

Science Diplomacy with *swissnex* China: A Swiss Nation Brand Initiative

Abstract

It is well-known that Switzerland possesses a long tradition in the field of science, research and education. Nowadays, “Science Diplomacy” (SD) plays an important role specifically for innovation economies. Past experiences have shown that international scientific cooperation can have valuable outcomes for the involved countries and is a complementary instrument besides traditional foreign policy and diplomacy. In Switzerland, since 2000, a worldwide network of science and technology outposts under the auspices of the Swiss State Secretariat for Education and Research (SER) in cooperation with the Federal Department of Foreign Affairs (FDFA) has been successfully established. The very *swissnex* network around the world defines one of those established policy and Science Diplomacy instruments. In this article, we specifically discuss the *swissnex* office in China. *swissnex* China acts both as a physical and virtual environment to foster closer ties between Switzerland and China in science and technology, innovation and culture. This case study presents the history and mission of *swissnex* China, its role and organizational structure, and provides an overview of other nations’ branding initiatives in this field. In addition, it will analyze clients and partners as well as main challenges of *swissnex* China which it has surmounted in its 3 years of operation.

Keywords

nation branding, science diplomacy, science and technology; higher education; innovation

1. Introduction

The phenomenon of Science Diplomacy has been acknowledged by most innovation economies in order to foster international relations in the field of science, innovation and education. The major benefits of Science Diplomacy in the 21st century are the opportunity to promote the domestic scientific environment in foreign countries on the one hand, and to gain an additional foreign policy instrument on the other hand. Using such an instrument, international scientific collaborations can also have stabilizing effects for countries with divergent ideologies and political systems (Fedoroff, 2009). Simultaneously, the scientific component of new global challenges, such as climate change, sustainable development, demographical transformation or energy and food security, will deliver even more importance to Science Diplomacy in the future (Berg, 2010).

China has become a major player in the field of science and innovation. For example in 2009, China exported to the world for \$290 billion electrical machinery and equipment¹ (e.g., electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles); for \$246 billion machinery and mechanical appliances² (e.g., nuclear reactors, boilers, machinery and mechanical appliances; parts thereof) or for \$39 billion measuring and checking instruments³ (e.g., optical, photographic, cinematographic, precision, medical or surgical instruments). Looking at Chinese exports to Switzerland, in 2009 total exports accounted for \$2,664 million where electrical machinery and equipment accounted for \$477 million and machinery and mechanical appliances accounted for \$285 million respectively, representing about one third of imports from China (United Nations Commodity Trade Statistics Database, 2010). In that respect, Switzerland does not only import low-value added products but already a significant part of higher-value added products indicating there is a need to foster and improve relationships with China for those activities and products.

In that collaborative context, an organization like *swissnex* which promotes and fosters science, research and education is imperative. *swissnex* China works closely together with Swiss universities and researchers. For this purpose, a variety of organizations within the Swiss Federal Administration is supporting *swissnex* China (e.g. Presence Switzerland (PRS), Pro Helvetia, OSEC Swiss Business Hub, SwissCham). Having close relations to the Science and Technology Counselors (STCs), which are embedded in selected embassies in host countries, *swissnex* is characterized by the form of a network of

¹ Harmonization System Codes (HS) Group 85

² Harmonization System Codes (HS) Group 84

³ Harmonization System Codes (HS) Group 90

science and technology outposts representing a key component of Switzerland's foreign policy strategy in promoting its domestic knowledge sector.

2. Importance of the Scientific Sector

According to the World Economic Forum (WEF) "Global Competitive Index" of 2010, Switzerland ranks first in terms of overall business competitiveness (Schwab, 2010). Simultaneously, Switzerland is this year's overall innovation leader in the EU area according to the newly issued "Innovation Union Scoreboard" (European Union, 2010). China is aware of the scientific excellence of Switzerland, which can be observed in a recently issued holistic survey of the Chinese Academy of Science and Technology for Development (CASTED) "2010 National Innovation Index" (including factors such as resources, infrastructure and environment, creation and corporate innovation). In analyzing 40 countries' performances in the S&T sector, the survey places Switzerland in second place, just after the United States; and with China on 21st (CASTED, 2010).

2.1. Science and Technology (S&T)

Providing an environment fostering science and technology as well as research and investments into a nation's technology infrastructure is crucial for a nation's competitiveness (Porter, 1990). In China's case, we can see that the importance for growing investments into the S&T field is a major concern. According to different development plans the Chinese government has the intention to elevate S&T investments up to 2.5% of national GDP by 2020; from today's around 0.7% per year (Wen, 2011)⁴. Furthermore, the recently issued 12th Five-Year-Plan mentions scientific development as one of its key parts. Although China has still a high percentage of copied goods, it will most probably be less dependent on foreign technology in the middle and long run.

2.2. Research and Development R&D

This field is especially crucial for the academic environment as well as for R&D sections in certain business companies. Although scientific as well as business cooperations of Swiss and Chinese institutions and companies are slowly developing, there are more and more looking for possible R&D cooperations with China in the future. Nestle for example, has 2 R&D centers situated in Beijing and Shanghai,

⁴ Additional information also under <http://www.casted.org.cn/en/> and http://www.chinadaily.com.cn/cn-dy/2011-03/02/content_12098963.htm.

with a newly established joint laboratory between the Beijing Research Center and the Xi'an University of Life Science and Technology (Nestle, 2011). Furthermore, Novartis and Roche have both R&D Centers located at the Zhangjiang High-Tech Park in Shanghai (Roche R&D Center; Novartis Institute for Biomedical Research) (Roche, 2011; Novartis, 2011). In China, growth for company investments in R&D has reached 40% in 2010 (Hernandez, Tuebke *et al.*, 2010). Already now, China has the highest amount on researchers worldwide (Grueber and Studt, 2009). Therefore, Swiss universities and research institutions have long been considering cooperating with Chinese high potential partners.

2.3. Higher Education

It is believed that basic education increases the efficiency of workers. People who have received little education can carry out only simple, manual work and find it difficult to adapt to more advanced production processes and techniques (Schwab, 2009). Education and training are crucial for economies that want to move up the value chain beyond simple production processes and products (Porter, 1990). In particular, Switzerland has always put a strong stance on preserving a high quality education system nationwide. According to the "Times Higher Education World University Ranking" 2010, there are currently 6 Swiss Universities among the top 200 around the world (ETHZ 15th, EPFL 48th, University of Zurich 90th, University of Basel 95th, University of Geneva 118th and University of Lausanne 136th)⁵. Simultaneously, Chinese universities are steadily gaining higher status worldwide as well. China has also 6 universities in the top 200 ranking, such as Beijing University 37th, University of Science and Technology in Hefei 49th, Tsinghua University in Beijing 58th, Nanjing University 120th, Sun Yat-sen University in Guangzhou 171st, Zhejiang University in Hangzhou 197th. Science and education will be the next major fields of interest for the Chinese government in the next decade. According to the newest Five-Year-Plan investments into the education sector will increase significantly (Liu, 2011).

2.4. Innovation

According to the latest "Swiss Cleantech Report 2010", Switzerland is now one of the world top destinations for innovations in the renewable energy sector (Soltmann, Amez-Droz, and Cosandey, 2010). Innovation has become a scientific core competency and business niche for Switzerland. It is vital for a nation's competitiveness as it approaches the frontiers of knowledge. Companies from emerging countries can improve their productivity by integrating existing innovation. However, for those from developed countries to improve their productivity, they need to promote innovation that requires a busi-

⁵ Source: <http://www.timeshighereducation.co.uk/world-university-rankings/>.

ness environment for innovative activities (Porter, 1990). In China's case, high quality innovations still lack behind the global leaders. However, Chinese patents are growing steadily each year. In 2010, China took over the 2nd rank after the US in regards to the amount of domestic patent applications, also most are design or functional patents instead of innovation patents. Up to now, China has 3 National Innovation Industry Zones which are situated in Beijing, Wuhan and Shanghai; with the one in Shanghai generating around \$100 billion in revenues in 2010 (Zhu, 2011).

3. *swissnex* China

3.1. History and Mission

swissnex is a network of science and technology outposts run by the Swiss State Secretariat for Education and Research (SER) in cooperation with the Federal Department of Foreign Affairs (FDFA). On the forefront of this innovative idea are Mr. Charles Kleiber and Mr. Thierry Lombard, both were awarded with the "Albert Gallatin Award" in September 2011. The unique idea of *swissnex* in form of an international knowledge network has been well appreciated internationally as an important instrument for foreign policy in the 21st century. Its major task is to act as a subsidiary instrument for Swiss institutions of the higher education and research area which want to pursue international collaboration with potential counterparts abroad and vice versa. By 2012, *swissnex* established its network at 5 locations worldwide such as *swissnex* Boston (2000); *swissnex* San Francisco (2003); *swissnex* Singapore (2004); *swissnex* China (2008); *swissnex* India (officially opened in 2012).

The *swissnex* network is a key component of the Swiss scientific policy for the promotion of bilateral cooperation in the field of science, education and innovation set by the Swiss Federal Council. According to the Federal Council's dispatch 2008 - 2011, there are eight non-European countries that are defined as so called "priority countries" for further bilateral cooperation, mentioning China as one of them (besides India, Russia, South Africa, Japan, South Korea, Brazil and Chile) (SER, 2011a). The comprehensive purpose behind *swissnex* is the establishment and preservation of a strong network in first step and to adapt it to a sustainable cooperation environment for Swiss institutions and people in a second step.

In the case of *swissnex* China, the office in Shanghai stands firmly behind its slogans "*promote, connect and facilitate*" specifically for the China area and "*connecting the dots*" in a more

interdisciplinary sense which integrates the idea of a “hybrid” construction of *swissnex* in connecting science, business and culture⁶.

The official **mission** of *swissnex* China can be laid-out into as the following (SER, 2011b):

- 1) **Promotion** of Switzerland’s excellent location for **S&T**
- 2) **Support** for Swiss institutions and individuals with strong interests in **internalization** efforts (in line with their needs and the conditions in the host countries)
- 3) **Establishment** of **networks** among clients from S&T, education, innovation and the arts
- 4) Strengthening of the **cooperation** and flow of **information** among clients in the above-mentioned domains
- 5) Promotion of **exchanges** between China and Switzerland through *swissnex*’s activities

Managing each location as a public-private partnership is at the core of the *swissnex* business model. As designed, the State Secretariat for Education and Research (SER) is providing the basic funding (e.g. office, facilities) and one-third of the *swissnex* budget (i.e., project related) (Fetscherin and Marmier, 2011). Two-thirds have to be generated through third party funding (i.e. mandate, private funding and sponsoring). *swissnex* China has always been enthusiastic expanding its group of sponsors and donors willing to support its services. In addition to *swissnex*, the SER maintains and develops a worldwide network of Science and Technology Counselors (STC) at selected Swiss Embassies sharing and supporting the *swissnex* mission as well. The institution of the Swiss STCs around the world has already been in place since 1958 (currently 22 STCs).

3.2. Organization of *swissnex* China

As mentioned previously, vital financial support is provided by partners and sponsors sharing the commitment to “connecting the dots.” As a public-private organization, *swissnex* has numerous clients and partners. Clients are defined as institutions and people that *swissnex* is working for (i.e. mandates, projects and activities). Partners provide essential resources needed to accomplish the projects (i.e. money, infrastructure, knowledge).

⁶ “Connecting the dots” means: Bridging the domains of Research and Education, and interdisciplinary cooperation and establishment of networks among public and private-sector actors in the areas of Research, Education, Innovation, Business and the Arts.

3.2.1. Clients & Mandates

In the public administration area, *swissnex* China needs to maintain strong relationships and visibility within some of the networks around government, media, politics and lobbyists. In addition, the organization needs to be in sync with the needs and strategies of companies that have a strong R&D focus, such as pharmaceutical and high-tech companies.

Universities and the Science Community

Since *swissnex* China's establishment in 2008, various Swiss universities have already worked together with *swissnex* or have concluded certain agreements so far. *swissnex* China agrees to represent them and work on specific requests such as connecting researchers, alumni management, promotion of graduate and postgraduate studies, branding and media relations in China. Internship programs are provided to interested students. For the Commission of Technology and Innovation (CTI), *swissnex* has already accomplished certain mandates and can also develop customized strategies to support their members (start-ups, young talents and universities of applied sciences). On several occasions it has received mandates from Presence Switzerland in fostering ties between Switzerland and China (e.g. the Swiss Pavilion Expo 2010). Last but not least, notable experts such as Swiss Nobel Prize Laureates Prof. Rohrer (Physics), Prof. Wuethrich (Chemistry), Prof. Zinkernagel (Medicine) or Swiss astronaut Claude Nicollier have already been invited for lectures in the past. On the Chinese side, institutions like the Shanghai Association for Science and Technology or the Chinese Academy of Sciences (CAS) are further important clients. In the future, relations with well-known universities, such as Jiaotong, Tongji, Fudan and other selected Chinese universities will be strengthened.

Business Communities

Several companies, associations and individuals can collaborate with *swissnex* China on specific projects such as workshops, exhibitions, conferences, study tours or lectures. Where there is an opportunity, *swissnex* China is always motivated to connect businesses with the science sector (e.g. cleantech). Swiss Business Hub and SwissCham act both as partners for *swissnex* China in the business area. The promotion of talents from different fields of expertise is another element in *swissnex*'s work. If there is an opportunity *swissnex* China is willing to help young auspicious Swiss scientists and artists to show their work to the Chinese society.

3.2.2. Partners

Governmental Institutions

swissnex China has to actively cooperate with the government in China. In this sense, it creates and maintains good relations to diverse Chinese agencies and high officials, especially in the field of S&T. Coordination of contacts to Chinese ministries lies in the responsibility of *swissnex* and the Swiss Embassy in Beijing. Specifically in China's case there are a vast amount of governmental agencies with interrelated competencies that makes the cooperation even more challenging. In the long run, continuous work eventually leads to a sustainable Swiss-Chinese scientific cooperation. Certain political delegations are visiting *swissnex* on a regular basis as well (e.g. parliamentary delegations, Swiss high officials, Federal Counselors).

Embassy and Consulates

Affiliated to the Consulate General of Switzerland in Shanghai, *swissnex* is integrated into Switzerland's network of **diplomatic** representations abroad. In this respect, *swissnex* China is frequently interacting with the Science Counselor at the Embassy in Beijing. The Swiss system of Science Counselors together with the *swissnex* offices around the world is quite unique in its existence.

Presence Switzerland

As an integral part of the General Secretariat of the Federal Department of Foreign Affairs, Presence Switzerland (PRS) is responsible for Switzerland's **image and nation branding** abroad. It implements the Confederation's strategy on Switzerland's global **communication**. Main goals of Presence Switzerland are to establish a network of contacts for future decision-makers, increase general knowledge about Switzerland, and enhance the country's position as a competence center in certain fields. In doing so, it strengthens and coordinates the positive perception of Switzerland abroad, conveying an authentic and vibrant image. At the World Expo 2010, *swissnex* China was mainly responsible for the scientific program at the Swiss Pavilion (e.g. lectures and conferences). The collaboration between PRS and *swissnex* China was an extraordinary platform to promote also the idea behind *swissnex* as well as Switzerland's excellence. In addition, relationships to Chinese officials and institutions such as the Chinese Academy of Sciences, Shanghai Association for Science and Technology, Tongji University or the Minsheng Art Museum deepened at the same time. During the Expo there were official visits of the Federal Counselors Doris Leuthard, Micheline Calmy-Rey and Moritz Leuenberger. Further collaborations

between *swissnex* China and PRS include the “Einstein Exhibitions” and the “E+ Framework University Program”.

Pro Helvetia

Pro Helvetia, as a Swiss foundation, is responsible for the promotion of the Swiss **artistic and cultural** landscape abroad. *swissnex* China is honored to host Pro Helvetia’s liaison office as part of its office space. In 2010, *swissnex* China together with Pro Helvetia and the Minsheng Art Museum have organized “Barbecue Lectures” combining topics of the art, science and society. Lectures on the topic of “Social Responsibility” were scheduled during 2011.

Swiss Business Hub

Swiss Business Hub (SBH) China is the Trade Commission of Switzerland to China, a sort of “one-stop shop” business solutions agency for small and medium-sized enterprises (SME) to help to promote **trade (export or import)** of services or products between Switzerland and China. SBH has three offices in China (Beijing, Shanghai and Guangzhou), physically linked to the respective Embassy or Consulates. It offers in-depth knowledge of the Chinese market and provides a global network of trade professionals. Especially emergent sectors in China such as medtech, biotech and cleantech are of great interest for SBH China. Its business events raise awareness on the quality of Swiss products and the situation of certain Swiss competencies. These activities could indirectly lead to **investments** and cooperations in med-, bio- and cleantech in Switzerland as well.

SwissCham Shanghai

The Swiss Chinese Chamber of Commerce (SwissCham) in Shanghai is promoting the global success and is establishing **relationships** for the Swiss business community in China. SwissCham’s competence is to provide business services and organize networking events in order to help Swiss companies in the Chinese market as well as the Swiss excellence in science, technology, innovation and culture.

3.3. Performance of *swissnex* China

Since 2008, *swissnex* China has been able to attract different third party contributors that provided additional financial support for its various activities and projects. Meanwhile, *swissnex* China has accomplished and gained sufficient third party support so far. In this respect, *swissnex* acts as a public-private business organization which has to compete for sponsors in the open market. In 2010, *swissnex*

China was able to generate around \$390,000 in third party contributions, with SER's project cost share of around \$130,000 (swissnex China, 2011). Working closely with its headquarters and other *swissnex* offices, *swissnex* China has managed to create a track record of a series of criteria that reliably gauge the output and impact of its projects. In detail, the Service Level Agreement of the SER provides the structure on how the outcomes have to be analyzed (i.e. strategic high-level goals, strategic sub-goals, and performance indicators). There are quantitative as well as qualitative indicators to ensure the continuous development and improvement of services.

3.4. Main Challenges

Chinese Environment

In comparison to other *swissnex* offices around the world, *swissnex* China has been confronted with the challenge of establishing its scientific network in a very different political, economical and cultural environment. In this regard, *swissnex* is not able to fully take advantage of past experiences and expertise from other *swissnex* offices and has to implement some strategic elements suited exclusively to China. For example, political as well as social relations in China have to be acknowledged in the right way and nourished carefully in first place. One of the reasons is due to the higher "power distance" which can be observed in China (Hofstede, 2001). So far *swissnex* China has managed to handle its daily work in the complex administrative system and is willing to widen relations with administrative institutions and Chinese officials further on. Additionally, the ubiquitous Chinese language, Chinese habits and values as well as certain political restrictions within the country are still other factors that will have influence on *swissnex*'s work in the future as well. The following table briefly summarizes and compares the *swissnex* China office with the *swissnex* office situated in Boston along the external economical, political, and cultural environment as well as internal key figures. It allows outlining how the external environment influences the internal structure and strategy of the *swissnex* office and shows their similarities and differences.

	<i>swissnex</i> Boston	<i>swissnex</i> China
Country Level Data⁷		
Population	313 million	1,336 million
GDP/capita	\$47,400	\$7,400
Political System	Const. Federal Republic	Communist State
Hofstede cultural dimension (2001) ⁸	Power Distance: 40 Uncertainty Avoidance: 46 Individuals: 91 Masculinity: 62 Long term: 29	Power Distance: 80 Uncertainty Avoidance: 30 Individuals: 20 Masculinity: 66 Long term: 118
<i>swissnex</i>		
Established	2000	2008
Number of Staff (+interns)	13	14
Budget in million (estimated)	\$2.1	\$1.2
Standardization	Idea of Science Diplomacy Promoting Switzerland's scientific sector abroad Establishing sustainable networks Director with diplomatic status Design, logos and public appearance	
Country specific	<ul style="list-style-type: none"> • Democratic system • Boston, New England, Eastern Canada Area • Known brand • Consular responsibilities 	<ul style="list-style-type: none"> • Chinese system • Shanghai Area, entire China • Chinese language • Gain visibility • SSSTC Program

Table 1: Comparison of *swissnex* offices

The major external factors which have an impact on *swissnex* China's performance are challenges such as doing business in an autocratic system, status of the Chinese government, the still high income gap and Chinese values. These elements represent unique characteristics for China and are in the case of Boston of less or no importance at all. In regards to internal factors all *swissnex* offices around the world have operated with relatively similar preconditions and activities. It is interesting to see how *swissnex* China has rapidly grown within its 3 years of existence though.

⁷ Source: <https://www.cia.gov>.

⁸ Source: <http://www.geert-hofstede.com>.

Entrepreneurship and Public Administration

From managing human resources and financing matters to building the suitable level of the team's expertise, the founders of *swissnex* realized that there was no precedent blueprint for such a unique framework and business model in foreign policy. How to balance to comply with administrative rules of a public organization (as required of any government entity) while allowing the flexibility and creativity necessary to develop projects and events of a private organization, rests as a main challenge. Communication is another one; whereby the most important aspects of the work are the personal interaction with participant, visitors, clients and partners. Internally, significant time was spent finding people who could work in an environment requiring both rigorous project management skills and interpersonal, multi-lingual communication flair.

Establish Credibility

One of the major challenges has been to gain visibility, credibility, confidence and reputation in China's science and technology and research field. *swissnex* China had to define a compelling niche and a unique value proposition. In that respect, it had to figure out the best way to work with different groups of clients and partners from academia, industry or business, society and government organizations. Consequently, the stage of being a "start-up" has been ended and *swissnex* China is currently in the process of enlarging its network, projects, client base and partners.

Branding

For every event, the organization has to decide which brand (and brand attributes) to put forward. In *swissnex* China case, there arise several possible choices:

- *swissnex*
- Swiss Scientific Community
- Switzerland as a Country
- Switzerland as a Tourist Destination
- Swiss Business
- Swiss Culture
- Swiss Embassy or Consulate

Since certain events typically involve other people or organizations, *swissnex* has to find ways to include other Swiss and Chinese partners in the branding effort (i.e. co-branding). In most cases, the events are co-branded, whereby a fine balance between the *swissnex* brand and the partners brand

must be found. Eventually this process leads to a credible and comprehensible brand in the Chinese S&T environment (Fetscherin and Marmier, 2010).

4. Science Diplomacy in other Countries

Generally speaking, most of the developed countries have already implemented various kinds of global S&T networks which are working under a framework of a specific scientific national strategy. These networks usually include the fields of science and technology, scientific collaboration, government liaison, mobility of students and researcher and contacts with business (Berg, 2010). Furthermore, besides “traditional” foreign policy they act as a supplement and can bring additional benefits where “traditional” diplomatic measures might be limited. Although the idea of the Science Counselors has its roots in the 1950s, the recent approach of a scientific global network has only been established within the last decade. A remarkable fact is that about one quarter of the S&T networks is managed exclusively by Ministries of Foreign Affairs (Berg, 2010). For example, Germany and Japan are using similar systems as Switzerland which are nested in the Ministries of Education and Research. The following table provides a brief country comparison of various Science Diplomacy (SD) initiatives of selected countries.

	Network Supervision	SD Network Structure	S&T Employees
France	Foreign Ministry (Strong regional interests)	26 Countries, many resources	Diplomats, “Science Envoys”
UK	Department of Business, Innovation and Skills	Science and Innovation Network SIN, 24 Countries, many resources	“Science Officers”, Diplomats, Local Program Officers
Germany	Ministry of Education and Research BMBF	German Science and Innovation Houses, Scientific Institutions, selected Embassies	Science Counselors, Diplomats
Japan	Ministry of Education and Research, Foreign Ministry	Selected Embassies, Scientific Institutions	Diplomats, S&T Counselors, Program Officers
USA	White House Office for S&T	Embassies, Federal Agencies, Semi-Private Institutions, fragmented structure	Diplomats, S&T Counselors

Table 2: Country comparison SD 2010 (Flink and Schreiterer, 2010)

Although the idea behind Science Diplomacy is the same for each country, each has chosen a specific strategy and procedures in order to fulfill their purpose (Flink and Schreiterer, 2010). Table 2 shows that the dominant strategy seems to be fostering scientific collaboration through public as well as private institutions. All countries are trying to adopt a certain multi-level approach. As the field of science needs a certain degree of flexibility and openness for itself, it makes sense to adapt and match policy instruments in this manner. A further common factor would be the status of the employees which is mostly at the diplomat's level (i.e. directors, higher management). By integrating or annexing the network offices into embassies or consulates, a certain diplomatic leverage effect behind the networks could be generated as well (stronger political status through the "Embassy Label"). The idea of a hybrid organization like *swissnex* found its supporters also in the UK and Germany. The Science and Innovation Network (SIN) in the UK and the Science and Innovation Houses from Germany provide similar functions and procedures as the *swissnex* outposts for Switzerland.

5. Conclusion

The *swissnex* model is an early attempt at capitalizing on a niche in nation branding by fostering science and technology, higher education and innovation abroad. The *swissnex* model hereby offers a fresh and innovative approach in Science Diplomacy to establish connections between countries and regions in which it maintains a knowledge outpost. While there are aspirations to build further *swissnex* offices in other countries, other nations are also integrating similar science networks into their foreign policy. As the *swissnex* network continues to grow, it is crucial that each location will maintain a certain amount of autonomy. Especially for *swissnex* China it has been crucial to maintain close relations to the Chinese administrative system from the very beginning on. By having strong ties to the Chinese administration and officials, *swissnex* was able to accomplish its activities and goals in an efficient way. However, challenges in regards to the unique economical, political and cultural environment as well as the Chinese language in daily life have to be taken into account. These external forces drive the internal structure and strategy of any *swissnex* office.

Furthermore, as the network has to deal with the creation of knowledge, success must be evaluated in a rather broad and unconventional way. This is especially true in the case of *swissnex* as expertise and "soft skills" play an integral part and activities have rather a long term impact difficult to measure. Innovation as a multifaceted area cannot be sufficiently measured by quantitative factors for success alone. Indeed, the emerging "innovation economy" created by the collaborative output of acade-

mia, business and industry is fueled by intangible assets. Insofar, the value of the discussions that *swissnex* triggers – conversations and opinions that can lead to enduring relationships and knowledge transfer, and eventually to the establishment of an international science community in which Switzerland’s interests are positioned properly – cannot be measured directly and in the short term. As with any other nation branding initiative, the intensity of the efforts needs to continue on a persistent level, but the results take many years. Shanghai is seen as one of the striving economic hubs worldwide and *swissnex* China will be able to observe the next developments in science, technology and innovation in China on the spot. This is insofar important as China has emerged not only as one of the main destinations for S&T research and related investments but also has become a global player of innovation related exports and investments.

List of References

Berg, L. P. (2010) Science Diplomacy Networks. *Politorbis - Swiss Science Diplomacy* No. 49 02/10: 72.

CASTED. (2010) *National Innovation Index*, <http://www.casted.org.cn/web/index.php?NewsID=44-49&Action=PrintArticle> .

European Union. (2010) *EU Union Scoreboard*, http://ec.europa.eu/research/innovation-union/pdf/iu-scoreboard-2010_en.pdf .

Fedoroff, N. V. (2009) Science Diplomacy in the 21st Century. *Cell Journal* 136, 9 January.

Fetscherin, M., Marmier, P. (2010), Switzerland’s Nation Branding Initiative to Foster Science and Technology, Higher Education, and Innovation, *Journal of Place Branding and Public Diplomacy*, Vol. 6, P. 58-67.

Fetscherin, M., Marmier, P. (2011), Public Private Partnership to foster Science, Higher Education and Innovation: The Case of Switzerland with *swissnex* Boston, in *International Place Branding Yearbook*, R. Groves and F. Go (Eds), Palgrave Macmillan, P. 97-109.

Flink T. and Schreiterer, U. (2010) Science diplomacy at the intersection of S&T policies and foreign affairs: toward a typology of national approaches. *Science and Public Policy*, 37(9), November 2010: 665–677.

Gruerber, M. and Studt, T. (2009) 2010 Global R&D Funding Forecast: An Overview. *R&D Magazine*, 22 December, <http://www.rdmag.com/Featured-Articles/2009/12/Policy-and-Industry-2010-Global-R-D-Funding-Forecast-An-Overview/> .

- Hernandez, H., Tuebke, A., Hervás, F., and Cincera, M. (2010) *The 2010 EU Industrial R&D Investment Scoreboard*. European Commission, Joint Research Center, Sevilla, Spain, http://iri.jrc.ec.europa.eu/research/do-cs/2010/SB2010_final_report.pdf .
- Hofstede, G. (2001) *Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations across Nations*. London: Sage.
- Liu, X. (2011) The 12th Five-Year Plan: China's Scientific and Peaceful Development. <http://www.fm-prc.gov.cn/eng/wjb/zwjg/zwbd/t807552.htm>.
- Novartis. (2011) Research & Development, <http://www.novartis.com/newsroom/media-releases/en/2009/1352116.shtml> .
- Nestle. (2011) Nestle Research Center, <http://www.research.nestle.com/NR/rdon-lyres/CC4E141B33C4-4412-BB2EFEA73FE2E030/0/2011BeijingJiaotongCollaborationFINAL.pdf> .
- Porter, M. E. (1990) *The Competitive Advantage of Nations*. Free Press: New York.
- Roche. (2011) Roche Research & Development, http://www.roche.com/r_d_si-tes.htm?id=6 .
- Schwab, K. (2009) *The Competitiveness Report 2009-2010*. World Economic Forum, Geneva, Switzerland.
- Schwab, K. (2010) *The Competitiveness Report 2010/2011*. World Economic Forum, Geneva, Switzerland, http://www3.weforum.org/docs/-WEF_GlobalCompetitivenessReport_2010-11.pdf.
- SER. (2011a) State Secretariat for Education and Research. *Scientific Policy 2008 – 2011*, http://www.sbf.admin.ch/htm/dokumentation/publikationen/international/bilateral/factsheets/bilateralewissenschaftszusammenarbeit_de.pdf .
- SER. (2011b) State Secretariat for Education and Research. *Service Level Agreement of the SER for swissnex China concerning goals and activities in the period 2008 – 2011*, http://www.sbf.admin.ch/htm/themen/international/bi-lateral_swissnex_de.html .
- Christian Soltmann, C., Amez-Droz, F. and Cosandey, A-C., (2010) *Swiss Cleantech Report 2011*. Swisscleantec, Bern, Switzerland, <http://swisscanadianchamber.files.wordpress.com/2011/04/swiss-cleantech-report.pdf>
- Swissnex China. (2011) *Annual Report 2010*, www.swissnexchina.org.
- United Nations Commodity Trade Statistics Database, (2010), <http://comtrade.un.org/>
- Wen, J. (2011) *National People's Congress China 2011 - Report of the government's work* , Beijing, China, <http://online.w-sj.com/public/resources/documents/2011NPCWorkReportEng.pdf> .
- Zhu, S. (2011) High-tech park earns national recognition. *Shanghai Daily*, 31 March, <http://www.shanghai-daily.com/nsp/Metro/2011/03/31/Hightech%2Bpark%2Bears%2Bnational%2Brecognition/> .

Flavia Schlegel is the Executive Director of swissnex China located in Shanghai. swissnex China, as an annex to the Consulate General in Shanghai, is one of the currently five Swiss knowledge network outposts around the world and is responsible for facilitating collaboration between Switzerland and China in the fields of science, technology, innovation and culture. Ms. Schlegel holds a Doctoral degree in Medicine MD (University of Zurich) and a Master's Degree MAS in Organizational Development (University of Vienna). In October 2008, Flavia Schlegel took over her field of activities as Executive Director of swissnex China. Previously, she worked as the Vice Director of Public Health and as a member of the management team of the Swiss Federal Office of Public Health. From 2002 to 2004, she worked at the Swiss Embassy in Washington DC as the Counselor for Science and Technology, addressing mainly the following priorities: promotion of Switzerland as a prime location for education, research and innovation, bilateral cooperation as well as international benchmarking. Flavia Schlegel has a broad network in government and parliament, media, among the private sector as well as non-governmental organizations.

Olivier Jacot has graduated from the University of St. Gallen HSG in International Affairs and Governance and is currently working for swissnex China until summer 2011. He is especially involved in providing a report on the current intellectual property rights situation in China. Previously, he worked at the Swiss Embassy in Beijing and as a research assistant at the law and economics department of the University of St. Gallen.

Marc Fetscherin is an Associate Professor of the Crummer Graduate School of Business and the International Business Department at Rollins College. He is also an Asia Fellow at Harvard University. He received his Ph.D. from the University of Bern, Switzerland. He holds two Masters degrees, one from the University of Lausanne, Hautes Etudes Commerciales (HEC), Switzerland and the London School of Economics (LSE), UK. He has published the book "*Consumer-Brand-Relationship: Insights for Theory and Practice*" (2011) as well as numerous peer-reviewed article, book chapters, and conference papers. Fetscherin's articles have appeared in peer reviewed refereed journals such *Management International Review*, *International Business Review*, *Thunderbird International Business Review*, *Asian Business & Management*, *European Journal of International Management*, *Multinational Business Review*, *International Journal of Emerging Markets*, *Journal of Global Marketing*, *International Marketing Review*, *International Journal of Market Research*, *European Journal of Marketing*, *Journal of Brand Management*, *Journal of Place Branding and Public Diplomacy* and others.