

Editorial

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Dear Members, Dear Friends,

Euro08 has dominated the headlines of our newspapers and probably also your discussions at lunch. Many of us have their favourite team and bets running on who will become the European champion this year. By the time you read these lines, the final match will have probably been played and therefore I will not mention my favourite team here (for the chances are high that I will make a fool of myself). But this event will come to an end, and I hope other topics will become more dominant again. For example, the success stories of our Swiss industry around the world or the national event of ManuFuture-CH in Aarau on September 26.

But before looking forward to our next events, let me look back on the accomplishments of ManuFuture-CH thus far. The association was founded 12 months ago and has now over 40

members, both individuals and collective members. We have issued two newsletters with information about upcoming events, activities in member companies and universities. The national event in Lausanne, with the visit to the highly interesting Bobst manufacturing sites in Mex and Prilly, was a success because it gathered many important representatives from industry and academia and offered a possibility to exchange ideas and interesting information.

Within ManuFuture-CH, Research and Development (R&D) and Production Methods continue to play an important role. A ManuFuture R&D Consortium was established in order to expand the network, organize events and enable new projects on the national or European level. This was all possible thanks to the tremendous support of the Commission of Technology and Innovation (CTI). In 2007, more than 20 R&D projects, with a total project volume of more than 10 million Swiss francs, were submitted

under the umbrella of ManuFuture-CH. The plan is to repeat this impressive achievement in the years to come.

Well-educated technical personnel is one of the key success factors for our industry. Close collaboration with GIM-CH in the French-speaking region of Switzerland is planned in order that some of their successful activities in education for technical professions can also be transferred to other regions in Switzerland.

To come back to the post-Euro08 highlights, I would like to invite you all to our national autumn event on September 26 in Aarau. We will focus on two topics: medtech and resource-efficient manufacturing. In addition, we are offering you a platform to present running or planned projects in these two fields. High-level presentations by invited speakers will round off the event. Please contact our secretariat if you are interested in presenting your projects to a larger public.

Yours sincerely,



Olivier Carnal, President

Fresh ideas for future markets

Elsbeth Heinzelmann,
Journalist, Bern

Get out off the beaten track, try something new! That sounds good, but innovative technologies often bear unknown risk. Therefore the CTI, the Innovation Promotion Agency, offers the possibility to experience a new approach within a feasibility study, assisted by an academic partner. This was the case of the ARBO Systems SA in Canobbio, one of the leaders in the field of dry material handling devices, the so called "feeders".

ARBO has invented the "closed loop" resonant frequency vibratory feeder. It is the feeder of choice for many applications, ranging from granular materials to very hard, to feed fibrous materials. ARBO offers an extremely diversified product line for feeding and dosing applications, including single and twin screw, vibratory tray and liquids "loss in weight" feeders and weight belt feeders, as well as volumetric and gravimetric control systems.

In order to maintain its top position in the market, ARBO is continuously looking for innovative solutions with dynamic research and development. Their idea was to develop a new system that delivers and measures the process values without the use of load cells and fragile

vibrating wires. They found a helping hand at the Scuola Universitaria Professionale della Svizzera Italiana (SUPSI) in Manno. The team of Professor Silvano Balemi is experienced in control system research and design. The engineers have theoretical and application competences, know what type of control is necessary for a given problem and how to implement a control system.

In a close CTI co-operation between Manno and Cannobbio, the researchers tried to understand the relationship between several quantities like the mechanical resonance frequency, the oscillation frequency, the oscillation amplitude, the material mass, the material flux and the energy used to maintain the oscillation. Together they found a method for determining the load on a conveyor channel based on the correlation of all parameters. They also could establish the best operation conditions of the developed method to reliably obtain the material mass. On the technical side they had to realize a rapid control mathematical algorithm to robustly and reliably estimate the transported mass from various measurements and verify its optimal operation. Finally, they realized a functional prototype using a rapid control prototyping technology of SUPSI.

The results achieved in this six-month study, financed largely by federal funding, not only showed ARBO how to adopt a new and promising technology with minimized risks. The research work also offered the possibility for SUPSI students to learn how to handle and solve industrial problems in everyday life.

For Dr. Silvano Balemi the successful results point the way ahead: "ManuFuture-CH represents an opportunity for the Ticino industry, opening new channels to the many companies active either as producers of equipment for the manufacturing industry or as manufacturers of goods," states the Professor at the University of Applied Sciences of Southern Switzerland (SUPSI). "The ARBO project shows how a research institution linked to ManuFuture-CH is able to help a company in adding value to an existing product for the manufacturing industry."

"ManuFuture-CH represents an opportunity for the Ticino industry, opening new channels to the many companies active either as producers of equipment for the manufacturing industry or as manufacturers of goods"

Partnership Alliance and ManuFuture-CH for the Romandie

Elsbeth Heinzlmann,
Journalist, Bern

Production processes on the micrometer scale play an increasing role in domains with high added value like watch-making, instrumentation and the biomedical sector. These processes are therefore an important part of the ManuFuture-CH's strategic plans. The EPFL and its partners – IMT, CSEM and HES-SO – offer a network of competences which gives companies the chance to enhance their market shares with the development of innovative ideas.

A good example of a successful project is the one between the EPFL and the Esco SA within the CTI programme (www.kti-cti.ch). For over 50 years the company in the canton of Neuchâtel has been specialized in the development and manufacturing of coil and bar fed automatic and numerical controlled Swiss lathes for the production of small diameter parts ranging from 0.2 to 12 mm. What makes their machines so precious is the *escomatic* principle with stationary stock and rotating tool head. It enables the machining of round and profiled material

from coil with an outstanding performance and a very high productivity at low costs.

But the miniaturization goes further: clients want their parts to become smaller and smaller, with constantly tighter tolerances. The development engineers at Esco had to face this challenge. They contacted the team at the *Laboratoire de conception de systèmes mécaniques* of the EPFL in order to realize a new mandrel for their high-speed lathes. In close collaboration, people from the EPFL and the Esco worked together to create innovative solutions for the positioning of rotating parts, wire feed and clamping devices. The EPFL team proved the feasibility with analysis and experiments, the EI-ARC was in charge of the integration into the system and the constructive realization, while the Esco was responsible for the industrialization. A prototype is now being fabricated and will be evaluated experimentally.

Such successful partnerships can take place in the future very rapidly thanks to the cooperation of ManuFuture-CH with Alliance ([www.alliance-
tt.ch](http://www.alliance-
tt.ch)).

The experienced technology transfer centre at the EPFL is now the official contact address for industries interested in ManuFuture-CH. Its task is to help companies, especially small and medium enterprises, to find the right academic partner in due time and to gain a competitive advantage together.



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Upcoming events

September 26, 2008	ManuFuture-CH National Event Aarau
October 6 – 9, 2008	European Manufacturing Strategies Summit 2008 Conference Dusseldorf, Germany
November 13, 2008	PLM SWISS FORUM IPEK Forum Rapperswil-Jona
December 8 – 9, 2008	MANUFUTURE Europa International Conference, St. Etienne, France

ManuFuture-CH National Event Aarau September 26, 2008

Would you like to meet with specialists and exchange ideas? Are you looking for partners or technology suppliers? Do you have a good idea?

ManuFuture-CH has organized an event on September 26, 2008 in the KKA Kultur- und Kongresshaus Aarau on current topics

- **MEDICAL and**
- **RESOURCE-EFFICIENT PRODUCTION**
Networking made easy - lectures, discussions and project exchange

The national event for industry and academia will be initiated with lectures by well-known representatives from Switzerland.

We would be happy to welcome you as a participant or exhibitor in Aarau! Send us an e-mail and receive a personal invitation to the event! Further information is available at: Association ManuFuture-CH, Secretary General, Marcel Zeindler, PO Box 4341, 5001 Aarau, Tel +41 (0) 62 822.17.72; Mobile: +41 (0) 76 392.41.41;

E-mail: zeindler@inspire.ethz.ch and marcel.zeindler@hispeed.ch

Send us your contributions!

If you have interesting news, articles that you would like to see published or project proposals, please refer to our contact addresses on the left side.

Your ManuFuture-CH steering committee :

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