

THINK TANK

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A NEW KIND OF THINK TANK

Manufacture Thinking is an industrial Think Tank founded by Xavier Comtesse, in March 2014, in Môtier in the Val de Travers, in the presence of different personalities such as Elmar Mock (*inventor of the Swatch watch*), Jean-Nathanaël Karakash (*head of the Neuchâtel's Department of Economy*) and Florian Néméti (*President of the Latin Chambers of Commerce*).

Since then, the Think Tank has covered 7 themes, ranging from Manufacturing to Artificial Intelligence, including IoT and Big Data.

To cover those subjects, the team engages in several activities, such as workshops where key speakers are invited to present and then debate around a specific topic. Beyond those, and always with the willing on seeing what is really going on the field, the so-called "fact findings" trips are organized once a year, visiting key facilities while meeting prominent people in different countries such as China, France, Germany, Japan, and USA.

Results are embodied in 7 books now, a hundred of press articles, some radio, television and Youtube broadcasts, as well as dozens of events of different kind. (*Conferences, galas, etc.*)

The team also recognizes those local enterprises who become pioneers, being ahead of the rest by adopting today what the future seems to reserve to all, with a price called "Industrie 4.0 The Shapers".

The think tank is a non-profit organization, conformed by people that are willing to make their contribution on a voluntary basis, while supported by the Latin Chambers of Commerce (French speaking cantons plus Ticino), and closely collaborating with HES-SO (*Hautes Ecoles Spécialisées*).

Vision

The whole economy, in particular the industrial manufacturing sector, is in the midst of a revolution, notably under

the effect of a powerful digital transformation movement, driven by "digital ecosystems", but also due to the emergence of artificial intelligence which is generating a "smart economy".

Mission

The mission of the Think Tank is to raise awareness and to accompany the transformation of regional industrial factories and more generally of companies in the whole of the French-speaking part of Switzerland towards what is called Industry 4.0, through reflection, experience sharing and action proposition.

Objectives

To make the manufacturing heartland of the French-speaking part of Switzerland a focal point for reflection concerning the economic and industrial transformation underway.

Approach the thought process around those transformations in a collective way, addressing new industrial needs, promoting a state of mind enabling the understanding of the forces behind digitalisation, and proposing paths for evolution tailored for the specific region the think tank is focus on.

Team's focus: Industry 4.0

Industry 4.0 is a concept first developed by the Germans (2013 Hannover Fair) and then taken up by Switzerland only a few months later.

The concept of industry 4.0 corresponds to a new way of organizing the means of production. This new industry

asserts itself as the convergence of digital (software) with real world products and objects. The great promises of this fourth industrial revolution are to seduce consumers with unique and personalized products, and despite low manufacturing volumes, to maintain profits. These same consumers can communicate with the machines during the production phases: this type of production is called "smart production". According to this principle, in the context of industrial automation, this is characterized by the implementation of sensors (IoT) which are the basic elements for capturing data (Big Data), the real fuel of the new industry. The algorithms, especially artificial intelligence, will be the driving force.

In addition to the technological aspects, this fourth industrial revolution influences different aspects of our modern societies. New issues are emerging through this new way of producing. Industry 4.0 obviously affects the economic aspect but also has social, political, and environmental impacts. It raises the question of employment for millions of employees around the world. Indeed, the support of current employees and the training of future employees must be considered. It seems difficult to imagine that millions of workers will be unemployed. More generally, it is necessary to think about the place of the human being in this industry 4.0.

Highlights

Some of the topics addressed by the team so far are:

- **Resilience and Innovation**

In this case the focus on companies that are pushed by external factors to adapt to new situations the role that technology plays in general - and data in particular - as part of the adaption process that allows ultimately the company to survive by innovating at several levels (business models, internal processes, etc).



Damian Chiossone, principal consultant at Trivadis part of Accenture, is fully focused on enabling companies to use data as a strategic asset. Damian has an executive MBA at the Université de Fribourg and an Executive Certificate in Management and Leadership at the Massachusetts Institute of Technology.



Degree in mathematics, PhD in computer science from the University of Geneva, he is passionate about communication and computer systems since the seventies. Creator of three start-ups in Geneva, he served as a pioneering work in publishing (creating Zoe editions), communication (one of the first local radio: Tonic), telecommunications (a start-up named «the Modern concept»). In 1992, he joined the Swiss government as personal assistant Secretary of State for Science, Research and Education. Then it will be sent in 95 such science diplomacy at the Swiss Embassy in Washington. In 2000 he was the first scientist Swiss Consul in Boston where he created the concept of Swissnex. In 2002 he was appointed as the first Director of the Swiss-French think tank Avenir Suisse, mainly on metropolitan issues and innovation. In 2012, he launched in co-creation, on behalf of the Chamber of Commerce of Neuchâtel, the «Swiss Creative Center» dedicated to new industrial revolution (FabLab, Design Thinking and Think Tank). In 2014 he founded with Elmar Mock (co-creator of the Swatch) a think tank: ManufactureThinking, actually the first «Industrial Think Tank» of this kind.

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It is a subject that gets quite tangible in a case like Cov-19 pandemic. This said, the topic was being addressed long before that, with the understanding of Cov-19 as an accelerator of a process that was already in motion.

In this case, beyond the several local workshops organized, observations were also collected during a fact-finding trip to Boston, having the chance of discussing with several professors from renowned institutions as Harvard University, Massachusetts Institute of Technology, and with representatives from different leading companies.

As a result, the book “Résilience et Innovation - Penser et Agir” (*Resilience and Innovation - Think and Act*) was issued in September 2020. As the title says, it is all about the process of repositioning a company to a new environment, sharing some views but also proposing a clear way forward in that process, understanding how using more and diverse data impacts in the business models themselves and how cope with that.

• Internet of Objects: what lays underneath

Topic aborded back in 2016 and addressed the misperception of thinking about Internet of objects as mainly a bunch of devices with sensors.

Looking to the rented-bikes system implemented in Shanghai - long before similar approaches were even available in Switzerland - where no sensors at all but just a tag readable by a cell phone was part of the bikes, it became clear that the cornerstone of the internet of objects were not devices and sensors, but the data platforms capable to manage all that as a consistent and coherent whole system.

That view drove to the main thoughts on which the book “IoT: l’émancipation des objets” (“IoT: the objects’ liberation”), published in 2017 is based.

• Work in progress

Currently the group is exploring two main ideas or topics: The first one is related to new forms that teaching and learning are taking, based on digital elements, artifacts, and technologies - including, but not limited to, artificial intelligence, and the impacts that could be foreseen on the traditional ways of transmitting and acquiring knowledge specially for what concerns knowledge related or applicable to industrial fields, without ignoring the implications around rethinking human and machines interactions.

Then a second path is more looking to what the increasing digitalisation of media really means. Because, beyond the obvious impact on traditional players, the key point is about understanding now a day news are broadcasted using totally new channels, that are not necessarily managed by those traditional players.

Then traditional players, like journals become another source of news, but not the only ones, and they compete with many other players for what concerns broadcasting news.

And all that comes with some consequences. For the consumers, they need to learn about how to deal with fake news. For those who are source of information, they need to be capable to manage new channels, and this applies not only to media enterprises but to any enterprise that needs to manage their own news, internally but also and more important, externally.

Final word: A collective intelligence approach

The think tank basically choses one subject by year and works around it by collecting fact and going to the field, not only in the region but also travelling abroad.

Manufacture thinking is a team of volunteers, each of them active in the professional field, who are willing to contribute to the development of the regional industries by sharing ideas from a very “hands-on” perspective. ■