

Editorial

Finally!

Dear Members,
Dear Friends,

With this mail you are (finally!) receiving the first edition of the ManuFuture-CH Newsletter.



The ManuFuture-CH platform has seen a dynamic year with the foundation of the Association ManuFuture-CH and the realization of the R&D Consortium. With the R&D Consortium and the member fees, we have completed the first step in financing the activities in the years to come.

With this info brochure appearing periodically - three to four times a year - we would like to present current activities,

advertise upcoming events and offer an attractive platform for university institutes and companies looking for partners or wishing to present their activities.

My vision is to make this newsletter a networking platform for all parties linked to manufacturing in Switzerland.

I would greatly appreciate it if you could send me your recommendations, ideas and comments via e-mail. With your input, we can adapt to the needs of our members and continuously improve the content of this newsletter.

I am looking forward to working together with you!

Yours sincerely,



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ManuFuture-CH *What is it?*

by Olivier Carnal, Georg Fischer AG,
Schaffhausen

The ManuFuture platform is a European initiative to initiate and bundle activities in order to strengthen the European manufacturing industry. On this basis several national initiatives were founded.

The ManuFuture-CH national technology platform is a joint initiative of the mechanical, electrical and metallurgical manufacturing industries (MEM-industry), educational institutions and social partners, endorsed by the Commission for Technology and Innovation (CTI) and the Secretary for Research and Education (SRE) of the Swiss Government.

In 2006, **5 initiatives** were elaborated by working groups:

- 1) Promotion
- 2) Education
- 3) Research& Development

- 4) Organization models
- 5) Support measures

These initiatives were summarized in an action plan presented to several industrial and political stakeholders. Since initiative 3 requires the largest financial support, an R&D consortium was proposed to the Federal Office for Professional Education and Technology (OPET).

With its approval, the main activities of R&D and organization models are well supported. The other initiatives will require additional partnerships with organizations like Ing-CH or Swissmem. Negotiations and discussions are ongoing.

If you have good ideas and/or see ways of how to start and fund activities for initiatives 1,2 and 5, we would greatly appreciate your input!

“As a member of the association you will receive the newsletters automatically and have free access to the national networking events.”

The association, with its principal office in Zurich, was established in order to have a legal entity for potential financial support and to have an independent organization electing the steering committee of ManuFuture-CH. A national general assembly will be held for the first time in March 2008 and thus lend the activities and finances a solid basis.

With the association and the R&D Consortium now in place, the structure looks as follows (see figure below): The association elects the Steering Committee (SC), and the Steering Committee defines the action plan and verifies the progress of all activities.

How can you become a member of the association?

- 1) You automatically become member if you submit a project that is accepted by the SNF or CTI as a ManuFuture project;
- 2) By applying for membership to our secretary and paying a one-off membership fee (CHF 500.- for legal entities, 100.- for individuals).

As a member you will receive the newsletters automatically, be invited to the general assembly and have free access to the national networking events.

You can obtain comprehensive information on the association at www.manufuture.ch or from Peter Stössel (p.stoessel@swissmem.ch)

R&D Consortium *A great support opportunity*

by Rainer Züst, inspire AG at ETH Zurich

The discussion about a prosperous working place in Switzerland is also a question concerning the position of technology in society and especially the continuous improvement and innovation of products, processes and services. These require an increased input of new technologies, methods and knowledge.

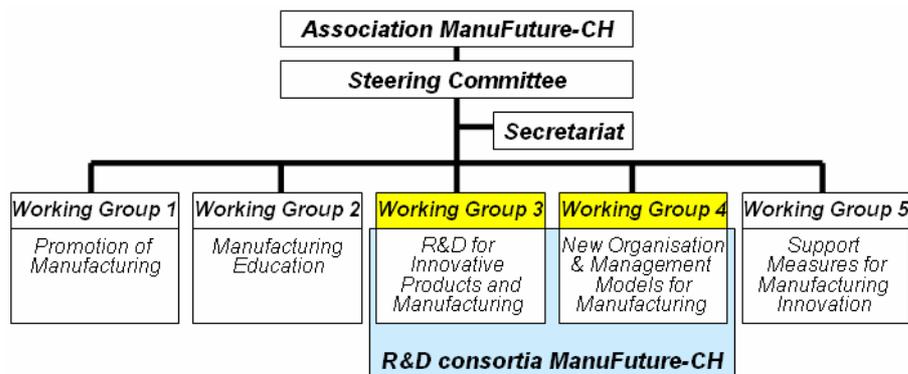
ManuFuture-CH operates the so-called R&D Consortium to support R&D activities maintaining and strengthening Switzerland as a production place. The R&D Consortium ManuFuture-CH has been funded since early 2007; the leading

house is **inspire AG** at ETH Zurich.

CTI promotes the R&D Consortium ManuFuture-CH. The funding is based on a target agreement with CTI. Performance indicators are project success, project turnover (=third money coming from CTI, industry, EU, IMS or others) and customer satisfaction. The R&D Consortium would like to initiate and support projects with a total turnover of at least 25 million Swiss francs per annum for the next few years.

The R&D Consortium supports collaborative R&D projects by providing the following services:

Organisation of ManuFuture-CH: The R&D Consortium is an important pillar of the activities.



R&D Consortium *(continued)*

Services for our partners:

- financial support to develop a project plan for collaborative R&D projects related to major topics of the action plan of ManuFuture-CH
- financial support for local or regional events to motivate the industry to be part of ManuFuture-CH
- support to find adequate project partners, support to find the right funding agencies and second opinions to improve the project proposals.

Support and guidance of the working groups:

The R&D Consortium supports the activities within the working groups.

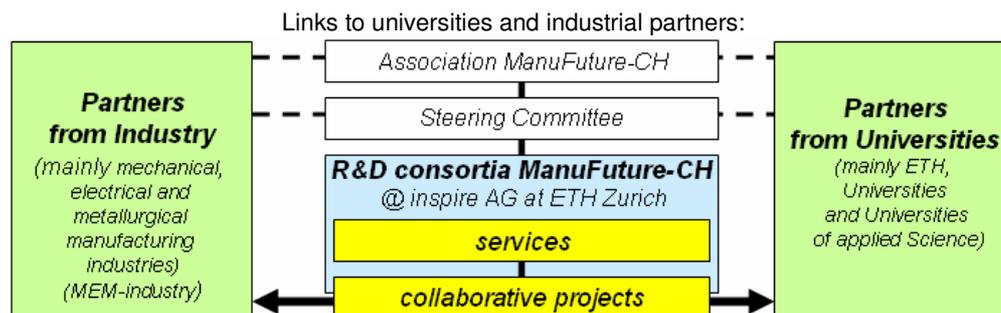
General support:

In addition, the R&D Consortium provides general information and offers advice as to how to participate in ManuFuture-CH and how to receive support and funding for collaborative R&D projects.

If you would like to know more about the R&D Consortium and how to use the ManuFuture-CH label on project proposals at the SNF, the CTI or the 7th framework program of the EU, please contact the managing director, Rainer Züst, inspire AG at ETH Zurich, or Konrad Wegener, ETH Zurich:

zuest@inspire.ethz.ch
wegener@iwf.mavt.ethz.ch

“Use the ManuFuture-CH label on your CTI or EU proposals! This label shows that your proposal is linked to actions in favor of the Swiss manufacturing industry.”



IMS *Intelligent Manufacturing Systems*

by Claudio Boër, SUPSI, Manno

The international IMS program is an industry-led, global, collaborative research and development program established to develop the next generation of manufacturing and processing technologies.

IMS activities include the provision of a framework for global cooperative research, assistance for project consortium formation, networking of people on an international level, carrying out of forums to understand current and future manufacturing needs and the dissemination of information resulting from these activities.

The Chair of the International Steering Committee and Inter-Regional Secretary

will be transferred to Switzerland for the next regular 30-month rotation at the end of October 2007. This is part of the normal rotation so that all participant regions may share in leading the organization. Before Switzerland, Canada, Australia, Japan, USA and Korea have led the organization. The EU will follow as the last participant to lead IMS.

To date, IMS has thirty-four projects that have completed their research. Excellent outcomes from completed research were realized and are reported in the 2006 annual report. Presently, there are nine on-going projects. The project portfolio includes 8 endorsed abstracts that hope to become full proposals and 14 outlines looking for partners.

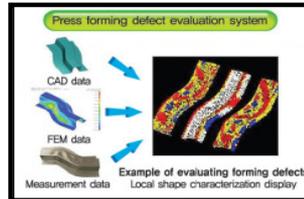
“Switzerland will become Chair of the International Steering Committee at end of this year. This gives Swiss industry an excellent opportunity to set standards for future manufacturing systems.”

IMS Project: *Digital Design System (3DS)*

“To date, IMS has thirty-four projects that have completed their research.”

Do you work in the sheet metal forming industry and know the complexity of the process?

The 3DS project evaluates sheet metal forming defects and develops software codes to predict defects such as wrinkles, geometrical inaccuracy due to spring-back, surface deflection, etc.



The project 3DS recently completed its second phase of research. This phase was led by CIMTOPS of Japan. The partners were steel makers, car makers, die makers, software vendors and universities. Through the course of their

research, the consortium developed a quantitative evaluation method and software. In addition, standard material and friction tests were developed to discover the parameters used in computer simulations.

The technologies developed in the project formed the basis for constructing an intelligent sheet metal forming design system. It allows examination of forming defects during the design process before die manufacturing, thus greatly reducing iterative work and cost.

This last part was developed by the Swiss SME software vendor AutoForm, a spin-off of ETH Zurich. AutoForm is now the world leader in sheet metal forming simulation.

IMS Project: *“Symphony” for SMEs*

Small-to-Medium-sized-Enterprises (SMEs) are the backbone of any economy. The vision of the Symphony project was to create a dynamic management method with modular and integrated tools for knowledge-based, adaptive SMEs.

The main target group of Symphony consists of high-tech or service-oriented companies with a high-information part in their value chain.

Symphony has produced results that significantly enhance SME management

practices by increasing the capability to grow differently and deliberately through smart combinations of exploring new and exploiting current options of development.

To promote strategic networking and to stimulate capabilities for renewal, the Symphony consortium has developed management methods and tools, which facilitate the constant creation, exploration and exploitation of business opportunities within strategic networks.

“Over 1000 participants were involved over the past 11 years, representing more than 700 companies. It has allowed SMEs to form relationships across geographic boundaries.”

IMS contacts

Member regions of the IMS program are called Participants, and the Participants are responsible for support, governance, guidance and marketing to fulfil the mission of promoting manufacturing R&D within its unique global framework.

If you would like to contact the regional secretary of IMS in Switzerland, please send your questions/answers to:

Christoph Ebell at CTI
christoph.ebell@bbt.admin.ch

IMS news, including the annual report, can also be found on the IMS Website:

www.ims.org

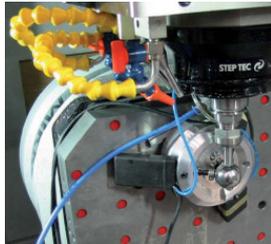
ManuFuture activities at Universities

by Konrad Wegener, ETH Zürich

Transformation of industry from resource-based to knowledge-based manufacturing is one of the issues of the 7th framework program concerning manufacturing.

It is clearly recognized that a distinction from international competition can be made best by mastering the processes and asserting technological leadership. Manufacturing processes are extremely complicated processes. Their understanding needs interdisciplinary approaches. The intense coupling with the machine tool running the process introduces even more complexity.

Universities, the backbone for boosting the transformation for the future, are thus open to cooperation with industry. In Switzerland, competence centers for production engineering are the two ETHs, Universities of Applied Sciences, the



New calibration technique for 5axes machine tool

CSEM and inspire AG.

At the Department of Mechanical Engineering and Process Technology at the ETH Zurich, production technology has been established as one out of four focus areas.



Contact-free truing of metallic-bonded grinding wheels

Courses for industry members are available at different locations. With several programs for high schools, the ETH Zurich managed to attract more young people for engineering.

Manufuture-CH's action plan, developed as an industry/academy cooperation, sets up a research program focussing on the needs of manufacturing industry. Launched projects try to enhance existing processes, such as cutting of reinforced ceramics, robust design of forming processes, and to develop new processes to increase machine accuracy and reliability and to master large-scale production of micromechanical parts.

“The number of applicants in mechanical engineering increased from 180 to 300 over the past 4 years. Further actions are still required.”

Jossi AG *Networking in product development*

by Philip Howis, Jossi AG, Islikon

Jossi AG with its 140 employees - 10% of whom are in R&D – develop and produce demanding products to customer order. Products range from semiconductor backend equipment to robotics and medical instrumentation. An exceptionally broad offering and reliable target achievements are key sales points.

Fast mobilization of the necessary know-how, externally or internally, is a key point. Internally, the network of experts in different fields is well established. Externally, we cultivate existing contacts and keep them 'alive'. Mutual respect and knowledge of the partner's strengths is at the origin of our success.

Therefore, Jossi AG became involved in TEK (technology transfer ETH-SME). This consortium establishes links between the

technical universities and the small and medium enterprises. Several projects emerged from this, one of which is to be introduced on the market shortly.

A scientific advisory board delivers basic knowledge in fields such as MedTech, BioTech and sensor technology.

But also the commitment in ManuFuture-CH, Innostarter and other platforms helps to generate a network and ensures mutual learning.



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“An exceptionally broad offering and reliable target achievements are key sales points.”

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p.4: IMS Annual report '06
p.5: K. Wegener, IWF, ETH Zurich; P. Howis, Jossi AG

The ManuFuture-CH Newsletter appears three to four times a year in English and is distributed via e-mail.

Upcoming events

Nov. 15/16, 2007	IMS Congress, ETH Zurich
Dec. 3/4, 2007	ManuFuture European conference, Porto
Jan. 17/18, 2008	Brokerage event together with Euresearch, Zurich
March 11, 2008	ManuFuture National event, including assembly general

For further information, please visit our Website: <http://www.manufuture.ch/events>

Members of ManuFuture-CH Association

Alcan Technology, Neuhausen; CP Automation SA, Villaz-St-Pierre; EPFL, IPR, Lausanne; D-MTEC, ETH Zurich; FHNW, Windisch; Georg Fischer, Schaffhausen; GIM-CH, Lausanne; Jossi AG, Islikon; Kistler Instrumente AG, Winterthur; Komax AG, Dierikon; Plumettaz S.A., Bex; SISE AG, Fällanden; SUPSI, Manno; Swissmem, Zurich; ZHAW, Winterthur

(as of August 2007)

Send us your comments!

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.

If you have comments and/or ideas for the newsletter, your input is also welcome!

Your ManuFuture-CH team:

M. Albertoni, C. Boër, O. Carnal, J-L. Dupont, T. Friedli, J. Giovanola, R. Glardon, E. Heinzemann, W. Lüthy, M. de Senarclens, P. Stössel, W. van de Venn, K. Wegener, R. Züst

We also have a website!

Visit us at:

www.manufuture.ch

