You may not be aware that a small but thriving life sciences cluster has evolved in Zurich in recent years. Aside from discussions about the future of our banking centre, a growing number of medical technology companies have been developing products, such as new medicinal drugs and biodegradable implants. The significant spin-off activities of Zurich’s university institutions are an important driving force in this regard.

The fields of activity of Zurich’s economy are broader and more diversified than our perceptions lead us to believe. The information and communications technology, the numerous creative companies, the tourist industry, not to mention nanotechnology start-ups and aerospace service providers: all contribute to Zurich’s broad economic ‘backbone’.

With this Cluster Report, we shall illustrate Zurich’s diversity by giving you an overview of the facts, figures and players of its most important industries. The Report shows the development and activities of the most significant industry clusters for the period 2011 to 2013. For several years, our locational development approach has been to group industries that play an important role due to their high density of companies, research facilities and educational institutions into ‘clusters’, and to promote networking among the cluster players.

The classification in industry clusters is for illustration purposes. However, it should be said that ambiguities do exist: sometimes, a company will develop beyond its traditional business environment and spread its activities to other industries. A case in point is the technology company Sensirion. The former spin-off of the Federal Institute of Technology (ETH) produces highly complex semiconductor chips used today in motorcars, hospitals, building technology and smartphones. Thus, the company’s business activities encompass the areas of cleantech, life sciences as well as information and communications technology. The Division of Business and Economic Development of the Office for Economy and Labour is committed to making sure that plenty of similar success stories can be written in the Zurich economic area.

Particularly during the start-up phase, clever minds are grateful for support, including the availability of affordable infrastructure for use and interaction with other start-ups.

A diversified industry structure is better able to cushion the consequences of structural changes within single industries affecting Zurich’s economy. Therefore, though we must take care of our financial centre, we also need to focus on diversification within additional, seminal sectors of industry.
Management Summary

Zurich is much more than an important financial centre. It is a place for thought and creation and, as such, an important interface between research and industry. In the Canton of Zurich, industry groupings that play a significant role by virtue of their high density of companies, research and educational institutions are grouped into ‘clusters’. The aim of these cluster initiatives is to strengthen resident companies and to promote the relocation and foundation of new companies from the respective field of industry in Zurich.

The Cluster Report at hand reflects the development and activities of the most important industry clusters for the Canton of Zurich in the years 2011–2013. The Report shows that, in addition to the important finance cluster, for several years other branches of industry have been gaining ground and so contributed to a diversification and broader base in Zurich’s economic structure.

The new Cluster Report comprises two parts: firstly, a periodically updated, removable booklet with facts and figures based on the new statistics on enterprise structure (STATENT) of the Federal Statistical Office. The STATENT statistics replace the previous Business Census and are based primarily on information about businesses and persons employed from the registers of the OASI (Old Age and Survivors’ Insurance) compensation offices. Furthermore, information graphics depicting the individual industry clusters and overviews with the relevant players help to illustrate the various clusters in a more detailed manner.

Secondly, the ‘Cluster Report 2011–2013. Industrial Diversity and Potential in Zurich’ contains reports and assessments about the opportunities and risks of the various clusters. These text contributions are based on the daily work of the staff responsible for clusters at the Division of Business and Economic Development of the Canton of Zurich, the Office for Economic Development of the City of Zurich and other organisations.

The Zurich financial centre has been the region’s most important economic mainstay for some twenty years. Every fifth value added franc and every tenth job depends directly on the financial industry. The financial sector is, by tradition, a significant pillar of Zurich’s economy. Forty-three per cent of the national gross value added from the financial industry is generated in the Canton of Zurich.

Five years after the financial crisis, Switzerland’s banking centre is still in a process of change. The Zurich financial centre is comparatively well-positioned to master the long-term challenges of the global financial crises in a sustainable way. The insurance companies have enjoyed above-average growth and are making an important contribution to the diversification of the financial industry. Thus, Zurich has established itself as a European hub for reinsurance companies. A diverse web of small and medium-size insurance providers has evolved in the vicinity of the market leader Swiss Re.

The significance of information and communications technology (ICT) for Zurich is steadily increasing. Indeed, Zurich has become the centre of the Swiss ICT industry. No other canton has as many ICT specialists and business start-ups. In recent years, large international corporations such as Google or Disney Research have chosen to settle in the city on the river Limmat. For several decades IBM has been situated in Zurich with a renowned research and development centre. What is more, the number of business start-ups has increased significantly. Various start-up centres and business incubators are available to help tackle the difficult start-up phase.

The significance of ICT spreads far beyond its own sphere: nowadays, hardly any company can forgo information and communications technology. Just as ICT permeates virtually every area of life, product manufacturing and service rendering is, today, almost inconceivable without ICT. The distribution of skilled employees shows how strong the interdisciplinary role of the ICT sector has become for all industries. Only thirty per cent of information scientists in Switzerland actually work for ICT firms. The remaining seventy per cent apply their skills to other areas, such as financial services, wholesale trade or business consulting.

The ICT sector in the Canton of Zurich generates a third of Switzerland’s total value added from ICT. A further strong increase of its economic significance is expected in the coming years. One of the greatest challenges faced by the ICT sector is the high cost of labour. At the same time, the already existing paucity of skilled specialists is further increasing. Forecasts suggest that 72 000 ICT specialists will be needed in Switzerland by 2020. This need is triggered by structural change, exits and retirements.
In recent years, Zurich's life sciences companies have coalesced into a vibrant cluster which is characterised by an above-average share of medical companies and strong spin-off activities from Zurich's university institutions. The sector can build on a broad academic base: the research-intensive development and production in the life sciences cluster benefits from the know-how available from the Federal Institute of Technology (ETH), the University of Zurich, the University-Hospital Zurich and the universities of applied sciences. Extensive basic research and applied research are among the most important prerequisites for a thriving life sciences industry. Thus, to a considerable extent, the increasing momentum is due to the spin-off activities stemming from the universities.

The centre of Zurich's life sciences cluster is the BIO-TECHNOPARK® Schlieren-Zurich. Where once elevators and rail carriages were assembled, some thirty start-ups and established companies now develop new medicines and diagnostic products or biodegradable implants. A key reason for the magnetic force of the former industrial site is that, besides offices and warehouses, specialist laboratory infrastructure is also available for rent.

Measured against the total nominal gross value added of the Zurich region, the life sciences industry is still small. However, its national share already amounts to as much as ten per cent. Medical technology is typically not quite as highly productive as the pharmaceutical industry predominant in the rest of Switzerland.

Small but significant: nanotechnologies open up huge innovation potential to industry. Indeed, they represent key technologies for the future. The targeted modification of materials or surfaces the size of individual molecules or even atomic structures helps to improve fundamentally or add innovative functions to products. This is, for instance, howself-cleaning and particularly resistant surfaces or surfaces that slide over each other almost frictionfree are created. The areas in which nanotechnology is applied are steadily increasing, meaning that the potential for commercialisation is considerable.

The cleantech sector is still relatively young and very heterogeneous in its structure. Many companies attributed to cleantech belong to industries such as construction, energy and transport, and often only some of their lines of business fall into the cleantech field. Cleantech plays an important role for Switzerland's future energy policy. At federal level, the framework is defined by the Cleantech Masterplan and the Energy Strategy. On a regional level, the Green Region established by the Zurich Metropolitan Area Association provides a vehicle for inter-cantonal activities. Zurich's cleantech sector now accounts for almost seventeen per cent of Switzerland's gross value added from cleantech.

A growing aerospace industry has evolved in the vicinity of Zurich Airport with its hub infrastructure. The strong economic impact of the airport also infuses economic activities that go far beyond the airport and the services in its vicinity. Besides aviation and spaceflight, the aerospace industry also includes the sub-segment satellite navigation. As a typical cross-disciplinary field, it opens up a growing number of markets in other branches of industry which are in addition to the spaceflight applications, such as transport, logistics, location finding or protection of buildings.

There are approximately 240 aerospace companies based in the Canton of Zurich. As such, Zurich is the canton with the largest number of aviation and spaceflight companies in Switzerland. The companies include service providers, suppliers as well as institutions for scientific research, education and further education. The aerospace industry is characterised by a strong demand for highly qualified staff and a high level of internationality. Given its practical implementation of research results, the aerospace industry fits in extremely well with Zurich as a place for innovation.

Having evolved into a decisive economic factor in recent years, the creative industries in Zurich have long been synonymous with the economy and quality of life. The number of jobs and the share of Switzerland's gross value added resulting from creative industries follows closely behind that of financial services. Zurich is Switzerland's most important location for the creative industries. This is illustrated by Zurich's share of the national value added resulting from creative industries which amounts to thirty-one per cent.

The tourist industry also strengthens Zurich's economy. With a share of approximately fifteen per cent of overnight stays, the Zurich region is Switzerland's largest tourist destination. In contrast to Switzerland as a whole, the number of overnight stays in Zurich has increased in recent years.
Value creation as exemplified by Sensirion

Sensirion AG in Stäfa is a global leader for humidity sensors and flow sensor solutions to measure gas and liquid flows. The centrepiece of Sensirion’s products and solutions is the CMOSens® technology which enables the sensor component to be combined with the analogue and digital signal processing circuitry on a tiny CMOS silicon chip. This is implemented by way of advanced semiconductor technology, using specific microsystem processing steps to produce the micro-sensor structures on specially developed and patented semiconductor parts. The resulting sensor chips enable precise and reliable sensing of the desired physical parameters, such as relative humidity, temperature, or mass flow.

SUCCESS FACTORS
• Research & development with highly qualified staff for innovations
• High quality and cost efficiency
• Extensive and highly specialised know-how
• Tight process control
• Design scalability and verifiability

APPLICATION AREAS OF THE SENSORS
• Medical technology (since 2003)
• Household appliances
• Automotive industry (since 2010)
• Building technology
• Industrial automation
• Consumer electronics
  (in 2013: integration of temperature and humidity sensors in smartphones for the first time)

DEVELOPMENT OF TURNOVER
• Twenty-four per cent of turnover is invested in research & development

556 employees*

STAFF DEVELOPMENT
• Highly qualified employees: twenty-three per cent hold a doctorate / PhD degree

Value chain

DESIGN AND DEVELOPMENT
PURCHASE OF THE CMOS CHIP (PRODUCTION ABROAD)
INTEGRATION / MICRO PROCESSING
<table>
<thead>
<tr>
<th>Year</th>
<th>Events</th>
</tr>
</thead>
</table>
| 1998 | Founded as a spin-off of the ETH Zurich by Moritz Lechner and Felix Mayer  
First registered office in Zurich-Oerlikon  
Proximity to the ETH Zurich / university institutions is important, incl. for the recruitment of skilled staff |
| 2000 | The first sensor is sold |
| 2004 | Swiss Economic Award |
| 2005 | Relocation to Stäfa  
Opening of branch office in the US |
| 2010 | Entrepreneur of the Year awarded by Ernst & Young |
| 2011 | Move to the new production building in Stäfa which houses highly automated production lines on three floors and encompasses a total area of 10 000 m² |
| 2012 | Opening of branch office in Taiwan |
| 2013 | The 100 000 000th sensor is sold |

As a large and growing employer, Sensirion is making a decisive contribution to the locational appeal of the region. Beneficiaries of the employment growth include small local enterprises such as hotels.
Growing diversity and differentiation

Five years after the onset of the financial crisis, Zurich’s economy is on a stable growth trajectory. This comparatively favourable condition is due not least to the increasing differentiation into various industry clusters. A study conducted by the Federal Institute of Technology (ETH) shows the success factors based on the ICT and the life sciences cluster. In future, the Innovation Park Zurich also intends to connect enterprises and science beyond the conventional cluster boundaries.

Five years after the onset of the financial crisis, the Zurich economic area is in a healthy condition. In spite of the difficult environment as a result of the sovereign debt crisis in the southern countries of the EU, the gross domestic product of the Canton of Zurich grew by between 0.8 and 1.2 per cent in the years 2011 to 2013. The research institute BAK Basel Economics is expecting a further rise in growth to approximately two per cent. These good prospects are underscored by the ranking of the English ‘fDi Magazine’ that focuses on global investment opportunities. Thus, taking all fDi criteria into account, Zurich ranks among the Top Ten of the European regions for foreign direct investments. The economic potential is the second largest in the whole of Europe.

Promotion of mutually reinforcing networks

Differentiation is supported by the cluster policy of the Canton of Zurich which – as is characteristic for economic promotion in Switzerland – backs existing, private sector initiatives by primarily promoting cooperation of the players, thus enabling them to create a mutually reinforcing network. The key prerequisite for this approach is a sufficiently high density of companies, research and educational institutions, and specialised organisations. Today, in the Canton of Zurich, this is especially the case for the following industries: finance, ICT, life sciences, the creative industries, cleantech, tourism and nanotechnology.

From the perspective of the Division of Business and Economic Development, the creation of industry clusters has multiple benefits: on the one hand, if related companies organise themselves into know-how and production networks, the resulting synergies create competitive advantages for all participants. On the other hand, the networks further enhance Zurich’s local attractiveness for companies from the respective industries through feedback mechanisms.

Differentiation is further increased through the interactions between the different clusters and because certain network effects are only brought to bear within individual subgroups. Thus, by analogy with nature and its closely interwoven food chains, Georg von Krogh, Chair of Strategic Management and Innovation at ETH Zurich, refers to ‘business ecosystems’. According to von Krogh, in business – just as in nature – the larger the diversity of species and biotopes, the more sustainable the system as a whole. A closer understanding of the mechanisms on which cluster formations and networking dynamics are based is conducive to applying the support measures in an even more targeted manner.
Scientific investigation of differentiation

In order to document the various dimensions of cluster differentiation scientifically, the Chair of Strategic Management and Innovation at the ETH Zurich conducted more than sixty interviews with company managers and industry experts from Zurich's ICT, life sciences and cleantech clusters. Particular attention was thereby paid to the aspect of cluster identity, given that a sense of community and informal norms constitute a sign of trust between the parties involved. Hence, these norms also stand for the readiness to exchange knowledge and to cooperate which are, in turn, two basic prerequisites for boosting the innovative strength in a business network.

Both the life sciences and the ICT cluster in Zurich are characterised by start-ups from the Federal Institute of Technology (ETH) and the University of Zurich. In both cases, the company founders often know each other personally from their university years. But despite these elements in common, according to the ETH researchers, the self-perception of the two clusters differs quite considerably. In that respect, many ICT companies demonstrate a comparatively high awareness for their cluster. They often talk to each other informally, both at management and staff level, about technologies and the market. Furthermore, from time to time, they cooperate with competitors on customer projects.

Business model and origin determine awareness

By contrast, the exchange between the life sciences companies is mainly limited to questions of management. Technological collaborations are rare. In the BIO-TECHNOPARK® Schlieren-Zurich founded in 2003, for instance, questions refer to the joint operation and use of infrastructure, such as IT or animal housings, as well as the occasional use of a special machine or an analysis service. One reason for the limited cooperation is likely to be the strong position of intellectual property in the business models of the life sciences industry. By comparison, patenting of intellectual property in the ICT field is difficult. The Swiss ICT industry, in particular, focuses much more on open source models where technology know-how is consciously shared.

The lowest cluster awareness of the three researched industries manifests itself in the field of cleantech. On the one hand, this is probably due to its heterogeneity. On the other hand, it is also still a very young industry. The companies still feel a stronger attachment to their sectors of origin, such as the construction industry, generation of energy, mobility, material recycling or emissions reduction. It is likely to take several years before a stronger sense of community can be established through a common cluster history.

A further reason for the varying degree of cluster identity between ICT and life sciences is likely to be the dissimilar geographical market orientation. By and large, the ICT companies in Zurich grew historically as local service providers centred around the financial industry. It is only recently that more and more internationally successful ICT companies have been setting up in Zurich, such as Avalog, Crealogix or GetYourGuide. In contrast, almost without exception, the innovative biotechnology and medical technology companies have had a global focus right from the start. Whereas, in the one case, the embedding in the home market is conducive to collaborations and a strong sense of community, in the other case, the global companies hardly have any points of contact in everyday business.

External effect and personal encounters

But despite this limited direct collaboration, the interviewed representatives emphasise that the biotechnology start-ups also benefit from the emergence of a regional cluster around the BIO-TECHNOPARK® Schlieren-Zurich. These benefits are not only in the form of appropriate laboratory buildings and support with management and legal matters. Inter alia, the cluster also increases the global perception of firms. Furthermore, the concentration of similar companies creates a functioning labour market that facilitates the international recruitment of specialists to a considerable extent.

The success of the BIO-TECHNOPARK® Schlieren-Zurich founded in 2003 also points to another – according to the ETH researchers – important prerequisite for the local development of a science cluster: despite increasing technological opportunities for virtual cooperation, direct personal encounters and informal contacts outside the lab, office and meeting rooms are decisive for mutually conducive input. Hence, the aim is to expand the BIO-TECHNOPARK® Schlieren-Zurich into a campus with restaurants and to open it up to the adjacent city neighbourhood.
Connecting players and life in the Innovation Park
The Innovation Park Zurich project in Dübendorf pursues the same approach, albeit on a considerably larger scale. On the site of the erstwhile military airfield located in the booming Glatttal region a research and development centre is to be developed, initially on twenty-five and subsequently on up to fifty hectares of land, where established technology companies can network with the Federal Institute of Technology (ETH), the University of Zurich and the universities of applied sciences.

As project manager René Kalt explains: ‘As well as creating spatial proximity between the research and development activities of companies and university institutions, the Innovation Park also wants to bring together the life and work of researchers and engineers at one site.’ Hence, living spaces, conference rooms, retail spaces, restaurants, sports and recreation rooms are also planned besides office and laboratory buildings. The Park is to coalesce with the region into an innovative urban neighbourhood where ideas can be hatched after working hours as well.

The Canton of Zurich is the initiator of the Park and wants to implement the hub location, awarded to Zurich by the federal law governing research and innovation promotion (FIFG), for a national innovation park in Dübendorf. The law, which came into force in January 2014, governs the scope of the Confederation to support innovation. According to the law, the Swiss state can, inter alia, transfer property like the Dübendorf airfield that is in its possession, to innovation parks as well as award limited term, interest free loans to the designated institutions and operators. Besides Zurich, the National Innovation Park will encompass a second hub location near the Swiss Federal Institute of Technology in Lausanne (EPFL) as well as additional network locations.

As early as in June 2012, the Government Council of the Canton of Zurich made the fundamental decision to build an innovation park. The site of the former military airfield in Dübendorf ideally meets all the criteria for such an endeavour. The area left open for special use offers opportunities for growth in the long run and is situated in the heart of the Canton of Zurich, meaning close to the international Zurich Airport as well as to the City of Zurich and the university institutions. The Canton of Zurich, as the initiator, has committed itself to make timely pre-investments in the planning and development of the Park. Starting from the construction and operation phase, the companies and university institutions active in the Park will assume the responsibility within the meaning of a public-private partnership model. The aim in the medium- or long-term is for the Park to be operated in a self-supporting way or, that is to say, profitably by the players based in the Park.

Industry clusters and research institutes as a basis
The research competencies of Zurich’s university institutions form the nucleus for the activities. Renowned research institutes of the ETH, the University of Zurich and the universities of applied sciences will settle in the Park. Thus, Kalt expects a great deal from the spatial proximity of university research and the development departments of companies: ‘Thanks to the direct collaboration on site, the university know-how can be applied much more efficiently in product innovations, and development cycles will become considerably shorter.’

Furthermore, the Innovation Park will benefit from the cluster promotion set up by the Canton of Zurich over recent years. ‘The activities of the past few years to strengthen entrepreneurial networking in the fields of finance, ICT, life sciences, the creative industries, cleantech and aerospace provide us with a strong foundation for the innovation networks in the Park. Since we already know the distinguished providers in these areas, we are, for instance, able to find suitable project development partners more quickly and in a more targeted manner’, Kalt explains.

Breeding ground for new, cross-sector clusters
The project NEST (Next Evolution in Sustainable Building Technologies) is a case in point for how, in practice, the Innovation Park wants to connect universities and industry. The modular demonstration and innovation platform on the campus of the ETH research institute Empa brings together companies and university institutions for projects in which innovative building technologies are developed and tested (see page 55). From the cluster formation perspective, NEST is especially interesting because it involves the cooperation of companies and research institutions from
different cleantech sectors that, according to the interviews conducted by the ETH researchers in von Krogh’s team, do not have a shared cluster identity and would thus hardly choose to organise themselves in networked structures of their own accord. As a place that, like NEST, is designed for cross-industry and cross-technology collaboration, the Innovation Park Zurich in Dübendorf has just as much potential to become a breeding ground for new, cross-technology and cross-industry business clusters in the Canton of Zurich.
ICT fuels growth

Zurich is Switzerland’s ICT centre. As a typical cross-sectoral industry, ICT increases productivity in almost every other branch of industry and strengthens the location with its capacity to fuel innovation. The number of ICT start-ups has increased significantly in recent years.

The following sub-segments are attributed to the information and communications technology (ICT) cluster:

- Manufacturing and repair of ICT hardware
- Wholesale trade and distribution
- Telecommunications
- IT services (including software development)
Zurich has become the centre of the Swiss ICT industry. No other canton has as many skilled specialists and business start-ups. Furthermore, in recent years, large international corporations such as Google or Disney Research have chosen the city on the river Limmat as a research and development location. For several decades, IBM has been based in Zurich with a renowned research and development centre.

What is more, the significance of Zurich’s ICT spans far beyond the boundaries of the actual ICT industry. Today, information and communications technologies are a significant growth driver for Zurich’s economy as a whole. Nowadays, hardly any company can forgo information and communications technology. For the most part, product manufacturing, processes and services are no longer conceivable without ICT. In sum, ICT has become an indispensable implementation tool and innovation factor.

From finance to manufacturing
Traditionally, information and communications technology in the Zurich region is closely linked to the finance and insurance industry. Most of the ICT companies focus on individual solutions, project work and services for that industry.

The computerisation of the manufacturing industry is deemed to be one of the future growth areas. Similar to the former driving forces ‘mechanisation’, ‘mass production’ and ‘digitalisation’, ‘Industry 4.0’ is to provide the manufacturing industry with basic impetus for further growth.

Dynamic founding activities
In 2011, the gross value added of ICT in Switzerland amounted to roughly 29.2 billion Swiss francs (which represented a share of 5.4 per cent of the gross value added). The share of gross value added of the ICT sector in the Canton of Zurich was 8.3 per cent. By comparison, according to an estimation of the company Econlab for the year 2011, the entire Internet-induced value added across all industries in Switzerland totalled 32.3 billion Swiss francs, which corresponded to a share of 5.6 per cent of the gross domestic product. This meant that Switzerland ranked fourth in Europe, after Sweden, the United Kingdom and Denmark.

A further strong increase of the economic impact of information and communications technology is expected in the coming years. The growing number of company foundations in this area plays a decisive role in this respect. According to the Federal Statistical Office, more than 11 000 companies are founded in Switzerland each year, of which over eight per cent can be ascribed to ICT. The leading canton for ICT start-ups is Zurich. The strong start-up momentum in the field of ICT is reflected in the Swiss Start-up Monitor which focuses on high-tech start-ups: more than forty per cent of the approximately 460 start-ups based in the Canton of Zurich are ICT companies (status February 2014).

Targeted education and efficient transfer
The markedly increasing start-up momentum in Zurich’s ICT industry is due to various factors. On the one hand, Zurich offers ideal access to well-trained specialists. Thus, in recent years, especially the Federal Institute of Technology (ETH), the University of Zurich and the universities of applied sciences have aligned their study courses to the needs of the ICT industry. These study institutions contribute substantially to the extensive offer available in Switzerland’s education landscape in the field of ICT. In 2013, the federally recognised programmes alone encompassed as many as eighteen vocation-specific educational courses and twenty-one fields of study in ICT.

On the other hand, the technology transfer institutions affiliated to the universities, such as Unitectra and ETH-Transfer, also foster the positive entrepreneurial climate. Every year, some two dozen ICT start-ups emerge from these institutions. Furthermore, support provided by the Confederation’s Commission for Technology and Innovation CTI, by Pre-Seed Fonds Venture Kick and various other institutions pave the way for ICT start-ups.

Innovative start-up scene
The tremendous innovative power of Zurich’s ICT start-ups is confirmed in the Top 100 start-up list that ranks start-ups in all industries. According to this ranking, which is published once a year by the IFJ (start-up institute) in partnership with the ‘Handelszeitung’ (weekly business newspaper), twelve per cent of the most promising Swiss start-ups are Internet, mobile and software start-ups in Zurich. And these companies are increasingly on the radar screen of large
corporations. The 3D specialist ‘Procedural’, for example, was taken over by ‘ESRI’, the world’s largest supplier of geographic information systems, and the online scheduling tool ‘Doodle’ by the media company ‘Tamedia’.

**ICT specialists work in all industries**

The distribution of ICT specialists shows how strongly the ICT sector assumes a cross-disciplinary role for all industries. According to the SLFS (Swiss Labour Force Survey), only about thirty per cent of the information scientists work in companies that actually belong to the ICT sector. The remaining seventy per cent apply their skills to other industries, such as financial services, wholesale trade and business consulting. The Canton of Zurich, with more than six per cent of all ICT employees in Switzerland, ranks ahead of the cantons Basel-Stadt, Zug, Geneva, Vaud and Bern.

The income in the Swiss information technology sector is above-average. According to a survey conducted by the swissICT association on ICT salaries in 2013, employees working in information technology earned an average salary of 112 500 Swiss francs per year (median encompassing the competence levels junior, professional and senior), or 9375 Swiss francs per month. This is significantly higher than the average Swiss salary which, according to the Federal Statistical Office, amounts to 5797 Swiss francs per month. It is especially pleasing to note that nowadays, compared with other industries, the two per cent difference in pay between men and women across all three competence levels is only very slight.

**Important activities in the ICT cluster**

**2011**

**Ideas for Zurich’s digital future**

The three-day eZürich Kick-off-Workshop is held in January 2011, with leading ICT representatives from education, business, politics and industry organisations. Jointly, issues and approaches are formulated that are to turn Zurich into Europe’s top ICT location. The basis for the event is a report on the Ideas Competition conducted in 2010 regarding the digital future of Zurich, to which six hundred project ideas were submitted. Since then, more than a dozen projects have been pursued and implemented city-internally and in dialogue with industry representatives, including the alert system ‘Züri wie neu’ that enables the online reporting to the city administration of any defects to Zurich’s infrastructure.

**Networking in the Glatttal region**

The association Zurich IT Valley is founded in March 2011. This organisation performs networking from within the Glatttal region – with events such as the Swiss Data Center Community Event held in 2012.

**Networking at C-Level**

The first C-Level event of the WinLink association is held in 2011 and connects developers, providers and users in the Zurich/Lake Constance region with each other. The event takes place once a year.

**Countering the shortage of skilled ICT specialists**

The vocational training conference on the shortage of skilled ICT specialists is held in November 2011 under the direction of Regine Aeppli, Head of the Department of Education, and Ernst Stocker, Head of the Department for Economic Affairs. Jointly, the representatives from the Department of Education and the Department for Economic Affairs, together with representatives of organisations from the business world and industry associations, identify measures to help correct the situation in the medium or long term.

**ICT Investor’s Day**

The division ‘Innovation’ of the swissICT association, in which the Division of Business and Economic Development is also represented, devises the concept for the ICT Investor’s Day which is held for the first time in November 2011. Since then, this event format, where start-ups and potential investors meet, has taken place four to six times a year.

**2012**

**BlueLion**

The ICT and cleantech incubator BlueLion is opened in Zurich-Schwamendingen in May 2012. It is supported by the City of Zurich and other partners. In June 2012, an information event is held there at the invitation of eZürich and the Division of Business and Economic Development of the Canton of Zurich. The topic is work permits.
Platform for ICT events
Together with various specialised and industry organisations, the Division of Business and Economic Development implements the ict-agenda.ch. The platform has been online since November 2012 and provides the opportunity to advertise events free of charge and to gain an overview of events throughout Switzerland.

2013

Unobstructed view of the sea of data
The 4th Cluster Dialogue is held in September 2013. It is organised by the Division of Business and Economic Development of the Canton of Zurich in partnership with the think tank W.ire. The topic is ‘Freier Blick aufs Datenmeer – Gedanken zur Infrastruktur des 21. Jahrhunderts’ (Unobstructed View of the Sea of Data – Thoughts on the Infrastructure of the 21st Century).

Dream jobs in ICT
The image campaign ict-dreamjobs.ch is initiated in autumn 2013, from within the eZürich network. The campaign is targeted at promoting young ICT talent. Following a successful start, it will be continued in the coming years throughout Switzerland.

Switzerland and Austria in dialogue
An exchange between Zurich / Swiss ICT organisations and dialogue partners from Lower Austria takes place in November 2013, at which opportunities for cross-border cooperation are explored. The challenges involved in recruiting young talent and ICT vocational training are identified as common topics to pursue further.

Pooling of resources and further development
Coordination meetings are held in 2012 and 2013 involving a number of organisations, including eZürich, BlueLion, WinLink and Zurich IT Valley. The discussions broach the issue of pooling the activities of the ICT players in the Zurich region and devise initial conceptual considerations for the further development of eZürich. The aim is to have a broader base for the activities and to expand them to the entire cantonal area.

Partnerships
In 2011 to 2013, various events, awards, publications and network platforms are supported non-materially or financially by the City and the Canton of Zurich, including the Netzzunft meetings, the Swiss ICT Award, the Spirgarten meeting/Geo Forum, the Jazoon conference in Zurich, WinLink meetings, the ICT Investor’s Day, the FOSSGIS conference (Free and Open Source Software for Geographical Information Systems) in Rapperswil, the first Product Management Festival in Zurich as well as the two publications ‘Swiss Made Software Vol. 2’ and ‘Swiss Made Software – The Book’.

Dialogue and networking
The dialogue with ICT representatives from business, education, research and industry organisations is maintained on an ongoing basis. The ICT network is expanded through participation in events and cooperation in work groups and committees.

Enquiries
Responding to enquiries from companies interested in moving to Zurich, as well as from resident companies and organisations, forms an integral part of the day-to-day work performed by the Division of Business and Economic Development.

Recurring activities

Legislative period ends on a positive note
With the eZürich activities, the City of Zurich achieves the goals set within the framework of the legislative focus areas for 2011-2014: on the one hand, within the administration with citizen-oriented projects (such as ‘Fix my Zurich’) and industry-oriented or topically-focused activities (such as the implementation of hack nights) and, on the other hand, by building a community that includes important representatives from business, education and politics.
Fertile soil for ICT start-ups

Zurich offers plenty of support to young ICT companies during the start-up phase. Whereas incubators such as BlueLion provide affordable workplaces in combination with targeted coaching, the focus at the Colab co-working space is on cooperation and creative exchange.

More ICT start-ups are founded in the Canton of Zurich than anywhere else in Switzerland. To a considerable extent, this is due to the growing number of founding centres, business incubators and other inducements to help young entrepreneurs in the information and communications technology sector (ICT) through the difficult start-up phase. Various studies corroborate the sustainability of this approach. Companies that grow in a business incubator are much more likely to survive: of these companies, more than eighty-five per cent are still successful in the marketplace five years after their founding. By contrast, this only holds true for about half of the companies established without that backing.

In his blog entitled ‘Neue Inkubatoren-Vielfalt in Zürich’ (New Incubator Diversity in Zurich), start-up coach Jan Fülscher counted nine business incubators available for young ICT entrepreneurs in spring 2012. Among these figure BlueLion which was also founded in 2012. Domiciled in the Werkerei Schwamendingen building, BlueLion is committed to providing pragmatic support to young companies in the ICT and cleantech sectors. CEO Gert Christen puts it as follows: ‘At BlueLion, young companies find ideal conditions to convert their ideas or research results into a marketable product or, as the case may be, into a presentable prototype within a short time.’ BlueLion consciously focuses on companies that are still in a very early phase. ‘This is how we complement the available offer in the Zurich area’, Christen adds.

First Swiss all-encompassing incubator
On the one hand, BlueLion offers entrepreneurial newcomers affordable space: the rent for a workplace amounts to just under 500 Swiss francs per month – including postal, phone and reception services, use of meeting rooms and other infrastructure. On the other hand, the start-ups are supported ab initio by professional business coaches in devising and developing their business model. ‘We focus on a specially devised coaching method that is based on agile approaches and, thus, on very short cycles. The aim is for the start-ups to conduct their first customer business within the first three to twelve months’, Christen explains.

The young companies also benefit from a special awareness programme to enhance their profile, as well as from institutional networking with universities, industry, the media, important organisations, politics and potential investors. Christen sums it up as follows: ‘This makes us something of an all-encompassing incubator which is the first of its kind in Switzerland.’

This comprehensive offer clearly responds to a need. In the first year already, more than thirty start-ups took up quarters in BlueLion, including the leisure-time community Spontacts.com which has since been taken over by the German Scout24 Group. The intensive support provided also appears to be yielding quick results: in the first eighteen months, five start-ups were accepted in the support programme of CTI (Commission for Technology and Innovation). What is more, several companies were voted into the Top 100 Swiss start-ups, among them the online fundraising platform C-Crowd and the communication platform Politnetz. BlueLion is organised as a foundation. The foundation’s capital was funded by the City of Zurich, the Cantonal Bank of Zurich, Swisscom and the Stiftung Effort foundation.

Sharing and networking
Co-working offers a different kind of fertile soil for ICT start-ups. At the end of 2013, the coworking-schweiz.ch website listed as many as seven such co-working facilities in the Canton of Zurich where digital natives put their vision of cooperation into practice. One of them is Colab Zurich located in the trendy ‘Kreis 3’ district. Exclusively financed through rent of infrastructure, it has been offering workspaces and temporary colleagues since spring 2013. In one section of Colab, individuals and companies can rent space on a daily or weekly basis, allowing them to use space according to their order volume and as the situation at the time demands. Another section of Colab is reserved for ‘residents’ who wish to stay longer term.
The target group are primarily onliners, IT cracks, creative heads and start-uppers. But an increasing number of non-ICT and well-established companies are using Colab as well – not primarily because of space constraints, but because they want to be close to the creative minds of the digital world. Even though Colab does not explicitly offer coaching services, it is still much more than a shared office in the traditional sense. Rather, it is a place where creative exchange and collaboration are of central importance.

**New forms of work are in demand**

The Colab co-working space is operated by Panter Ltd. Panter develops web and mobile solutions and is also domiciled in Colab with a workforce of twenty-four employees. According to Colab initiator Georgios Kontoleon, the idea was born out of a concrete demand: ‘We realised that many players of the very vibrant Zurich ICT scene shared our own need for fresh work dynamics and new work forms. That is why we began to set up Colab, and we met with a huge response.’

Today, Colab has some sixty co-workers, which is how the Colab tenants are referred to. They all share the view that networks are the work form of the future: ‘Although as a rule they operate independently, they also frequently collaborate on projects’, says Kontoleon. Accordingly, considerable significance is attributed to the further development of the community, as Kontoleon explains: ‘We actively promote mutual exchange by way of joint activities. We also see Colab as an event platform that strengthens networking within the regional ICT scene with various events.’ In future, with that in mind, Colab also wants to promote cooperation with other co-working spaces, organisations, universities and industrial partners.

---

**Creating connection points between ICT start-ups and investors**

Young ICT companies are not at the top of the list of Swiss investors. To change this requires strengthening the start-up ecosystem. The course has been set.

For ICT start-ups, it is not always easy to raise the capital necessary to develop their products. ‘After the dotcom bubble burst, many large investors still remain sceptical about digital business models’, Jan Fülscher, start-up coach and head of Business Angels Switzerland, explains. This is due to the special features of digital models, as Fülscher elaborates: ‘In essence, it is often about the production, procurement and trading of information. Unlike with physical goods, the regular laws of economics do not apply here. That is why digital business models must be analysed much more carefully so as to understand, for instance, their uniqueness and sustainability.’

Additional factors are the extremely high innovative pace, technological leaps and the fact that, unlike other sectors, there is practically no effective patent protection.

**Strengthening the ICT start-up ecosystem**

But, according to Fülscher, there is also a lack of connection points between ICT start-ups and investors. Things are now moving in the right direction, says Fülscher, but the development of such a market simply takes time. Among other events, the ICT Investor’s Day organised by the professional association swissICT under the leadership of Fülscher contributes to this development. ‘For us, however, it is not just about organising funding and support for start-ups. Rather, we want to strengthen the entire ecosystem and create a venue and a low-threshold contact point that attracts people who want to be involved in ICT start-ups’, the expert for entrepreneurship explains.
One of the greatest challenges the ICT sector currently faces is the high cost of labour. At the same time, the already existing paucity of qualified specialists is steadily increasing. According to a forecast of the ‘ICT-Berufsbildung Schweiz’ (ICT vocational training scheme) and Econlab, assuming the economic development remains the same, an additional 72 500 ICT specialists will be needed nationwide by 2020. This need is triggered by structural change, exits and retirements. Of the required manpower, only about one third can be covered by young Swiss ICT specialists. The fact that, despite this shortage, the number of unemployed persons in the field of information and telecommunications is nonetheless increasing, is due to the short ‘half-life’ of technology know-how and the ever increasing requirements.

Given the increasingly more intense ‘war for talent’, it is particularly important to make young people and people interested in a change of career aware of the professional and developmental opportunities in the field of ICT. In particular, the female population offers potential that has not yet been sufficiently tapped. According to the Swiss Labour Force Survey, women only accounted for 15.3 per cent of the ICT workforce in 2011. In this respect, the increasingly flexible work models are likely to have a positive effect.

For many start-ups, capital procurement presents a considerable obstacle to entrepreneurial success. According to the Swiss Venture Capital Report 2013 published by SECA (Swiss Private Equity & Corporate Finance Association) and startupticker.ch, it is relatively easy for company founders to find venture capital within Switzerland in the first phase. But thereafter, if larger investments are needed for expansion, foreign investors often have to step in.

The investment volume is also relatively small. Although, quantitatively speaking, the ICT companies had more rounds of investment in 2013, about three
times less funds (91.5 million Swiss francs) went to ICT companies in comparison to the field of biotechnology and medical technology (276.3 million Swiss francs). One reason is that ICT companies are often insufficiently aware of the mechanisms for financing processes. Thus, in future, additional institutionalised as well as cross-border contact points need to be set up between start-ups and investors. Furthermore, more ‘Serial Entrepreneurs’ should be established in the industry.

The start-ups also have some catching up to do in terms of organisational development and expanding abroad. Many are unable to communicate and market their strengths in a targeted fashion. Coordinated platforms need to be established that show the potential in an aggregated manner. Furthermore, coaching opportunities need to be more strongly promoted. The further development of eZürich and the establishment of a broadly based supporting body can link up skills and help the players achieve more visibility. In addition, export potential could be better exploited through an increased, coordinated presence abroad – for instance, at trade fairs and international specialist conferences.

Zurich’s ICT traditionally has strong ties with the finance and insurance industry which, in the coming years, faces new regulatory requirements that will also impact the structures of ICT.

Contacts

Canton of Zurich
Anita Martinecz Fehér
Project Manager
Office for Economy and Labour – AWA
Division of Business and Economic Development
anita.martinecz@vd.zh.ch
www.location.zh.ch

City of Zurich
Benno Seiler
Head of the Office for Economic Development
benno.seiler@zuerich.ch

Additional information

First Zurich ICT Report 2010
www.location.zh.ch/cluster-en
www.ezuerich.ch
www.bluelion.ch
Greater diversity as an effective crisis antidote

The Zurich financial centre is in a comparatively strong position to master the long-term challenges of the global financial crisis in a sustainable way. The insurance sector has gained increasing importance in recent years.

The following sub-segments are attributed to the finance cluster:
- Banks
- Insurances
- Other financial services providers
The Zurich financial centre, which encompasses the cantons of Zurich, Zug and Schwyz, has been the region’s most important economic pillar for some twenty years. One in every five Swiss francs of value added and one in ten jobs depend directly on the financial industry. In 2011, the sector generated a gross value added of almost thirty billion Swiss francs overall. The banks constitute the largest sub-segment accounting for more than fifty per cent of the finance cluster. Besides the big banks UBS and Credit Suisse, this sub-segment also includes cantonal, regional, mutual savings and private banks as well as branches of foreign institutions. The insurance sector also carries considerable international weight. The primary insurances and reinsurances contributed approximately thirty-seven per cent to the value added. The other financial services providers, which include independent asset managers, insurance brokers as well as stock and commodity exchanges and stock trading, together generate some eleven per cent of the value added in the finance cluster.

The financial and economic crisis has triggered major changes worldwide from which Switzerland, and Zurich in particular, have not remained entirely unscathed. The financial centre is faced with challenges which are leading to an accelerated structural change in the industry. In this challenging environment, and by international comparison, Zurich is developing better than most competitors elsewhere.

### Important activities in the finance cluster

#### 2011

**Study Financial Centre 2011**

Using scenario analyses, the financial centre monitoring shows how the financial centre could develop up until the year 2020. This special study is guided by an expert group comprising representatives from industry and research.

**Finance Cluster Dialogue**

More than one hundred participants attend the Finance Cluster Dialogue on the subject of ‘The insurance industry: risk balance and catalyst for the Zurich financial centre.’ Among the speakers are Government Councillor Ernst Stocker and other well-known representatives from industry and science.

**Dialogue contributions**

A brochure containing the speeches of the Finance Cluster Dialogue and additional contributions, inter alia of Bruno Pfister (CEO Swiss Life Group) and Thomas Wellauer (COO Swiss Re Group), provides the basis for further in-depth discussion.

#### 2012

**Study Financial Centre 2012/13**

The regular monitoring of the financial centre additionally includes an in-depth location analysis of the Zurich insurance industry. The study is guided by an expert group with representatives from industry and research.

**Regulation study**

Metrobasel, with participation of the Division of Business and Economic Development of the Canton of Zurich, has a study conducted on the density of regulatory requirements in the Swiss banking sector. Among other aspects, the study draws a comparison with other countries and formulates recommendations for action.
2013

Facts and figures
The publication ‘The Zurich banking centre – Facts and figures’ concisely summarises the most important information about the Zurich banking centre. The brochure is published by the Division of Business and Economic Development and the Zurich Banking Association.

Banking centre in a process of change
Almost 150 participants attend the Finance Cluster Dialogue entitled ‘The Zurich banking centre in a process of change’. City Mayor Corine Mauch, Government Councillor Ernst Stocker and well-known representatives from industry and research, including Prof. Dr. Martin Janssen, Dr. Patrick Raaflaub and Dr. Pierin Vincenz, discuss the future of the financial centre.

Dialogue contributions
In addition to the speeches, the brochure on the Finance Cluster Dialogue is enriched with further contributions, e.g. from Prof. Dr. Peter Nobel, and is illustrated with photographs provided by students of the CAP photography school in Zurich.

Face lift
The web page finanzplatz-zuerich.ch, operated jointly with the Zurich Banking Association and the Office for Economic Development of the City of Zurich, receives a face lift.

Sustainable financial centre
The white paper ‘Path to the Sustainable Financial Center Switzerland’ is published within the framework of The Sustainability Forum.

Finance lunch
The Zurich City Council invites representatives from Zurich’s banks to an informal exchange over lunch.

Recurring activities

Alternative investments
The Division of Business and Economic Development contributes financially to the event series ‘The Alternative Investment Club – TAIC’ held four times a year and organised by Swiss Financial Services.

Roundtable of business and politics
The Office for Economic Development of the City of Zurich organises the annual debate between the City of Zurich (represented by the City Mayor and the Head of Finance), members of the cantonal government and leading representatives of the financial centre.
A hub for reinsurance companies

In recent years, Zurich has established itself as a European hub for reinsurance companies. A diverse system of small and medium-size providers has emerged in the vicinity of the market leader Swiss Re, with mutual benefit from one another. The high availability of qualified professionals and Switzerland’s progressive regulatory measures are decisive factors for this development.

Zurich is known the world over as a banking centre. Less well known is the fact that, in recent years, the city on the river Limmat has also become an important location for reinsurance companies. With a gross premium volume of almost thirty-five billion US dollars, Zurich today is in a comparable league with London, Bermuda or Tokyo, i.e. the traditional centres of reinsurance business. The largest provider by far is still Swiss Re with approximately three thousand employees at the company’s head office. However, in the last ten years, the sector has grown to encompass approximately forty industry representatives. This is due to companies relocating to Zurich and to the foundation of, above all, small and medium-size providers. These companies jointly employ about one thousand additional specialists and work the European and international market from Zurich.

Various factors triggered this development. Since the financial crisis, the insurance companies want to diversify their risks better and thus spread them across a larger number of reinsurance providers. In Europe, this new way of thinking has also led to an increasing demand for business relations with smaller providers. ‘With a view to furthering the development of our business and placing it on a wider footing, we decided to move to Zurich and to enter the European reinsurance market from here’, says Peter Schmidt,
CEOs of Catlin Re Switzerland, describing what motivated the move to Zurich.

**Risk diversification and access to the European market**

Because the reinsurers also want to spread their own risks more broadly and increase capital efficiency – for example, by diversifying into new regions and fields. The partial re-domiciling of capital from Bermuda to Switzerland, for instance, was a key factor for Amlin Re which led to the opening of a company in Zurich.

Like Amlin Re, a noteworthy number of insurance companies that have recently moved to Zurich come from Bermuda. However, none has given up its activities there. The British Atlantic island is the world’s most important marketplace for catastrophe risks and continues to be central for reinsurers. ‘The business unit in Zurich is not competing with any of our other locations; rather, it opens up access to the European market’, says Philippe Regazzoni, CEO of Amlin Re Switzerland.

With cities like Paris, Munich, Cologne, Brussels or Copenhagen, the newcomers also had potential alternatives in Europe. The fact that Zurich was chosen is due to several factors, including its convenient location and accessibility in the heart of Europe, a functioning infrastructure and a high quality of life. But even more important factors are: the specialised and international know-how available in the greater Zurich area, the reliable political environment and, in particular, the stable regulatory framework and the cluster advantages resulting from the concentration of several industry representatives in a small area.

**Pool of experts as a decisive success factor**

The availability of qualified and experienced underwriters stands out as the single most important factor. These specialists underwrite the risks in the primary insurers’ risk auctions which a reinsurer then assumes: ‘Since this is a profession that cannot be studied for, we depend on a largest possible pool of specialists with professional know-how and experience’, Regazzoni explains. In this respect, the local market leader Swiss Re takes on the role of a talent factory. But university institutions, such as the University of Zurich or the Federal Institute of Technology (ETH), and the sound level of education in sciences and economics are also important. Reinsurance specialists are often professionals who originally come from other disciplines, such as mathematics, biology or economics.

Furthermore, thanks to the free movement of persons, the labour market for reinsurers comes to us because a smaller market participant provides the opportunity to think and act in a more entrepreneurial way’, Schmidt observes.

**Strict regulations engender trust**

A second key factor for the location’s attractiveness is the stable regulatory environment with the supervision of the Swiss Financial Market Supervisory Authority (FINMA). The insurance sector is currently undergoing a change, from premium-based to risk-based capital models. As a consequence, reinsurers...
are required to deposit more capital for their business. The EU has launched the Solvency II Directive for that purpose which, after several delays, is scheduled to come into effect in 2016. In Switzerland, by contrast, the Swiss Solvency Test is a form of stress test that has already been in place since 2011. Regazzoni sees this as an advantage: ‘The strict yet professional supervision of FINMA engenders trust with customers.’

**Customers benefit from the cluster**
Finally, other location advantages result from the cluster itself which has taken shape in recent years. Phenomena, such as climate change and the global interconnectedness of the economy, render the business of assuming peak risks increasingly complex. The current challenges demand know-how that is broadly based and can only be provided by a cluster. In addition, primary insurers generally maintain business relations with about twenty reinsurers. The concentration of many representatives of the industry in a small geographical area enables them to meet several partners on one single day. In this way, risk auctions can be conducted very efficiently.

Regazzoni and Schmidt are convinced that the development to a reinsurance hub presents a great opportunity for Zurich. ‘For the sake of the location, we must take care and make sure that both the regulatory framework and the working conditions remain reliable and stable,’ Schmidt demands. Regazzoni stresses the significance of the swift availability of specialists: ‘Zurich can only maintain its level if we can get the best specialists from everywhere to come to Zurich and make them feel welcome here.’

**Opportunities and challenges**

The strong position Zurich’s financial centre enjoys worldwide is not a matter of chance. It is rooted in traditional strengths such as the high quality of advice and service, legal certainty and a stable currency, coupled with sound economic and political frameworks. The centre is currently facing a range of challenges, which will lead to accelerated structural change within the sector. Its future positioning will depend on how successfully it tackles the following challenges.

**Regulation**
Even in a liberal market economy, regulations are essential. The financial industry has been one of the most highly regulated sectors of the economy for decades. In the wake of the financial crisis, a raft of additional regulatory measures were adopted at both the national and international levels, only a small portion of which have been implemented to date. There is no question that these impose an extra layer of bureaucracy, and will thus lead to substantial additional costs. Particularly in areas where Swiss regulatory efforts go significantly further than those in the international arena, this can lead to uneven playing fields and put the local financial centre at a disadvantage. The goal must be balanced regulation that does not impair international competitiveness.

**Cost pressure**
The current low interest rate environment, heightened competition among financial institutions, and increasing additional costs stemming from new regulatory measures have resulted in a marked erosion in margins in the financial industry over recent years. To
prevail in the market, institutions therefore have to adapt their cost structures. In addition to short-term cost cutting, many of them also need to realign their business models. In particular, they need to take a close look at their specialisation and the structuring of their internal value chains.

**Immigration and market access**

The Swiss financial centre is a very open market offering access to all competitors from Switzerland and abroad. A restriction on the free movement of persons has far-reaching consequences for the industry. The appropriate services agreements with the EU must also be brought to a successful conclusion. Furthermore, the process of permit approval for citizens from third-country states needs to be simplified. In return, efforts must be made to reduce the existing obstacles for Swiss financial services providers in cross-border business activities and to improve their market access. Even if the latest decisions of the EU in this respect are to be seen in a positive light, there are still many aspects – especially in view of the initiative ‘Against mass immigration’ accepted by the Swiss electorate in February 2014 – which remain uncertain.

**Bank client confidentiality**

The protection of clients’ financial privacy is a core element of the financial centre, and is firmly embedded in Swiss law. This does not conflict with the commitment of Switzerland and its banks to deliver a tax-compliant financial sector. The discussions on the tax issue in the cross-border wealth management business in recent years and the various ongoing investigations by foreign authorities are currently weakening the local financial centre. Clearing up the remaining points of uncertainty is thus a top priority.

**Demographics**

The demographic trend in particular poses a challenge for the insurance industry, with developments such as the ageing population and migration. Coupled with the increased regulatory requirements, this means that higher costs and fiercer competition are on the cards. The growing threat posed by environmental risks also has to be adequately addressed.
Canton and City as intermediaries
Intensive dialogue between business, academia and politicians is called for if the forthcoming challenges for the financial centre are to be mastered in a sustainable manner. The Canton and City of Zurich will increasingly perform their pivotal intermediary role, and will continue to promote the exchange of information. The most important locational advantages of the Zurich financial centre are the high quality of life, excellent educational institutions, well developed infrastructure, healthy public finances, a stable political environment, and a flexible job market. It is in the interests of the greater Zurich area as a whole to ensure that these success factors are safeguarded for the future.

Contacts

Canton of Zurich
Eva May
Project Manager
Office for Economy and Labour – AWA
Division of Business and Economic Development
eva.may@vd.zh.ch

City of Zurich
Elke Frost
Project Manager
Office for Economic Development
elke.frost@zuerich.ch

Other contacts
Christian Bretscher
Director, Zurich Banking Association
info@zuercher-bankenverband.ch

Information and data

- ‘The Zurich banking centre – Facts and figures’
- Financial Centre Study 2012/13 BAKBASEL
- The Zurich banking centre in a process of change (2013)
- The Zurich Financial Centre. The significance of insurances (2011)
- www.finanzplatz-zuerich.ch
- www.location.zh.ch/cluster-en
Spin-offs and medical technology

In recent years, life sciences companies in Zurich have coalesced into a vibrant cluster which is characterised by an above-average share of medical companies and strong spin-off activities from Zurich’s universities.

The following sub-segments are attributed to the life sciences cluster:
- Pharmaceutics
- Agricultural chemistry
- Medical technology
- Biotechnology
- Manufacturing of control & measuring devices
- Wholesale trade
- Research and laboratories
Within the last few years, Zurich has established itself as a life sciences location. As the absolute number of persons gainfully employed shows, Zurich has climbed to become Switzerland’s second most important site for the pharmaceutical and chemical industry, second only to Basel where these sectors are traditionally rooted. In the medical technology sector, where the majority of the life sciences employees work, the Canton of Zurich has even taken the lead nationally.

Broad academic base
The research-intensive development and production in the life sciences cluster benefits from the broad academic base which Zurich offers by way of the Federal Institute of Technology (ETH), the University of Zurich, the University Hospital, the other hospitals and the Zurich University of Applied Sciences (ZHAW). Extensive basic research and applied research are among the most important prerequisites for a thriving life sciences industry. Thus, to a considerable extent, the increasing momentum is due to the spin-off activities stemming from the universities.

Measured against the total nominal gross value added, the share of the life sciences industry in the Zurich region is still small accounting for roughly ten per cent. However, it boasts a generally high productivity. The fact that productivity is lower than at other Swiss life sciences locations is primarily due to the strong significance of medical technology. Medical technology is typically not quite as highly productive as the pharmaceutical industry predominant in the rest of Switzerland. Furthermore, the presence of many small biotechnology start-ups has a negative effect on productivity. Their value added tends to remain low over the course of the development of a marketable medicinal drug which can take up to fifteen years. Moreover, towards the end of the development process, the complex and costly clinical phase III tests generally make it necessary to collaborate with a big corporation. At this point, the small research companies are often acquired by a large partner.

Business network
In autumn 2001, the University of Zurich and the Federal Institute of Technology (ETH) launched a joint initiative called Life Science Zurich, to create a stronger research network in the life sciences field. Today, Life Science Zurich consists of the following five units: Graduate School, Young Scientist Network, Learning Center, Communication & Events and Business Network. The Life Science Zurich Business Network is organised as an association. It was founded in 2011 to promote collaboration between the stakeholders in academia, industry and the public sector in the greater Zurich area. As well as promoting local networking, this platform of excellence also strives to enhance the location’s international appeal.

Besides organising various network events, the Life Science Business Network – together with other European life sciences locations – also participated in a three-year EU research project to explore the success factors of the cluster.

Important activities in the life sciences cluster

2011

Business network
Founding of the association Life Science Zurich Business Network (LSZ-BN) for networking between the various life sciences institutions in the greater Zurich area, for promoting collaboration of these institutions with universities, businesses, public authorities, as well as with other organisations and persons in Switzerland and abroad.

EU network
As a first project, the LSZ-BN co-launches the EU HealthTIES project. This project strives to build a network between five European life sciences regions with the aim to promote innovations, accelerate technology transfer, optimise processes, maximise synergies and launch new initiatives.

Presence in Washington
The LSZ-BN is present at the BIO 2011 in Washington DC in the ‘SWISS Pavilion’.

Personalised medicine
A symposium held in BIO-TECHNOPARK® Schlieren-Zurich on the topic of personalised medicine with well-known national and international speakers from science and industry is attended by more than 140 participants.
Successful BIO-TECHNOPARK®
The association BIO-TECHNOPARK® Schlieren-Zurich founded in 2003 increases its membership from six to forty-three. Some of its members achieve remarkable success. Molecular Partners, for instance, enters a strategic cooperation with Janssen Biotech and signs a licence agreement with Allergan. Furthermore, five members are voted into the Top 100 start-up companies in Switzerland.

Laboratory standards
Toolpoint, the Swiss non-profit organisation established in 2003 for the field of lab technology, founded the independent organisation www.sila-standard.org headquartered in Stäfa (Canton of Zurich) for the global standardisation in lab automation (SiLA). SiLA interfaces are, by now, a basic prerequisite for laboratory equipment used in the pharmaceutical industry.

2012

Presence at the Olympics
The HealthTIES event ‘Future of Health’ is held during the London Olympic Games, at the Zurich Life Science Day in the House of Switzerland.

Study on regulations
Metrobasel, assisted by the Division of Business and Economic Development of the Canton of Zurich, commissions a study which analyses the density of regulatory requirements in the Swiss pharmaceutical industry, draws a comparison with other countries and formulates recommendations for action.

Presence in Boston
The LSZ-BN is present at the BIO 2012 in Boston in the ‘SWISS Pavilion’.

Portrayal of stakeholders
The new edition of the Life Science Zurich brochure features the most important stakeholders in the Zurich region.

Efficient use of resources
A benchmark study conducted within the framework of the EU research project HealthTIES shows that Zurich, compared with other locations, holds a top position as regards efficient use of resources in knowledge and technology transfer.

Cross-Cluster Dialogue
Jointly with the municipality of Schlieren and the Think Tank W.I.R.E., the Division of Business and Economic Development organises the annual Cross-Cluster Dialogue in the BIO-TECHNOPARK® on the topic of personalised health.

BIO-TECHNOPARK® successes
The BIO-TECHNOPARK® member Cytos receives thirty-seven million Swiss francs from international investors to further develop the asthma programme. Covagen enters a strategic research collaboration with the Japanese Mitsubishi Tanabe Pharma Corporation, and ProteoMediX wins the Swiss Technology Award 2012 in the start-up category.

Medical activities
The Medical Cluster organises two events in the Canton of Zurich: ‘INSIGHT’ at Art of Technology AG and launching of the work group ‘EXPERT GROUPS Usability and Human Centered Design.

Universities of applied sciences and industry
Toolpoint starts a collaboration with the foundation ‘Veronika und Hugo Bohny Stiftung’ to create even stronger ties between the universities of applied sciences and the lab technology industry. Inter alia, Toolpoint awards prizes for the best bachelor theses carried out in collaboration with companies. The foundation awards prizes in the amount of 14 000 Swiss francs.

2013

Lunch dedicated to politics
In January, the City Council of Zurich welcomes some forty representatives of the regional life sciences industry for a contact working lunch.

Innovation roundtable
The publication ‘Report on the Think Tank on Swiss Innovation’ conveys the results of a roundtable organised by LSZ-BN.

Open Health in San Francisco
On the occasion of the anniversary of the sister city partnership between Zurich and San Francisco, the LSZ-BN organises the event ‘Open Health: the Citizen’s Revolution’ in San Francisco.
Cluster Dialogue
More than one hundred participants attend the Life Sciences Cluster Dialogue of the Division of Business and Economic Development on the subject of ‘Zurich, the Life Sciences Location’. The event is held in the BIO-TECHNOPARK® Schlieren-Zurich.

Expansion of BIO-TECHNOPARK®
The development of the BIO-TECHNOPARK® Schlieren-Zurich site is making rapid progress. A new building equipped with a cyclotron for the CT/PET-MR centre is being completed. Furthermore, the first laboratory high rise covering an area of more than 9000 m² is ready to be moved into, and the public staff restaurant on the ground floor is already open. The University of Zurich moves into a new life sciences location in the BIO-TECHNOPARK® and Roche receives FDA approval for the new medicine Gazyva against chronic lymphocytic leukaemia with the designation ‘Breakthrough Therapy’.

Growing Medical Cluster
The Swiss Medical Cluster reports eleven new members from the Canton of Zurich. With sixty-five members, Zurich presents the second-largest group in the Medical Cluster after the Canton of Bern.

Medtech insights
With over one hundred guests, the event ‘INSIGHT’ organised by the Medical Cluster and held at Zühlke in Schlieren is sold out.

Focus lab technology
Toolpoint shifts the focus of the network to lab science and changes the name to ‘Toolpoint for LabScience’. Established ten years ago, the association has twenty-nine members from Switzerland and neighbouring countries with more than twenty thousand employees worldwide who generate a turnover of almost five billion US dollars. In the field of liquid handling, they represent a world market share of over fifty per cent.

Recurring activities

Career Day
The Division of Business and Economic Development supports the annual Life Sciences Zurich Career Day organised by the LSZ Young Scientist Network.

Toolpoint events
Toolpoint for LabScience, the lab technology non-profit organisation founded in 2003, organises numerous annual events, including the ‘C-Level’ event, scientific forums, ‘Life Science Goes to Silicon Valley’ and events regarding six different specialist circles.

Medtech Forum
The first World Medtech Forum is held in Lucerne in 2012. The high-quality platform for the international medical technology industry is organised by the Medical Cluster and the Messe Luzern (Lucerne Trade Fair). Following a successful start, the Forum is also held in 2013.
Hub and pivot of the growing life sciences cluster

The BIO-TECHNOPARK® Schlieren-Zurich founded in 2003 has become the centre of Zurich’s life sciences cluster. Where once elevators and rail carriages were assembled, some thirty start-ups and established companies now develop new medicines and diagnostic products or biodegradable implants.

In the past few years, the life sciences industry has successfully gained a foothold in Zurich. The BIO-TECHNOPARK® Schlieren-Zurich has contributed considerably to this, evolving into a cultivation medium and local beacon of the cluster. Today, the former site of the ‘Schweizerische Wagons- und Aufzügefabrik Schlieren’ (Swiss Rail Carriage and Elevator Factory Schlieren) boasts the highest density of promising life sciences companies in Switzerland: overall, some forty companies and research groups of the University and the University Hospital Zurich have settled in the BIO-TECHNOPARK® that, today, enjoys both national and international renown.

The BIO-TECHNOPARK® is, first and foremost, where basic research is transformed into marketable products. The majority of the young resident companies originated from the University of Zurich or the Federal Institute of Technology (ETH). But well-established global companies have also pitched their tents in Schlieren. This mix of academic groups and companies at all entrepreneurial stages has created a vibrant ecosystem where mutual exchange is a high priority and also actively promoted.

Laboratories and networks
A key reason for the magnetic force of the former industrial site is that, besides offices and warehouses, specialist laboratory infrastructure is also available for rent. This is why young start-ups that, as a rule, would hardly be able to afford such infrastructure are attracted. Furthermore, the BIO-TECHNOPARK® procures valuable contacts and supports start-ups in the founding and development phase or with the search for funding.

The BIO-TECHNOPARK® is organised as an association in which resident companies and academic research groups as well as location and real estate partners are members. The association is presided over by Professor Ernst Hafen and managed by Mario Jenni who was also a co-founder of the BIO-TECHNOPARK®.

The declared prime aim is the networking of all players from industry, academia and politics. Thus, the association has long-standing cooperative relations with national as well as international start-up promoters and cluster organisations. The association is also a co-founder and member of the Life Science Zurich Business Network and has been collaborating closely with TECHNOPARK® Zurich on an operational and strategic level since 2010.

The list of spectacular success stories written by start-up companies from the BIO-TECHNOPARK® is getting longer and longer.

Exceptionally good success rate
The value of this networking at the various levels manifests itself, on the one hand, in the extremely high survival rate of the companies – which amounts to about ninety per cent. In contrast, by international comparison, the success rate of life sciences companies is only just fifty per cent.

On the other hand, the list of spectacular success stories written in the BIO-TECHNOPARK® is getting longer and longer. Cases in point are: the start-up Glycart which was sold to Roche for 235 million Swiss francs, ESBA-Tech which went to the Novartis company Alcon for 600 million US dollars and Molecular Partners which has entered success-based development partnerships with Allergan, Janssen and Roche.
on a scale that exceeds three billion Swiss francs. Cytos Biotechnology, which in 1998 was the first life sciences start-up to move into the BIO-TECHNOPARK®, is now a listed company, and Prionics has grown into one of the global market leaders thanks to its BSE tests (bovine spongiform encephalopathy). What is more, the new medicine Gazyva discovered at Roche Glycera against chronic lymphocytic leukaemia was recently approved in the US by the FDA with the designation ‘Breakthrough Therapy’.

Temporary use by the ETH as a starting point
The BIO-TECHNOPARK® celebrated its tenth anniversary in 2013. But the bedrock for the Park was, in fact, laid two decades earlier. In 1984, when the ‘Schweizerische Wagons- und Aufzügefabrik Schlieren’ closed its gates, the visionary entrepreneur Leo Krummenacher purchased the Wagi site that covers roughly 55 000 square metres. Krummenacher sold off his existing industrial construction firms and founded the ‘Gewerbe- und Handelszentrum Schlieren’ (Commercial and Trading Centre Schlieren), the focus of which was on furthering the development of the Wagi site. Entrepreneur Krummenacher tackled the renovation and redesign of the site with foresight so that, by 1986, several ETH institutes could move in and operate the first laboratories for temporary use. Twelve years later, following the departure of the scientists, the first life sciences companies settled in the available premises.

In 2003, the association ‘Biotech Center Zürich’ was finally founded. Due to a licence and cooperation agreement with TECHNOPARK® Zurich, it was renamed BIO-TECHNOPARK® Schlieren-Zurich in 2010. Today, the life sciences companies and academic research groups employ some eight hundred employees on the former industrial site.

Continuous development of the site
The site is being continuously developed to meet the future requirements of the firms and academic research groups in the BIO-TECHNOPARK® and to create space for new companies. In the coming years, the creation of a campus-like environment is planned in several stages. The aim is to foster exchange among the companies and with the university research groups, and to open up to the adjacent neighbourhood. The site will have up to four high rise buildings with some two thousand workplaces. The first high rise became operational in 2013 and contains lab facilities for firms and research departments of the University of Zurich, and a catering company.

Expertise and access to infrastructure save time and energy
Molecular Partners, a spin-off of the University of Zurich that has been based in the BIO-TECHNOPARK® since 2009, is working on a technology platform called DARPin (Designed Ankyrin Repeat Proteins) that enables a more effective therapeutic protein generation. As such, the company is a sought-after partner for large pharmaceutical companies, including Allergan and Janssen (Johnson & Johnson). CEO Christian Zahnd explains how Molecular Partners benefits from the BIO-TECHNOPARK®.

Like most life sciences companies in Zurich, Molecular Partners is still in the research and development phase. What is the current status quo?

We are particularly advanced with respect to the development of an ophthalmology product which we are working on together with our cooperation partner Allergan. We see huge market potential for this product against the wet form of age-related macular degeneration – the progressive loss of visual acuity –, because it promises to have a substantially longer effect than existing medicines. We will soon be sending two other promising products in the field of oncology to clinical development.

Why did you choose Zurich and not Basel as your company base?

Molecular Partners is a spin-off of the University of Zurich. Still, Zurich is not just an obvious choice but also a very appealing option. On the one hand, thanks to the University of Zurich and the ETH, an immense knowledge and talent pool is available to us. In addi-
In your view, what are the main advantages of the BIO-TECHNOPARK®?

The main advantage is definitely that start-ups do not have to start from scratch. That saves a great deal of time and management energy that can then flow into developing the company. Apart from its excellent infrastructure, the BIO-TECHNOPARK® also offers plenty of expertise, for instance, with regard to permits, dealing with the authorities or with company management issues specific to this industry. Moreover, we benefit from the signal effect of the Park and from the interconnectedness with industry, science and also with potential investors. And last but not least, we consider the exchange on a content and personal level between the different companies in the Park as highly stimulating.

Molecular Partners is seen as one of the most highly rated start-up companies in Switzerland. Is a stock market launch conceivable?

Thanks to our comfortable capital situation, this step has not imposed itself yet. Nonetheless, a stock market launch is a probable scenario by all means. Fortunately, we are not under any pressure in this respect and can choose the timing to ensure that it makes the best possible sense strategically.

What are your other goals for the next few years?

Our top priority is, of course, to bring our products to market as quickly as possible, whether alone or together with our partners, so that they can reach the patients who depend on them and are waiting for them. But a long-term goal is the greater self-funding of our developments reducing dependency on partners.

Opportunities and challenges

The introduction of new and better products does not only hinge on the innovative strength of the life sciences companies. It is also influenced by external factors, such as currency risks or regulatory requirements.

With the increasing weight of intensive global competition, possessing the best possible locational conditions is a decisive factor for the life sciences industry. In their analyses, Interpharma (the association of researching pharmaceutical companies in Switzerland) as well as the Swiss Medical Cluster and the industry association Toolpoint for LabScience point out that, in recent years, the strong Swiss franc has made Switzerland more expensive as a research and production location. At the same time, the prices for medicinal drugs and medical technology products have dropped on account of the Eurozone crisis and the general cost pressure in many countries. This combination hampers the introduction of new and better products. Especially in the field of medical technology, where the manufacturing of mass products is rare and the industry is thus less automated, the cost pressure is extremely high. As a result, a relocation of the production of labour-intensive and less specialised devices and instruments from Switzerland to other countries can be observed.

Both the Swiss Biotech Association (SBA) and Interpharma stress the importance of good framework conditions for clinical research. Fewer and fewer clinical studies are conducted in Switzerland because of bureaucratic obstacles. There is urgent need for improvement in that respect – for instance, in the field of physician training and of speedier approval by the ethics committees.

Interpharma also points to the challenging situation with regard to the pricing of medicinal drugs. In future, the benefits of the drugs are again to be taken into greater account in the pricing process. At present, the triennial price review of medicinal drugs
covered by mandatory health insurance occurs primarily on the basis of prices outside of Switzerland. Therefore, pricing is contingent on currency fluctuations and linked to associated uncertainties. In 2015, a new pricing system is to come into force whereby, in addition to the foreign price comparison, the comparison of therapeutically equivalent medicinal drugs is again to be taken into account.

Interpharma also sees room for improvement in the protection of intellectual property, so as to create research incentives. Indeed, in contrast to the EU and the US, Switzerland does not recognise any market exclusivity for medicinal drugs against rare diseases.

As the Swiss Biotech Association (SBA) observes, access to capital is difficult for start-ups, especially for financing proof-of-concept phases. The huge capital-intensive research and long research cycles, coupled with the substantial degree of uncertainty as to whether the product will successfully tackle all the hurdles up to and until market entry, cause many venture capitalists to act with restraint.

Finally, the Medical Cluster as well as the SBA and Toolpoint for LabScience discern a paucity of highly skilled specialists and experienced management experts.

All industry players view the generally increasing regulatory requirements as a major challenge, particularly since the rules are often country-specific or even different from region to region. In the medical technology field, the EU is currently revising its regulations and is likely to tighten them with a new ordinance governing medical devices. To secure market access for Swiss products, the Swiss local regulations will need to be adapted accordingly. The (Swiss) Federal Office of Public Health is already addressing this matter.

Contacts

Canton of Zurich
Danielle Spichiger
Project Manager
Office for Economy and Labour – AWA
Division of Business and Economic Development
danielle.spichiger@vd.zh.ch

City of Zurich
Elke Frost
Project Manager
Office for Economic Development
elke.frost@zuerich.ch

Other contacts
Dr. Isabel Klusmann
Life Science Zurich
info@lifescience.uzh.ch

Mario Jenni
Managing Director, BIO-TECHNOPARK®
Schlieren-Zurich
mario.jenni@bio-technopark.ch

Hans Noser
CEO, Toolpoint
hans.noser@toolpoint.ch

Peter Biedermann
CEO, Medical Cluster
peter.biedermann@medical-cluster.ch

Additional information
- www.location.zh.ch/cluster-en
- Booklet Life Science Zurich
  www.lifescience-zurich.ch
- BIO-TECHNOPARK® Schlieren-Zurich
  www.bio-technopark.ch
- Toolpoint for Lab Science
  www.toolpoint.ch
- Medical Cluster
  www.medical-cluster.ch
Establishing nanotechnology in SMEs

The Nano-Cluster Bodensee forms a network connecting small- and medium-size industrial companies from Zurich and Eastern Switzerland with each other as well as with research institutions. This sector-spanning network allows the companies to take advantage of innovation opportunities that would be difficult to pursue single-handedly.

The following sub-segments are attributed to the nanotech cluster:
- Precision industry
- Medical technology industry
- Machine, electrical and metal industry
- Plastics industry
- Textile industry
- Public and private institutions for research and development
Nanotechnologies open up huge innovation potential to industry. They represent key technologies for the future. The targeted modification of materials or surfaces and interfaces that are the size of individual molecules, or even atomic structures, helps to fundamentally improve or add innovative functions to products. This is, for instance, how self-cleaning and particularly resistant surfaces or surfaces that slide over each other almost friction-free are created.

The aim of the Nano-Cluster Bodensee is to provide innovation impulses to industrial companies in the Canton of Zurich and Eastern Switzerland, to interconnect regional companies and to put research results into industrial practice. The inter-cantonal project of the Confederation’s new regional policy is supported by the Euregio Bodensee Micro- and Nanotechnology Association and jointly financed by the cantons Zurich, Appenzell Ausserrhoden, Grisons, Schaffhausen, St. Gallen and the State Secretariat for Economic Affairs (SECO).

More specifically, the Cluster offers interactive focus groups, cooperation projects, industry platforms and implementation coaching to interested companies. Whereas, for instance, the focus groups carry out joint technology evaluations, the companies use the cooperation projects to set up concrete development collaborations. In many cases, these collaborations emerge from a focus group. The industry platforms strive to turn industry-specific challenges of technology transfer and knowledge-building in the region into competitive advantages. The implementation coaching provides experts from the Cluster to the companies on an ad hoc basis for specific challenges.

On average, more than five hundred company representatives per year seek information about the innovation potential of nanotechnology at the specialised events of the Nano-Cluster Bodensee. More than one hundred companies are actively engaged in concrete development collaborations and continuing education seminars. Roughly forty per cent of the companies active in the Cluster are based in the Canton of Zurich.

Important activities in the nanotech cluster

The interdisciplinary and practice-focused events of the Nano-Cluster Bodensee create thematic points of entry for the specific industrial application of research results. They also promote the networking of experts and practitioners. Focal topics of the events held in the Canton of Zurich:

2011

Creative use of nano-materials: multifunctional materials for technology and design
Creative use of nano-materials: multifunctional materials for architecture, interior and design
Dialogue on nano-safe textiles

2012

Smart polymers: decisively reacting surfaces

2013

Technology briefing: nano-materials in facade coatings

Numerous preparatory workshops were held in parallel, as well as project meetings within the scope of the technology transfer cooperation projects.
Temperature-resistant coating through collaboration

The Nano-Cluster Bodensee grants small and medium-size companies access to nanotechnology, as Dr. Wolfgang Auwärter, former Chairman of the Board of Directors of Kuhn Rikon AG, explains. The family enterprise develops, manufactures and sells high-quality cookware.

Why is Kuhn Rikon AG involved in the Nano-Cluster Bodensee?

The fast-paced technological development of induction cookers forces us to equip our high-quality cookware and frying pans with new, temperature-resistant coatings. Our Kuhn Rikon employees are specialists in forming and processing metal. However, non-stick coatings require a high level of expertise in chemistry and surface structuring. As a relatively small company, we do not have that know-how, and our established suppliers were unable to provide us with any useful solutions. That is why we were obliged to look for new forms of collaboration.

How did the development collaboration come about?

Given our situation, the Nano-Cluster Bodensee as the organiser of a network brought in the ideal partners, that is to say: on the one hand, companies facing a similar challenge with their products in other markets and, on the other hand, companies in upstream value creation stages with complementary know-how. Together with our research partner, the Institute of Materials and Process Engineering (IMPE) of the Zurich University of Applied Sciences (ZHAW), a very powerful and interdisciplinary development collaboration was thus established. Jointly, appropriate approaches from research were examined and subsequently used to develop a promising technology.

Did the commitment pay off for Kuhn Rikon?

The collaboration with our various project partners with their special skills was very stimulating, and the project-progress meetings were highly motivating for me personally. The pre-defined development goals were all met on time. At this point, we and our partners domiciled in the greater area of Zurich–Eastern Switzerland are in the middle of transferring the project results to the industrial production process. As for the future, we will continue to benefit from the geographical proximity to their know-how.

What are the most important lessons learnt from this collaboration?

For interdisciplinary development projects that go beyond the core competencies in one’s own company I consider the collaboration with similar companies that face comparable challenges and the support provided by research institutes to be a good solution. The partners can be upstream or downstream in the value creation chain. Such a development collaboration can optimise risk and expenditure factors, and also improve the success rate.
Opportunities and challenges

Small but forward-looking: the areas in which nanotechnology is applied are steadily increasing, and the potential for commercialisation is considerable.

For technology-focused companies, the miniaturisation trend and the high pressure for innovation in today’s world present a daily challenge. The Canton of Zurich with its unique blend of university and private research and its high-quality industrial base offers companies good conditions to commercialise new technologies. In this respect, the cooperation platforms of the Nano-Cluster Bodensee make a significant contribution in the field of nanotechnology.

As well as researchers and developers, the implementation of technological impetus from research also calls for well-educated staff in industrial areas of work, such as production, quality assurance, marketing and sales. Here, too, the opportunities for networking and mutual sharing of experience in the Nano-Cluster Bodensee constitute an important element for a dynamic and sustainable development of industry in Zurich.

Contacts

Nano-Cluster Bodensee
Jörg Güttinger
CEO, Nano-Cluster Bodensee
joerg.guettinger@ncb.ch

Canton of Zurich
Danielle Spichiger
Project Manager
Office for Economy and Labour – AWA
Division of Business and Economic Development
danielle.spichiger@vd.zh.ch

Additional information

Nano-Cluster Bodensee
www.ncb.ch
Cooperation to promote cleantech innovations

In the heterogeneous cleantech cluster, which is defined as a cluster in its own right, companies are forming with the support of various national and regional initiatives.

The following sub-segments are attributed to the cleantech cluster:

- Energy efficiency
- Renewable energy
- Circular economy
- Mobility
- Raw material efficiency
- Other cleantech areas
- Water resources management
Cleantech — 53

Cleantech is a highly heterogeneous sector. Many companies attributed to it belong to industries such as construction, energy and transport, and only some of their lines of business fall into the cleantech field. Therefore, a clear allocation to and identification within the cluster is not that simple. What characterises the members of the Swiss-cleantech Association is that they see themselves as cleantech companies – whereas other companies, albeit with a similar structure and prerequisites, do not feel they belong for one reason or another, and thus do not present themselves under this ‘brand’.

The Statistical Office Canton of Zurich analysed the cleantech cluster. According to the statistics on enterprise structure, 23,200 employees work in almost 3,000 places of employment. Converted into full-time equivalents, this amounts to 20,800 jobs. With a gross value added of 2.9 billion Swiss francs, it accounts for approximately 2.4 per cent of the Canton of Zurich’s gross value added. These figures are set against the fact that the potential is still significantly higher in some areas of cleantech. Especially Zurich’s vibrant and innovative spin-off environment in the field of technology promises a dynamic future development.

The activities of the Division of Business and Economic Development are in keeping with the resources available and the large number of players and activities in this very varied field. At federal level, the framework is defined by the Cleantech Masterplan and the Energy Strategy 2050. On a regional level, the Zurich Green Region established by the Zurich Metropolitan Area Association provides a vehicle for inter-cantonal activities. In the Canton of Zurich, the enforcement of environmental matters resides with the Building Department which is also where the specialised skills and support (especially in the field of energy) are concentrated.

Together with potent partners, such as Cleantech Switzerland, swisscleantech Association, energie-cluster.ch, the cantonal industry and trade association, Swiss Energy Agency for Industry (EnAW), Climate-KIC, WWEA of the Canton of Zurich (Office of Waste, Water, Energy and Air) as well as companies, the Division of Business and Economic Development strives to pool forces and build on strengths.

Especially Zurich’s vibrant spin-off environment in the field of technology promises a dynamic development.

Important activities in the cleantech cluster

2011

Major events
The Division of Business and Economic Development participates in the international PCF World Forum (Carbon Footprint) in Rüschlikon and in the ‘Tag der Sonne’ (Solar Day) in Schlieren.

Online videos
Four films are produced for the website of the Division of Business and Economic Development. The films feature exemplary companies and organisations in the Canton of Zurich: the ETH spin-off company GreenTEG, the cleantech pioneer and multi award-winning Ernst Schweizer AG, the Club of Rome based in Winterthur which is internationally renowned for sustainability, and the waste incineration plant KEZO in Hinwil with its urban mining initiative to retrieve raw materials from incineration residues (e.g. precious metals).

2012

Presence at trade fair
Presentation of the Cleantech Cluster at the federal booth at the Cleantech City Cluster Trade Fair 2012 in Bern.

New incubator
Opening of the cleantech and ICT incubator BlueLion in May 2012.

2013

Press article
On behalf of the Division of Business and Economic Development of the Canton of Zurich, the Statistical Office Canton of Zurich examines the industry structure of cleantech. Jointly with the Division of Business and Economic Development, the results are presented in an article on the significance of Zurich’s cleantech sector published in the TECHNO-PARK® Allianz journal ‘LEADER’.
Recurring activities

**Participation and presence Blue-Tech**
In 2011 and 2012, renewed participation of the Division of Business and Economic Development as a partner in Blue-Tech Winterthur. In 2011, the Division shares a booth in the forum with the Climate-KIC of the Federal Institute of Technology (ETH). In 2012, the Zurich Green Region utilises the entire infrastructure of the large casino hall for half a day to host the event ‘Energiestadt’ (Energy Town).

**Supporting the newtechClub**
By virtue of a performance agreement, the newtech-Club that promotes sustainable energy and building technologies is supported financially between 2010 and 2012. Various events are held in 2011 and 2012. As the companies are based in the same location, a focus is successfully set on building technology. Other topics prove to be more difficult: thus, the public reception of the co-organised ‘Tag der Sonne’ (Solar Day) that focuses on mobility is modest.

**Metropolitan Area Association**

**Project Zurich Green Region**
Zurich Green Region is launched by the Metropolitan Area Association Zurich in 2012. The project management resides with the Office for Economic Development of the City of Zurich and the Division of Business and Economic Development of the Canton of Zurich. The aim is to strengthen the locational qualities of the metropolitan area in the field of cleantech. For that purpose, collaborations are entered with the Swiss Energy Agency for Industry (EnAW) and the organisation/label ‘Energiestadt’ (Energy Town). For interested companies, the Metropolitan Area Association pays fifty per cent of their first annual fee for the SME model of EnAW. This is an easy way for companies to identify their energy efficiency potential and maximise it by means of economic measures. Through the collaboration with ‘Energiestadt’ various member municipalities have applied for certification as sustainable energy towns, thus bringing the metropolitan region close to its target by which half of the member municipalities are to become energy towns. The programme is launched with a kick-off event on 14th September 2012 within the framework of Blue-Tech in Winterthur. There are sixty participants.

**Energy transition events**
An event series is conducted on the subject of ‘Energy transition – benefits for the regional economy’. Together with the regional economic development offices, the regional industry and trade association, the EnAW and the Office of Waste, Water, Energy and Air, the opportunities of the energy transition are discussed in the respective regions. The aim is to provide low-threshold information to regional and local industry. To that end, simple and cost-effective measures to save energy and reduce CO₂ emissions, as well as ways to reduce costs, are presented. The series starts on 5th June 2012 in Winterthur. The events held in Winterthur, Wil, Marthalen and Uetikon are attended by between fifty and ninety participants and receive regional media coverage. The feedback from the participants is very positive.
A lively building set for new building technologies

Together with other research partners, industry representatives and the public sector, the research institute of the Swiss Federal Institute of Technology (ETH), Empa, is conducting an ambitious project. Under the charge of Reto Largo, Director of NEST, a flexible and modular demonstration and innovation platform is being established on the campus in Dübendorf where industry and science are jointly developing and testing sustainable materials, components and systems for the construction industry. This is being done under real-world conditions because, just like any normal building, the research building set is lived and worked in.

Buildings generally figure among the biggest energy guzzlers. In Switzerland, the approximately two million residential, commercial and public buildings account for about half of the entire energy consumption and for forty per cent of CO₂ emissions. Various studies have shown that this consumption could be halved by 2015 – but only theoretically, given that most buildings have a long life span. In many cases, that is what thwarts new concepts and ideas – especially in the field of sustainability. The high investment costs which need to be amortised over such a long period impede the readiness to assume risks.

Swifter market implementation
Empa wants to solve this dilemma with the research project NEST (Next Evolution in Sustainable Building
Technologies). With that in mind, the interdisciplinary research and service institution for material sciences and technology development within the ETH Domain is creating an innovative demonstration and innovation platform in the heart of its campus in Dübendorf, to develop and test seminal technologies and systems for the construction industry.

The aim is to provide optimal conditions for innovative companies so that they can implement their ideas, as Reto Largo, Director of NEST, explains: ‘Companies can develop their products here with considerably lower investments and at a very small risk, and they can test them under real-world conditions. They are also given access to a well-developed network with players from science, industry and politics.’

**Comparing completely different concepts**
The special feature of the building set is its flexible structure: the only fixed part is the central backbone which comprises the bearing structures and secures the supply of water, electricity and communication means. Any desired research modules can be inserted into this four-storey reinforced concrete frame, be it one-storey constructions, two-storey buildings or entire floors using different construction methods.

The individual modular elements can be designed fully independently. This is to enable a comparison between visionary and pragmatic ideas, modernist and traditional building concepts. For instance, highly automated, sensor-controlled rooms are set against counterparts in which exclusively natural materials are used and air conditioning is regulated passively.

**Inhabited innovation ecosystem**
NEST is to enable research and the further development on a ‘living object’. Mixed utilisation with small and large offices, conference rooms, guest rooms and flats, such as for students, scientists, industry representatives or other visitors, are envisaged for this purpose. ‘This is of central importance, because high user acceptance of new technologies can only be ensured, and their further development accelerated, if we have immediate feedback from the inhabitants’, Largo explains.

Currently, the project is to encompass seven focus areas, which are: ‘Modular Construction’, ‘Lightweight Construction’, ‘Glass Architecture’, ‘Natural Building’, ‘Digital Living’, ‘Office of the Future’ and ‘Solar Fitness and Wellness’. The latter area is directed at domains of fitness and wellness that do without fossil energy, but use sun and physical exercise to generate power. All focus areas are put out to international tender and implemented with the most innovative working groups. ‘The teams are set up on an interdisciplinary basis and include a

**Growing start-up scene**
Fourteen companies in the field of energy & greentech are listed in the Swiss Start-up Monitor for the Canton of Zurich. This corresponds to twenty-one per cent of the Swiss start-up companies in this field or, put differently, six per cent of all start-ups in the Canton of Zurich. These cleantech start-ups in the Canton of Zurich are located either in the City of Zurich or in Winterthur, which is not untypical for start-up or cleantech companies.

In 2013, a total of six cleantech companies in Zurich figure among the Top 100 companies of the Swiss start-up platform startup.ch: Climeworks ranks in twenty-sixth place, Ampard in forty-second place, GreenTEG in fifty-fifth place, Elmove in seventy-second place and UrbanFarmers in eighty-second place.
wide variety of industries. This is one of the main strengths of NEST, because the creation of a functioning innovation ecosystem requires a useful and sensible combination of existing as well as new value chains’, Largo explains.

**International, cross-sectoral networks**

From his work experience so far, Largo knows which conditions promote innovation. For three years, Largo served as Director of Initiative Climate-KIC Switzerland, the goal of which is to mitigate climate change and to promote adaptation strategies through innovation and entrepreneurship: ‘Besides a holistic view of innovation cycles and innovation processes, we have already generated ideas for NEST and obtained international partners from the worldwide Climate-KIC network.’

NEST will start with four research and innovation units. One of these is City Lifting which is being carried out by EPF Lausanne in collaboration with Bauart Architects. The initial project of the focus area ‘Modular Construction’ presents a concept for the modular roof extension on existing buildings using room-high, prefabricated structural elements. The HiLo unit, under the charge of two ETH research groups with foreign industrial partners, is the first NEST housing unit that uses lightweight construction. The two-storey penthouse presents a completely new structural solution which is to someday serve as living and working space for academic guests. The other two units are: a housing unit built by Empa itself using a natural construction method with wood as the central resource, and the office unit Meet2Create of the University of Lucerne which puts into practice its vision of a future and flexible working environment within the focus area ‘Office of the Future’.

**Long-term and flexible**

The first four units will be operational by the middle of 2015. Full operations with about twelve units are planned by 2019. Hence, as Largo emphasises, NEST is designed as a long-term project: ‘The platform is to last at least twenty years. During this time, the units will be continuously replaced so that the entire construction industry will be able to benefit from a swift adaptation of developed technologies and systems.’

In addition to the defined focus areas, the project will also address various cross-cutting themes. On the one hand, NEST has an intelligent energy supply. Thermal and electrical energy is temporarily stored in a central hub, converted and redistributed to the different modules. The surplus energy is partly used by the ‘mobility demonstrator’ to refuel electric and fuel cells as well as gas-powered vehicles. On the other hand, NEST also serves as a demonstration environment for the ETH Institute Eawag, the world leader in the field of water research. The aim is to test the water supply and water disposal on a real object and to put to test new recycling variants for so-called grey and black water generated by households – e.g. when taking a shower, washing up or using the toilet – under real conditions.

**Private and public sector team up**

Empa has ownership of NEST. It also ensures overall funding, is in charge of communications, has operational control over the project and is the leading house together with Eawag. Other academic support is currently provided by ETH Zurich, EPFL and the University of Lucerne. Given that the modular platform is set up as a public-private partnership, the total costs for construction and operations are borne by the participating research institutes, companies and the public sector. A substantial contribution comes from the Canton of Zurich. Largo sums up the advantages for Zurich as follows: ‘We support the energy policy of the Canton of Zurich for resource- and energy-efficient construction and enhance the national and international appeal of the location.’
The entire Glatttal an innovation area

With this ambitious project, Empa is yet again proving its bridge-building role between science and industry. Together with its industrial partners, it is fulfilling its mission to transform research results into marketable innovations. Indeed, it is very possible that the innovative strength of Empa, which was founded in 1880 as the ‘Institution for the Testing of Building Materials’, will be further enhanced. A national innovation park is to be established on the premises of the Dübendorf airfield, still used today for military purposes, where universities, scientific institutions and companies shall jointly research future-relevant issues. ‘The Empa-Eawag campus is the initial cornerstone for the planned innovation park. NEST will undisputedly assume a flagship role in this respect and also continue to promote the vision of making the entire Glatttal into an innovation area’, Largo is convinced.

More information: nest.empa.ch
Opportunities and challenges

Although cleantech in Switzerland is well-positioned with a broad knowledge base and an increasing number of patent applications, its international significance is decreasing. Cleantech plays a pivotal role for future energy policy.

Since 2010, the Confederation has been conducting analyses on the position of cleantech in Switzerland and has specified where there is need for action. According to these analyses, the cleantech sector is well positioned in Switzerland. There is a broad knowledge base and a high level of specialisation. The number of cleantech patent applications is also increasing. However, Switzerland’s share of cleantech patents worldwide has dropped slightly. Export development is similar: cleantech exports are increasing, but less so than the exports of the Swiss economy in general. Furthermore, Switzerland’s share of the world cleantech market is declining. In recent years, the international competitors have caught up with or even outpaced Switzerland in some sub-sectors. Switzerland is only able to benefit to a limited extent from the global growth momentum of the sector. However, the bottom line is that the cleantech export trade is still well-positioned.

The action plan ‘Grüne Wirtschaft’ (Green Economy) adopted in 2013 and the Message on the Energy Strategy 2050 of the federal government promise additional momentum. However, it must be said that the Energy Strategy, in particular, harbours considerable potential for political conflict. The consequences of the federal government decision are far-reaching and require a successive restructuring of the entire Swiss energy system up to the year 2050. The Federal Council is basing its strategy primarily on a consistent exploitation of the existing energy efficiency potentials and, secondarily, on a balanced utilisation of available hydropower and the potential offered by renewable energy sources. In a second stage the existing promotion system is to be replaced with a steering mechanism.

In November 2013, the Government Council of the Canton of Zurich presented its position in the Energy Planning Report 2013 (‘Energieplanungsbericht 2013’). The Council wants to consistently pursue the adopted path towards a more sustainable use of energy. As well as the aspect of environmental soundness, a safe and cost-effective energy supply remains essential.

Contacts

**Canton of Zurich**
Beat Rhyner, Project Manager
Office for Economy and Labour – AWA
Division of Business and Economic Development
beat.rhyner@vd.zh.ch

**City of Winterthur**
Michael Domeisen, Director
Location Promotion Winterthur Region
domeisen@standort-winterthur.ch

**City of Zurich**
David Weber, Project Manager
Office for Economic Development
david.weber@zuerich.ch

Additional information

www.location.zh.ch/cluster-en
www.metropolitanraum-zuerich.ch
www.standort-winterthur.ch
International service providers and suppliers

The Zurich aerospace industry is characterised by service companies in the vicinity of the airport. Building on the comprehensive knowledge acquired from the European spaceflight programmes, the Swiss spaceflight industry has established itself globally as a supplier of subsystems.

The aerospace cluster consists of the following sub-segments:
- Aviation
- Spaceflight
- Satellite navigation
Besides aviation and spaceflight, the aerospace industry also includes the sub-segment satellite navigation. Satellite navigation is an offshoot of the spaceflight industry and is becoming more and more important. As a typical cross-disciplinary field, it opens up a growing number of markets in other economic fields which are in addition to the original aerospace applications, such as transport, logistics, location finding or protection of buildings.

The outstanding economic significance of Zurich Airport is a determining factor for the cluster. However, the cluster’s activities stretch far beyond the airport and the services within that complex. Swiss industrial companies and research teams have made a name for themselves, notably in niche areas where precision and reliability within the meaning of zero error tolerance play a decisive role.

Given that, due to the international orientation and interconnectedness of the industry, a regional delineation is not meaningful, the Business and Economic Development Division of the Canton of Zurich has turned the task of promoting the cluster over to the Swiss aerospace cluster. This industry network for SMEs focuses on the key markets of the industry on a national level.

The aerospace industry in Zurich

There are approximately 240 aerospace companies based in the Canton of Zurich. As such, Zurich is the canton with the largest number of aviation and spaceflight companies in Switzerland. The companies include service providers, suppliers as well as institutions for scientific research, education and further education. The above-average representation of service companies, namely more than eighty per cent, is primarily due to Zurich Airport and its international hub infrastructure.

In autumn 2011, the Swiss aerospace cluster performed systematic analyses of the Swiss market with the aim of improving the data set. However, the data on which the analyses are based merely encompasses about twenty per cent of the almost 530 Swiss aerospace companies and organisations and is thus only partially representative. All of the important companies are, however, included. Industry, manufacturing and service companies as well as organisations, institutions and associations were all taken into account.

According to the survey, the Swiss aerospace industry is composed as follows: twenty-five per cent are service companies, twenty per cent are manufacturing companies of which most are suppliers to the international aviation and spaceflight industry. Fifteen per cent are airfield operators, airlines and aircraft providers, roughly ten per cent are scientific institutions that conduct research in this field and provide training and further education. A further ten per cent are various stakeholders engaged in aviation and spaceflight.

The Swiss spaceflight industry

Switzerland does not have its own spaceflight programme. But from the outset, as a founding member of ESA (European Space Agency), it has played a decisive role in shaping the European spaceflight activities and has also participated in many programmes. Indeed, Swiss technology was already on board the first European satellite ESRO-1. Furthermore, Switzerland contributed the only non-American experiment to the first lunar landing in 1969 with a solar sail to analyse the solar wind. Today, Switzerland is ESA’s eighth-largest financial contributor with approximately 150 million Swiss francs per year, and contributes both scientific projects and technological equipment to the programmes. Switzerland’s most well-known spaceflight representatives are no doubt Claude Nicollier, the only Swiss astronaut to date, RUAG Aerospace and maxon motor based in Sachseln, responsible, inter alia, for the motor of the Mars rover Unity which has been running for over ten years.

In terms of revenue, the focus of the Swiss spaceflight industry is on the development and construction of subsystems. In this respect, the product portfolio encompasses a wide spectrum and includes payload fairings, structures, optical, mechanical and electronic assembly units, scientific instruments and ground equipment. Thanks to the extensive expertise and technologies acquired by the Swiss space industry within the scope of the ESA programmes, today’s companies are also very successful in the field of commercial spaceflight. Thus, they supply various subsystems for the European launcher programme Ariane.

In total, the Swiss spaceflight companies generate an annual turnover of some two hundred million Swiss francs and employ approximately eight hundred persons of whom most have above-average qualifications. About half of the specialists employed in spaceflight have a university degree.

Swiss industrial companies and research teams have made a name for themselves in niche areas where zero error tolerance plays a decisive role.
Important activities in the aerospace cluster

The Division of Business and Economic Development has outsourced the cluster activities to the swiss aerospace cluster that resulted from the aviatikcluster.ch in 2010:

2011

Membership growth
In its second year, the swiss aerospace cluster increases its membership to forty-eight. Members of the cluster include universities, R&D institutions, service providers in the field of aviation and spaceflight, such as lawyers, insurances, consultants, as well as cantonal administrations, public services organisations, export promotion offices and manufacturing suppliers.

Formation of divisions
Divisions are set up for the following areas: liability and insurance, safety and security, aerospace suppliers, satellite navigation and spaceflight, science and education.

National and international networking
The cluster joins various national and international organisations akin to aerospace.

Industry structure analysis
The project to analyse the industry structure of the Swiss aerospace industry (‘Datenerhebung zur Analyse der Branchenstruktur der Schweizerischen Aerospacebranche’) is launched.

2012

Enhancing visibility and perception
Participation in major events with specialist content, such as the Lake Constance Forum and the annual meeting of the swiss aerospace cluster on 7th June, enhances public perception and serves to acquire members.

Cluster article
The journal ‘LEADER’ of the TECHNOPARK® Allianz (October) publishes an article about the cluster.

2013

Impact of Swiss aviation
The final report of the University of St. Gallen underlines the impact of Swiss aviation.

International meeting
The swiss aerospace cluster is the co-organiser of the 2nd Lake Constance Aerospace Meeting held in Friedrichshafen.

Science congress
The cluster participates in the 2nd Think Tank Science Congress in Stein am Rhein.

Supply Chain work group
The bilateral work group Aerospace Supply Chain is founded in collaboration with the aviation and spaceflight forum of Baden-Württemberg.

Legal counsel
The legal counsel division (liability and contract law) takes up work.

Promotion project North West Europe
The cluster participates in the Interreg IVB project ‘TransNetAero’ (Transnational Network of Aerospace Regions) which strives to promote the networking of SMEs in the aerospace industry in North West Europe.

Recurring activities

Participation in Galileo
The cluster represents Switzerland with an evaluation team (Federal Institute of Technology ETH, University of Applied Sciences Rapperswil HSR) at the European Satellite Navigation Competition ESNC, which is an innovation contest of the Galileo project.
‘Nowhere else in the world are there top employees as in Zurich’

Notwithstanding the high cost level in Switzerland, SR Technics manages to hold its ground in the extremely competitive market that defines the global aircraft maintenance business. For CEO André Wall, Zurich offers distinctive advantages within the company’s global location network, above all, with respect to motivation and the educational standard of employees.

Mr Wall, what is the significance of its Swiss origin for SR Technics?

André Wall: Aircraft maintenance contributes significantly to air traffic safety. In this context, Swiss quality and reliability are key selling points. They allow us to justify an hourly rate in the marketplace which is about ten per cent higher than our competitors’. Therefore, our approximately 2400 highly qualified and motivated employees in Switzerland are one of our most important differentiating factors.

The name SR Technics still bears something of Swissair. What is left of Swissair in your daily business operations?

Our roots are in an airline. As a subsidiary of Swissair, we benefitted from a fixed capacity utilisation for many years. Today, we have to prove our competitiveness on the world market as an independent provider of MRO (Maintenance, Repair, Overhaul) services. We also have to compete for Swiss, our largest and most important client, on a daily basis with competitive prices and innovative services. I think it is remarkable how SR Technics has accomplished the transformation from an airline subsidiary to an independent solutions provider in just a few years.

What are the main challenges for an independent provider in the global maintenance business?

The airlines are constantly looking for ways to reduce their costs. Of course we feel that quite directly. On top of that, in Europe, we are operating in a saturated market and observing a wave of consolidation. The trend towards younger fleets further reduces maintenance – and finally, the aircraft and engine manufacturers are increasingly entering the maintenance market.

How does SR Technics respond to these developments?

We had to accept that we are no longer competitive in the domain of purely standard offers, such as routine checks. Fewer and fewer customers are willing to pay a Swissness surcharge for such a service. That is why we creatively pursue new paths. Thanks to our experience of many years and the exceptional qualifications of our employees, we have been able to combine elements from logistics, finance, repairs, engineering and consulting intelligently into innovative, new solutions.

Do you have examples for this?

In the past, an airline would acquire many spare parts for each of their aircraft, which is very expensive. Today, we offer the availability as a flexible cost item by purchasing parts from our customers and leasing them back. At the same time, we guarantee our customers the constant availability of the spare parts for a fixed fee. By offering this service to several customers, we can achieve economies of scale as, on the whole, we need fewer parts in stock. In recent years, we have also developed new lines of business. Areas of growth for us are, for instance, the interior designing of VIP jets or aircraft and cabin modifications. Such bespoke solutions allow us to generate a greater value added than in the conventional maintenance business. Likewise, we can guarantee a higher
reliability for the parts repaired by us to our customers.

What role does Zurich play in the network of your locations?

For historical reasons, our largest location is at Zurich Airport. However, the rental costs for infrastructure and labour costs are comparatively high. Therefore, in order to retain jobs, we also have to operate at locations with a lower cost level. In Malta, for example, we serve Easy Jet, one of our largest customers. And we will be opening a new location in Malaysia in early 2014. Thanks to the mix of locations with different cost structures, we remain competitive overall. Further customer- and market-oriented global locations are not to be ruled out.

How do you rate the quality of training and education in Switzerland?

The dual education system is a clear strength of this country. We are currently training 180 apprentices in different professions, from aircraft mechanics and multi-skilled mechanics to lacquerers. This internal talent factory is absolutely crucial. Almost three quarters of our apprentices continue to work for us after completing their training. However, here too, we are striving for future internationalisation.

Do you benefit from the presence of the universities in Zurich?

Certainly. Particularly the concentrated know-how available in areas like logistics and supply chain, such as at the Chair for Logistics Management of Professor Wagner at the ETH Zurich. However, what I would like is for more individuals educated in Switzerland to be willing to work abroad. Ultimately, our current growth happens primarily at our international locations.

Do you depend on foreign specialists in Switzerland?

In principle, we need the best people, irrespective of where they are from. We are simply unable to fill many positions from the Swiss labour market alone. Therefore, the free movement of persons with EU countries is absolutely imperative for us. I currently see some deficits concerning work permits for third-country nationals.

What are the consequences of this?

We would, for instance, like to gain a foothold in the Russian market. However, in order to overcome linguistic and cultural hurdles and to develop customer-oriented solutions, it is essential that we are able to employ Russian specialists in Zurich. At present, that is not all that simple and all the more regrettable given that well-educated foreigners are very happy to come
to Zurich. The city is simply top notch. I have been here myself for seven years already, and I like it very much.

How could Zurich become even more attractive for SR Technics?

There are countries that treat aviation as a priority and promote it accordingly. I would welcome it if our government here would also engage in making the framework conditions even more attractive for us — for example, with lower infrastructure costs at Zurich Airport. For the aviation industry, there is no place in the world with better trained and more motivated people than in Zurich; at the same time, there is hardly a place with more costly framework conditions. That is why we should jointly do everything possible to secure these jobs in the long term.

Opportunities and challenges

The aerospace industry is characterised by a strong demand for highly qualified staff and a marked export orientation. By way of its practical implementation of research results and the knowledge that stems, inter alia, from the university institutions, the aerospace industry fits in extremely well with the cluster ecosystem of Zurich as a place for innovation.

The main challenges of the industry concern the suppliers and the service providers in equal measure. Both areas are, to a large degree, internationally active and thus depend heavily on the world market. As a result, currency risks can, inter alia, impact development in a way that is difficult to predict. The following challenges have been identified for the Swiss aerospace companies with respect to the coming years:

Global economy
The uncertain development of the global economy and the exchange rate movements involve risks that are difficult to predict.

Growing interconnectedness
The significance of national and international networking of companies is growing continuously.

Increasing market regulation
The increasing regulation of markets leads to trade barriers.

Growing cost pressure
The cost pressure in aviation and spaceflight will continue to increase.

More time and costs for certification
Approval and certification costs increase in tandem with market regulation.
Joint positioning
A stronger joint positioning of the Swiss aerospace industry is required in order to carry more weight internationally.

Noise and emission protection
Switzerland’s growing population density increases the demands on noise and emission control.

Paucity of skilled professionals
As a high-tech industry, aerospace is particularly affected by the increasing paucity of skilled professionals.

Too few university graduates
The Swiss universities are not turning out enough highly qualified experts for the aerospace employers.

Trend towards entire assembly units
The international aviation and spaceflight manufacturers increasingly want entire assembly units rather than individual components. To that end, the Swiss SMEs must pool their skills and expertise.

Higher liability requirements
Among other factors, the delivery of entire assembly units leads to a more extensive liability of the suppliers. Large sums must be deposited or insured, which brings the SMEs to the limits of their resources.

Bureaucratic obstacles
The flexibility demanded by the market is increasingly hampered by bureaucratic obstacles.
Contacts

**Center for Aviation Competence**
Andreas Wittmer  
Managing Director  
Center for Aviation Competence  
University of St. Gallen  
andreas.wittmer@unisg.ch

**Canton of Zurich**
Beat Rhyner  
Project Manager  
Office for Economy and Labour – AWA  
Division of Business and Economic Development  
beat.rhyner@vd.zh.ch

Additional information

www.swiss-aerospace-cluster.ch  
www.location.zh.ch/cluster-en  
www.cfac.ch  
www.sbf.admin.ch  
www.swissmem.ch  
www.aerosuisse.ch  
www.galileo-masters.ch
Creativity benefits the economy and quality of life

In recent years, the creative industries in Zurich have become a decisive economic factor. Among other attributes, they stand for convincing product designs and powerful marketing campaigns that create added value for other industries. The vibrant cultural scene enhances the quality of life in the Zurich area as a whole.

The following sub-segments are attributed to the creative industries cluster:

Music, books, art, films, radio, performing arts, design, architecture, advertising, software/game design, arts and crafts, the press/media and the recording industry.

The economic focus of people working in the creative industries is on the creation, production, distribution and/or medial dissemination of cultural/creative goods and services.
In recent years, a lively, internationally respected creative economy has evolved in Zurich that, today, contributes substantially to the economic success of the region as a whole. On the one hand, the creative industries support other sectors of Zurich’s economy in the global competition, inter alia, with convincing marketing campaigns and product designs. On the other hand, an increasing number of creative people and companies in the Zurich region are making a name for themselves in the marketplace with their own products and services.

Zurich, with its fifty museums and more than one hundred galleries, has ranked among the world’s leading art trading cities for quite some time. For several decades, the Zurich Opera House, the Zurich Schauspielhaus (theatre) and the Tonhalle Orchestra have enjoyed an outstanding international reputation. The same is true of the multifaceted activities and events initiated by the creative industries, including conferences, concerts and fairs, which often reverberate far beyond regional and national borders.

Since the first Swiss Cultural Industries Report was published in 2003, awareness of the economic significance of the cultural and creative industries sector has also steadily increased among broader sections of the population. Among other factors, this is thanks to the three Zurich Creative Industries Reports published by the City of Zurich, the Canton of Zurich and the Zurich University of the Arts (ZHdK) in 2005, 2008 and 2010 respectively.

Diversity promotes quality of life
But the decisive factor leading to enhanced awareness is the increasingly diverse ways in which this typical cross-section industry manifests itself. As well as enriching cultural life in the Zurich area, it is supplying the economy with convincing design solutions. Furthermore, in recent years, the growing number of architects, fashion designers, musicians, designers, craftspeople and other creative heads has, inter alia, helped to ensure that Zurich today can offer shopping experiences that are markedly distinct from the increasingly interchangeable shopping streets in the globalised metropolises.

Small-sized yet significant
In terms of the number of places of employment and jobs, Zurich’s creative economy is characterised by the sub-segments architecture, design, software/games, music, press/media and advertising. A marked feature is the small size of the creative industry companies, with an average of fewer than five employees per company. Given that, as a rule, creative people appreciate a lively and urban setting with short distances, approximately fifty per cent of the companies are concentrated in the city. The gross value added amounts to approximately five per cent of the overall economy, which is in the upper range compared with other metropolitan regions. This value is all the more impressive considering that creative industry players can generally only achieve a limited added value and only few business models are scalable in the way that information and communications technology (ICT) models are.

Important activities in the creative industries cluster
The following activities were carried out with the assistance of, or spearheaded by, the City and the Canton of Zurich:

2011
Function and Design
At the three-part conference series conducted with the Nano-Cluster Bodensee on the use of multifunc-
tional materials for technology and design, industry representatives and designers exchange ideas for cooperation opportunities.

**Werkerei Schwamendingen**
Opening of the Werkerei building in Zurich Schwamendingen that offers affordable space for creative heads and craftspeople. The City of Zurich takes over the full tenancy of the former head office of the Swiss automobile importer AMAG, for a scheduled temporary use of at least five years.

**Friends in the Supertanker**
At their annual meeting, the friends of the Creative Zurich Initiative are given a tour through the business lofts of the Supertanker building in Zurich’s Binz quarter.

**Creative Wednesday**
More than fifty people are in attendance at each of the four Creative Zurich Wednesday events which are dedicated to the following topics: ‘Big little city or little big city? What architecture do we need?’, ‘Film location Zurich: first take’, ‘Is Zurich a fashion hotspot?’ and ‘Social media: who benefits and how?’.

2012

**Zurich in London**
Within the scope of the London Olympic Games, Zurich has an opportunity to showcase itself at the Zurich Creative Day Symposium in the House of Switzerland. Zurich’s game scene also attracts attention at the 2012 Olympic Games with an exhibition.

**Creative Wednesday**
The Creative Zurich Wednesday dedicates its four well-attended events to the following topics: ‘The publishing industry and book market in a process of change’, ‘Creative Entrepreneurship: a new generation of entrepreneurs?’, ‘Digital culture & new business models’ and ‘Reciprocity of the creative industries & urban development’.

**Friends in the 25hours hotel**
The friends of the Creative Zurich Initiative complement their annual meeting with a tour through the newly opened 25hours hotel in Zurich West.

**Basislager in Altstetten**
The Basislager, a container village with affordable workspace, is moved from Zurich Binz to its new location in Zurich Altstetten.

**Creative Hub and Incubator**
The Division of Business and Economic Development supports the conceptual planning of the new Creative Hub platform (www.creativehub.ch) and of the Incubator for Cultural Entrepreneurship of the Zurich University of the Arts (ZHdK) that specialises in the creative industries.

**Noerd in a book**
The design and architecture journal ‘Hochparterre’ publishes a book about Noerd, a commercial building for creative heads in New Oerlikon.

2013

**Creative Wednesday**
‘Swiss design: how to make it an export item?’, ‘Industrial design: interdisciplinarity in pure culture’, ‘Landscape & architecture = landscape architecture?’ and ‘Serious games: the new learning experience?’ are the topics of the four Creative Zurich Wednesday events.

**Game scene in the world**
The Zurich game scene is showcased at the Game Development Conference in San Francisco, at the German Game Days in Berlin and at the Tokyo Game Show.

**Game scene in ‘EDGE’**
The British game magazine ‘EDGE’ draws international attention to Zurich’s pulsating game scene with a region-specific feature.

**Potential Winterthur**
The Division of Business and Economic Development supports a study of the Zurich University of Applied Sciences (ZHAW) that focuses on the potential of individual sub-segments of the creative industries in the Winterthur area.

**Website re-launch**
The new website creativezurich.ch has some additional sections: ‘Creative Mag’ reports about the latest news, exciting topics and surprising facts from Zurich’s creative industries. ‘Creative Profile’
Creative Industries — offers the opportunity to present projects, products and enterprises.

Sustainable effect
Within the framework of the legislative focus areas for 2011–2014, the City of Zurich sets the goal of strengthening Zurich’s identity as a cultural and creative industries city – from a city-internal and from an external perspective. On that note, the numerous appearances of Zurich’s creative scene in the international arena trigger new collaborations with art universities in Germany, the US and England. The panoply of activities will thus have an effect beyond the legislative period.

Recurring activities

Community building
Together with their partners, the Canton of Zurich’s Division of Business and Economic Development and the City of Zurich’s Office for Economic Development support networking within the cluster through participation in events, discussions, collaboration in workgroups, and responding to queries of resident companies and companies interested in moving to Zurich.

Zürich Film Office
The Division of Business and Economic Development, in partnership with Zürich Tourism and the City of Zurich, launches and operates the Zürich Film Office. This point of contact markets the film location Zurich and assists with questions concerning permits.

Design-Kreislauf
More than eighty shops and studios specialising in furniture, home accessories, jewellery, shoes and fashion in the city districts 4 and 5 participate in the annual open-door weekend and showcase their products and creations.

Designgut
The Division of Business and Economic Development supports the annual Swiss design exhibition for sustainable products in Winterthur.

Cool Shopping
The website cool-shopping.ch and the map show where to find trendy fashion and cool design in Zurich.

Blickfang
Every year, the international design fair for furniture, fashion and jewellery attracts more people to the Kongresshaus Zurich. In 2013, the fair welcomed more than 18 000 visitors.

Photography, architecture and graphics
The three exhibitions in the Maag Hall near the Hardbrücke train station provide a highly visible platform for local creative works.

Design from a cigarette vending machine
Since 2012, Designomat has been giving young designers the chance to present their work in mini-format to a broad public. The designs are sold for eight Swiss francs via restored cigarette vending machines.

Mode Suisse
Every year, the Mode Suisse showroom and shop offers young and established fashion designers the opportunity to present their work to fashion experts and fashionistas in Zurich and Geneva.

Design Prize Switzerland
Every two years, the Design Prize Switzerland selects and honours Switzerland’s best design achievements.
Young designers often lack the requisite know-how to convert their ideas into successful products. Two new entities want to close this gap. The Incubator of the Zurich University of the Arts (ZHdK) offers individual support to students with entrepreneurial ambitions. The Design and Technology Lab unites designers, engineers and industrial partners in joint projects.

Ultra-flat spectacles with temples as flexible as hair grips that can be folded with a single click. In recent years, this idea has won the Zurich-based company Strada del Sole several prizes. ‘Many factors have to fit if a good idea is to become a successful product’, says Sandra Kaufmann. The head of the specialisation course in ‘Industrial Design’ at the Zurich University of the Arts (ZHdK) who also contributed to Strada del Sole knows the challenges involved in setting up a company through her own experience.

‘A study programme in design primarily conveys the skills to develop ideas and to visualise them with aids such as model-making, 3D print or CAD’, Kaufmann explains. But industrial design is, in effect, just a small part of the whole. Additional prerequisites for transforming an idea into a successful start-up include marketing, distribution, finance, logistics, engineering and production. ‘It is important to link up with experts from other disciplines as early as possible’, Kaufmann emphasises.

For design start-ups, it is important to link up with experts from other disciplines as early as possible.

Connecting designers with engineers
A collaboration between the ZHdK Industrial Design and the Swiss Federal Institute of Technology Zurich (ETH) sets a different focus. The aim for the future is to bring design and engineering even closer together. ‘Successful products always manage to merge technology and design. However, so far, the educational paths of designers and engineers have only crossed partially’, notes Mirko Meboldt, Professor of Product Development and Engineering at the ETH Zurich. But the successful implementation of ideas calls for engineers with an awareness of the significance of design aspects – just as it requires designers with an understanding for the long process chains from a design to a finished product. Design, says Meboldt, should be understood as an integral part of the technical process.

The Design und Technology Lab Zurich founded by Nicole Kind, Sandra Kaufmann and Mirko Meboldt, and supported by the science foundation
Zurich is also a game city

An internationally renowned hub for simulation technologies and computer game development has emerged in Zurich within just a few years. This is due to the combination of cutting-edge research and inventive game designers. A game festival of several days’ duration will be held in Zurich for the first time in autumn 2014. It will offer the game scene an internationally visible stage.

A thriving scene of independent game developers, larger game studios and leading research institutions, such as in the computer graphics field, is centred in and around Zurich. So much so that the prestigious English game magazine ‘EDGE’ recently dedicated a large special to this still young phenomenon. ‘The most important drivers are Zurich’s long-standing tradition in research and design’, says Dominik Marosi in an attempt to explain the phenomenon. Marosi is the organiser of the ‘Ludicious, Zürich Game Festival’ which will be held in September 2014 and will offer the game scene an internationally visible stage.

**Entertainment giant Disney conducts research in Zurich**

Comprehensive expertise in areas such as rendering and animation is particularly concentrated at the ETH Zurich. In 2009, the US entertainment giant Walt Disney, to which the animation studio Pixar belongs, established the research institution Disney Research Zurich as part of a cooperation with the Computer Graphics Laboratory ETH Zurich. Under the direction of Markus Gross, aspects such as the boundaries of ‘3D Rendering’ and ‘Augmented Reality’ are being explored. The most prominent company to emerge from the fertile University soil is Novodex. The developer of a real-time physics engine was later taken over by the US graphics hardware corporation Nvidia.
But technology alone does not produce enthralling games. Considerable design expertise is also required. In the ‘Game Design’ specialisation course established by the Zurich University of the Arts (ZHdK) some ten years ago, students learn the tools necessary to cover all design and technical aspects of game development. Game designers who studied here, such as Mike Rickenbach, are no longer only enrapturing the indie game scene with their creative concepts. Rickenbach’s creations, which include ‘Mirage’ or ‘Krautscape’, have also earned numerous nominations and prizes at festivals in San Francisco, Tokyo and Berlin.

**Commercial success is possible**

‘In recent years, game studios have sprung up in Zurich that also boast an international appeal. They form the third pillar of the Zurich game cluster,’ Marosi explains. Giants Software, whose creators are ZHdK trained game designers, is one of them. So far, the greatest success of the Giants Software team is a farming simulator which has sold more than four million times and even been translated into Chinese, Japanese and Russian. Among other game developers, Bitforge from Zurich’s trendy ‘Kreis 4’ district is making a name for itself with game apps for mobile phones and tablets,

‘Giants Software has proven that commercial success is possible in Zurich’, Marosi emphasises. According to Marosi, the greater Zurich area provides all the ingredients for such success. A case in point is the ‘Call for Projects: Swiss Games’, supported by Pro Helvetia (Swiss Arts Council), which is a promotional instrument available for prototype development.

However, in many instances, game developers still fail when it comes to the rapid filling of a product niche. On the one hand, this is because venture capital providers still accord little attention to the game industry. On the other hand, finding an international distributor and generating sufficiently widespread publicity for a product is no easy feat.

**Ludicious, Zürich Game Festival: a meeting point for different players**

Marosi is thus convinced that the game development scene needs an additional catalyst to promote further growth: ‘With the topics finance and distribution, our game festival will address two central themes for the local game industry’, the organiser explains. To that end, the event wants to bring together the various players, including publishers, investors and potential employers, with game talents and young companies.
Opportunities and challenges

Increase visibility, promote entrepreneurial thinking and networking, and facilitate the funding of innovative endeavours: these are the challenges faced by the creative industries cluster.

The aspect of small size that characterises the creative industries in Zurich has both a positive and a negative side to it. On the one hand, it provides fertile soil on which multifaceted ideas can grow unimpeded and fast. On the other hand, it limits national and international visibility. Individually speaking, most micro-enterprises have very limited means to draw attention to their work. This is where the cluster network can provide valuable support and also improve the market opportunities of these small enterprises with high-visibility activities. In future, if acceptance by the general public is to be increased, the cluster network must, in particular, make sure that the unequivocally positive contribution of the creative industries is made more tangible and becomes something that can be experienced more.

On the part of the creative industry players, there is still a deficit in terms of entrepreneurial thinking. This aspect must be weighted more strongly in training and education. That said, new offers, such as the Creative Hub and the Incubator for Cultural Entrepreneurship of the Zurich University of the Arts (ZHdK), are likely to specifically address this aspect.

The situation is similar in terms of building a web between engineering and design. If these two prime disciplines in Zurich are to thrive and benefit from one another, platforms are required that bring them together. To that end, the approach pursued by the Design and Technology Lab of the Swiss Federal Institute of Technology (ETH) and the Zurich University of the Arts (ZHdK) is very encouraging.

Zurich offers promising potential for success in niche areas, such as games, new media or design. These areas need to be bolstered in a targeted fashion and developed with new activities, such as the Game Festival which will be held in Zurich for the first time in September 2014.

The strained real estate market has a dampening effect on growth in the creative industries. People working in the creative industries sector generally have limited financial means and thus depend on inexpensive premises, such as the space offered by the projects ‘Basislager’ or ‘Werkerei Schwamendingen’. Empty offices, made available for temporary use, could provide an opportunity in this respect.

Finally, attention must be given to the question of finance, which often presents an obstacle for creative endeavours. The crowdfunding platforms wemakeit.ch and 100-days.net are proof that creative projects – just like implementing a book or a dance event – can be realised by way of broad-based financing. Oftentimes, the development of a single project provides the basis for setting up a company.
Discussions about the creative cluster are taking place both at a regional (Cluster Institute of the EU www.clusterobservatory.eu) and at a local level (Creative Cities, Landry). Although creative clusters are defined differently depending on their context, four frequently cited synthesising elements can nonetheless be discerned (de Propris 2008, NESTA 2010):

1. A community of ‘creative people’ who share an interest in novelty but not necessarily in the same subject.

2. A catalysing place where people, relationships, ideas and talents can spark each other.

3. An environment that offers diversity, stimuli and freedom of expression.

4. A dense, open and ever-changing network of inter-personal exchanges that nurture individuals’ uniqueness and identity.

The terms creative collocation and spillovers are of central interest in the current discussions. The related questions are: Are there sub-segments within the creative industries that develop in spatial proximity due to their skills profiles or their markets? And are effects discernible with which the creative industries impact other parts of the economy?

According to a recent British study, there appear to be remarkable linkages between the creative industries and knowledge-intensive business services (NESTA, 2010). Since these two groups are also prominently represented in Zurich, it would be worth examining these relationships in the local context more closely.

**Creative Economy Report**

In its Creative Economy Report (www.creativeeconomy.ch) the ZHdK (www.zhdk.ch) addresses the abovementioned aspects on two levels: on the one hand, for the first time for Switzerland, creative industry representatives who perform their work outside the more typical sub-segments of the cluster are statistically recorded. On the other hand, besides the creative industries, additional industries (collocated industries) are included at model level.

The ZHdK Report thus draws attention to new dimensions of coordination processes which have evolved from the current way of looking at things and the complexity this involves. In that respect, the ‘curator’ plays a central role as a broker, enabler and producer: the curator creates an overview where the once linear value-added chains are broken open, and ensures the compatibility of different motivational and action patterns between the creative players and the collocated industries.

*Text: Christoph Weckerle, Zurich University of the Arts (ZHdK), Director of the Department of Cultural Analysis*
Contacts

Canton of Zurich
Anita Martinecz Fehér
Project Manager
Office for Economy and Labour – AWA
Division of Business and Economic Development
anita.martinecz@vd.zh.ch

City of Zurich
Rahel Kamber
Project Manager
Office for Economic Development
rahel.kamber@zuerich.ch

Additional information

Zurich’s Creative Industries Reports
www.creativezurich.ch
www.location.zh.ch/cluster-en
www.stadt-zuerich.ch/wirtschaft
Growth in guest numbers despite the difficult economic climate

The Zurich region is en route to the top league of Europe’s destination brands. With a share of roughly fifteen per cent of overnight stays, Zurich is Switzerland’s largest tourist destination. The regional economy as a whole is benefitting from this positive development, given that visiting guests spend three out of four Swiss francs outside tourism.

The following sub-segments are attributed to the tourism cluster:
- Gastronomy
- Hotel industry/Accommodation
- Other service providers relevant to tourism (inter alia, leisure time activities, meetings and conventions, tourism organisations)
In 2011, the tourist region Zurich achieved a new record of 5.2 million overnight stays, with only a marginal increase in the number of guest rooms. The positive development in the Zurich tourist region – which also includes the regions Baden, Winterthur, Zug, Lake Zurich and Zurich – was also maintained in 2012 and 2013, with more than 5.3 million overnight stays in 2012 and close to 5.5 million in 2013 (of which 2.8 million were in the City of Zurich and one million at Zurich Airport). With a share of fifteen per cent of all overnight stays, Zurich is clearly the leading tourist region in Switzerland.

The greatest challenge for Swiss tourism in recent years has been the economic environment, notably the financial crisis, the debt crisis and the economic downturn of the global economy, coupled with the strong Swiss franc linked to these developments.

**Strong in growth and future markets**

In 2013, guests from Switzerland accounted for the largest share of overnight stays in the Zurich region, followed by tourists from Germany, the US and the United Kingdom. In terms of visitors from abroad, China already figures in fourth place. The largest growth was recorded for tourists from the growth and future markets Brazil, Russia, India and China as well as from the Gulf States. The pleasing results of recent years are not least due to a balanced mix of visitors. In addition to traditionally important markets, such as Germany and the United Kingdom, Zürich Tourism – as the umbrella organisation responsible for destination marketing in the city and region of Zurich – has been working for several years on the aforementioned growth and future markets with a focused, active and targeted approach. These new markets have contributed significantly to the overall positive development and were well able to compensate the turnover losses in the Eurozone countries.

But the location itself with direct access to the international Zurich Airport, which was honoured at the 2013 World Travel Awards as the world’s third-best airport, also makes a significant contribution to the positive development of the destination. New flight connections from important growth regions such as Asia or the Gulf States have a direct impact on the travel behaviour of these visitors and, as such, on the tourist region.

In the field of meetings and conventions, Germany, the United Kingdom and the United States have proven to be particularly significant markets in recent years. Thanks to various international activities, Zürich Tourism has successfully maintained its position as the first contact point for meeting and convention enquiries.

**Value added for all industries**

The demand from tourism triggers an annual turnover of more than four billion Swiss francs in the Canton of Zurich, generating an annual tourism value added of 3.2 billion Swiss francs. But a number of other industries also benefit from tourism given that, on average, guests spend three out of four Swiss francs outside the actual tourist sector.

In 2012, incoming tourism in the Canton of Zurich led to a tax income on all three levels (federal, cantonal, communal) of approximately five hundred million Swiss francs, including revenues from value added tax. Of that amount, an annual tax revenue of 150 million Swiss francs was attributable to the Canton of Zurich. What is more, tourism in the Canton of Zurich secures some 28 000 jobs and a further 12 000 depend indirectly on it. This corresponds to roughly five per cent of all employees in the Canton of Zurich.

**Destination marketing for the city and region of Zurich**

Zürich Tourism is responsible for the destination marketing and, hence, for the brand development of the city and region of Zurich as a multifaceted tourist destination. Zürich Tourism has more than sixty employees and is active in the following markets: Switzerland, Germany, North America, the United Kingdom, Italy, Austria, France, Spain, Japan, as well as in the growth and future markets Brazil, Russia, India, China, the Gulf States and Southeast Asia. Zurich as a destination has plenty to offer for leisure guests and business travellers alike, including nature, culture, art, shopping and a broad culinary spectrum – all of which are within close distance.

**Powerful umbrella brand**

Within the meaning of pooling resources and of an integrated location and destination marketing, the Canton of Zurich, the City of Zurich and Zürich Tourism have been operating under the umbrella brand ‘Zürich – World Class. Swiss Made.’ since 2011. This coordinated approach has already been applied abroad on various occasions, including at the 2012 Summer Olympics in London.
In 2012, Zürich Tourism and Zürichsee (Lake Zurich) Tourism agreed to pool all marketing activities in the Lake Zurich tourist area under the umbrella brand Zürich Tourism. With this step, Zürich Tourism has assumed a pioneer role in destination building.

### Largely privately funded promotion of tourism

In 2012, the total budget of Zürich Tourism amounted to 17.3 million Swiss francs of which sixty per cent was invested in marketing. The commercial turnover generated by Zürich Tourism amounted to almost five million Swiss francs. The ‘city tax’ accounted for the largest contribution to the budget. On the basis of a voluntary agreement and within the framework of Zurich’s association of hoteliers (‘Zürcher Hotelier-Verein’), Zurich’s hotels charge each guest a fee of 2.50 Swiss francs per night.

The City and the Canton of Zurich contributed almost nine per cent to the budget in 2012. A further 2.5 per cent were generated by Zürich Tourism in the field of partner management. The largely privately funded promotion of tourism in the Canton of Zurich is unique in Switzerland.

### Clear positioning thanks to brand modules

Zürich Tourism sees itself as an initiator providing impetus for the development and implementation of innovative ideas at the Zurich tourist destination and in the surrounding area. The organisation wants to take an active part in discussions and has developed specific perspectives in areas of intersection with culture, gastronomy, shopping, etc. The task now is to promote these perspectives – in alignment with the overall position. The new focus is on the brand modules ‘Natural Zürich’, ‘Cultural Zürich’ and ‘Urban Zürich’. The most important core products and attractions are each attributed to these pillars. The Zurich lake basin provides a circumscribed and natural bracket and point of enclosure. This is how Zurich, together with selected tourism-relevant service providers, positions itself in international and national tourism.

### Brand Modules Zürich Tourism

<table>
<thead>
<tr>
<th>CULTURAL</th>
<th>NATURAL</th>
<th>URBAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabaret Voltaire</td>
<td>Frau Gerolds Garten</td>
<td>Bahnhofstrasse</td>
</tr>
<tr>
<td>Gessnerallee</td>
<td>Lake and river bathing areas</td>
<td>Bars along the lake and river</td>
</tr>
<tr>
<td>Haus Konstruktiv</td>
<td>Lake Zurich and boats</td>
<td>Casino</td>
</tr>
<tr>
<td>Kunsthaus (art museum)</td>
<td>Rhine Falls</td>
<td>Gerold Areal (Freitag, Helsinki, Rosso, clubs)</td>
</tr>
<tr>
<td>Löwenbräu building</td>
<td>Titlis, Pilatus, Säntis, Rigi mountains</td>
<td>Langstrasse: clubs &amp; bars</td>
</tr>
<tr>
<td>Museum Rietberg</td>
<td>Uetliberg mountain</td>
<td>Old Town and Niederdorf</td>
</tr>
<tr>
<td>Opera</td>
<td>Wildnispark Zurich (wildlife park)</td>
<td>Rennweg</td>
</tr>
<tr>
<td>Photo Museum</td>
<td>Zurich Zoo</td>
<td>Schipfe</td>
</tr>
<tr>
<td>Rote Fabrik (music and cultural centre)</td>
<td></td>
<td>Viaduct</td>
</tr>
<tr>
<td>Schauspielhaus (playhouse)</td>
<td></td>
<td>Zurich Airport</td>
</tr>
<tr>
<td>Schiffbau (Moods Jazz Club, theatre)</td>
<td></td>
<td>Street Parade</td>
</tr>
<tr>
<td>Swiss National Museum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tonhalle (orchestra and concert hall)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zurich Festival</td>
<td>Mercedes-CSI</td>
<td>freestyle.ch</td>
</tr>
<tr>
<td>Sechseläuten (spring festival)</td>
<td>Ironman</td>
<td>Zurich Pride Festival</td>
</tr>
<tr>
<td>Theaterspektakel</td>
<td>Weltklasse Zurich</td>
<td></td>
</tr>
<tr>
<td>Zurich Film Festival</td>
<td>Zurich Marathon</td>
<td></td>
</tr>
</tbody>
</table>
Sustainability policy of Zürich Tourism
As Switzerland’s first climate neutral tourist organisation, Zürich Tourism has continued and given more depth to the measures introduced in 2010. All CO₂ emissions caused will be offset in collaboration with the foundation ‘myclimate’. By means of a survey conducted in collaboration with ‘myclimate’ in early 2011, the exact CO₂ emissions of more than thirty hotel establishments in the City of Zurich and the surrounding area were determined.

Outlook: top in every league
According to a study conducted by the Gottlieb Duttweiler Institute (available at zuerich.com) entitled ‘Zürcher Tourismus 2030. Entwicklungsperspektiven’ (‘Zurich Tourism 2030. Development Perspectives’), the behavioural fluctuations of the tourist industry worldwide are very dynamic which makes forecasts about future developments more difficult than ever. However, according to the study, some aspects of global tourism in the year 2030 are already clear: mobile means of communication and new technologies will be core, and unique experiences worth retelling will become markedly more important. Climate change and demographic change will continue to stride ahead, and new overseas source markets will also become more relevant.

The future approach of Zürich Tourism for destination marketing is based, inter alia, on these findings. Ambitious goals are being pursued with respect to the further development of the individual business areas.

In the field of branding, Zürich Tourism is committed to being among the Top Five destination brands in Europe by 2018. With regard to the development of new markets, Zürich Tourism continues to use its ‘first mover’ qualities and is prominently embedded in the growth and future markets – primarily as a leisure destination with hub function for alpine Switzerland. The ‘Convention Bureau’ business area is focused primarily on the markets Germany, United Kingdom, US, and the Nordic countries, but also on the growth markets China and India, as well as on the target group ‘Associations’. This is where Zurich wants to become entrenched as a prime meeting location in the heart of Europe.

If Zurich is also to play in the top league in the aforementioned area, it will need a new convention centre. Various stakeholders, including Zürich Tourism, remain convinced that as well as benefitting Zurich’s tourist and economic infrastructure, a new convention centre is also an absolute must for Zurich as a destination. Without such a centre, it will likely be difficult to utilise the increasingly growing hotel infrastructure to full capacity. Convention visitors and business travellers are an important guest segment. A new convention centre could generate well over 100,000 additional overnight stays per year and thus bestow sustainable growth on tourism in Zurich. A new convention centre in Zurich is not only an important asset for international business travellers; it is also a magnet that will attract classic tourists.

In the field of marketing and e-business, Zürich Tourism will assume a leading role over the next few years in regard to modern, electronic destination marketing. With the redesign of its website in spring 2014, Zürich Tourism is on the highest technological level. In terms of content, visitors are optimally served at every phase, every stage and on every electronic channel. In particular, the idea is to attract potential visitors to Zurich in the four phases ‘Inspiration’, ‘Information’, ‘Transaction’ and ‘Share’. In the last phase (‘Share’), guests are to share their experiences via the known social media channels and so become players and promoters of Zurich. Furthermore, a new umbrella campaign is to help promote the image of the destination, as well as the brand values and brand modules defined by Zürich Tourism, both in Switzerland and abroad.

Guests and partners are optimally looked after
In the field of guest management, the new Tourist Service was renovated in 2013 at a total cost of 1.2 million Swiss francs. As a result, the approximately
500 000 annual visitors from all corners of the world can now request advice at any of the Tourist Service’s seven modern information desks, or use the touch-screens to obtain information themselves. High above the information desks, nineteen large screens provide additional tourist information and tips. The renovation has perfected the Tourist Service as the first and most important contact point for its visitors, both in terms of quality and technology.

In the field of partner management, Zürich Tourism is increasing the value added from relevant collaborations with local service providers and event organisers. In this way, Zürich Tourism is not only expanding its basic funding; it is also developing new and important sources of finance.

**Competent economic partner and attractive employer**

Through professional public relations activities and media work, Zürich Tourism is distinguishing itself even more strongly in corporate communications and corporate development as a competent economic partner and a relevant voice in matters pertaining to the political, economic and social development of the region.

At the same time, thanks to modern employment conditions and attractive salary models, Zürich Tourism is positioning itself both locally and nationally as an important employer within the tourist industry.

---

**Contacts**

**Zürich Tourism**  
Martin Sturzenegger  
CEO  
Zürich Tourism  
martin.sturzenegger@zuerich.com

**City of Zurich**  
Benno Seiler  
Head of the Office for Economic Development  
benno.seiler@zuerich.ch

**Additional information**

- Zurich destination website  
  www.zuerich.com  
- Official web portal of the location Zurich  
  www.zuerich.ch