



Greater Zurich Area
Expanding business horizons



Greater Zurich Area: Europe's Life Sciences Center

2017 Edition – www.greaterzuricharea.com

Courtesy of Bristol-Myers Squibb

INTRO

Thanks to its unique combination of academic excellence and a liberal economy, the Greater Zurich Area is one of the leading life science centers in Europe. Distinguished academic quality, high profile education programs and the above-average quality of life render Zurich not only very competitive in the global market for talent at student and professorial, but also at the entrepreneurial level. Aided by the proximity to top pharmaceutical and medical technology companies such as Biogen Idec, Roche Diagnostics, Stryker or Zimmer and to the strong financial sector in Zurich, outstanding academic achievements in the biomedical sciences serve as a motor for innovation in the biotech and medtech sector. Joint activities of universities and private companies provide favorable conditions for young start-up companies as well as large multinational corporations.

In recent years, the Greater Zurich Area has evolved into a dynamically expanding centre for the life sciences industry. Today, life sciences is one of the industries with the strongest representation in the region. In fact, the Greater Zurich Area is one of the most important life-sciences centers in Europe today. Many international companies in the pharmaceutical, biotechnology and medical technology sectors have settled in the Greater Zurich Area. The secret of success is simple: marrying first class world renowned academic institutions with strategic investors, management friendly regulatory agencies, and leading IP protection strategies results in unbeatable market advantage which allows companies to be one-step ahead of the competition. And the infrastructure offerings in the Greater Zurich Area for life sciences companies and for exchanges between academia and industry will be further expanded in the coming years.



OVERVIEW

Life Sciences in the Greater Zurich Area

In addition to the pharmaceutical industry, the industries in the fields of agrochemicals, biotechnology and medical technology are also typically combined under the term 'life sciences'. In the field of medical technology, the Greater Zurich Area has a high density of companies. The region around the city of Zurich has therefore developed into an industry center in recent years and has become the national leader according to the number of employees in this field.

According to KPMG's life sciences cluster report, Switzerland has the most life science clusters out of six examined European countries (UK, Netherlands, Ireland, Germany, France and Switzerland). Approximately 40% of life science companies based in Switzerland perform R&D in the country and approximately 45% have their manufacturing in Switzerland. Switzerland has a relatively high 9% of phase 3 products in development. On the financing side Switzerland has been able to maintain a steady investment level of around USD 250 million per annum.

Future Development

At the infrastructure level, the offering for life sciences in the Greater Zurich Area will be expanded substantially in the coming years. The Bio-Technopark is constantly further developed in order to meet the needs of both the existing and newly launched companies. Over the coming years, the site will be transformed into a campus-like environment that will facilitate exchanges between the companies on site, the research institutions nearby, and outside companies. Balgrist Campus, a research and development building for musculoskeletal medicine, is under construction in the southeast side of Zurich in the lakeside area of University Clinic Balgrist.

Health Tech Cluster Switzerland (HTCS), located in the canton of Schwyz in the center of the Greater Zurich Area, has been launched in May 2014. HTCS is bringing together companies from medical technology, healthcare, biotechnology, pharmaceutical sciences and molecular biology. Several real estate projects are being planned in the area around HTCS.

Another future milestone will be the Wyss Translational Center Zurich. ETH Zurich and University of Zurich launched a new translational research center at the interface of medicine, science and engineering.

As one of two national hubs, about 70 square hectares of land at the top of Dübendorf airfield near Zurich is designated for the planned Swiss Innovation Park. The field will be developed in stages according to demand, where an area of 10–25 hectares is targeted in the first stage of expansion.

Life Sciences Innovation Centers, Business Incubators and Technology Parks in the Greater Zurich Area

Every year, the Swiss Federal Institute of Technology Zurich (ETH Zurich) and the University of Zurich register a considerable number of new spin-offs in the field of Life Sciences. With ETH Zurich ranking 9th in the field of Natural Sciences and Mathematics and the University of Zurich ranking 25th in the field of Life Sciences in the 2016 Academic Ranking of World Universities (Shanghai Ranking) this is not surprising. Both universities are the highest-ranked universities in continental Europe in their categories.

An important reason, why the Greater Zurich Area has turned into a Life Sciences center is the Bio-Technopark Schlieren-Zurich. Through close collaboration with real estate partners and public authorities, the nationally and internationally respected Bio-Technopark emerged in Schlieren in the periphery of the city of Zurich. Also in other regions within the Greater Zurich Area substantial life science incubators and technoparks were launched:

- BIO-TECHNOPARK® Schlieren-Zurich
www.bio-technopark.ch
- Balgrist Campus
www.balgristcampus.ch
- ETH Innovation and Entrepreneurship Lab (ieLab)
www.ethz.ch/ielab
- Wyss Translational Center (ETH & University of Zurich)
www.wysszurich.uzh.ch
- Zurich University Hospital
www.en.usz.ch
- Health Tech Cluster Switzerland
www.healthtech.ch
- Digital Health Alliance Zug
www.digital-health.ch
- ZHAW School of Life Sciences Wädenswil
www.zhaw.ch/en/lisfm
- Grow Wädenswil
www.grow-waedenswil.ch
- Swiss Innovation Park Zurich
www.innovationspark.zh.ch
- TECHNOPARK® Zurich
www.technopark.ch
- TECHNOPARK® Winterthur
www.tpw.ch

Recent success stories

2017

- Johnson & Johnson is investing CHF 20 million in Schaffhausen, building a new laboratory for its subsidiary Cilag AG which will be used for microbiological testing.
- The US pharmaceutical giant Pfizer is teaming up with the Schlieren-based start-up InSphero to develop novel assays that will help examine drugs for their toxicity.
- Numab Therapeutics from Schwyz has announced a research and option agreement with the Japanese company Ono Pharmaceutical, and will receive research funding up to CHF 258 million.

2016

- The biotech industry pioneer Alnylam established its European headquarters in Zug in 2016.
- Pharmaceutical supply chain company Marken from the US has opened a new operations center close to Zurich Airport.
- The global biopharmaceutical company TESARO has established its international headquarters in Zug.

2015

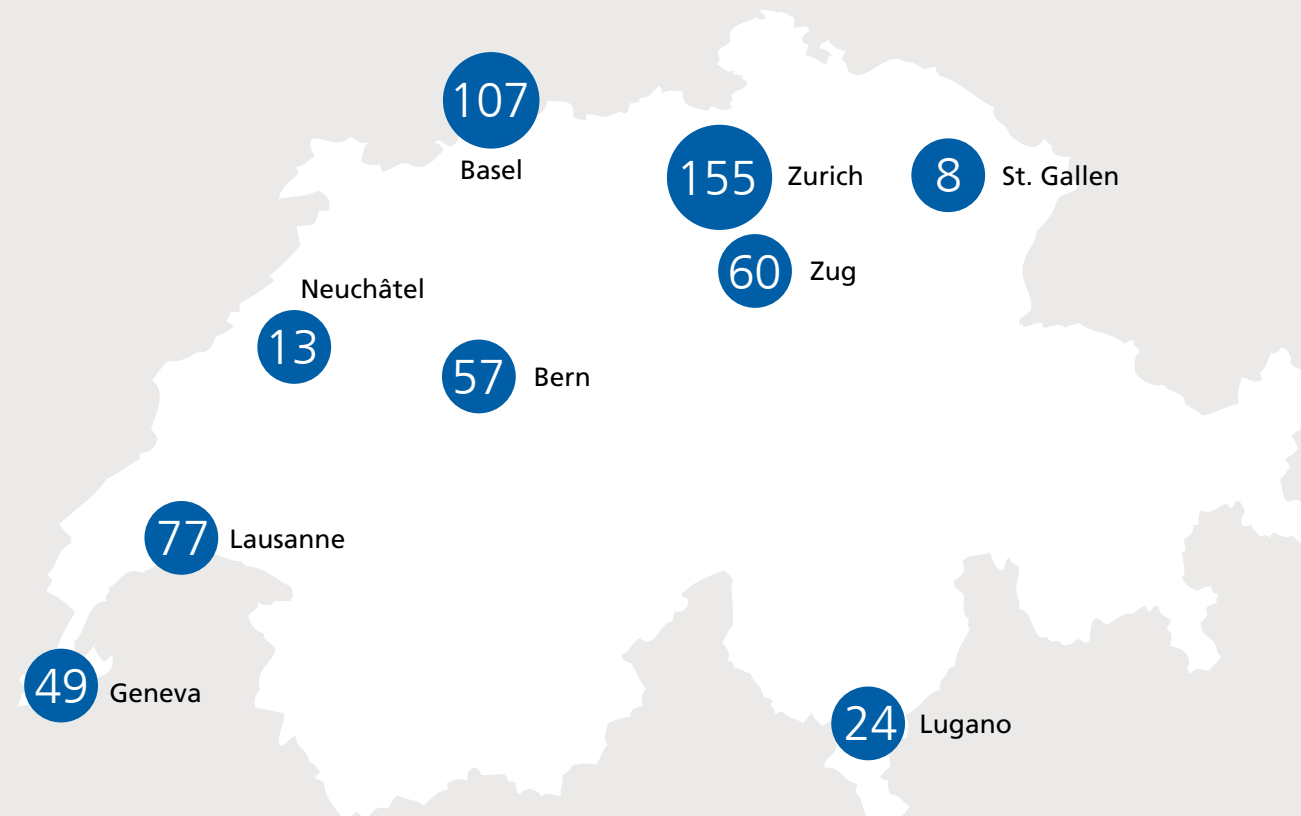
- The global healthcare company Cardinal Health made Zug the global headquarters of its Cordis division in 2015.
- Global biopharmaceutical company Alexion relocates EMEA Headquarters to Zurich. Carsten Thiel, Ph.D., Executive Vice President, stated: "We are moving to Zurich because it has become a dynamic hub for Life Sciences companies and academic institutions, and offers a great source of highly-qualified international talent."



OVERVIEW

Life Sciences Clusters in Switzerland

(Source: KPMG, Site Selection for Life Sciences Companies in Europe, 2016)



Worldwide Highest Density of Life Sciences Companies is Found in the Greater Zurich Area
 (Please visit www.greaterzuricharea.com/en/why-greater-zurich-area/industries/life-sciences/ for interactive life sciences map.)

Number of employees in the Life Sciences industry

Country	Biotechnology	MedTech	Pharma	Total
Belgium	15,000	5,000	40,000	60,000
France	11,000	40,000	95,000	146,000
Germany	37,000	100,000	110,000	247,000
Ireland	6,000	9,000	12,000	27,000
Netherlands	8,000	9,500	9,000	26,000
Switzerland	20,000	45,000	40,000	105,000
United Kingdom	30,000	71,000	73,000	174,000

As a percentage of the total population, Switzerland has the highest number of employees.

Source: Estimated by Venture Valuation, 2016

CASE STUDIES

Biogen

One of the pioneers in biotechnology, Biogen today has the leading portfolio of medicines to treat multiple sclerosis (MS) and is at the forefront of research into new medicines for chronic conditions, including neurodegenerative disease, rare genetic disorders, and autoimmune diseases. Led by world-class research and development, Biogen uses novel science and leading-edge technologies to create, commercialize, and manufacture transformative therapies for patients with few or no treatment options. Biogen's global organization of more than 7,000 employees, including more than 1200 across 20 affiliates in Europe, and current and future manufacturing facilities in the US, European Union and Switzerland, is committed to a single mission: making a meaningful difference in the lives of patients suffering from devastating medical conditions.

The international headquarters was established in Switzerland in 2004 and has grown to more than 400 employees. Zug is also home to Biogen's Swiss affiliate, which was established in 2011, currently employing more than 30 people. The Company has also established its new biosimilars business unit in Zug. Biogen is currently investing CHF 1 billion into a next-generation manufacturing facility and is creating up to 400 new job in Luterbach near Solothurn.

"The world class universities and the high skilled talent pool make Switzerland an ideal hub for a science driven company like Biogen. Out of the country Biogen drives development and growth in business across more than 60 markets on 4 continents."

Johanna Friedl-Naderer, Senior Vice President, Head of Europe & Canada

The cantons of Zug and Solothurn are ideal locations for Biogen's international headquarters due to the favorable environment it provides for businesses and employees. With an amicable setting, a stable economy and an efficient municipality, it is highly attractive for a diverse workforce.

Biogen is committed to being a responsible corporate citizen and regularly gives back to the communities in which it operates. Through the Company's annual global day of service, called Care Deeply Day, employees volunteer for various projects throughout the region, many of which they return to year after year. Also, in keeping with Biogen's commitment to inspiring young people to consider innovative careers in science, the international headquarters has developed and cultivated long-standing relationships with some of the premier STEM (science, technology, education and math) programs in Switzerland including Swiss Science Center Technorama, KinderUniversität Zurich, and Swiss Youth in Science.



Visual of Biogen manufacturing plant in Solothurn / Photocredit: Biogen

Zimmer

The long tradition of orthopedics and wealth of know-how in Winterthur convinced Zimmer to base its European headquarters in the Greater Zurich Area.

Zimmer operates branches in 24 countries and employs more than 8500 people. This makes it a global leader in the area of treating musculoskeletal disorders. In 2003, the American orthopedic company acquired the Winterthur-based Centerpulse (formerly Sulzer Medica) and established this location as its headquarters in Europe.

Thanks to its technical expertise and high productivity, Zimmer will continue to grow in Winterthur. "We are planning further investments to meet the growing international demand," says Luigi Sorrentino, General Manager in Winterthur.

"The region offers an exceptional concentration of medtech know-how."

Luigi Sorrentino, General Manager, Zimmer GmbH



Amgen

A biotechnology pioneer since 1980, Amgen is one of the world's leading biotechnology companies. Originally establishing its international corporate office in Switzerland back in 1989, Amgen Europe moved to its current location in Zug in 2006, from where it oversees all of the European markets. The office has grown to over 250 employees.

"The established life sciences cluster centered around Zug and proximity to well respected educational institutions offers us the opportunity to access dedicated services and highly trained international professionals. We are also able to benefit from generating collaborative partnerships with other biotech organizations in the area", comments Corinne Le Goff, Senior Vice President, Europe General Manager of Amgen.

"A beautiful setting, economic stability and efficient business environment make the Greater Zurich Area an ideal location for the European headquarters of Amgen."

Corinne Le Goff, Senior Vice President, Europe General Manager, Amgen



Setting up a Business in the Greater Zurich Area

Establishing a Swiss company takes approximately ten days, somewhat longer if work and resident permits for citizens from outside the European Union are required. The minimum capital of a Swiss company is CHF 20,000 or CHF 100,000 depending on the legal form chosen. Set-up procedures are easy, facilitated by knowledgeable service providers and a lean administration on the authorities' part. Switzerland believes in the principle of free markets and restricts regulations to areas where people may be unduly exposed: pharma, banking, recruitment and agriculture. Swiss legislation grants great entrepreneurial freedom to employers: the vast majority of Swiss employees work under contracts granting two or three months of notice period, meaning the employer is in a position to employ or lay off staff according to economic developments without having to worry about severance fees and other "exit costs". Excellent infrastructure grants ease of doing business: public and private transportation, IT infrastructure, knowledge-based services from lawyers to industry consultants. Swiss business partners are mostly honest and hard-working individuals keeping their word and trying to do the best job possible. Companies' and public administrations' ethics are high, reflected in Switzerland's positive ratings in this world's corruption and crime rate indices. This does not exclude the Swiss being pragmatic when they feel the law is lagging behind reality, as happens for example with the internet. Self-regulation is an important feature of Swiss business behaviour if politics fail to provide appropriate guidelines.

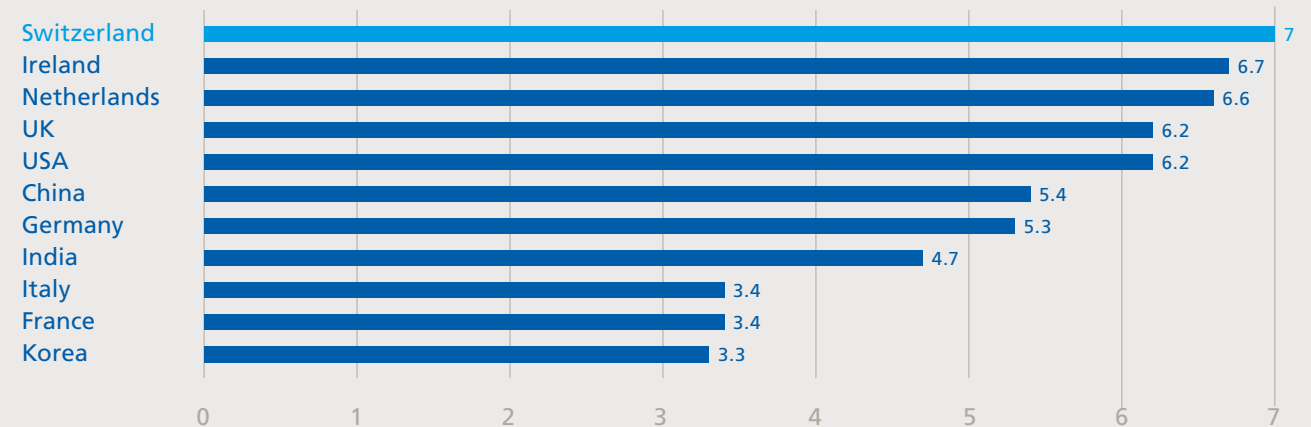


BIO-TECHNOPARK® (Schlieren)

Corporate Structures

	Joint Stock Corporation (AG)	Limited Liability Company (GmbH)
Minimum capital	CHF 100,000	CHF 20,000
Shareholders	Anonymous, e.g. bearer shares	Partners registered, less discretion
Assembly	General Assembly	Partners' meeting
Credibility	Possibly higher	Possibly lower
Auditing	Mandatory / Opting out	Mandatory / Opting out
Initial costs	Approx. CHF 5000	Approx. CHF 5000
Running costs	Probably higher, e.g. CHF 10,000	Probably lower, e.g. CHF 8000

Ease of doing business



To what extent is ease of doing business supported by regulations? (Grades 0-10, 10 = best), N = 61, Source: IMD Lausanne, 2016

Talent available: practical, multi-lingual, skilled

Swiss children start counting with their fingers just like American children. The similarities may continue through primary and secondary school, but then the Swiss boy or girl faces a crucial decision: will they pursue an academic career, entering high school/college, or do they prefer to work in a company, acquiring their higher education on the job and going to school only one day a week, and to evening classes? If so, they will finish their apprenticeship as highly qualified polymechanics, carpenters or laboratory assistants with an academic future still open to them: qualification assumed, they can study at a University of Applied Sciences and later even acquire a Master degree at e.g. University of Zurich or the Swiss Federal Institute of Technology ETH.

The dual education system of, on the one hand, purely academic nature and the so-called vocational training on the other is one of Switzerland's success formulae. Young technicians or mechanics, when at their first proper job, already have years of experience in a company; they are problem solvers rather than obedient servants, and their social skills have been trained in customer interaction from early on. Add the top academic engineers from ETH (Swiss Federal Institute of Technology), and you have a team of developers or sales agents who can conquer the world. Or: Europe, for a start.

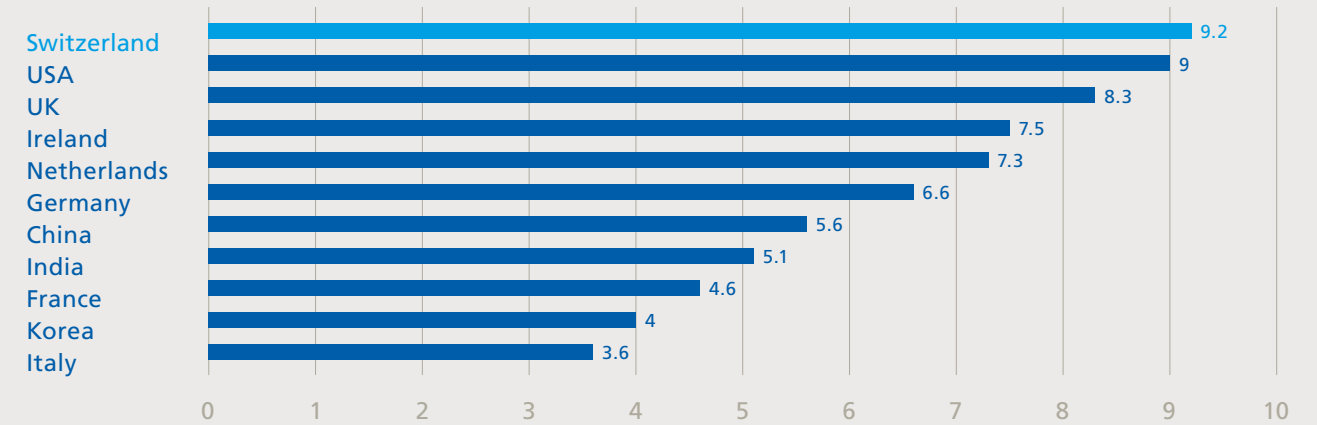
US companies working in the European markets need multi-lingual staff understanding the various European countries' cultural background and business/negotiation techniques. They are all available in Switzerland, and especially in the Greater Zurich Area where 30% of the population are not Swiss. Bilingual speakers, offspring of immigrants who came to Greater Zurich from Western and Eastern Europe, from Russia, the US, South America, and Asia. To the effect that not only management, but also the rank and file including secretaries and receptionists are comfortable in various languages, to the benefit of international business exchange.

Cost Considerations

Switzerland has a reputation for being expensive, based on individual experience as well as international ratings. However, what is being compared are often apples and oranges, or apples and pears as the Swiss say. They can certainly be compared, but one should be aware of the differences, especially if a soft apple gets compared to a crisp pear. In figures: Swiss salaries of lower to middle positions are typically 30% higher as compared to other European countries; however, the social security charges are significantly lower, max. 17% as compared to 30%–40% in wide parts of Europe. There are less vacations and public holidays in Switzerland, and employees enjoy a maximum job security of three months, brought by the notice period the law provides as from the ninth year of service in a company. Apart from the fact that the typical Swiss employee is by nature loyal and loves to do a good job, he or she is also aware that performance must be kept up at all times, since there are no comfortable severance fees in case of dismissal. This loyalty and motivation, paired with an extraordinary range of international experience, places Swiss managers and specialists among the most productive. If a yearly salary of CHF 100,000 may seem high, the total cost for the company may be negligible in face of the revenue and profit generated by this employee. This is obviously what many international companies feel, recruiting not only from Switzerland but from all Europe and beyond: high salaries attract the best managers and specialists to staff the cross-functional teams required to manage international business.



Attracting and Retaining Talents



Attractiveness of a country for foreign high-skilled people? (Grades 0–10, 10 = best), N = 61, Source: IMD Lausanne, 2016

Gross salary for highly qualified individuals to grant a disposable income of EUR 100,000

Canton/Country*	Gross wage in EUR	Effective tax rate	After-tax income in EUR
Zug (Greater Zurich Area)	123,600	23.6	100,000
Schwyz (Greater Zurich Area)	125,900	25.9	100,000
Uri (Greater Zurich Area)	126,000	26.0	100,000
Glarus (Greater Zurich Area)	129,000	29.0	100,000
Zurich (Greater Zurich Area)	129,800	29.8	100,000
Graubunden (Greater Zurich Area)	130,500	30.5	100,000
Schaffhausen (Greater Zurich Area)	131,600	31.6	100,000
Luxembourg	140,200	39.8	100,000
Germany	141,000	41.0	100,000
Austria	141,000	41.0	100,000
Spain	144,400	44.4	100,000
Netherland	146,800	46.8	100,000
France	147,400	47.4	100,000
Denmark	148,000	48.0	100,000
United Kingdom	148,600	48.6	100,000
Ireland	149,200	49.2	100,000
Italy	152,900	52.9	100,000
Belgium	157,900	57.9	100,000

*Cantonal (Swiss locations) or commercial capital of a country (international locations)
Source: BAK Basel, Taxation Index 2015



The Compelling Location for Global Business Solutions

The Greater Zurich Area is one of the most vibrant economic centers in Europe and covers the region that is accessible within 60 minutes or less from Zurich International Airport (ZRH). The international Zurich Airport is located in close proximity to the city of Zurich and is considered to be one of the world's best airports (winner of the World Travel Award and Business Traveler Award). Travel time from the airport to the city center is approximately 10 minutes.

The cantons of Glarus, Grisons, Schaffhausen, Schwyz, Solothurn, Uri, Zug and Zurich, the city of Zurich and the region of Winterthur are part of the Greater Zurich Area.

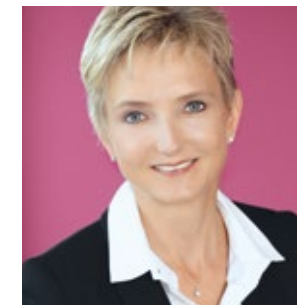


Our Service – Your Business Success

Greater Zurich Area AG (GZA) is the official investment support and promotion agency of Switzerland's economic and innovation center since 1999. We are a public private partnership and our services come at no charge. As a central point of contact and in cooperation with our regional business promotion partners and numerous providers from industry, science and education, we offer you invaluable services. Expert and free.

Our services encompass the following areas:

- Sharing explicit knowledge through our professional experts: Would you like detailed information about your industry in the Greater Zurich Area? Based upon our in-depth experience within our market, we are pleased to prepare all the relevant and pertinent information that your company will require.
- Support for business development in the Greater Zurich Area: Do you want to start a business activity in the Greater Zurich Area? We will provide you with specific market information and relevant experience to ensure optimum business development.
- Information and recommendations related on how to start your business: Our experts possess many years of experience and will assist you in the smooth and efficient set up of your business.
- Networking in administration and business: Do you need contacts to public authorities or business associations? As your first point of contact, we will connect your company with relevant contacts in the Greater Zurich Area.

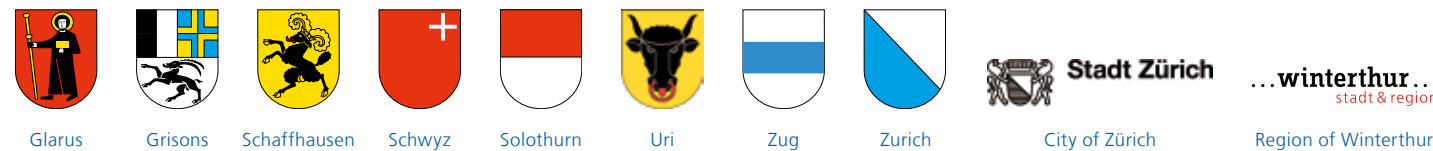


In Zurich:
 Sonja Wollkopf Walt
 Managing Director
 Direct +41 44 254 59 06
 sonja.wollkopf@greaterzuricharea.com



In the U.S.:
 Lukas Sieber
 Executive Director North America
 Direct +1 646 874-0486
 lukas.sieber@greaterzuricharea.com

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Greater Zurich Area AG
Limmatquai 122
8001 Zurich
Switzerland
Phone +41 44 254 59 59
Fax +41 44 254 59 54
info@greaterzuricharea.com
www.greaterzuricharea.com