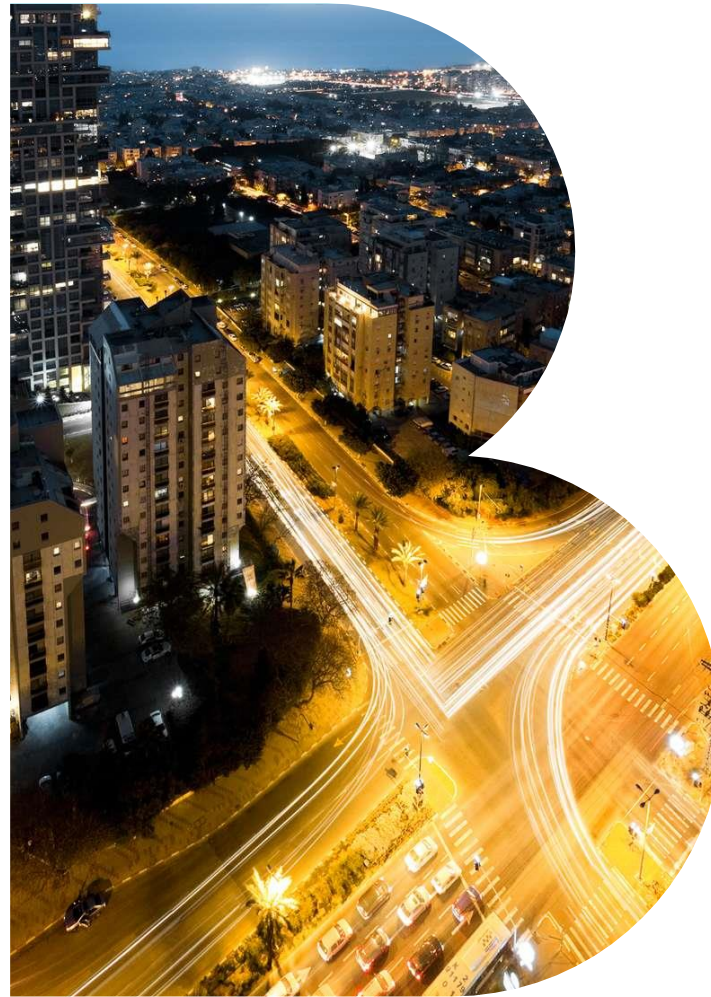


Israel's automotive & smart mobility industry

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ISRAEL EXPORT INSTITUTE

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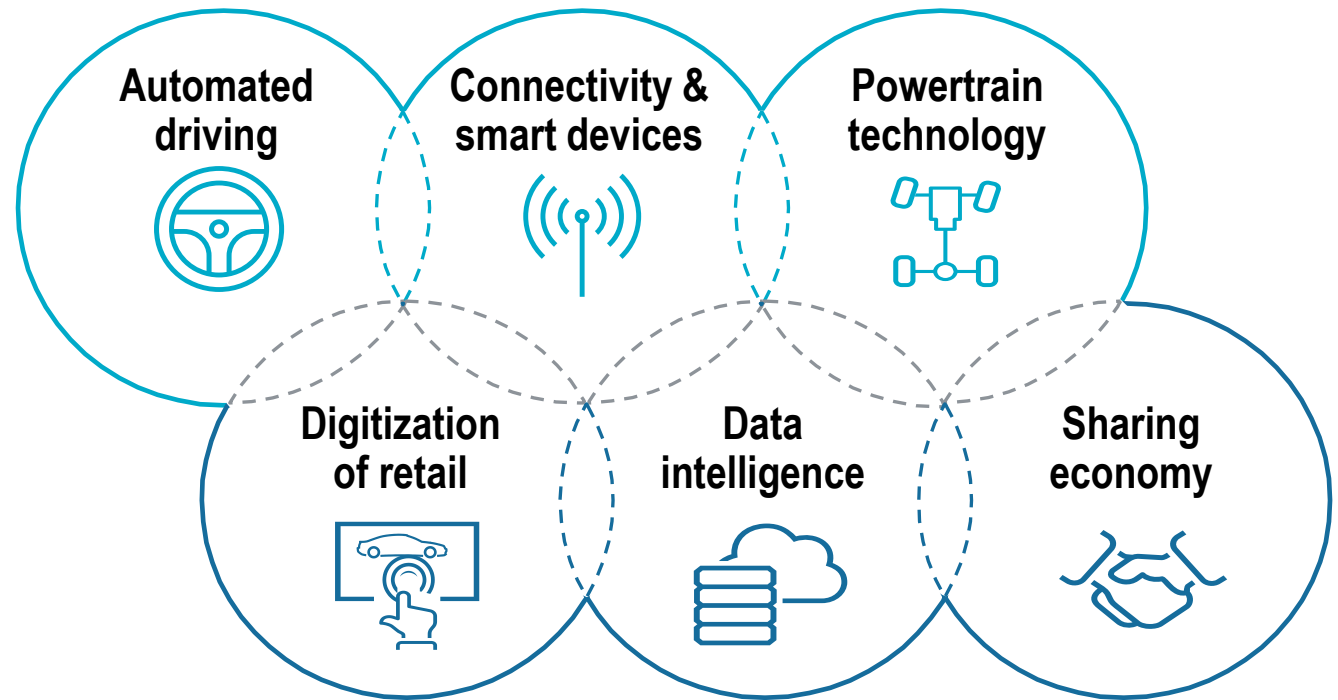
Technological innovations and business models are converging, reshaping the mobility landscape and value chain

Key driver for disruption in the mobility landscape

Major disruptions

- > Re-prioritizing of **customer expectations** & buying criteria
- > New and open **eco-system**
- > Innovation in **business models**
- > Change in **value centers**
- > Fast **development cycles**

Technological innovation

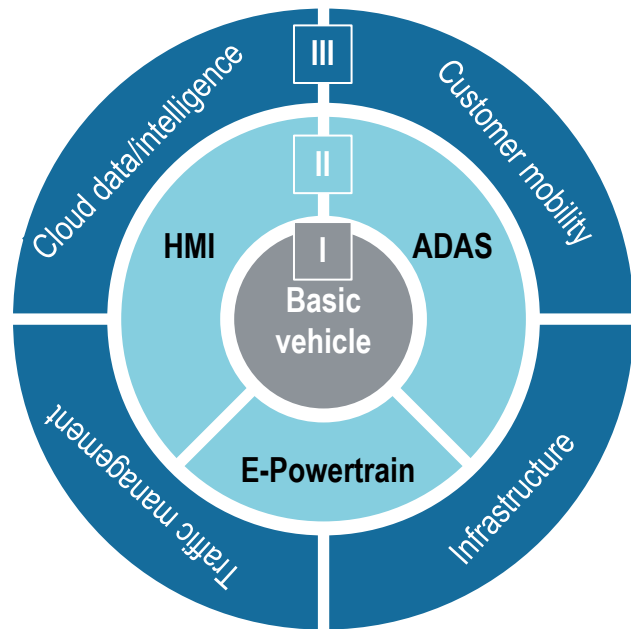


Business model innovation

Smart mobility creates a new ecosystem around the basic and advanced vehicle technology

The 3 core layers reflect a variety of business opportunities within the playing fields

Automotive & smart mobility ecosystem



Control points

Smart Mobility	Traffic Management	Traffic control	Road toll/pricing	Real time traffic analysis	Traffic prediction
	Infrastructure	Charging	Fuelling	Parking	Intermodal changes
	Cloud data/Intelligence	Mobility platforms/Apps	Secured communication	HD & smart maps	Fleet management/Logistics
	Customer mobility	Mobility planning	Booking & payments	Ride sharing/hailing	Robocabs/Taxi services
Advanced veh. tech.	HMI	Smart brought-in devices	In vehicle infotainment	Vehicle HMI	OBD vehicle access
	ADAS	Sensor tech. (Lidar, radar)	Sensor fusion & environ. model	High perform. computing	Object recognit. & path predict.
	Future Drivetrain	Electric powertrain	Batteries	Efficiency technologies	Alternative fuels, hydrogen
Basis	Basic vehicle technology	Vehicle hardware	Actuators & controls	Passive safety	Vehicle design

CCP - Critical control point

Israel's startups are contributing to and focusing on the megatrend topics of the automotive industry

Structure of the Israeli automotive & mobility industry

1 Electric mobility



- > Electric vehicle
- > Batteries/storage/e-powertrain
- > Charging infrastructure
- > Other

2 Autonomous mobility



- > Automated & urban vehicle
- > Active safety & ADAS
- > Drones
- > Sensors
- > Others

3 Smart mobility



- > Infotainment & connected car
- > Sharing mobility
- > Navigation & ITS
- > Fleet management/logistics
- > Parking
- > Big data
- > Other

4 Vehicle technology



- > Manufacturing
- > Energy efficiency
- > Engines
- > Passive safety
- > Security
- > Other

5 Other

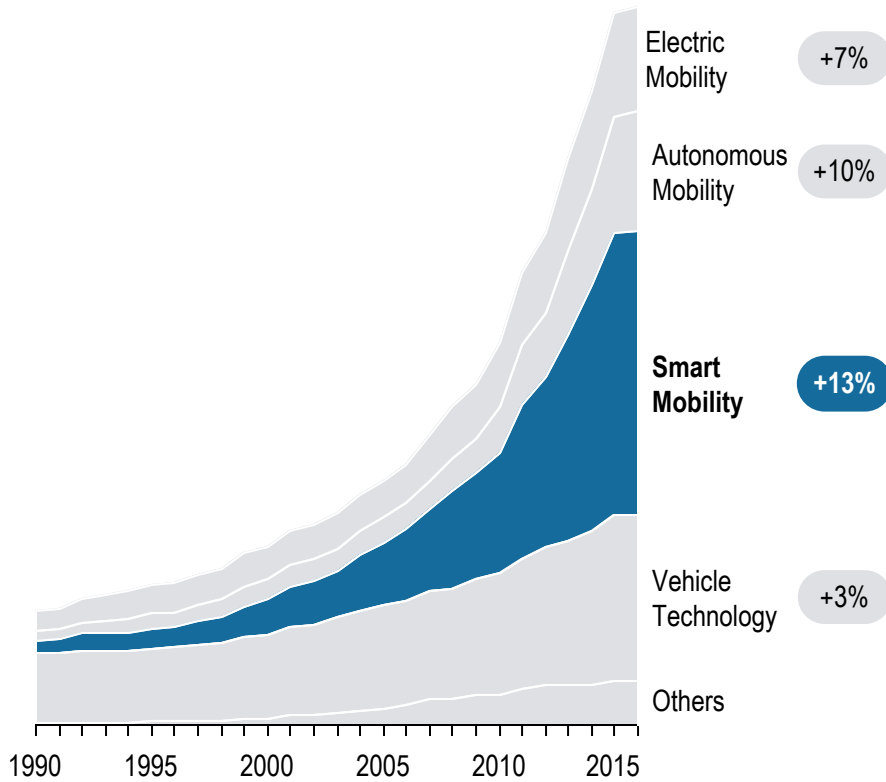


- > Alternative fuels
- > Infrastructure
- > Other

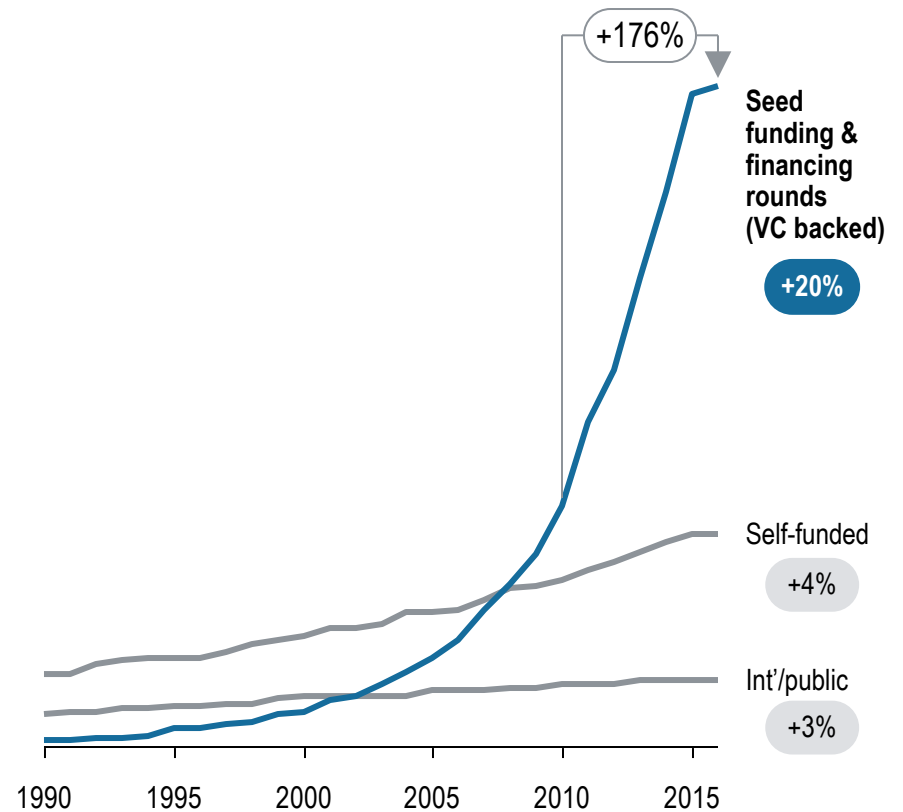
Recent startups from Israel focus on the smart mobility sector and rise mainly seed funding for their initial company growth

Evolution of automotive & mobility startups in Israel and their funding scheme

Evolution of automotive & mobility startups in Israel



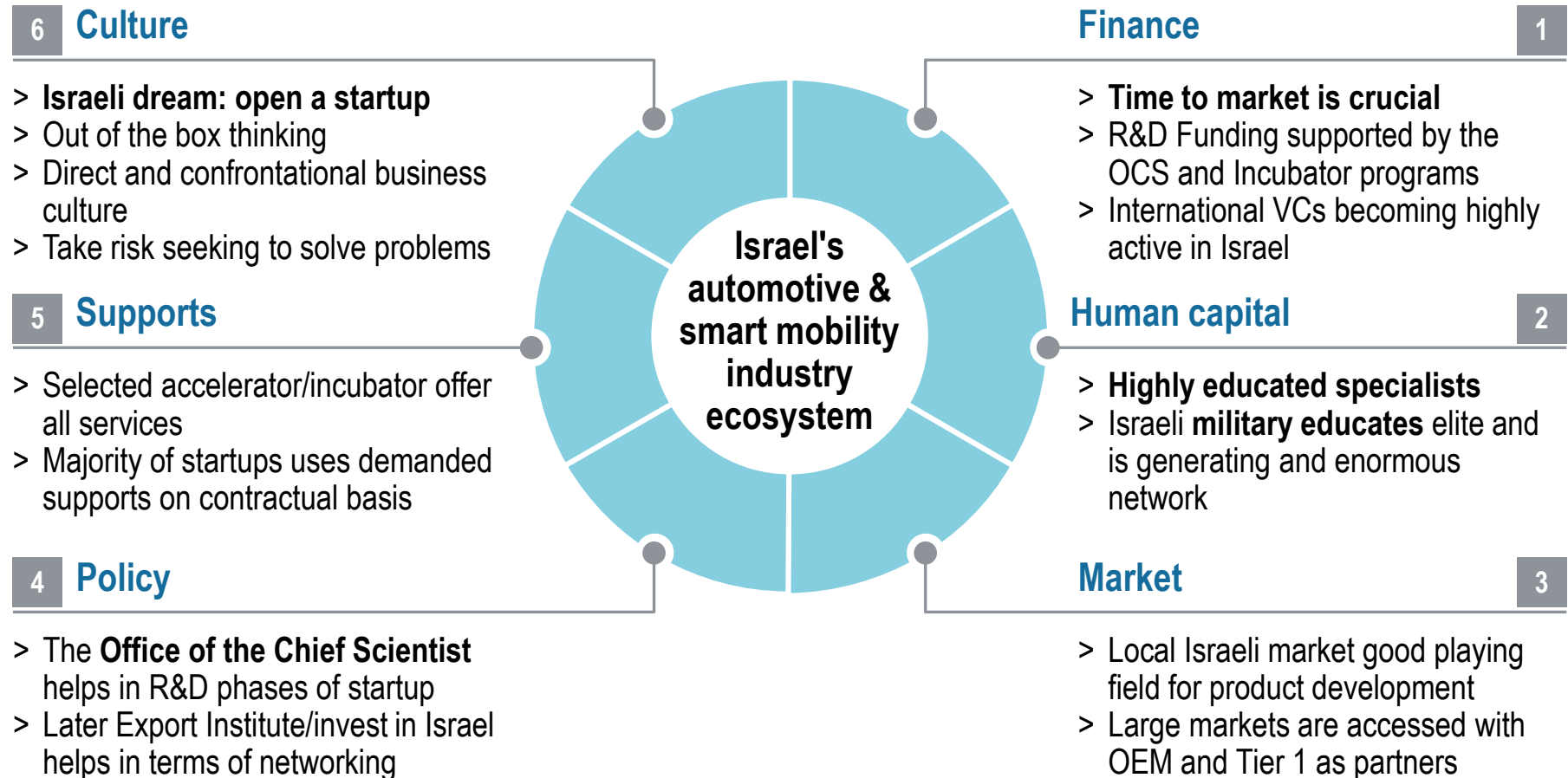
Development of funding schemes



○ CAGR 1990-2016

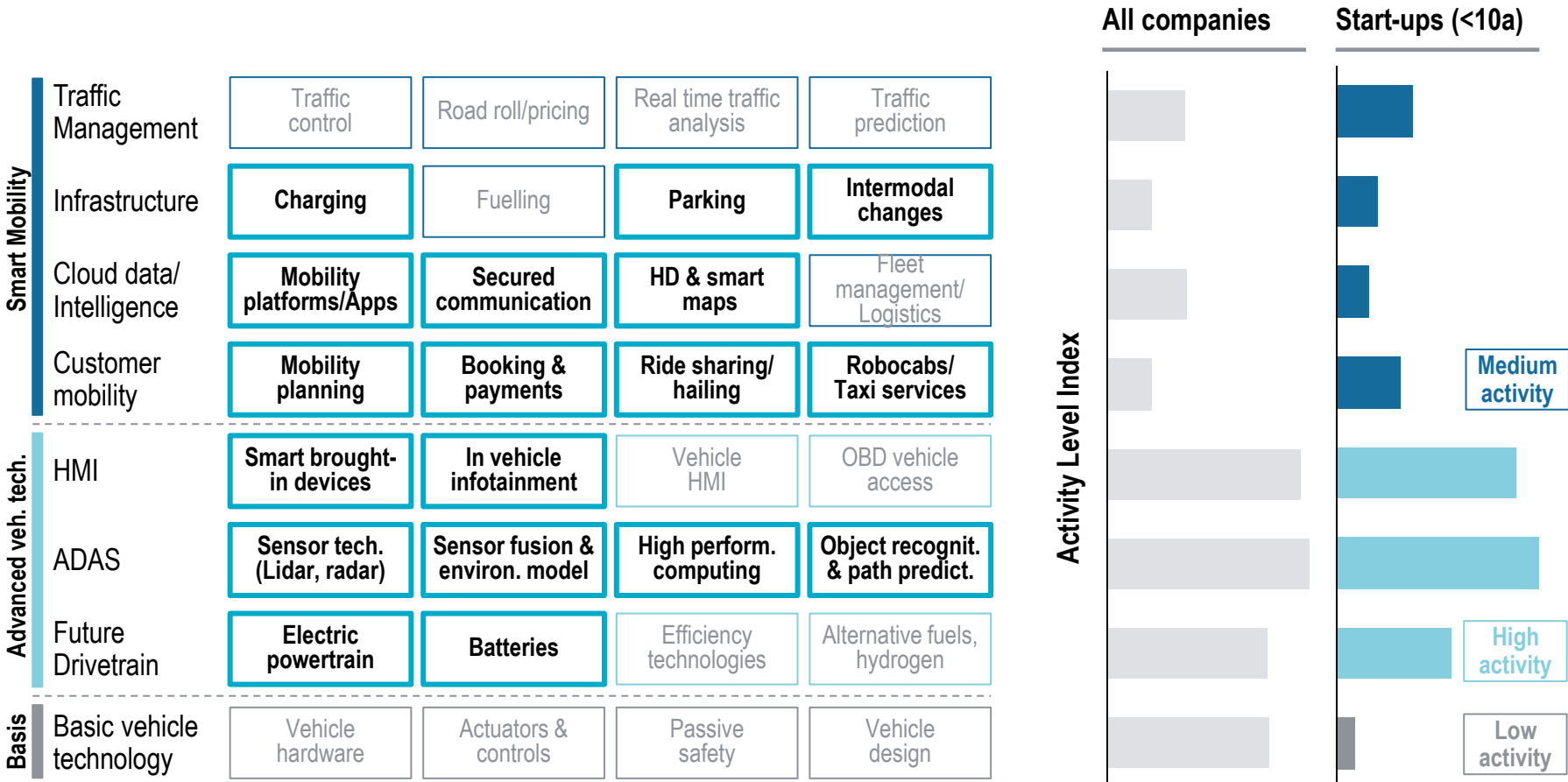
Israel has developed an ecosystems which encourages people to live the Israeli dream: "Open a startup"

Entrepreneurial ecosystem: Unique characteristics and success factors



Israel's startups are targeting the sweets spots in the advanced vehicle technology and smart mobility sector

Technological ecosystem: Activity radar on critical control points by company maturity



□ CCP - Critical Control Points
 Source: Fuel Choices Initiative, Roland Berger

Local startups can grow to international markets with individual strategies per topics

Start-Ups: Mastery of critical control points guarantees future growth opportunities

1 Electric mobility



- > Int. VCs highly experienced with automotive startups
- > Hardware production can be licensed for scale up
- > **CCP's:**
 - Electric powertrain
 - Batteries

2 Autonomous mobility



- > Int. VCs highly experienced with automotive startups
- > Hardware production can be licensed for scale up
- > **CCP's:**
 - 360° Lidar/Radar
 - Sensor fusion
 - Object recognition & path prediction

3 Smart mobility



- > Local VCs highly experienced with software
- > Software needs market specific adaptation
- > **CCP's:**
 - Mobility platforms/Apps
 - Booking & payments
 - Robocabs/Taxi services

4 Conventional automotive technology & more



- > Int. VCs highly experienced with high-tech & manufacturing startups
- > Manufacturing technology as well as hardware based developments
 - 3D Printing
 - High-tech electronics manufacturing

International players need local presence to start cooperation with Israeli startups

International players: Overview on opportunities to benefit from Israel's know-how

1 Establish an R&D operation in Israel



- > **Over 250 foreign companies operating R&D centers in Israel**
- > **Major way** for multi-nationals to tap into Israel's innovation capacity
- > **R&D centers require large investments** in time and resources

2 Buy technology and talent with M&A and strategic venturing



- > **104 Israeli tech companies bought** in 2015 by foreign corporations
- > Many **turn acquisition into an R&D center and innovation lab**
- > **Attractive to start-up** that has developed disruptive technology but **lacks the ability to scale up**

3 Set up new platforms such as innovation labs, accelerators



- > **Close to 100 innovations labs and accelerator programs** have been set up in Israel
- > **Most accelerator programs are non-profit**, others require founders to give equity
- > Chance to **redefine the way innovation is organized**

4 Use Israel as a base to manage innovation actives



- > Israel can make an excellent **base to connect with innovation ecosystems elsewhere**
- > Foreign start-ups, too, are flocking to Israel, with a rising number of non-Israeli companies participating in accelerator programs

Roland
Berger



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