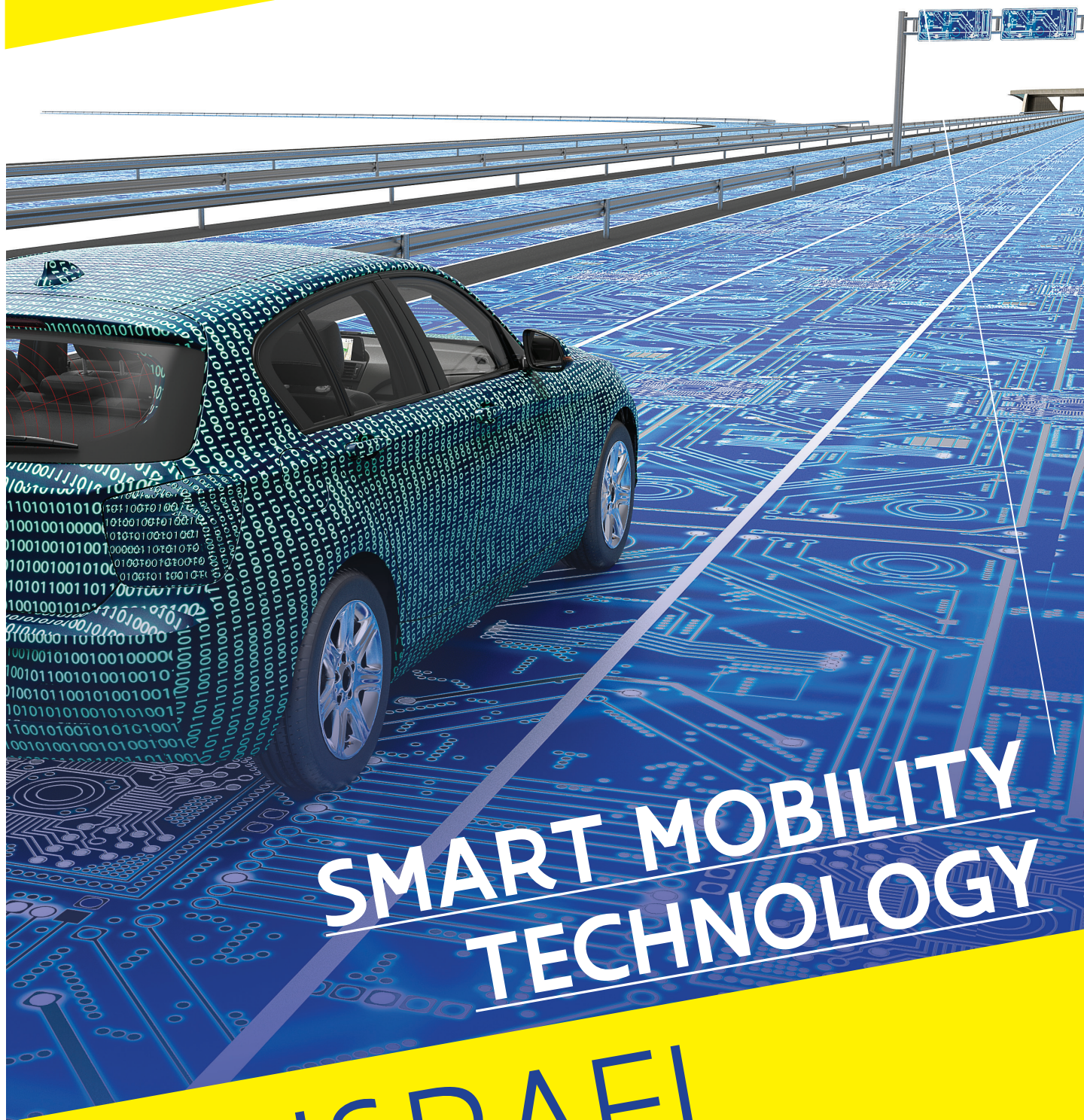




**Flanders**  
State of the Art



**SMART MOBILITY  
TECHNOLOGY**

**IN ISRAEL**

**FLANDERS INVESTMENT & TRADE MARKET SURVEY**



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ondernemen

# **SMART MOBILITY TECHNOLOGY in ISRAEL**

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## Abstract

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This brief paper discusses the Smart Mobility technology sector in Israel.

Smart Mobility technology is on the rise and is estimated to reach profits of about \$51.7 billion globally within the next twenty years. Israel is at the forefront of developing innovative technology for this industry.

There are over five hundred companies in Israel dedicated to the creation and sustainment of smart mobility technology. Millions of people across the globe utilize already some of these technologies and have created a market where smart mobility companies, such as popular phone applications, Moovit and Waze, have become household names and in everyday use.

The impact of smart mobility technology and its influence on smart cities is being recognized across the globe as a catalyst for more effective everyday commuting.

Israel, as a “start-up nation”, can provide great business opportunities. This is the result of several factors:

- As Israeli companies are export-oriented, there is a fundamental need to expand their business to other parts of the world in general, and to Europe in particular. Flemish companies can offer their European business contacts as an added value to their products.
- Flemish companies can bring niche technologies and unique know-how to the table. This can serve to expand the portfolio of the Israeli counterparts.
- Last but not least, the Israeli market itself can offer opportunities to relevant Flemish companies in this sector.

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## The Rise of Smart Mobility Technology

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Smart mobility has become increasingly popular across the globe. Because of this, Israel, one of the major smart mobility technology development locations, has attracted the attention of foreign and local investors as a great starting point for technology-related ventures. Of the \$20 billion raised by Israeli companies from investors over the past four years, the Smart Mobility Sector received about \$4 billion. The sector has also grown from about 87 companies in 2013 to over 500 in 2017. Now is a good time for Flemish companies to get involved in Israel's Smart Mobility Sector as the industry's value and propensity to change everyday life is increasing rapidly.

Smart mobility apps created in Israel such as [Moovit](#) have increased the usability of public transportation systems within Israel and in the world. Similar innovations, as well as other [user-friendly technologies](#) that are in the works in Israel, could improve daily lives through technological assistance, making transportation services more readily accessible. These services are already being used across the globe, and have begun to show presence in Flanders as well.

The strong reputation of Israeli technology companies has permeated the global market. Investors recognize the growth potential of smart technology produced in Israel because of the reputation of the "Start Up Nation", but also as a result of recent successes of companies such as [MobilEye](#) (purchased by Intel), [Waze](#) (purchased by Google), [Moovit](#), [Gett](#) and more. The strong financial backing of the Israeli smart technology sector has allowed for companies to continue developing new devices and services.

Smart mobility technology produced in Israel has a bright future. Israeli-based hi-tech companies are establishing branches across Europe, the United States, and other parts of the world. A study, [Israel's Automotive and Smart Mobility Industry](#), conducted by Roland Berger, a global strategy consulting firm headquartered in Germany, forecasted that the global income of the smart mobility market would be between approximately \$7.8 trillion to \$9.4 trillion, with profits totaling \$57.5 billion within the next twenty years. Experts predict that Israeli companies will play an important role in this trend, as can already be seen in the influx of multinationals that open R&D and other facilities in Israel. As the companies continue to profit off new smart mobility technologies such as autonomous vehicles and travel-oriented cell phone applications, increased funds will allow more capital to be invested into new innovations and improving existing technology. It is safe to assume that this in turn will create opportunities for foreign companies interested in joining forces with their Israeli counterparts.

Israel's technology sector, also known as "[Silicon Wadi](#)," is advantageous also because of its location: It offers access to both the United States, as well as proximity to Europe and Asia. Indeed, as mentioned, many global entities have taken note of the innovative technology

produced within Israel, and have used their resources to invest in these endeavors. Over the past four years, Israel's smart mobility sector has received about \$4 billion in investments. According to estimates, these figures will continue to grow.

In addition to outside investors, the Israeli government has recognized the potential of the smart mobility sector. [The government has therefore decided](#) that over the next five years it will dedicate about \$71 million to the development and implementation of smart mobility technology. Additionally, in order to assure the success of invested government money, a plan was created within the Transportation Ministry that is meant to foster innovation as well as the creation of guidelines to assist the feasibility of new technology.

The private sector has jumped on the wagon as well: VC's such as [Beyond Mobility](#) and [Maniv Mobility](#) are investing in technologies and companies and organizations like [EcoMotion](#) and [ITS Israel](#) are adding their input as well.

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## Main Business Domains

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Within the Smart Mobility Sector, there are many different business domains that provide a multitude of services. Some more popular examples include robot cabs (more technologically advanced taxi services), mobility planning platforms, ride-sharing and ride-hailing services, and autonomous vehicle development.

### Mobility Planning Platforms

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[The National Plan for Smart Mobility](#) in Israel is centered around two objectives; increase research and business development in smart mobility initiatives with the ambition of making Israel a global leader in this field, as well as increasing the sustainability and feasibility of public transportation. Israel's abundance of technology-based start-ups, and the rise in R&D directed towards smart mobility initiatives will make these plans achievable.

It is in the interest of foreign companies to become involved in Israeli ventures, as there is great potential for significant financial successes. Predictions of future outcomes can be anticipated from looking at the achievements of other Israeli technologies in this sector such as the previously mentioned companies.

### Research and Development

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As part of the Israeli government decision to invest in autonomous vehicles, it was decided that the ministry of Transportation, in collaboration with others, would promote the establishment of an experimental center for autonomous vehicles and smart transportation. [Ayalon Highway](#) is the company that will advance the establishment of the center. One of the tools for building the knowledge base and formulating the understandings and needs of the industry for such a center, is the implementation of characterization experiments of the technologies that have already matured. This will enable to test selected experiments in various fields of industry in the first stage, and later, after formulating the insights and work methods of the center's activities, to broaden the offered services to additional users.

The first phase, the characterization experiments, will be carried out on sites that will be chosen according to their suitability for the experimental needs. The first chosen site is a sterile road section with highway characteristics. The length of the road strip will be approximately 2.4 km and its width will be approximately 20 meters. The section will be marked with three lanes and is open for experiments from mid-July 2017 to February 2018, with an option for an additional six months.

Because of Flanders' innovative reputation worldwide, it is unquestionable that Flemish R&D processes could be extremely lucrative to Israel's high-tech sector.

Listed below are a few recent examples of R&D stories in Israel:

- [Foreign R&D centers play a key role in Israeli Tech](#)
- [Israel has emerged as an R&D alternative to Silicon Valley](#)
- [DRIVE](#), a newly created R&D initiative, will provide assistance to smart mobility companies to collaborate, assess market needs and test proto-types.
  - A brief explanation of [Honda and Volvo's involvement in DRIVE](#)

### Ride-Sharing/Ride-Hailing Services

Ride-sharing and ride-hailing services have become increasingly popular across the world. They are reliable and punctual, thus creating more efficiency for all travelers taking advantage of these services. Gett (previously GetTaxi) is an Israeli-created app that is extremely popular, particularly in Israel. Unlike other ride-hailing services, Gett allows customers to decide what method of payment is best for them, as well as the most convenient pick up time and place. Additionally, [Gett has also made their services available on other applications such as Moovit](#), to provide a quick alternative to using public transportation. It also allows for riders to book taxis in advance to save time, and the option to split taxi fares with other riders. Gett has a current valuation of \$1 billion, yet recognizes that its value will soon rise due to its acquirement of other ride-hailing services that will expand and improve their business ventures. [Via](#), another Israeli-born ride hailing service, [raised \\$137 million](#) since its foundation four years ago.

Here are some more examples of Israeli companies in the ride-hailing and ride-sharing domains:

- [Juno](#), an Israeli company recently [partnered with Gett](#) to launch servicing in NYC
- Israel's well-known transportation app, Moovit, recently began offering a ride-sharing service, called [Moovit Carpool](#), through their application as an alternative to public transportation

### Autonomous Vehicles

As previously mentioned in the section on Robocabs, autonomous driving is seen as the future of transportation and this is arguably the most sought after domain by Israeli companies in the sector. The number of startups in this realm is high and increasing. These companies provide solutions from sensors to cybersecurity to data collection for autonomous vehicles. Besides Mobileye, [Otonomo](#), another Israeli company, is on the forefront of developing technology that will assist autonomous driving capabilities by sharing data with car owners and automakers to assure that vehicles are safe as they commute and navigate roadways. The data that Otonomo intends to transmit from vehicles will allow for this information to



be transferred to different Internet-based services, such as mobile applications. Autonomous driving technologies, like those created by Otonomo and MobilEye, seek to create technology that is in touch with different driving environments. Humans are at fault for most vehicular accidents, and up and coming technologies have the potential to eradicate, or at least substantially minimize, human created driving accidents.

Other Israeli companies such as [Softwheel](#) and [Aquarius](#) have created technologies to improve the current state of driving through environmental and cost efficiency applications. Softwheel has created an energy efficient wheel that minimizes environmental impact. The mission of Aquarius, on the other hand, is to create power generators, engines, and smart vehicles that are cheaper and more environmentally friendly.

Some other examples of Israeli companies dedicated to autonomous vehicle technology include:

- [Jungo](#), a divestiture of Cisco Systems that has created a driver-monitoring system called CoDriver that will improve the safety of today's vehicles, and works towards the ultimate goal of autonomous vehicles through the further development of this technology
- [Inpris](#) has developed a software that allows drivers to control their cars' media through touch. Each finger has a different function in controlling the cars' system.
- [Guardian](#) produces optical technology that enhances driver safety. It detects motion within a vehicle, and can recognize seat occupancy. One function this technology has is to readjust a seatbelt by detected weight and size to maximize safety

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## Parameters that will Influence Israel's Smart Mobility Sector

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### Consequences of Growth of Internet Connectivity

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As the use of mobile devices becomes more widespread, smart mobility applications will become more popular. The development of other applications and technology will be increasingly important and beneficial as the technology sector begins to grow and individuals become more reliant on these services. [Mobile Marketing and Content Marketing](#) are imperative to the success of any new technology. The need for these services is increasing because of the spread of Internet connectivity and the corresponding applications and devices created to improve Internet usage. Flemish marketing agencies would certainly have a great amount of opportunities to collaborate with Israeli technology companies to assist the expansion and efficiency of new smart mobility technology.

### Rapidly Increasing Smart Mobility Technology Usage

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According to a [study](#) conducted by Roland Berger, about forty percent of smart technology is geared towards the smart mobility business sector. This sector includes services, applications, and various other technologically advanced services. The services have a wide range of uses, and span anywhere from providing assistance with navigating public transportation, to technological initiatives that decrease the difficulty of finding parking in an urban area.

- Some examples of the wide-spread usage of Israeli smart mobility technologies
  - [Moovit reaches 10 million users worldwide](#)
  - [Israeli ride-hailing Gett catching up to other services such as Lyft and Uber](#)
  - [HopOn](#), Israeli company where bus riders can pay in advance

Smart Mobility technology attempts also to improve the functionality and security measures of existing and new transportation services. For this reason, Israel [prioritizes the development](#) of technologies that will increase safety within Israel. Indeed, Israeli hi-tech companies [have gained "expertise"](#) in car security systems.

Constant changes in technology means a constant need for updating security systems. Flemish cyber security companies have opportunity to provide their services for smart mobility technology in Israel. However, it should be emphasized that, arguably, the forte of recent Israeli high-tech achievements lies in the cyber domain. Only those companies that have a unique, cutting edge, technology, can stand a chance in the highly innovative and competitive Israeli cyber sector.

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## Opportunities and Challenges

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### Challenges

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The fast-paced nature of the Israeli Smart Mobility Technology market, its achievements and highly competitive character, may present real difficulties for foreign companies wishing to enter the local arena. It may sound obvious but it is highly valid in the sector at hand: One must have a high-value (or niche) product and technology with a clear added value before one targets a foreign market. It is therefore important for companies to recognize their unique sales proposition vis-à-vis Israel's hi-tech sector before entering.

Foreign companies looking to partner with Israeli tech companies must also be weary because Israeli businesspersons expect exclusivity when representing foreign companies in Israel.

One should put into account the differences in business mentality that can lead to misunderstandings and gaps in expectations. See more [here](#).

### Opportunities in Israel *and* Abroad

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Israel's "smart" technology sectors, including smart mobility, has great propensity to fulfill the needs of the global market. While there is plenty of opportunities within Israel for high-tech companies to leave their mark and to be successful, there are obviously more opportunities on a global scale. Israeli companies are therefore constantly looking to expand their reach.

- **R&D Opportunity**

As previously mentioned, Israel's hi-tech sector has attracted [multinational companies to create R&D centers](#) in Israel because of its rapid technological advancements. Flemish companies looking to do business in Israel's hi-tech sector or to expand their company's reach, should consider to partake in these endeavors. This can take the form of for instance collaboration or offering supporting services.

- **Internet of Things**

Internet of Things (IoT) is one of the new buzzwords and for good reasons. Many of the new applications, if not all, of the machine-to-machine communications, are using this technology. It is safe to assume that Flemish companies that have cutting edge technologies and relevant know how will find lucrative opportunities in the Israeli market.

- **Automotive Investments**

Large global car manufacturing companies such as [BMW](#), [Volkswagen](#), and [Porsche](#), to name a few, have recently invested in Israel's smart mobility sector (see also [Car giants look to Israel for self-driving technology](#)). Thus, joining forces with Israeli companies, particularly when considering the presence and reputation of the Israeli high tech (and cyber) in the US, represents a real and substantial opportunities for Flemish companies as well.

- [Potential for Public Transportation Initiatives](#)

As previously noted, a central goal of the Smart Mobility Sector is to increase the efficiency of public transportation. The Israeli government is currently working on projects to increase the efficiency of mass transit through, for instance, the creation of a light rail system in Tel Aviv, as well as other [improvements to existing public transportation](#). Among other things, new transportation technology, or updates, must have sufficient monitoring systems. Belgium's use of intelligent transport systems (ITS) could be extremely beneficial to Israel's smart mobility sector. ITS companies could assist Israel in monitoring new transportation modes, managing pedestrians in dense commuter areas, offer technologically advanced parking services for new train hubs and more.

- Some news stories regarding Public Transportation Initiatives:

- China is exemplary to the potential of foreign help to develop Israeli transportation technology. [Israel has adopted the use of China's railway ticketing system](#).
    - [Foreign companies have assisted](#) the process of developing a rail service between Jerusalem and Tel Aviv, as Israel tech companies have not engineered such a thing on their soil.

- [Telematics Opportunities](#)

[Telematics](#) has become increasingly popular for mobile technology, and could see great usage in Israel. Belgium has already seen success in the use of telematics, and could potentially have a strong market for introducing these concepts in Israel.

- A few hi-tech companies developing telematics technology in Israel include:

- [Neomatix](#), a telematics company that uses visual intelligence in conjunction with a computer system to map out different components of a vehicle such as temperature and tire pressure in an effort to reduce carbon emissions and increase sustainability
    - [Gaonic](#), a company that has bases in Israel and NYC, uses analytical technology to evaluate vehicle engine usage and then collects this information that can then be shared.
    - [Cellepathy](#) is another company that uses telematics to collect vehicle information that can be shared to a smartphone

- [Government plans](#)

A new government plan in Israel titled the [National Plan for the Development of Smart Transportation](#) calls to revamp the transportation system in Israel in several steps. These include creating a test-center for different modes of transportation, mapping Israeli roads with higher definition, making R&D information more accessible and expansive,

and creating a more cohesive relationship between academics and professionals in the technology field. This plan will stimulate the smart mobility technology sector and provide greater influx of financial and intellectual capital that will lead to further technological progress and business opportunity. Foreign companies are encouraged to participate in such activities

- **Data Mining**

The use of data mining is going to become increasingly more important for business analytics. Data mining resolves system discrepancies in minimal time. Israeli smart mobility technology companies, as well as customers that use their services, will want analytical systems that exploit data mining to help them. Flemish companies that have experience in data mining and computer coding would likely have opportunity to enter Israeli market and provide assistance to companies looking to organize their data in an efficient manner.

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## Market approach

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Because of the rapid changes in the sector, it is highly advisable that interested companies will monitor constantly the developments and trends in Israel. This can be done by visiting the numerous events that take place in Israel, by setting up meetings with potential Israeli partners and by using the services of FIT Tel Aviv.

There is a difference in business mentality between Israel and Belgium and one should not underestimate it. See for instance [tips & tricks](#) for some background information. In any case, the bottom line is: Israeli business people like to improvise, act and react quickly and expect to-the-point information with the added value of the technology involved (and a unique sale proposition) from their business partners.

It is suggested to approach a local lawyer before signing any binding document (because, among other things, of the local distribution laws). FIT Tel Aviv can be assistance in contacting relevant lawyers.

See [the Israeli law and business practice](#) concerning agents and distributors.

Business and financial info about companies can be purchased from, for instance, [D & B](#).

See [a detailed brochure](#) regarding doing business in Israel.



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## Useful websites

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### General

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- [About Israeli innovation and technology](#)
- [Israel “on the map” as technology innovators](#)

### Why Israel

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- [Why Israel is a fast-moving force in smart transportation](#)
- [Israel's Automotive & Smart Mobility Industry, Electrified, Autonomous & Smart](#)
- [Israel as a Lab for Smart Transportation](#)
- [Israel's potential in the East](#)
- [Israeli Leadership and Growth in Smart Mobility](#)

### Events

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Future dates of some of these events are not yet known.

- [Safe & Smart City, 2018](#)
- [Fuel Choices and Smart Mobility Summit 31 October 2017](#)
- [Fuel Choices and Smart Mobility Summit](#)

### Databases

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- [Israeli Tech](#)
- [Israel Advanced Technology Industries](#)

### International Activity

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- [China's Kuang-Chi invests in Israeli technology](#)
- [Chinese Technology Company Comes to Israel](#)
- [Israeli Innovation drives foreign investment](#)

### Israeli Activity

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- [Israeli government to invest NIS 250 million towards plan to advance smart transportation](#)
- [Ecomotion, Smart Transportation Community in Israel, a joint venture of Israel Innovation Institute and the Prime Minister's Office](#)

### Recent Technological Developments in Israel

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- [25 Israeli Technology Companies to Watch in 2017](#)
- [Porsche invests in Israeli Technology](#)

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## Disclaimer

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