

Robots should help people, not replace them.

Critical statement regarding the cover story "Guys like him are furthering Switzerland" in *20 Minuten* from January 21st, 2016.



Volketswil, Switzerland, January 22nd, 2016.

"Swiss companies in the spirit of the robot revolution" was written in *20 Minuten*, a major Swiss newspaper on January 21st, 2016. Hocoma is one of the Swiss innovation companies that has already heralded the Robot Revolution with their effective, robotic therapy devices — the future of neuro-rehabilitation.

"The future is in our hands," said Sarah Connor in 1992, when she was fighting to prevent the robots from taking over the world in the blockbuster "Terminator 2". The film industry has heavily influenced, with different movies, including "I Robot," the creation of the idea that sooner or later robots would replace humans.

Robots should help people, not replace them

Robots were at the center of attention at this year's World Economic Forum in Davos, as well. "Industry 4.0" is the buzzword being heard everywhere, and robots that could serve coffee, sell stuff or read visitors' minds were on display.

The future of the world economy is clearly visible in Davos, and Sheryl Sandberg of Facebook, Jamie Dimon of JPMorgan Chase and Jack Ma of Alibaba shared the spotlight with a robot called HUBO. The award-winning, human-size robot from South Korea can climb stairs and get in and out of a car.

So what?

At Hocoma, the Swiss world leader in functional movement therapy, robots already accomplish far more important tasks. They assist therapists and greatly improve the quality of life of patients in leading rehabilitation centers worldwide.

Robotic training devices that literally help the disabled get back on their feet

Hocoma's key to success is intensity — high repetition rates combined with motivational real-time feedback.

Robotic orthoses never get tired of repeating physiologically correct movements, and this supports the patient to relearn the corresponding motion sequences.

In order to actively involve the patients in the therapy, they are invited to "play" their way through the therapy session. Their performance is displayed in game-like experiences on a monitor in real time. The patients are being challenged and motivated to push the limits of their personal capabilities throughout the therapy session.

But unlike the robotic coffee sellers, Hocoma's devices do not replace people, as shown in the case of 3-year-old [Desmond at the Beaumont Hospital, USA](#).

"We are the solution to the growing costs in rehabilitation. Not only do we help patients get back on their feet or keep them out of nursing homes, but we also disburden the cost-bearers. Not by replacing the therapists, however, but by enabling them to provide patients highly effective therapy. A therapist can treat more patients at the same time and train them more intensively thanks to our machines. This is a huge market of the future, especially for outpatient



rehabilitation facilities as inpatient stays are getting shorter," states Gery Colombo, CEO and co-founder of Hocoma.

Medical Training Therapy (MTT) transforms into Robotic Training Therapy (RTT) for Hocoma — the therapy center of the future.



Hocoma is already a Swiss forerunner

"Switzerland has all the prerequisites to become a forerunner in the implementation of breakthrough technologies and machine networking," to quote the words of Markus Koch from Deloitte Consulting.

Mike Fuhrmann, CCO at Hocoma, is very critical of the news reporting on this issue.

"We have been already there for years, but the rehabilitation market is simply not given enough publicity. Why are the leading Swiss companies in the robotics field not invited to discuss such topics? It is unfortunate to see that such an important convention focuses only on entertainment robots instead on robotic innovations that are truly relevant to our lives," says Fuhrmann.

"Why is a robot that can sell coffee, sexier to the World Economic Forum than a robot that can make patients with spinal cord injury walk again? Or drastically reduce the cost of rehabilitation, where the goal is not patients' care, but regaining quality of life and integration? We live in a world where the number of stroke patients by the aging population, as well as the number of people leading an unhealthy lifestyle, are dramatically increasing, where hospital stays and treatments are becoming shorter."

This is exactly what Hocoma has been working toward for the last 15 years: influencing the future of modern rehabilitation with their product solutions. Would it not be reasonable to include these technologies in the context of the World Economic Congresses as well, so decision-makers at the political level could see what could be done to sustainably change the future of mankind?

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Gery Colombo, CEO, Hocoma



Mike Fuhrmann, CCO, Hocoma

Video material:

"Untreatable is not the option"

Example from the Ambulanticum in Herdecke shows that sometimes even patients given a certificate with an official opinion that a "significant improvement in the performance is not possible for the foreseeable future" can learn to walk again.

<https://youtu.be/vWDHgGzn2pQ>

"Lokomat helps a kid learn to walk again"

Little Desmond, 3 years old, from the United States, learns to walk only three months after the removal of a spine tumor through the treatment on the gait therapy robot Lokomat.

<https://youtu.be/6dRaWmLDIYU>

The article in 20 Minuten:

Schweizer Firmen im Zeichen der Roboter-Revolution

DAVOS. Verkaufsroboter oder Aufzüge 4.0: Für die am WEF diskutierte vierte industrielle Revolution ist die Schweiz prädestiniert.

Während dieser Tage in Davos über die vierte industrielle Revolution diskutiert wird, ist sie in der Schweiz bereits im Gang. Das kann auch unspektakulär, aber hocheffizient vor sich gehen: Beim Liftbauer Schindler melden die Aufzüge etwa selbst, wenn sie Probleme haben, und der ausgerückte Servicetechniker hat per App Zugriff auf das Ersatzteillager.

Spektakulärer ist der Einsatz von Industrie 4.0 bei Nestlé. In japanischen Haushaltswarenläden verkauft ein Robo-

ter Kaffeemaschinen von Nescafé. An Stimme und Gesichtsausdruck der Kunden kann er ihre Gefühle erkennen und darauf reagieren.

«Für Schweizer Firmen steht die neue industrielle Revolution ganz stark im Fokus, das merken wir in unseren Beratungen», sagt Sven Sleppe, Unternehmensberater bei Roland Berger. Die Schweiz habe alle

Voraussetzungen, um zur Vorreiterin bei der Umsetzung bahnbrechender neuer Technologien und der Vernetzung von Maschinen zu werden, meint auch Markus Koch vom Unternehmensberater Deloitte: «Wir haben die hoch ausgebildeten Leute, das Kapital und die Infrastruktur, um von den neuen Technologien zu profitieren.» Durch die Automation

dürften zwar Arbeitsplätze wegfallen, aber im Endeffekt mehr Jobs an anderer Stelle geschaffen werden – wie bei den bisherigen industriellen Revolutionen. Neu sei aber, dass sich der Arbeitsmarkt nicht von einer Generation zur nächsten verändere, sondern innert weniger Jahre, sodass sich jeder Einzelne weiterentwickeln müsse. ISABEL STRASSHEIM

Was ist Industrie 4.0?

Mit der vierten industriellen Revolution dringt die digitale Welt in einen neuen Bereich vor: Sie schafft es, sich nicht nur mit anderen Maschinen zu verbinden (Interkonnektivität), sondern auch mit der Welt. Dank Sensoren können Roboter etwa Lagerarbeiten übernehmen, Autos allein fahren oder Kühlschränke Milch selbst bestellen. ISH



Bahnbrechende neue Technologie: Roboter Hubo zeigt am WEF in Davos, was er alles draufhat. KEYSTONE

About Hocoma

A successful therapy begins in patients' heads. In the firm belief that – step by step – they can reach their goals and regain quality of life.

This is what we work for at the Swiss medtech company Hocoma. With technologies and ideas that look at functional movement therapy from a completely different angle. Because they enable independent exercises and create maximum motivation. Because they challenge people to take courage and support their hopes with personal achievements.

We are committed to creating the ideal therapy. Our awarded robotic and sensor-based devices offer solutions for intensive gait therapy (Lokomat®, Andago®), functional therapy of the upper extremities (Armeo®), robotic mobilization and functional electrical stimulation in early rehabilitation (Erigo®) as well as functional movement therapy within low back pain treatment (Valedo® Therapy Concept) at home and at the clinic. They are the result of intensive research, consistent development and continuous exchange with patients, therapists and partners in research and science.

Those who see to break new grounds need to stay open to exceptional ideas. They have the potential of being exceptionally effective. This guiding principle by Hocoma founder and CEO Dr. Gery Colombo has accompanied us since our start in 2000 and is still lived and implemented by our dedicated employees around the world. At the headquarters in Volketswil near Zurich (Switzerland) and the subsidiaries in the USA, Singapore and Slovenia they achieved a turnover of more than 30 million CHF in 2014.

Product Disclaimer

All Hocoma products are medical devices and must be used in strict adherence to the User Manual; failure to do so may result in serious personal injury. It is strongly recommended that you regularly consult Hocoma's website (www.hocoma.com/legalnotes) for the latest available information. Please contact Hocoma in case of any questions.

Use only under the supervision of qualified medical personnel. However, certain Hocoma products are marketed for home use and must be strictly used according to the recommendations of your medical care provider who is knowledgeable about your specific needs. Consult the User Manual and Hocoma's website (www.hocoma.com/legalnotes) for appropriate product designation. Failure to obtain and follow the recommendations of your medical care provider may result in serious personal injury.

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