Building the Innovation Economy

City-Level Strategies for Planning, Placemaking, and Promotion

Case study: Tel Aviv

Urban Land Institute

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- Exploring issues of urbanisation, conservation, regeneration, land use, capital formation, and sustainable development.

- Advancing land use policies and design practices that respect the uniqueness of both the built and natural environments.

- Sharing knowledge through education, applied research, publishing, and electronic media.

- Sustaining a diverse global network of local practice and advisory efforts that address current and future challenges.

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Acknowledgements

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Executive summary

Many cities around the world are seeking an enhanced presence of the emerging innovation economy in order to grow a new base of jobs, adjust to industrial change, or to leverage technology to address sustainability, resilience, and social cohesion. In the current cycle, cities are focusing investment and promotion on new 'innovation districts', locations within the city where the innovation economy may develop and expand, although not all cities have the endowment, ecosystem or expertise to host them.

As part of a collaboration between ULI and the City of Rotterdam, this case study of Munich was developed in order to review and explore the ways in which cities can foster an innovation ecosystem and build a long-term strategy to establish themselves as centres for innovation. Tel Aviv was selected as a case study city, along with Munich and San Diego, because it has experienced a full cycle of innovation system growth over the last 30 years and has built a distinctive innovation brand.

Three overriding research questions informed this case study:

- What roles are played by city governments, landowners and investors in building an innovation economy, creating new innovation districts, and sustaining them over time?

- How does land use, placemaking and real estate help support the innovation economy, and how can it contribute to making a city more liveable and attractive?

- How does branding, communication and promotion of the city's innovation focus help build identity and successfully attract investors and businesses?

Tel Aviv has developed one of the most advanced innovation ecosystems in the world, building on its history of immigration and entrepreneurship and leveraging its specialised IT knowledge. The synergies between large tech companies, American venture capital, startup firms, and experienced mentors helped Tel Aviv to become a major technology exporter.

Tel Aviv is distinctive compared with many European cities in that its most popular suburban locations from the first cycle of its innovation economy retain their desirability today. Chief among these is the coastal suburb of Herzliya, an upmarket residential location that has become a hotspot for innovative companies and venture capital over the last 30 years. Real estate companies have played a catalytic role to build critical mass and have successfully adapted to the space needs of the market over time. Herzliya's municipal government has been an active player in incentivising real estate entrepreneurs and tenants, zoning for densification and later for mixed use, and investing in accelerators.

The central municipality of Tel Aviv has invested in all-round quality of place over the past 25 years, especially along the waterfront and in other areas to re-activate the public realm. In recent years it has actively courted technology firms and encouraged innovation activity to locate in industrial spaces in southern Tel Aviv. It has also supplied affordable municipal spaces to fledgling businesses and linked them to city programmes and resources.

Tel Aviv municipality has sustained the city's positioning as an innovation capital for nearly three decades. Through initiatives such as Non-Stop City, and more recently Tel Aviv Global and Startup City, the city has communicated a strong sense of the city's core values and DNA that align with the innovation story. Tel Aviv's success at telling the world its story is matched by improvements in quality of place, experience and business friendliness, all of which builds demand for the different innovation locations in the city and wider region.

Areas of successful leadership in Tel Aviv's innovation economy and district development

Strategy

Tactics

Develop a Strategy as a City of Innovation

Recognise and leverage the regional innovation context

Prioritise attention on citywide ecosystem development and networking ✔

Grow and support existing innovation firms and activity ✔

Manage externalities that arise

Adapt through the cycles

Optimise Land Use and Placemaking

Support district development with flexibility, responding to market preferences ✔

Use infrastructure and land as platform for experimentation ✔

Employ placemaking to achieve critical mass of real estate and commercial activity, and authentic sense of place ✔

Build the City's Innovation Brand

Leverage city DNA and expertise in promoting innovation ✔

Develop innovation brand as a broad identity and shared narrative ✔

Invite others to feel and experience the innovation culture ✔

1. Tel Aviv's innovation ecosystem

With a metropolitan population of three million people, Tel Aviv is one of the most innovation-led and globally connected cities in the Middle East. Israel's business capital is rated the fifth most dynamic startup ecosystem in the world and the highest outside the United States, and it is currently rated the 19th city for commercial innovation in the major international index by 2thinknow Consulting.[1]

Tel Aviv is a distinctive example of a frontier immigrant gateway society that has absorbed international influences and has been founded on entrepreneurial principles with key **catalysts:**

- The arrival of European immigrants with capital, commercial acumen, and creative talents meant that despite many political challenges Tel Aviv emerged as Israel's most cosmopolitan city

- The national military's demand for tech solutions for computer security, telecommunications, and electronic warfare created large pools of specialised knowledge in Tel Aviv. The synergies and two-way traffic between civilian and military sectors created high-quality, competitively priced human resources and ideal conditions for entrepreneurship

- Intel's arrival in Israel in 1974 led to its gradual emergence into the country's largest single tech employer across six development centres and fabrication plants, several of which were 50 to 80 km from Tel Aviv

- The effective combination of venture capital firms, senior mentors, and startup companies set up by ex-Intel employees, was essential to Tel Aviv becoming a major exporter of tech innovation.[2]

In the 1980s and 1990s, Tel Aviv began to re-position itself in the international economy. The office tower load of the central business district (CBD) expanded to host international functions in finance, technology, and producer services. Its research and development (R&D) capability grew impressively, with strong support and mentorship from early-stage investors. Across the metropolitan area, American investment in information technology (IT), internet technology parks, and small and medium-sized enterprise (SME) incubation centres took off, and Tel Aviv's new inventions (e.g., smart water monitoring, smartphone apps) became very popular in Europe and North America.

The spatial character of Tel Aviv's innovation economy

Tel Aviv is distinctive compared with many European cities in that many of its most popular suburban locations from the first cycle of its innovation economy retain their desirability today.

These centres benefit from Israel's exceptional talent base, partly nurtured through close links with the defence industry's technology sector, which has fed into the civilian economy. One centre is Herzliya (see box 1). Aside from Herzliya, there are others (see figure 4), such as

- **Kiryat Atidim,** a district that is centrally managed by the city of Tel Aviv and Tel Aviv University. It was established partly as a rival to Herzliya to commercialise academic innovation. It competes well on cheap office space and local cycle access, but it has challenges around congestion and lack of evening vibrancy.

- **Ramat Hahayal,** another district nearby, which is home to many engineers, TV broadcaster Keshet, and Assuta Medical Center. This district has a more active nightlife scene.[4]

Figure 1: View of Tel Aviv from the Azrieli Center

Ynhockey, CC by SA 2.0

Box 1: **Herzliya: The first location of the innovation ecosystem**

Herzliya is a northern coastal suburb of Tel Aviv, 10 km and 20 minutes' drive from Tel Aviv city centre. Historically the area was an upmarket residential location for affluent business-people and families, at a time when the city of Tel Aviv itself had a less positive, bohemian reputation. Importantly, the entire development is located in (and managed by) a separate municipality, Herzliya. After 30 years of development, it is arguably Israel's most important and mature innovation district. In 2016 it is home to 1,500 firms, including Microsoft, EMC, and Apple.

Figure 2: Herzliya Pituach

Photo by Guy Pakeman

In the 1980s, Herzliya was mainly a location for large-scale manufacturing, but the move by three companies in search of cheaper real estate (computer graphics firm Scitex, the R&D subsidiary of American corporation Digital, and National Semiconductors) began a snowball effect and the birth of a software cluster. Other influential companies that moved their R&D functions included computer firm Daisy Systems and medical imaging firm Elscint.

Herzliya really became recognised in the 1990s, when a number of high-profile exits took place and large spaces developed to absorb new arrivals. Initially this occurred mainly in a waterfront zone called Herzliya Pituach, but it has also spilled over inland to the main municipality of Herzliya. The 1990s boom ended with the NASDAQ crash. The district faced a big oversupply challenge, but its sector and company mix proved resilient to the downturn.

Today, Herzliya consists of a mix of international tech companies, venture capital firms, energy companies, and law firms. It has over 1,500 companies that occupy more than 800,000 sq m—two-thirds of which are located in the main high-tech park. About 35,000 people are employed in the cluster, which has recently attracted Amazon and Apple's second largest R&D centre among other key international players, such as IBM and O2.[3] IDC remains an important anchor with its own accelerator programme (the Zell Entrepreneurship Programme) and dedicated state-of-the-art R&D and coworking facilities (e.g. the Zellerator Space). Although Herzliya still relies on the established system of big companies—which employ the majority of engineers and programmers—those are being complemented by a more agile system of innovation.

Figure 3: Ben Gurion Boulevard, running through the heart of Herzliya

Photo by Guy Pakeman

The critical mass of innovation activity has been attracted by the district's famous beaches, proximity and connectivity to Tel Aviv's core, and an enviable reputation for quality of life. As a mature innovation district, it has a strong system of entrepreneurship combined with access to finance, education, and leisure opportunities. The district has begun to diversify and is becoming an important centre for robotic technology.

Two important reasons explain the proliferation of out-of-town innovation parks:

- Israel's very centralised public finance system means that high-tech parks are a way for local governments to gain an independent source of revenue from property taxes on businesses.

- The city of Tel Aviv is only a small part of the metropolitan area, and the surrounding local governments are all in competition for tax revenue.

Some of the planned technology centres in Tel Aviv have matured into successful innovation districts that provide a stamp of credibility for tech firms located there, but many of the less competitive developments have faded into run-down logistics parks.

The city of Tel Aviv previously did not actively compete for tax base because it relied principally on the taxes from its banking and business services industries. But since banks have begun to relocate some operations in search of more favourable tax arrangements, the city now courts technology and innovation firms.

Especially in the last 5-10 years, startups and small companies are opting to locate more centrally, especially in the area around **Rothschild Boulevard** but also further north near the port. Google and Facebook are also both located in the core CBD. Real estate in these central locations is expensive, and while some startups benefit from philanthropic landlords, the city has also begun to innovate to provide affordable space (see following pages). When a light rail system soon arrives in Tel Aviv, demand is expected to grow rapidly. The city is encouraging innovation activity to locate in industrial spaces in southern Tel Aviv, partly to stimulate regeneration and help reduce the growing north-south divide.

Figure 4: Map of business districts and innovation districts in Tel Aviv
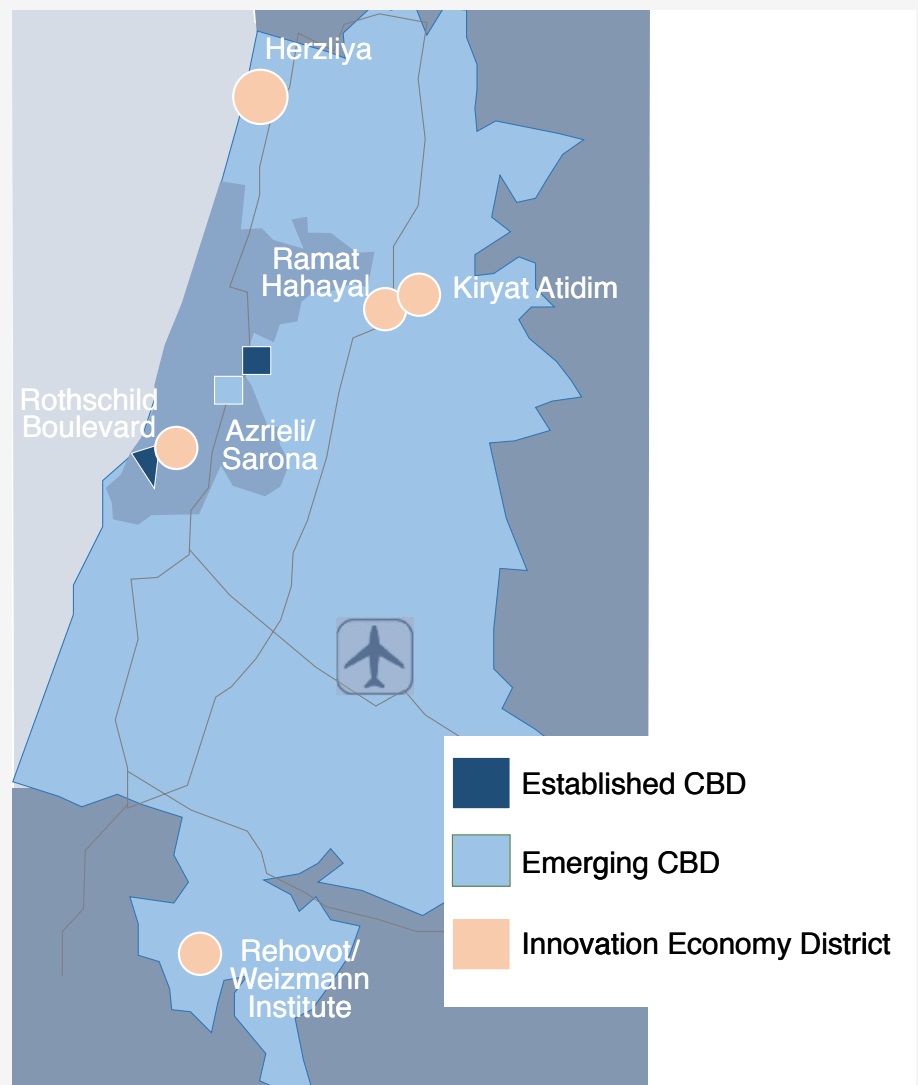
Note: CBD = central business district.

2. The role played by investors, corporate stakeholders, and the municipal government in Tel Aviv's innovation economy

Tel Aviv's municipality as a startup catalyst

The city of Tel Aviv has made a number of important interventions to support the innovation ecosystem over the past 20 years.

In particular, it has been active in providing municipal spaces to fledgling businesses and linking them to city programmes and resources. Such spaces include The Library, Atidim 7, and Mazeh 9. The first, located in central Tel Aviv in the Shalom tower at the heart of the downtown innovation ecosystem, was originally a public library with declining attendance. The city transformed part of it into a startup incubator, with workspaces, cheap rent, free wi-fi, and a meeting room.

Tel Aviv also offers tenants of The Library access to city officials and some city resources, provided they are involved at the intersection of technology, urbanism, and civic solutions. This scheme fits into Tel Aviv's wider support for local innovation through a programme that screens startups eligible for cooperation with municipal departments, in a bid to speed along the development of smart city technologies and solutions.

The city is also involved in the Atidim 7 incubator as a co-owner of its parent company. Atidim 7 provides fully serviced flexible and coworking spaces for SMEs, in a dedicated park just north-east of the centre. Mazeh 9 is also a city-run space and is home to Tel Aviv's Centre for Young Adults. The centre offers dedicated spaces for young entrepreneurs to work, meet, study, create, and rehearse in a variety of flexible and affordable spaces designed to support the intersection of youthfulness and the creative economy, especially for a generation of 'social entrepreneurs'.[5]

Figure 5: Shalom Tower in Tel Aviv

Photo by Avishai Teicher, CC by SA 2.0

The role of national government

In Israel's centralised governance system, national government has also played a significant role in the evolution of Tel Aviv's innovation system. Tax incentives for companies starting up in Israel, and seeking to stay there, have been introduced. Corporate tax breaks and grants for multinational technology companies that are offered are important to Tel Aviv's network of suppliers and small businesses, as well as public financial support for early-stage startups in specialized incubators run by private firms. In 2011, Israel also created specific tax incentives for Israeli and foreign investors in local high-technology firms. The latest budget also announced that for 2017–2018, Israel will be granting further significant tax cuts to companies that base their R&D operations in Israel and register their intellectual property there.[6]

Central government is also introducing startup visas to support the Israeli innovation economy, in a bid to loosen otherwise stringent restrictions on immigration. Aimed at foreigners who possess specific creative skillsets or who are looking to invest in the local innovation economy, the visa program will facilitate temporary settlement in Tel Aviv to encourage an influx of foreign investors and talent. Visas can be further extended should the companies of the investor take root in Israel. Those who are granted visas will be given the workspaces and physical and technological infrastructure they need to carry out their projects.[7]

Figure 6: View of Tel Aviv from Moshe Aviv Tower

Photo by Shmuliko, CC by SA 2.0

Leadership from investors and landowners

In many of Tel Aviv's leading locations, real estate has played the catalytic role to build the critical mass. Herzliya, for example, has no central management model and has been successfully managed by large property management companies such as Bayside, Vitania, Azorim, and Ofer Investments. These firms typically charge management fees for providing high-quality services.

These companies have been very alert to the needs of the market over time. In particular, they address the preference of firms to be located in districts where construction unfolds in stages, so that space can be rented even if there is uncertainty over whether additional space would be needed in the future. Real estate investment firms saw the highest quality of purpose-built R&D and hi-tech facilities emerge in Herzliya, as well as high-end residential development in adjacent neighbourhoods that were and are perceived to be among the most vibrant and attractive in Israel.[8]

In the early cycles, this initiative involved supporting the arrival of large companies but also encouraging a fruitful set of relationships with small firms. Among the first important large projects that rapidly secured tenancy deals were Amazur House, SGS's Vitania House, the Bayside Corporation project, and the Herzliya Business Park. Developers often constructed an initial building and left the adjacent parcel of land undeveloped as an option for the same company to expand.

The location of an anchor university was critical to growing innovation in Herzliya. In 1994, the founding of the Interdisciplinary Center (IDC) as Israel's first nonprofit private university, on a dis-used military camp in Herzliya, was a major trigger for the district's reputation for innovation. The IDC has been distinctive for engaging students as active partners and collaborators in the education process and for building links with local companies.

In the most recent cycle, these property companies have adapted quickly to the impact of WeWork, the global workspace provider, and the sharing economy. Across Herzliya, more open centres are being created that enable local people to develop their ideas, that draw from WeWork's business model, and that are based on a low-rental arrangement.

The role of local government

Herzliya's municipal government, which governs an area of 22 square kilometer, has been an active player from the beginning, in tandem with the Herzliya Industrial Zone Administration. In the first cycle, the mayor and deputy mayor of Herzliya recognised the potential of the district and encouraged real estate entrepreneurs to build the first development. The municipality offered building rights and property tax breaks to encourage tenants to locate and stay. In the case of one of the key corporate tenants, Scitex, the municipality sought to allow demolition of the single-storey building to construct a seven-storey replacement leased to the company, as well as accelerating the approval process and supporting a large parking lot on site.

Zoning laws were modified in 1998 to increase the district's density and declare it 'hazard free' to incentivise high-tech relocations. Upgrades to public transport also enhanced its connectivity with Tel Aviv's urban core. The district's access to main-road arteries and the high quality of workspace and facilities were viewed as the key advantages in the 1990s.

Figure 7: Junction in Herzliya

Photo by Guy Pakeman

Since 2013, the municipal government has also supported a new wave of innovation activity. It invested significantly in the re-fitting of a building to provide to the Herzliya Accelerator Center (HAC). The centre is focused on urban innovation and offers the city's data and space as a test bed and data source. It also offers coworking space, meeting venues, and mentoring facilities. Among other efforts, the HAC has helped overhaul the municipality's own operations as a public administration so that the municipality becomes a 'customer' as well as a host of startup innovation. Startups incubated or connected to HAC have provided solutions to improve departmental services. This assistance has increased understanding and appetite within the municipality to serve a broader innovation ecosystem.

In 2016, a new mixed-use zoning plan for the western zone adds scope for much more business space and an additional 2,000 apartments. In particular, it allows for the integration of uses that are sometimes segregated. This initiative represents Herzliya's latest adaptation towards a live/work lifestyle, in line with developments in other innovation districts around the world. The aim is to optimise the use of land resources, reduce usage of cars, and increase urban vibrancy.

One important challenge for Herzliya is to grow linkages and build agglomeration across the sharp spatial divides that exist between other economic centres in Tel Aviv. In the next cycle, Herzliya aims to expand and diversify its specialisms. The creation of a robotics industrial park is an important ambition to complement the existing district. Increasingly, it is becoming a priority to add intensity and variety to the district to increase its 'urban' characteristics. The arrival of light rail in Herzliya within ten years is set to have a transformative effect in this respect.

3. Land use, real estate, and placemaking in Tel Aviv

Rather than target the creation of one or two innovation districts, the city of Tel Aviv has invested in all-round quality of place over the past 25 years, making a series of interventions along the waterfront and in other areas to re-activate the public realm.

City leaders reclaimed the city's Bauhaus architecture in the centre (now known as the 'White City' and given world heritage status by UNESCO). The 2004 City Plan focused on quality of life for residents, based on the recognition that the city had to attract young people and young families in larger numbers. This meant focusing on reduced congestion, widened streets, improved public lighting, bicycle routes, wifi hotspots, and improved access to the seafront. Bar, café, restaurant, club, and street life began to re-emerge with municipal help, and this vibrancy brought with it new start ups that relocated near to Tel Aviv Port, often in warehouses. The quality of place and diverse range of amenities has continued to attract new and larger innovative companies to this area of the city, and with rising rents now the challenge is to ensure that the right mix of workspace and amenities can be sustained.

The story of placemaking also has been notable in Herzliya. Although Herzliya was initially designated as an 'industrial zone' to host technology, much of the neighbourhood benefits from the fact that it does not have a 'park' or 'campus' quality but instead feels more like an organic commercial area. Although placemaking and public space have not been Herzliya's stand-out strengths, iconic buildings and the high quality of restaurants and amenities have been important in creating the district's prestige.

Herzliya initially relied on road access, shopping malls, and a quite minimal public realm. The district is still reliant primarily on road access for its commuter population, and there is a culture of car dependence. Ease of access from Tel Aviv and Haifa has been part of Herzliya's locational appeal, but public transport, 18-hour liveability, and a wide mix of uses are now a clear priority for planners as the competition from the Tel Aviv core heats up.

Proximity to exclusive residential neighbourhoods has been an essential advantage for Herzliya and a key factor in its ability to attract talent. Nearby shopping malls, luxury retail, and numerous coffee shops have also grown up around the district, all of which foster a unique atmosphere in Tel Aviv that adds to its desirability.

The shift towards flexible and de-segregated workspace is pronounced in Herzliya. Microsoft, for example, hosts the Microsoft Ventures Accelerator, offering open and sharing working spaces that are conducive to sharing ideas. WeWork is another important operator and offers flexible leases and hyper-fast broadband to its tenants.[9]
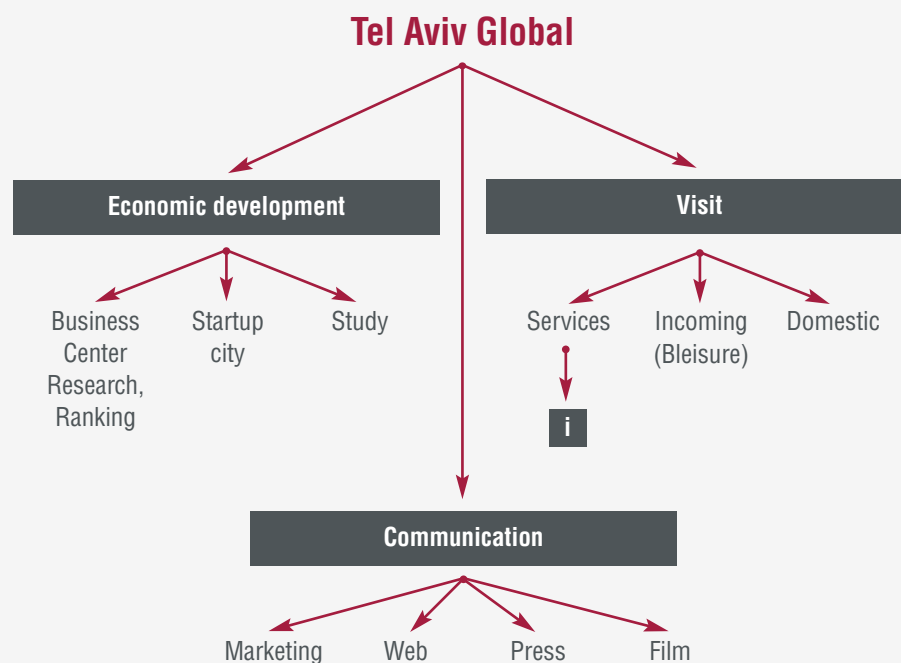
4. The fostering of an innovation brand in Tel Aviv

The city of Tel Aviv has made remarkable sustained efforts to position innovation as a way of life and build an innovation brand that attracts new participants to the ecosystem across the region.

Tel Aviv first marketed itself as the 'Non-Stop City' in 1989, in an attempt to highlight that its tech innovation culture is manifested itself in all areas of city life. The city identified the trend of young workers increasingly preferring a vibrant urban lifestyle, and through the 'Non-Stop City' brand the city sought to communicate the energy and creativity that its residents produce. This brand, which endures to this day, has captured a spirit of Tel Aviv that derives from its origins as a gateway city of immigration, commerce, risk-taking and entrepreneurship. It became extremely well known in Israel and helped accustom local people to the idea that the city fabric was in a constant state of evolution. The brand was supported by investments in placemaking, and co-incided with a broad rise in tourism and international investment throughout the 1990s and into the 2000s.[10]

Figure 8: The three-pronged focus of Tel Aviv Global

Source: Tel Aviv Global 2015–2016 Work Plan [11]
Note: Bleisure refers to business visitors, City Break and foreign students.

By 2010, Tel Aviv decided to establish 'Tel Aviv Global' in order to catapult the city's reputation from a regional level to the global stage. A city-owned company accountable to the Mayor, Tel Aviv Global seeks to promote Tel Aviv to the world, coordinate all brand positioning, and help increase the number of incoming tourists, investors and innovators. The initiative has a strong focus on improving Tel Aviv's performance and visibility in global media, social media, rankings and benchmarks, which support its economic development objectives especially around business and innovation (Figure 8). Many of the events and conferences the city hosts are used as opportunities to promote this marketing content – one of the most important is Digital Life Design (DLD), which facilitates networking between startups and venture capital.

Through Tel Aviv Global, a municipal strategic plan called Startup City was formed to engage investors, entrepreneurs, creative tourists and students around the idea that Tel Aviv was about more than nightlife and the beach. This plan has become a complementary brand to the 'Non-Stop' City, that makes the explicit link between the city's tolerance and vibrancy, and its culture of entrepreneurship. It does not brand a particular district but the whole city as an ideal environment to develop and scale new ideas.[12]

Most recently, Tel Aviv also positions itself as a 'smart city,' as a complementary approach to demonstrate the city's leadership in hosting and facilitating urban innovation. This programme communicates how Tel Aviv is applying smart technologies to urban life, including free public wi-fi, the Digi Tel card that will allow residents to gain access to personalised information on city functionality and events tailored to their profile,

open data initiatives, and the digitisation of teaching. Once again, Tel Aviv ensures that there is a direct connection between its brand promise and real initiatives.[13]

Tel Aviv's success at telling the world a story about its DNA and openness to innovation means that the promotion of particular districts is less visible. Herzliya, for example, does not have dedicated international branding. Although its offer is well known locally, globally it is integrated into Tel Aviv's wider promotional efforts. Herzliya has had a long-term brand advantage because it is an established beachfront neighbourhood that traded on its lifestyle and quality. No high-profile communication story or promotional campaign has been undertaken—instead, the approach has been to build credibility and a reputation for excellence by providing the right conditions for companies to settle and internationalise.

5. Conclusion

Despite many initial constraints, Tel Aviv has successfully leveraged its human capital advantages and defense industry links to build a sustainable innovation economy. In the first cycle, much of the activity was clustered in suburban neighbourhoods where municipal leadership and real estate has partnered effectively to create and adapt its offer to technology firms. Over time, Tel Aviv municipality has prioritised facilitating smaller firms to locate more centrally, and has become highly creative at providing affordable spaces, amenities and access to networks.

Tel Aviv stands out for its investment in quality of place that has re-activated many parts of the city and fostered the street life and nightlife that triggered demand from firms in innovation sectors. The quality of life agenda has aligned successfully with the effort to leverage Tel Aviv's DNA of risk-taking, tolerance and commercial acumen to drive its innovation economy. The city offers an example to others about how to present a unified face to the world, and how to co-ordinate its branding efforts in ways that support the wider regional innovation ecosystem.

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Support district development with flexibility, responding to market preferences ✓

Use infrastructure and land as platform for experimentation ✓

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Build the City's Innovation Brand

Leverage city DNA and expertise in promoting innovation ✓

Develop innovation brand as a broad identity and shared narrative ✓

Invite others to feel and experience the innovation culture ✓

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