire page of text, images and graphics. It can be used very similarly to how sighted people use e-tablets such as an iPad. Blitab converts conventional outputs of various apps into electronic Braille, little dots (called tixels) that go up and down to form the various alphanumeric characters plus shapes and surfaces. And it will be affordable: we are aiming at a retail price of around USD 500.

**Why Braille and not text-to-speech?**
Blitab does enable text-to-speech, but we believe in Braille. Just as sight reading is so much faster than speech, so too is Braille. This allows the blind to get through more in less time. Of course, the blind need to learn to read and write Braille, and to some extent they've moved away from this with the increasing availability of text-to-speech. But we believe that if Braille can make texts fully, quickly available as it is on Blitab, then there will be incentive to keep using this amazing tactile system for communicating.

*"In five to ten years, we hope to see an increase in Braille usage and most of all, more social inclusion of the blind."*

*"With today's 'blind reading' devices, it takes months to read a book the size of a 'Harry Potter' novel."*

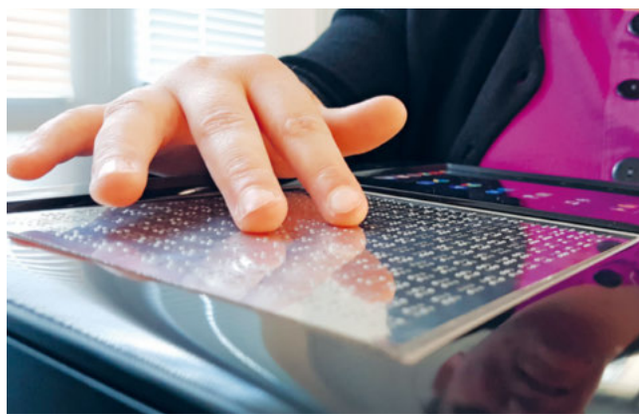
**How far away is a commercial product?**
Going from nothing, to a concept, to a prototype, to a commercial product is a long road indeed. We started in 2014, and there were times when we nearly gave up. But we made it through those dips and now we're into pre-production and fund-raising to get on with serious manufacturing. We expect to close our first round of financing and enter the market by the end of 2018.

**When and where might Blitab be available, and how will you sell it?**
We expect to sell it via two channels. One is conventional retailers who sell "blind-assistive" products and Braille devices. The other is government agencies and companies who do business with the blind. For instance, we're talking to banks who might resell Blitab to make their services more accessible for the visually impaired. We've also approached telecoms such as T-Mobile, who are interested in using Blitab because it is SIM-card compatible. We hope to capture 10 to 20 per cent of the existing market for assisted products. If we can help re-energise the use of Braille, which we hope to do, the sky's the limit.

**Where do you see Blitab in five to ten years?**
We believe Blitab is a game-changer, like the iPad was. An ecosystem of apps is our goal, replete with maps, special education offerings and all the kinds of services that sighted people use, just adapted to the sightless. We're constantly sending out our API (an electronic interface for app developers) to people who want to create new apps for Blitab – they're more than welcome to do so. We're also developing digital services that connect to the device. In five to ten years, we hope to see an increase in Braille usage and most of all, more social inclusion of the blind.

**How are they excluded today?**
There are some 300 million blind people, most of whom cannot access digital content. Many just use paper and punch Braille. We want to give them better access to all the amazing apps that are out there. We also want to make this access affordable. And I'm pleased to say that we are not alone: other devices will help the blind, too.

**Such as . . . ?**
Self-driving cars, for instance. And robots – these could be a tremendous help, not just to the blind. The same robots that keep blind people safe from traffic can protect small children and people with other disabilities as well. Work is in progress on drones that can guide people – tell them where the street, the shop or the traffic light is. There's also work underway to develop robotic guide "dogs". Real animals are of course wonderful, but also very expensive to train and maintain. Robots could help supplement their work.



The Blitab e-tablet is a tremendous relief in the everyday life of the blind.

**To what extent has digitalisation impacted your life?**
If it weren't for digitalisation, my company would not exist. We couldn't even have this conversation (NB: the interview was conducted via Skype). My life is very digitalised. When I go to the gym to work out, or go for a run, I use digital trackers. At the office, I could barely get things done without my gadgets and Bluetooth and the rest. A few years ago, I never thought robots would enter my private life. Now, I'll be out shopping, and a notification goes off on my smartphone telling me that the shop around the corner is offering a special discount on something I want – just for me! Digitalisation expands your possibilities as a person, and it gives you more time.

**Do you use a "digital assistant"?**
I use Google Assistant, which looks like a big candle. It's connected to Bluetooth, and I tell it to play music or I ask questions about things like the weather. Sometimes I say something not directed to the assistant, and she starts talking to me unprompted – this always surprises me.

**Do you see any downsides to digitalisation?**
Loss of privacy is probably the number one concern. I've closely followed the public discussion about Facebook and Cambridge Analytica and the protection of personal data. One weakness of so much digitalisation is that users either don't know or don't remember what data they agreed to give away. We want services at low cost, but we want privacy: the line between them is still being defined.

**24/7 working and accessibility: what's your view?**
People today cannot afford to be available 24/7; as this was not possible for most people in the past. Devices, however, clearly can work 24/7. Still, there are areas where devices won't easily replace people, for instance in healthcare or art, where emotions and human connections are still needed.

**What's the next big thing?**
A few weeks ago, I attended a virtual presentation where the lecturer was a hologram. It seemed as if she really was there in the room. The technology is not commercial yet, but it's coming. It'll reduce a lot of the cost, time and effort involved in meetings.

**Any final comments?**
I want to help the blind, and I want to bring men and women together. Males and females are equal, but they are of course different. I think we can have a world of diversity, sustainability and social inclusion. That's my dream.


**Blitab** is, as the name implies, an e-tablet that presents any document (text plus graphics) to the blind, converts text to speech and allows inputs from Braille typewriters (called Perkins-style keyboards). The e-tablet, which looks much like a conventional one for sighted people, is a platform – meaning it does not displace existing applications, but instead makes them useable by the sightless. The company has won several innovation awards, and last year, Blitab made its commercial debut at the industry-leading Consumer Electronics Show in Las Vegas.

**blitab.com**


“The real difficulty is putting your head around change.”

#HeForShe #Commons #TheDress

# Homo digitalis: an issue that goes beyond the general debate

***Boris Beaude** is Professor of Sociology and Political Science at the Swiss Federal Institute of Technology Lausanne (EPFL) . In a discussion with us, he shares his thoughts on a subject that is complex and not confined to the general debate, "especially when one considers what's at stake". The relentless move towards digitalisation has profound effects on our modern democracies: "We're trapped between the Scylla and Charybdis of angst and idealisation. And in both cases, the expectations are misguided."*

**Boris Beaude**, a French resident of Lausanne, is 44 years old and grew up in the digital age. His first encounters with IT came in the 1980s at the time of Amiga and the Sinclair ZX81. Beaude's interest in all things digital ultimately also shaped his academic career, taking him from France to Lausanne – first at the EPFL and later at the University of Lausanne – where today he lectures on issues relating to digitalised social interaction and its traceability as well as the contemplative process this has spurred at the political level.

**Text:** Stéphane Gachet
**Photos:** Markus Bertschi

**From big data to big intelligence: how far apart is that? Will we really end up being smarter?**
The two terms are already closely interlinked and cannot be easily separated. They feed on each other. Intelligence is based on information and the special way it is processed in order to create meaningfulness, which in turn can crystallise in the form of positive actions. The processing possibilities alone are not very useful, seeing as they are not applied in real-life situations, like for example when one is playing a game of Go. And data alone are not much more useful, especially since there is such an enormous amount of the stuff. So those who succeed in combining the two are the real winners and they're often the same players. In this regard, IBM takes a unique approach, tailored to specific contexts such as healthcare or urban planning, whereas Google has an important advantage in these areas: with this, I mean by adapting the way we work to the behaviour of the individual.

**Is it really revolutionary to watch how a computer wins at Go or a car drives itself?**
The effects are far-reaching: the limits of what only humans can do are being more narrowly defined. Driving is inherently a function of multitasking. The game of Go requires strategic thinking and intuition. When such complex activities are taken over by machines, we have no choice but to redefine intelligence and the essence of being human.

**Does this represent a turning point for mankind?**
It's indeed a decisive moment for all of us. Through the age-old delegation of manual skills to the mechanical and the practical utilisation of energy and metals, mankind already experienced a tremendous upheaval. Nowadays, we are witnessing a delegation of our cognitive abilities, meaning the practical utilisation of energy and information. This admixture of mechanical and cognitive delegation is very powerful and extremely effective. Autonomous driving and industrial robotics are just a few of the outgrowths. So we have to imagine the world of the future differently.

**Must we fear those developments, or can we look forward to them?**
From a political standpoint, this is a unique opportunity for emancipation, but it will only emerge as freedom if it is actively and thoroughly thought out – this because it concerns the very foundations of our modern democracies, the distribution of added value amongst the various stakeholders, and the place of the individual in the community. The entire subject harbours a rare complexity.

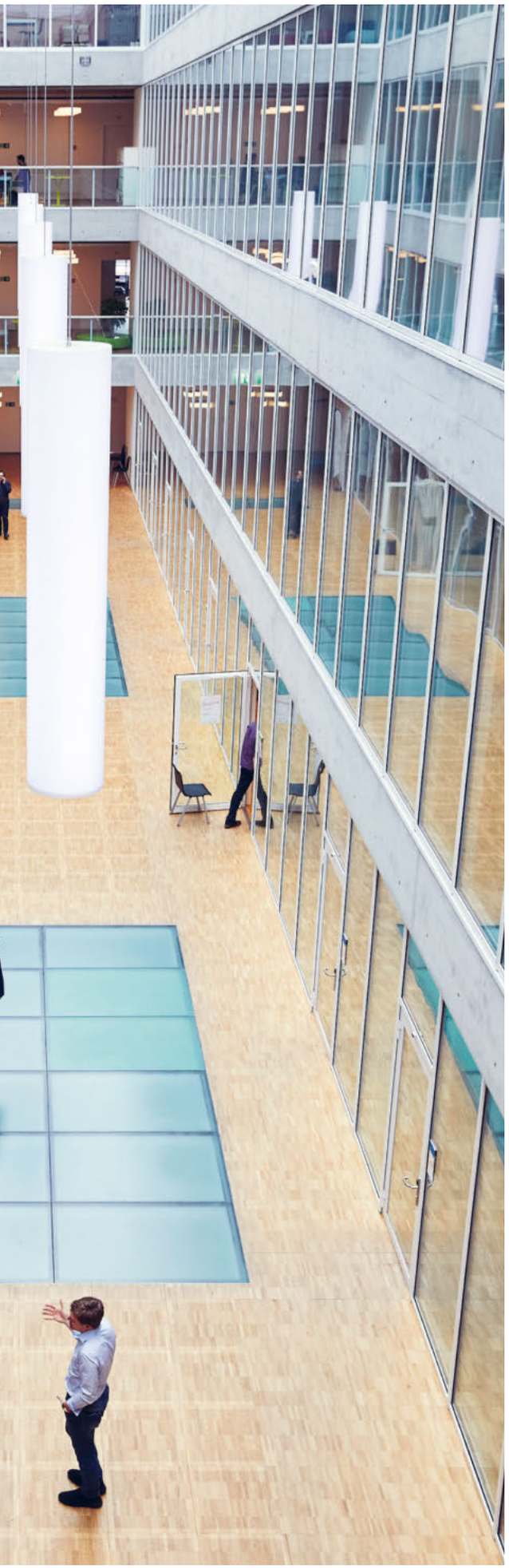
**Are you alluding to the concentration of productivity, like what already seems to be arising as a result of the GAFA (Google, Apple, Facebook, Amazon) phenomenon?**
This expression is extremely troublesome, given that the companies you mention have nothing to do with each other, except for the fact that they only gained importance thanks to mobile telephony, the Internet and the digitalisation of everyday life. Their business models differ greatly, especially in terms of big data. If you need convincing, it suffices to follow the money trail and simply ask yourself who their customers are: by and large, Apple's customers are users, Amazon's customers are buyers and sellers, and Google's and Facebook's customers are advertisers.

That said, the concentration risk has remained completely unaddressed. And with the evolution of artificial intelligence, this concentration still has much further to go. It should come as no surprise that Google is also increasingly active in the areas of mobility and health maintenance. Apple and telephony are nowadays essentially synonymous, but ten years ago that was by no means a certainty.

**The economic logic and avid interest seems understandable in certain instances, such as in the manufacturing and transport sectors. But you apparently anticipate developments in more subjective activities, so why not also education or strategic governance as time passes? Should we be wary about all of this, or simply come to terms with it?**
As to the objective activities, I think we should invest in and accompany the change, because the results will be substantial. With everything subjective, meaning everything where – thanks to the ever-increasing volume of data – innovation or the prediction of "social facts" is concerned, you first need to be convinced of the data quality; quantity alone is not enough. The classification of data in the social sciences field is not a matter of course, because the respective context is decisive for the interpretation of the data and the factors that can contribute to its value.

Contrary to a widely held belief, forecasting social facts is more difficult than shooting a rocket to the moon. Big data is a good tool for describing, but less so for predicting, simply because it foresees the future based on the past. In the financial industry for example,

**"Big Data is a good tool for description, but less for prediction, since it forecasts the future on the basis of the past."**



University of Lausanne

the use of a predictive trading algorithm leads to a change in trading behaviour, as it becomes increasingly difficult to take larger positions without influencing the market. Forecasting plays a decisive role in competition, but it needs to be handled with finesse. Applying this tool to society is an even more complex task, yet there are many tempting promises in this area.

Frankly, though, big data is a rather conservative tool. Using it for predictions is the best way to change zilch – you end up reproducing errors instead of conceiving a world worth striving for!

**Let's return to the present for a moment. What about today's hyperconnectivity? Has it really changed everything?**
The real difficulty is putting your head around change. We always look at the world from our own perspective and find this view to be normal. Given the far-reaching structural change we're currently experiencing, we as mere mortals can hardly swim against that stream. Yes, one's autonomy and ability to act and react have increased considerably, but this in an environment where the interrelationships are largely concealed somewhere in the background.

**What's your take on the future of Homo digitalis? More and more gadgets? More and more dependence on technology? Or do you already see signs of a counterreaction?**
The "cultivation" of society has been progressing relentlessly since day one. This has resulted in an unavoidable dependence, to the extent that technology is now a means. If it becomes an end, there is the risk of losing oneself, of not being able to control the energy nor the time we devote to technology.

**And what about the relationship to time: does Homo digitalis almost by definition equate to Homo acceleris?**
It's quite noticeably a matter of the same phenomenon, because digitalisation is primarily a time-saving technology. Even a nutcracker saves time: with it, we can open a nut faster – the result being that we tirelessly invest the saved time in doing other things. This brings us back to the issue of how to simply chill out and stay on an even keel. We have to learn to use things the way that's most agreeable to us, according to our needs. If these needs arise out of economic considerations – for example, with a view to growth, whether personal or corporate – then growth becomes an end, which of course can be positive, but not necessarily just that. Like technology, growth is not static; it can be engendered, measured and shared in many different ways. In this context as well, we need to shape growth and technical possibilities in a desirable way, one that enables us to maintain our chosen rhythm of life. In other words, we have to ask ourselves a question: will the increased productivity attributable to digitalisation create more quality time for us, or will we invest it only in other tasks whose sole purpose is to replicate work in a manner similar to the mindset that drove the Industrial Revolution?

#e-mail-flood #growth #securecommunication

# Unbreakable “modcomms”

Text, chat, phone, video, file sharing: a Zug-based company, led by **Morten Brøgger**, enables all these functions in just one app with two remarkable USPs: iron-clad privacy, and 100 per cent availability. It also has two remarkable taboos: no advertising, no selling of user data.

**Text:** Eric Johnson
**Photos:** Markus Bertschi

## Morten Brøgger’s 14-year-old son has 15,000+ unread emails.

And he’s proud of it – he doesn’t want to read them. “It’s the way of millennials,” says the 40-something Dane of his Copenhagen-based progeny, adding that while 90 per cent of teenagers use social media, only 6 per cent of them write emails. “Their communications are super short and to the point, without all the intros and closings and trappings of email. It’s a different way of communicating: it’s not correspondence, it’s a conversation.”

Today’s teens are of course tomorrow’s workforce, and already their text, tweet, chat, share habits are standard for many elders. Moreover, digital trends no longer start in the office and spread to the home, but vice versa. Private consumers drive the market for apps. If those succeed in personal usage, they then find their way into business.

So why don’t businesses simply let their staff replicate Brøgger junior’s communication methods? Because they have something to lose: namely privacy and security. Public networks are well and good for teens with little or nothing to hide. Hey, if one’s secrets are favourite rappers or cosmetics or football clubs, exposing them is little threat: these are hardly secrets in the first place. Business users, however, do have things to hide, sometimes a lot. Confidentiality is usually desired and often required. When it’s breached – just ask Swisscom, FedEx, Pizza Hut and so many others who’ve borne the brunt of it – there can be losses of money, customers and reputation, not to mention legal penalties and fines.

In the two decades since graduating from Aarhus University in his home country of Denmark, **Morten Brøgger** has climbed steeply in the world of IT/communications. At Wire Swiss, he’s already in his third stint as a CEO, after having held the same post at collaboration-software provider Huddle and before that at roaming-clearing agent Starhome Mach. He’s a genuine globetrotter, splitting his time about half and half between Europe and California’s Silicon Valley. Brøgger is no stranger to Switzerland: he lived here in 2005 to 2006 when he was head of telecom operator Sunrise’s Fixnet division, and he now regularly visits Wire’s head office in Zug. Digitally, he practises what he preaches, wielding two smartphones (one with international roaming, so his children can phone him without extra cost to them) plus a desktop PC, and using his own product as his go-to app. Does he ever tire of tech? Not really, but he admits to shutting down the devices now and then, especially at bedtime and on airplanes.

“E-mail is correspondence, while social media is a conversation.”

This was the conundrum that Brøgger and colleagues set out to solve: how to communicate most modernly, yet also most privately. Their answer is a software application aimed at organisations (but also available to individuals) called Wire.

## Escape from "email hell"

"Enterprises have to accept that their employees will want to use the latest communications tools," Brøgger notes. "And those employees have to accept that those tools must be secure." To that end, he says: "Wire has taken security to a whole new level."

Here's the old way: conventional networks run through central nodes or servers that are protected by firewalls. If the firewall is cracked or hacked, all information is at risk. Data thieves can run rampant. Wire's new way is to build a network with "distributed encryption". There is no central node or server, data flows are peer-to-peer. Rather than encrypting centrally, the ciphering is done locally – on every device connected to the network. And each encryption key is updated with every single message to that device. "Each device is its own fortress," Brøgger explains. Even if somebody does hack it, the hacker can access only the latest message – that's all. Hacking doesn't become impossible (and it never will be), just unrewarding.

All that privacy and encryption is of course under the hood. To users, Wire is a combination of Skype, WhatsApp, Snapchat, GoToMeeting, mobile telephone and various other apps – and it looks pretty much like them, too. Even replacing up to 50 per cent of the enterprises' email is part of the package, although with all the alternatives, most users employ it sparingly. Brøgger – not surprisingly a power user of Wire – says it has released him from "email hell". "There are weeks where I don't receive a single email from a colleague. We communicate just as much, but in a shorter, more focused way."

## Chasing the enterprise

Although it started by serving private users, Wire is now focused on corporates. An enterprise version launched early this year already is used by 100+ companies. Estimated total users of Wire sum to some quarter of a million, with the majority of their traffic during business hours.

So far, the main selling point is privacy, but another one is on the way: availability. Wire has just started offering Wire Red, an on-demand crisis collaboration infrastructure – in other words, a "backup" communications network. Large organisations increasingly need a secondary network in case their primary one fails. As unlikely as that might sound, failure became spectacularly real in mid-2017 when the malevolent "NoPetya" virus crashed communications at major companies such as Maersk, Mondelez, Rosneft and TNT.

"They lost control of their networks and they lost hundreds of millions of dollars," says Brøgger. With Wire, they would have had a decentralised alternative already in place. To use it, just pick up the phone and log in. No waiting required.

**"Enterprises must accept their employees' use of the latest communications tools, and employees must accept that those tools be secure."**

Secure texting, chatting, telephoning, exchanging videos and files – Wire combines all of this in a single app.

© Wire

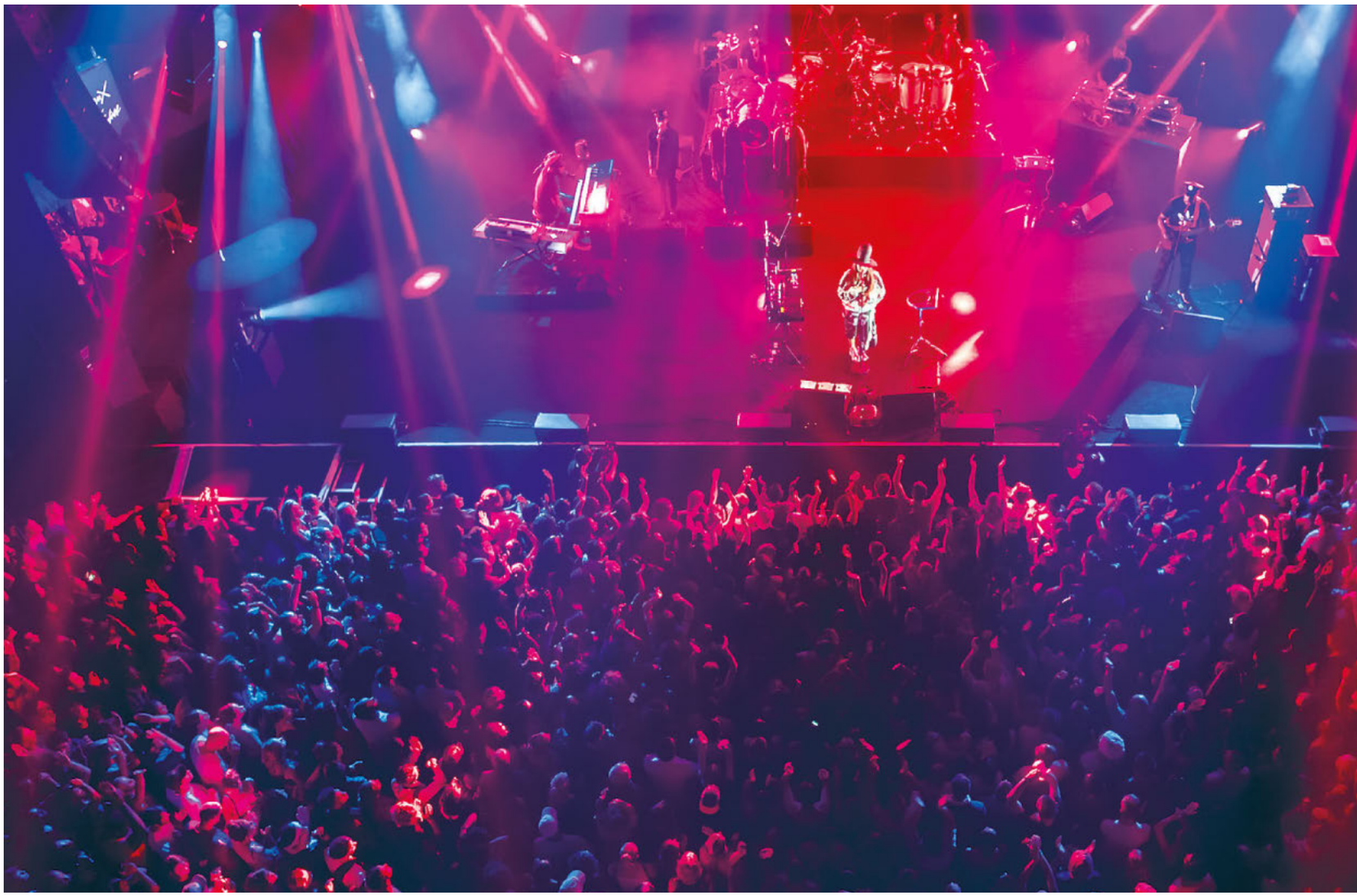
## Just say no – to advertising

A happy side effect of focusing on business customers is that Wire avoids two challenges common to communications apps. First is the network effect: if a company adopts Wire, it has an immediate network of users, so this need not be built up over time. Second is that of choosing a revenue source, i.e. advertising or direct payment? Wire follows the traditional software model, charging per user month.

"We could never sell metadata on our customers like Facebook does," Brøgger explains, "because we don't even collect such usage data." Wire has explicitly rejected the advertising model, mainly because that conflicts inherently with its prized feature of privacy. As for the ongoing controversy of Internet confidentiality and particularly the alleged misuse of data by third parties such as Cambridge Analytica, Brøgger says he is sadly unsurprised. "You can't read the news these days without hearing about data breaches. Privacy and security are the two biggest issues in technology today. In future, there probably will be more regulation around it, but ultimately this is something that companies must solve on their own. Waiting around for regulations is too risky: you might be out of business before they take effect."

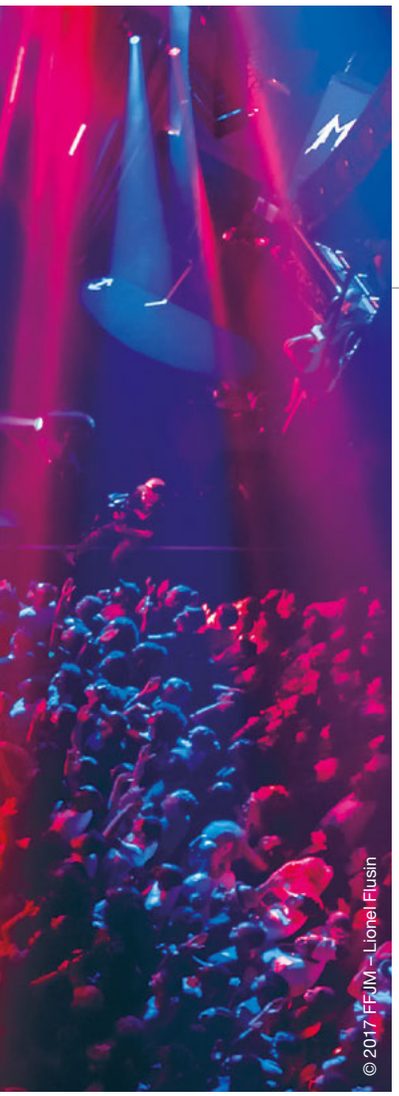
Unless you're deep into tech, you probably don't know the name Janus Friis, but almost everyone knows the name Skype. The former co-founded the latter, which ultimately propelled the former into billionairedom. Only now in his early 40s, Friis is not resting on his laurels, but entrepreneuring further – among other things with Wire, which employs a notable number of former Skype-ites. The six-year-old company originally aimed at individuals, but now is focused on corporate users: a mission, Morton Brøgger came in late 2017 to lead. Wire's 50-some employees are mostly developers and engineers based in Berlin, plus a sales team in Silicon Valley and administrative headquarters in Zug. Why Zug? "Switzerland has some of the best privacy laws in the world," says Brøgger. "Its people believe in privacy, also in security and quality. We fit right in here."

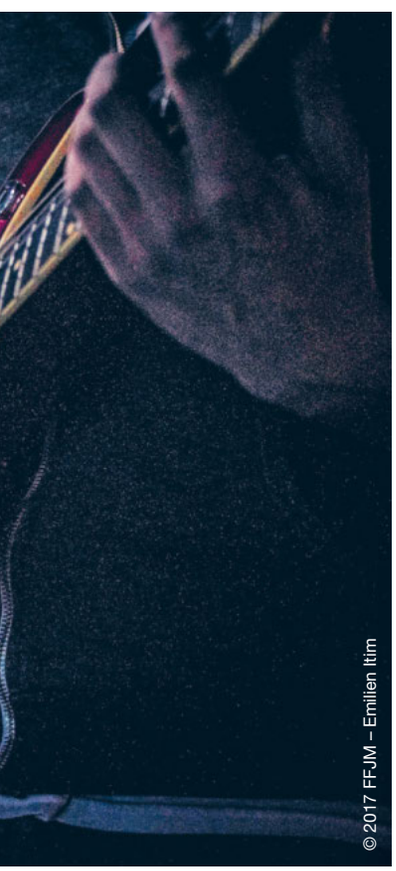
**wire.com**



The **Montreux Jazz Festival** was introduced to the world in 1967 by René Langel, Géo Voumard and Claude Nobs, the latter of whom headed the festival until his death in 2013. With more than 250,000 visitors, the festival is one of the most important events in Europe, if not the entire world. Despite this renommée, the MJF has remained true to its roots: improvisation and the proximity of artist and audience continue to be its hallmarks. The festival employs 30 people year-round, whereas that number rises to over 2,000 during the event. Its annual budget: CHF 28 million.

**montreuxjazz.com**




#MJ_like_MontreuxJazz_and_MathieuJaton #music_only #authenticity

# “Never has there been this much human interaction”

***Mathieu Jaton** finds that the digitalisation of music has led to numerous contradictions. The man should know: as director of the Montreux Jazz Festival, he’s been closely following digital change and can attest to the fact that music and technical innovation have been joined at the hip ever since the birth of the festival.*

**Text:** Aline Yazgi
**Photos:** Marc Wetli

The Montreux Jazz Festival is famous round the world. But that’s not all. Throughout its 50 years of existence, the festival has always constituted a bridge between music and technological innovation – one of the aspects that have helped it achieve global renown.

Montreux was one of the first music festivals to produce excellent recordings of the artists’ performances. Filming wasn’t long in coming, either. For the first time ever between a festival and a university, an agreement was reached in 2007 with the EPFL to digitalise all of the Montreux concerts. This unique collection, comprising 5,000 hours of live music, is one of the largest audiovisual concert archives in the world and today is part of UNESCO’s world documentary heritage. The Claude Nobs Foundation is responsible for creating and conserving this collection. With the help of metadata, fans can search for specific pieces and scientists also use the archive for research purposes, especially in the field of neuroscience.

Consequently, festival director Mathieu Jaton – with his 360° videos, virtual reality presentations, 4K recordings and holograms – finds himself smack dab in the middle of the technology universe. But does he believe festivals, especially his own, are in danger as a result of the digitalisation of music and the resulting shift in the industry’s focus?

*"The further digitalisation progresses, the greater the desire is amongst people to gather together physically."*

At the age of 37, **Mathieu Jaton** took over as director of the Montreux Jazz Festival following the death of its founder, Claude Nobs, in January 2013. But the Vevey-born Canton Fribourg native has been a trusted festival figure for almost 20 years: during his training at the École hôtelière de Lausanne, he saw to the reception of festival artists and sponsors over a five-year period. As of 1999, the music lover then worked full-time as Sponsoring and Marketing Head and subsequently became Secretary General of the MJF at age 25. He worked closely with Claude Nobs for 12 years and in particular was involved in the organisation of overseas festivals and the opening of the Montreux Jazz Cafés in various locations around the world. The first such café debuted at Geneva Airport.

## Man is superior to his technologies

"Since the digitalisation of music, there have never been so many interpersonal contacts. This is one of the paradoxes of the digital transition: the further digitalisation progresses, the greater the desire is amongst people to gather together physically. In 15 years, the number of festivals in Switzerland has tripled, and in Portugal it's even quintupled."

"And by the way, here's another paradox: economic theory states that prices fall as demand rises. However, this is not the case in our field. Nowadays, artists no longer earn much from their music recordings, so they increasingly rely on live performances that allow them to command hefty performance fees. And to stand out from the crowd, they need to put on jaw-dropping shows, which is expensive. Therefore: yes, there certainly has been a globalisation of the market and today it's a completely different ballgame. Yes, all players in this chain have to change their way of thinking, work differently and turn music into money in a different way. And yes, the ones who want to do everything the way they always did it will have a hard time. However, this development also offers enormous opportunities."

So if Mathieu Jaton is confident about the future of his festival, this is – aside from the economic considerations – also due to his conviction that ultimately the human factor will win out. "We mortals have five senses. We want to be together and exchange ideas. Ultimately, man is stronger than technology. People live from swapping stories with each other; they're not loners."

## Collecting new experiences

Although technology is an integral part of the Montreux Jazz Festival, it plays more of a supporting role. Virtual reality with 3-D 360° views makes new experiences possible and can put concerts in a new light – for example, you can virtually stand on stage and groove with the artists. But Mathieu Jaton is convinced that social interaction – the awesome experience of it – will ensure the continued existence of live performances.

He himself believes that one needs to conceive a strategy before dealing with the technology. "The problem with digitalisation is that everyone can master it. So the question is not which technology to choose, but rather, what's your intention? The tools have changed, but the need for a strategy remains."

Speaking of which: the festival is currently working on developing content strategies to generate new income flows. Mathieu Jaton has already seen to that by having created content units more than five years ago. He then appointed a chief digital officer.

## A festival – a strategy

For a recurring event like the Montreux Jazz Festival, developing a strategy that goes beyond the show and is consistent throughout the year is difficult. The answer? "We need to ask ourselves what our product should look like at the digital level. What are we capable of? Creating experiences! So we've introduced the Montreux Jazz Café and the Montreux Jazz Festival Japan to make intense moments like these possible beyond just the two weeks in July. The real puzzle, though, is still the question of how to take what we have and organise in an even better way a series of different, experience-oriented events all year round. That's exactly what we're working on right now."

Digitalisation also means that today all of us are exposed to a veritable flood of information. "On one hand, this oversupply is exciting and compelling, but it also has a dizzying, disturbing side," says Jaton, who admits that he himself is a smartphone addict.

"This wealth of information has the consequence that one feels somewhat lost, loses orientation and is stressed at the thought of not being able to comprehend everything." A widespread feeling, indeed. "As festival organisers, we've noticed that our customers and visitors sometimes feel lost. So in response to popular demand, we created the "Montreux Jazz Insider" app, which provides information and interesting facts about the artists and their music. We recognised that the audience needs points of reference, and we want to underscore our credibility and competence to them in this way."

The credibility of the Montreux Jazz Festivals has always been betokened by outstanding sound quality. Alas – here, another paradox – digitalisation is characterised by "phenomenal advances in the visual domain, but an enormous deterioration in sound quality". The music revolution came to fruition at the expense of quality, this as the result of formatting and compression.

*"The question is not which technology to choose, but rather, what's your intention?"*

## Current PwC studies:


**Store 4.0**
The future of bricks-and-mortar merchandising


**Industry 4.0**
How digitalization makes the supply chain more efficient, agile and customer-focused


**The way we work – in 2025 and beyond**


**Megatrend technology**
Data analytics: more knowledge, more value


**The transformation to digital merchandiser**
Make or buy?


**The digital insurer**
Five hypotheses on the digital insurer of the future


**2017 Global Digital IQ® Survey**
A decade of digital: Keeping pace with transformation

magazine.
pwc.ch/en

## Find out more online

To what extent can the training of professional athletes be optimised with the aid of sensors? And why does Mathieu Jaton of the Montreux Jazz Festival contend that the digitalisation of music has led to numerous contradictions?

**You'll find the answers to these and further questions in the online version of ceo.**

# *The next issue of ceo will appear in December 2018.*

***Don't want to miss a future issue of ceo?***
Subscribe now: ceo.magazine@ch.pwc.com

pwc