

# From Grain to Brain – The Knowledge Economy of Ticino

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Switzerland is often called an Alpine country. While the Alps have been the common denominator for Switzerland, the massive mountains are also natural barriers, keeping the strong cultural influences from the west, north and south separate from each other.

This is particularly evident in the Italian speaking part of Switzerland – the Ticino. Representing a small language minority on the southern slopes of the Alps, quite far from the capital of Berne and from the rest of the country, turning even today a trip to the north into a day's journey, but then very close to neighboring Italy, with its strong northern industry and home to some of the oldest universities on this planet, Ticino has its own distinct history of evolving from a mostly agricultural canton and prime tourist destination into a sophisticated financial services center and progressively into a small, top-rated science and technology hub.

This Shangri La-like part of Switzerland has been an inspiration for many famous writers, artists and philosophers and brought forth not only rich crops in the fields but also gave room for unorthodox thinkers and scholars to express their reflections.

In a time where knowledge has become the fuel of the economy and brains are as mobile as the value added products which they create, a tradition, which allows for unconventional “thinking and doing” is certainly a very valuable asset for a region, which seeks to compete successfully on the global market.

The Chairman of the Austrian Conference of University Presidents said a few years ago that “Switzerland is on the verge of becoming the Massachusetts of Europe”. While the saying is flattering, anyone who has lived and worked in the Greater Boston Area, one of the world's most prominent and prolific clusters of education, science and innovation understands that it would be hard for any other area to be a match to Massachusetts, an area slightly smaller than Switzerland, where 70 Universities and Colleges flourish, 370,000 students from all over the world are eager to reinvent the world, with annual R&D expenditures of \$ 26 billion, \$ 4 billion invested in new business ventures and 24,000 new companies formed each year.

But then, Switzerland is not dwarfed by these figures either and indeed, the country is increasingly known as a highly competitive location for Academia and High Tech industry. Does the Ticino appear on the radar screen in this context? Probably not. Will it in the future? Absolutely yes.

Various activities and developments in recent months and years indicate that Ticino is determined to move stage center, by reflecting on its unique, selective advantages compared to the rest of Switzerland, its immediate neighbor in the South as well as its competition elsewhere in the world, compounding them into a coherent development policy for all of Ticino, and then mark a convincing presence in key spots of the world.

Some of these assets consist in a favorable and dynamic business environment, easily accessible from abroad, an open culture and diverse population, and above all, the existence of a top level education, research and innovation environment, which includes entrepreneurship and an active start-up community.

### **Business Environment and International Access**

Climate plays an important role in people's mind when they decide on where to settle. Mobility being less and less a limiting factor, people prefer in general to live in a comfortable, sunny climate. This evidently influences decision making in companies as to where to locate or relocate. California and Silicon Valley are just one example of a general southbound migration trend in the United States. Thus, the mild and more Mediterranean-like climate of Ticino is certainly not a deterrent.

In addition, the proximity to the metropolitan areas of Milano and Torino offer many business opportunities, while still profiting from favorable Swiss conditions when operating out of Ticino.

Even though the Lugano area and southern Ticino are already highly developed, there remains considerable space available for development in the fifth largest canton of Switzerland, mostly north of the Ceneri in the Ticino River basin around Bellinzona.

Then most importantly, in only five years, Ticino will move right next door to the metropolitan area of Zurich. Once the Gotthard base tunnel with a length of 57 km will be completed, the Ticino will be in the middle between the two economic engines Milano and Zurich. A train from Zurich to Bellinzona/Lugano will only take a little longer than the one-hour ride from Lugano to Milano or from Zurich to Berne or Basel. The base tunnel will drastically change the economic landscape of Ticino and its housing market as businesses and commuters likewise will move south. And for international travelers, Ticino will become even more easily accessible via the two major European airports, Milano-Malpensa and Zurich-Kloten.

### **Language and Culture**

There always exists a local culture of how to conduct business. This is something to be observed everywhere in the world but of particular relevance for Asia and Europe.

Ticino is no exception to that. However, the fact that it is at the crossroads of north and south, and comprises many small little mountain valleys with their own distinct cultural heritage, the people had to learn to live side by side and look for common ground. This general openness and tolerance was further enhanced by many immigrants who were attracted to and settled in Ticino, where today, one out of four inhabitants is foreign-born.

## **Education, Research and Innovation**

Albert Einstein once said: “The future is easiest to foresee if one invents it.” A thriving knowledge based economy relies almost entirely on excellence in education, research and innovation allowing the creative mind to invent the future and outperform the competition.

It was only during the last years of the last century when higher education in Ticino took a quantum leap: 1996 the first and only Italian speaking university in Switzerland, “**Università della Svizzera Italiana**”, **USI** ([www.unisi.ch](http://www.unisi.ch)) was founded in Lugano. A year later a national higher education reform created a system of Universities of Applied Sciences. In Ticino, the various professional Schools were then united to form the “**Scuola universitaria professionale della Svizzera italiana**”, **SUPSI** ([www.supsi.ch](http://www.supsi.ch)).

While before, the young talents from Ticino had to study at Swiss universities – either French or German speaking – north of the Alps, or join one of the universities in nearby Italy, the creation of these two institutions reversed the tide. Now many students from Italy and other countries choose to come to Ticino to study at USI, making it the only Swiss university with more than fifty per-cent of the students coming from abroad.

Even the fact that USI is the only Ph.D. granting institution of Switzerland which charges a considerable tuition fee (USD 4,500 per year for Ticino residents and USD 9,000 for non residents) does not seem to affect the popularity of USI among domestic and especially foreign students.

The growth of the student population at both USI and SUPSI has been impressive from day one: within the last ten years USI grew by one hundred per-cent, counting 2,850 students in 2011 while SUPSI literally exploded and nearly tripled in numbers in the same time period to reach more than 2,000 students.

Within a few years only, the percentage of the population in Ticino holding a degree in tertiary education increased by ten per-cent closing the past gap with the national average of thirty-five per-cent.

The courses offered by USI and SUPSI are carefully chosen so they are different from the “competition” elsewhere taking advantage of local strengths (e.g. architecture, performing arts, etc.) thereby creating opportunities for collaboration by exploiting synergies, something both institutions have been pursuing right from the beginning.

SUPSI covers a wide array of fields from Health, Engineering, Architecture to Music and Performing Arts, with several locations spread over the canton, while USI has currently four faculties: Architecture, Economics, Communication Science and Informatics. The latter one is greatly benefitting from a **National Supercomputing Facility** located in Manno outside of Lugano and is the leading house for a national program for High Performance Computing under the leadership Prof. Michele Parrinello – a celebrity in this field – who holds a double chair at ETH Zurich and USI.

A major expansion in the activities of USI is currently underway with a collaboration involving the Universities of Zurich and Basel in the field of medicine. USI intends to add a 5<sup>th</sup> faculty, offering a Master degree program in clinical medicine. In this context, the collaboration with the highly respected **Institute for Research in Biomedicine, IRB** ([www.irb.ch](http://www.irb.ch)) in Bellinzona , whose founder and director Antonio Lanzavecchia is also full professor at ETH Zurich and USI, will only bolster Ticino's young and dynamic research community.

Another important strategic move is to bring USI and SUPSI closer together. The ongoing major expansion of the USI Campus in Lugano will also make room for some of SUPSI's activities, which will nurture a creative exchange from basic to applied research and commercial application and strengthen the **“Polo Universitario”**.

While USI and SUPSI are obviously the two most prominent institutions of higher learning in Ticino one should not forget to mention a few others:

- **Franklin College** ([www.fc.edu](http://www.fc.edu)) of Lugano offers undergraduate education for about 500 students and is fully accredited in Switzerland and the USA. It is attracting many business-oriented students from all over the world.

- The **“Center for European Studies and Architecture”, CESA** in Riva San Vitale, just a few miles south of Lugano, is part of **Virginia Polytechnic Institute and University** ([www.vt.edu](http://www.vt.edu)) in Blacksburg, USA and will host about 100 students on a rotational basis during their study abroad program, once the current expansion of the facilities is completed.

- Finally, the existence of an international school, even though not part of the tertiary sector, is an absolute must for an area catering to the international business community. Lugano does have such a school: The **American School TESIS** ([www.tesis.ch](http://www.tesis.ch)) situated on Lugano's prestigious “Collina d'Oro” has been very successful over many decades and is offering K-12 education for close to 600 children and adolescents.

### **Entrepreneurship and Start-up**

The value-added chain would not be complete if none of the measures would tackle the so-called “innovation gap” between basic science and industrial application. Compared to the United States, academic institutions in Europe had and to some degree still have a hard time overcoming the traditional

barriers with industry and seeing the benefits in exploiting their scientific discoveries through commercial application.

A number of incentives need to be introduced in order to bridge that gap and change the traditional mind-set both in academia and industry. There are many small and inexpensive measures, which facilitate personal contacts and interaction between company managers, professors and students, but they would be far too inadequate without the active promotion and support of entrepreneurship and the development of a dynamic start-up community by the cantonal and regional authorities.

Again, the public and private sector of Ticino had the foresight a few years ago to establish an incubator for start-up companies called “**CP Start-up**” ([www.cpstartup.ch](http://www.cpstartup.ch)) next to USI and a techno park called “**Tecnopolo**” ([www.tecnopolo.ch](http://www.tecnopolo.ch)) next to SUPSI in Bioggio outside of Lugano. Last year, the commitment to strengthen the transfer of knowledge into commercial products was taken one step further, when the Canton of Ticino established a **foundation** called “**AGIRE**” endowed with more than eight million dollars.

Already, a number of small companies have spun off and the requests for a space in the incubator are by far exceeding availability with quite a few coming from the Milano and Como area across the border.

Such bold steps are a demonstration of the vision and leadership, which currently prevails in Ticino.

Looking at the amazing transformation, which took place in the last 15 years, the academic environment added a new and highly competitive element to the already rich fabric of Ticino. It seems quite obvious that Ticino seeks to pick what makes Boston tick.

The future looks bright for Ticino where one can currently observe and benefit from a miniature science and innovation hub in its “statu nascendi” following one of the ground rules of Switzerland:

**“It is the spirit, which makes the difference not the size.”**