Digitalization and Cybersecurity Seminar: Israel and Palestine, 6 May 2023 – 10 May 2023

The "Digitalization and Cybersecurity Seminar" of the Alliance Digital Security Switzerland ADSS in cooperation with digitalswitzerland brought representatives from politics, business and academia to Tel Aviv and Jerusalem in Israel and Ramallah in Palestine. The seminar offered the opportunity to take an in-depth look at the culture of innovation and the driving forces of the cybersecurity ecosystem. What can Switzerland learn from Israel and Palestine? Where is there potential for partnerships and collaborations? National Councillor Franz Grüter, President of the Alliance Digital Security Switzerland, confirms that we as Switzerland can benefit greatly from Israel. I have summarised the insights and impressions gained along the programme.

Israel is a leader in the high-tech sector

Israel invests in innovation: Israel's venture capital per capita exceeds that of Switzerland by a factor of 10.3, and investment in research and development (R&D) is also prioritised much higher in Israel, at 5.5% of GDP compared to 3.2% in Switzerland, notes Andreas W. Kaelin, head of the seminar. Investors from all over the world are present in Israel to benefit from the dynamic and innovative ecosystem. IT giants like Apple, Google and Intel as well as venture capital firms are eager to conduct business here. Particularly impressive: 40 percent of global cyber investments flow to Israel. This is paying off: In its history of only 75 years, Israel has managed to become the world's fifth largest tech ecosystem and an epicentre for cybersecurity, offering its services worldwide. ICT exports from Israel, which is half the size in terms of area and counts only 0.9 million more inhabitants in terms of population, are almost three times as high as those of Switzerland.

Israel's Startup Nation in Crisis

These facts are impressive, but should be regarded with a grain of salt, according to Urs Bucher, Swiss ambassador to Israel, who pointed out the value of a well-diversified economy like that of Switzerland. David Biegeleisen, Innovation Advisor at the Swiss Embassy in Israel, considers this as a risk for Israel: domestic political tensions and the unfavourable economic situation are currently endangering the dream of the start-up nation. Should the stability of investments change in the perception of investors due to the recent tensions, 75 per cent of venture capital from abroad could drain, thus slowing down Israel's growth engine "High-Tech". These are precisely the challenges Israel is currently facing. Mass demonstrations against the planned judicial reform take place weekly. Further tensions arise from the Palestinians' aspiration for a nation-state as granted to them in the UN partition plan.

The UNTSO is headed by a Swiss Major General

US Marine Colonel Aldridge invited us to the United Nations Truce Supervision Organisation (UNTSO) headquarters in Jerusalem and held an impressive presentation on the current situation and the organisation's mission, namely to supervise the ceasefire in the dedicated zones in the Middle East. He is representing the Swiss Major General Patrick Gauchat, who heads the UN peacekeeping mission UNTSO by appointment of UN Secretary-General António Guterres. Their weekly reports are addressed directly to UN headquarters in New York. The most important thing in their work is to give a neutral account of events. The choice of words has to be very precise: It must always be specified to what extent information was supposedly or actually confirmed.

Necessity creates innovation

Without the military, Israel would hardly have risen to become a world-leading start-up nation. The country would also hardly have recognised the potential of cyber security so quickly - long before the topic appeared on the radar in Europe. Ran Natanzon, Head of Innovation & Country Branding, Public Diplomacy Division at the Israeli Ministry of Foreign Affairs, sees necessity as a decisive factor in Israel's rise as a cyber nation: "Israel has been exposed to cyber-attacks and has always been forced to act more innovatively than its neighbours". This has lost none of its validity to this day. But the importance for the economy is also undisputed: cyber security is a growth market. According to Guy Almog, Threat Intelligence Team Lead at

Cyberint, the industry, which was worth 3 trillion dollars in 2015, will be worth 10.5 trillion dollars in 2025. David Biegeleisen is convinced: "Without cybersecurity, there would be no high technology in Israel. Cybersecurity is firmly anchored in areas such as mobility and health."

The army as an important part of the Israeli education system

Military service is compulsory in Israel. Men serve three years, women two. For Ambassador Urs Bucher, the army is the most important factor for cohesion in the country: this is where loyalty is taught, the "Two Degree of Separation" network is established and practical training is completed. In fact, the education systems in Switzerland and Israel differ greatly: in Israel, 80 per cent of young people complete high school and only 10 to 15 per cent complete vocational training. In Switzerland, vocational training has a greater weight: two-thirds of all young people complete a vocational apprenticeship and only about one-third complete high school. For example, 79 percent of all ICT professionals entering the market have completed a vocational apprenticeship. The counterpart in Israel is the army, which paves the way for many careers by teaching practical and socially relevant skills. Training in the high-tech sector is particularly in demand, for example at the 8200 Israeli Intelligence Corps Unit of the Israel Defense Forces (IDF), which specialises in offensive operations, and the C4I Directorate, which specialises in defensive operations and infrastructure security, where highly qualified tech specialists are trained.

But the Federal Department of Defence, Civil Protection and Sport (DDPS) has also recognized the importance of cybersecurity. According to Perceval Faramaz, it is operating a Cyber Defence Campus with Armasuisse, a competence centre that was founded to anticipate cyber developments more quickly. In addition, the army launched its own cyber training course in 2018 and recently started offering a preliminary course as a public-private partnership (SPARC programme) to raise awareness among young people aged 16 and over, reported Gregor Hofer of Swiss Cyber-Defence.

As in Switzerland, there is a lack of skilled workers and diversity in Israel. This is confirmed by Sagy Bar, Betty Kulbak Aharon from the Cyber Education Centre (CEC) and Serge Frech, Managing Director of ICT-Berufsbildung Schweiz. Israel's CEC, which was founded by the Ministry of Defense with the Rashi Foundation to balance the national need with targeted education programmes, is countering this trend with early awareness-raising for high-tech professions, the mobilisation of peripheral regions, the further training of teachers and the promotion of Women in Tech.

Active innovation promotion by the state

The Startup Nation on the Mediterranean does not only produce original business ideas. It takes time and financial resources to make them marketable. The Israelis have both. For example, Israel has used public money to attract private investors in the Yozma project, which was launched by the government in the early 1990s. Ran Natanzon explains that the state provided up to 40 per cent of the investments offered by private foreign investors. Only in the case of success did the money have to be paid back. In this case, the state pulled out completely. This minimised the risk for investors considerably. For Israel, the equation worked out: A lot of foreign venture capital flowed into Israel and helped the country earn the title "Startup Nation". Particularly exciting: in the Yozma project, 80 percent of the investment firms paid back the state funds.

Today, the government creates framework conditions and deregulates: For example, startups have the opportunity to pay only 5 per cent instead of the usual 23 per cent corporate tax in Development Areas and to get free access to office space. In addition, 19 tech incubator programmes are offered, from which 80 companies emerge annually. The state contributes significantly to R&D costs. In this way, innovations by high-risk companies that would otherwise not receive funding are also promoted. The principle is that even if organisations fail, they create valuable knowledge for Israel and contribute to the "knowledge cycle".

Try fast, fail fast

In general, the motto "try fast, fail fast" is strongly embedded in Israeli culture, says Ran Natanzon. Progress

is more important in Israel than perfection. One reason the country has developed into a start-up nation is the willingness of founders and investors to take risks. In Israel, only those who have previously failed with one or more start-ups seem to be recognized as successful and respected entrepreneurs. One fails and learns. In the case of success, says David Biegeleisen, social applause awaits: successful entrepreneurs are celebrated like rock stars in Israel. This is very different from the culture of the more modest Swiss. Ultimately, successful entrepreneurs also contribute to the "knowledge cycle" as angel investors or advisors.

Palestine as an attractive outsourcing location

A visit to Ramallah, the political, economic and cultural centre of Palestine, gave the seminar participants an insight into the Palestinian tech ecosystem. Omar Kamal, who has already worked for several companies from Silicon Valley, reported that IT is an important driver of the economy here as well. The country attracts large outsourcing contracts in particular, he said, because the services can be provided locally in high quality and at a third of Israeli prices. Due to the shortage of skilled labour, local skills are in high demand among Israeli as well as international companies. Accordingly, the Palestinian high-tech industry is currently experiencing strong growth. Building on the good education and start-up system as well as the resilience of the Palestinian culture, the aim is to expand this sector exponentially. There are eleven universities training talented high-tech specialists, a first VC fund and numerous initiatives promoting the ecosystem. Switzerland is also supporting: Anne-Lise Cattin Hennin, Switzerland's representative in Ramallah, is strongly involved in developing the high-tech sector, including through knowledge transfer through Swiss university partners. Palestine has already produced hundreds of successful start-ups. It is also one of the fastest-growing markets in this sector.

INCD: Israel has had an E-ID for a decade

Israel is not only progressive in the fields of entrepreneurship and cyber security, but also in its own electronic identity. For ten years, Israel has had an electronic ID system. The importance of these projects is underlined by the fact that the Israel National Cyber Directorate (INCD) reports directly to the prime minister. Its task is to protect critical infrastructure and record incidents. Attached to it is also the Identity and Biometrics Applications Unit (IBA), which focuses on e-ID. Naama Ben Zvi, Director Supervision & Compliance of the National Biometric Project, explained the Israeli process for creating its own E-ID: To reduce forgery and identity theft, it was based on biometric data. Now, 70 per cent of the population has an electronic identity with fingerprints and facial image. For privacy reasons, however, Israel has now stopped storing fingerprints in the central database. Interestingly, even in digitally advanced Israel, the first identification for the E-ID is carried out physically with cameras specially provided for this purpose. The camera records information such as facial bone structure, the distance between the eyes, the distance between the ears and eyes and the proportions of the facial features. Physical identification is essential, explains Naama Ben Zvi. The Biometrics Lab is also impressive. According to Michael Saguy, applications are being tested there to ensure "Informed Government Purchases". For example, fingerprint readers or facial recognition applications are tested for their error rate.

Rise to cyber giant

CyberArk has proven that the rise of an Israeli start-up to a company with international significance is possible. The company is now a global leader in access and privileged access management. They verify human and machine identities. Although the office space with basketball baskets and entrepreneurial slogans on the walls still strongly reminds one of a young start-up, CyberArk today already counts over 3000 employees and 2000 customers worldwide. According to Lavi Lazarovitz, VP of Cyber Research, the principle of least privilege is rarely followed: Users should only have the access rights and permissions they need to do their job. However, from their experience 90 per cent of the access rights and permissions granted are not used. This represents considerable security risks. Using the examples of Uber, Mailchimp and OKTA as a reminder of the serious consequences that a lagging cyber infrastructure can have, he appealed to companies to invest in their cyber infrastructure upfront.

Lessons for Switzerland

The high-tech sector was considered a promise of prosperity in Israel. But today the economic situation and domestic political tensions are endangering the dream of the start-up nation. This impressively demonstrates the value of our diversified economy as well as political stability. Know-how and talent are the basis of Israel's success. Thanks to its strong dual and transmissive education system, Switzerland is certainly competitive in this regard. It should however be examined whether the Swiss army could be even better adapted to the needs of the economy and society following the Israeli model. The need for constant innovation and Israel's unconditional will to be a leader in the high-tech sector are also particularly reflected in the state's promotion of innovation and in the culture of society. Switzerland should promote the acceptance of failure by reducing entrepreneurial risk, providing incentives for foreign investors as well as creating a sense of urgency in order to catch up with Israel.

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