



IOT & Energy Ecosystem in Israel

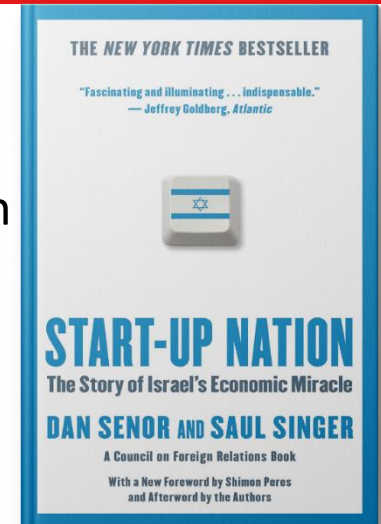
Gil Oren, Trade & Investment Project Manager

**Catalonia Trade and Investment, ACCIÓ Tel Aviv
Government of Catalonia**

Topics

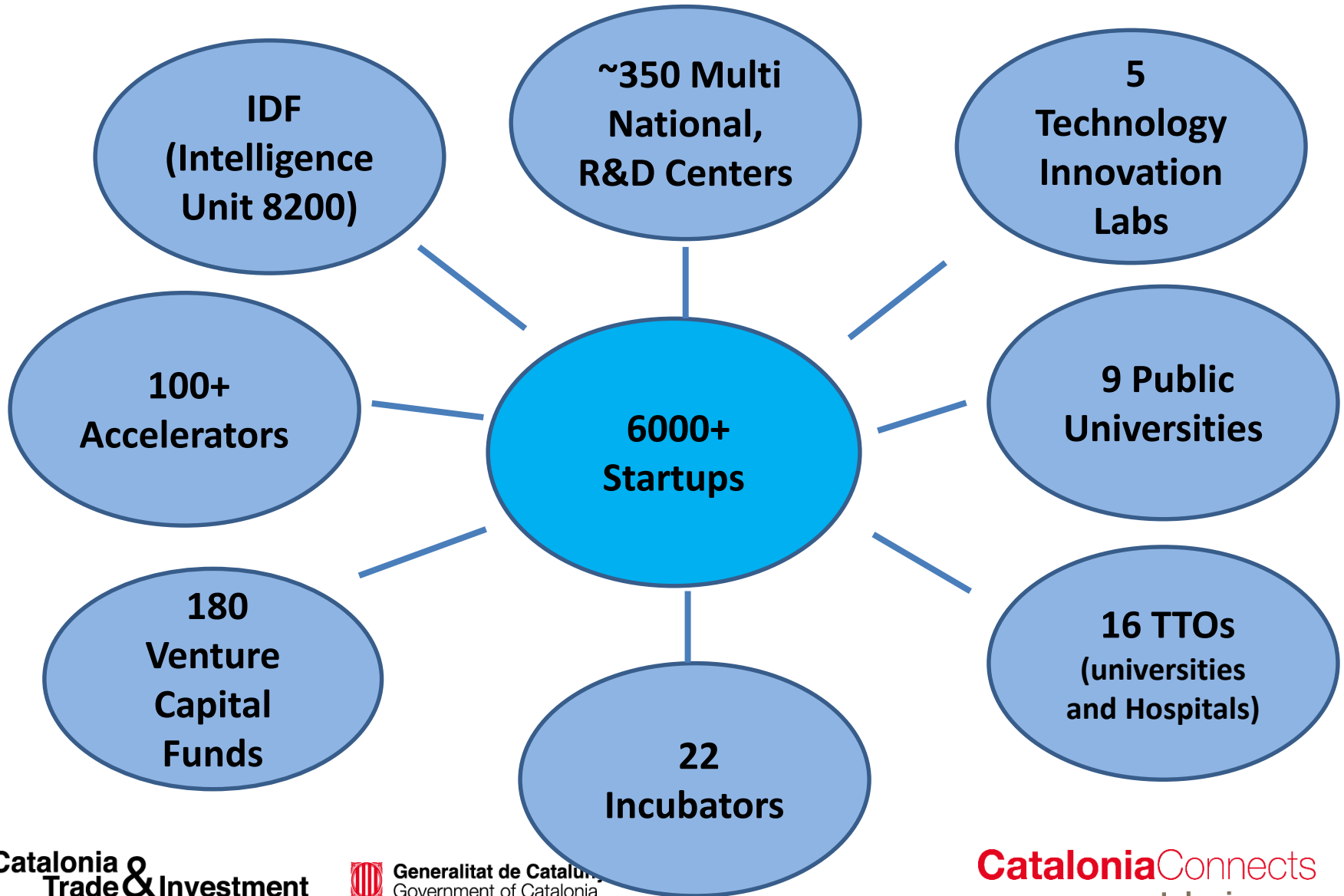
1. Israel Innovation Ecosystem
2. IOT Sector in Israel
3. IOT and Energy
4. Israeli Partners – IOT & Energy

Israel Innovation & Startup Ecosystem



- **Innovation Ranking** - Israel is ranked 3rd in the global innovation ranking (World Economic Report – 2017) .
- **R&D Expenditure** - Israel was ranked 1st (OECD R&D Expenditure Report – 2017) .
- **Investments**- Israel attracts more venture capital per capita than any other country (\$4.5B – Israel , \$69B – USA, 2016).
- **Acquisitions** - ~ \$44billion were spent on acquisitions of Israeli startups in the last 5 years (2017 – \$23.8B).
- **NASDAQ**- Israel has more companies listed on the NASDAQ than any country besides the USA and China

Israeli Start up Ecosystem



Israel & Horizon 2020

Israel is associated country in H2020



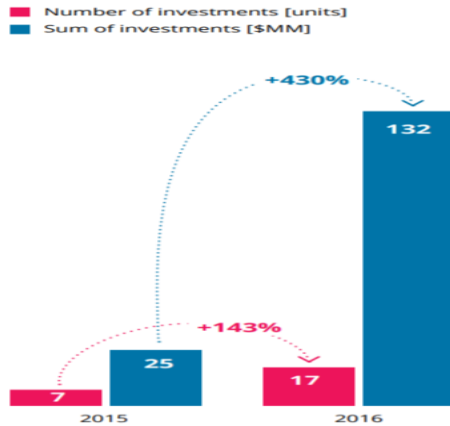
- 635 signed agreements
- 768 participations
- €461.83 million grants
- 53% of the funding - European Research Council (ERC) grants.
- 15% of the funding - LEIT (Leadership in Enabling and Industrial Technologies) projects.
- 65% of the total funding has gone to institutes of higher education.
- Israel's main collaborators are Germany, Spain, Italy, France, and the UK.

Data: January 2017

IOT Sector in Israel: Trends

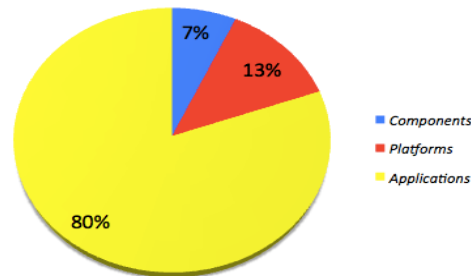


- **Numbers:** There are more than 400 Israeli IOT startups.
- **Stages:** Mainly R&D or initial revenues stages
- **Category:** ~80% applications rather than IoT platforms or components.
- **Industrial IOT** – 175 startups, (operation optimization and cyber).



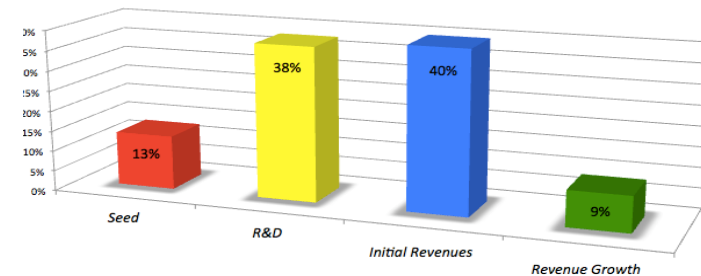
Source: Geektime Annual Report 2016

Israeli IoT By Stack

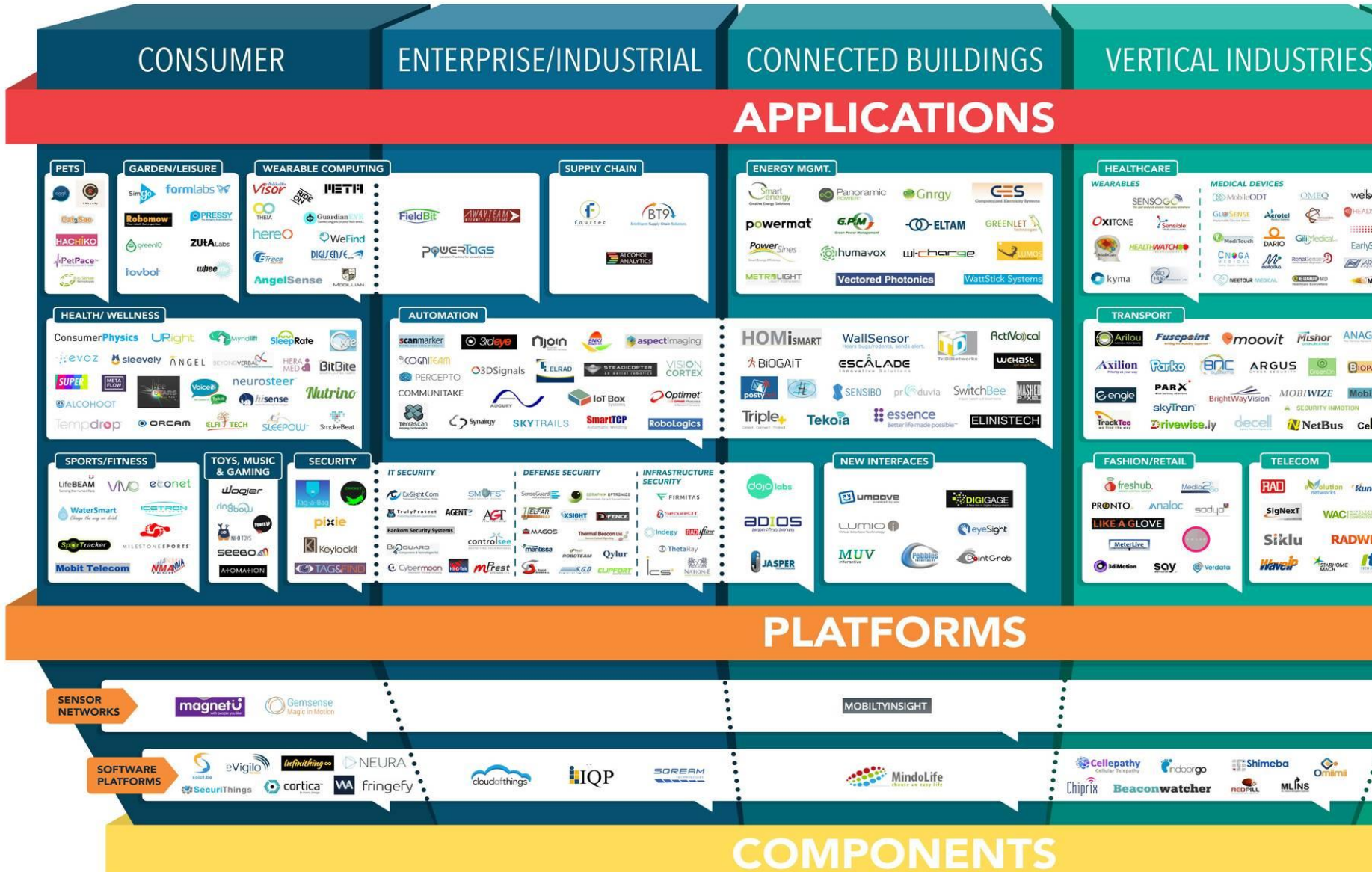


Source: Innovation Endeavors

Israeli IoT By Stage



2015 ISRAELI INTERNET OF THINGS Landscape



IOT Main Verticals

**Cyber
Security**

Automotive

**Agrotech +
Foodtech**

**Construction
Tech + Smart
Home**

**Energy & Smart
Grid**

Healthcare IT

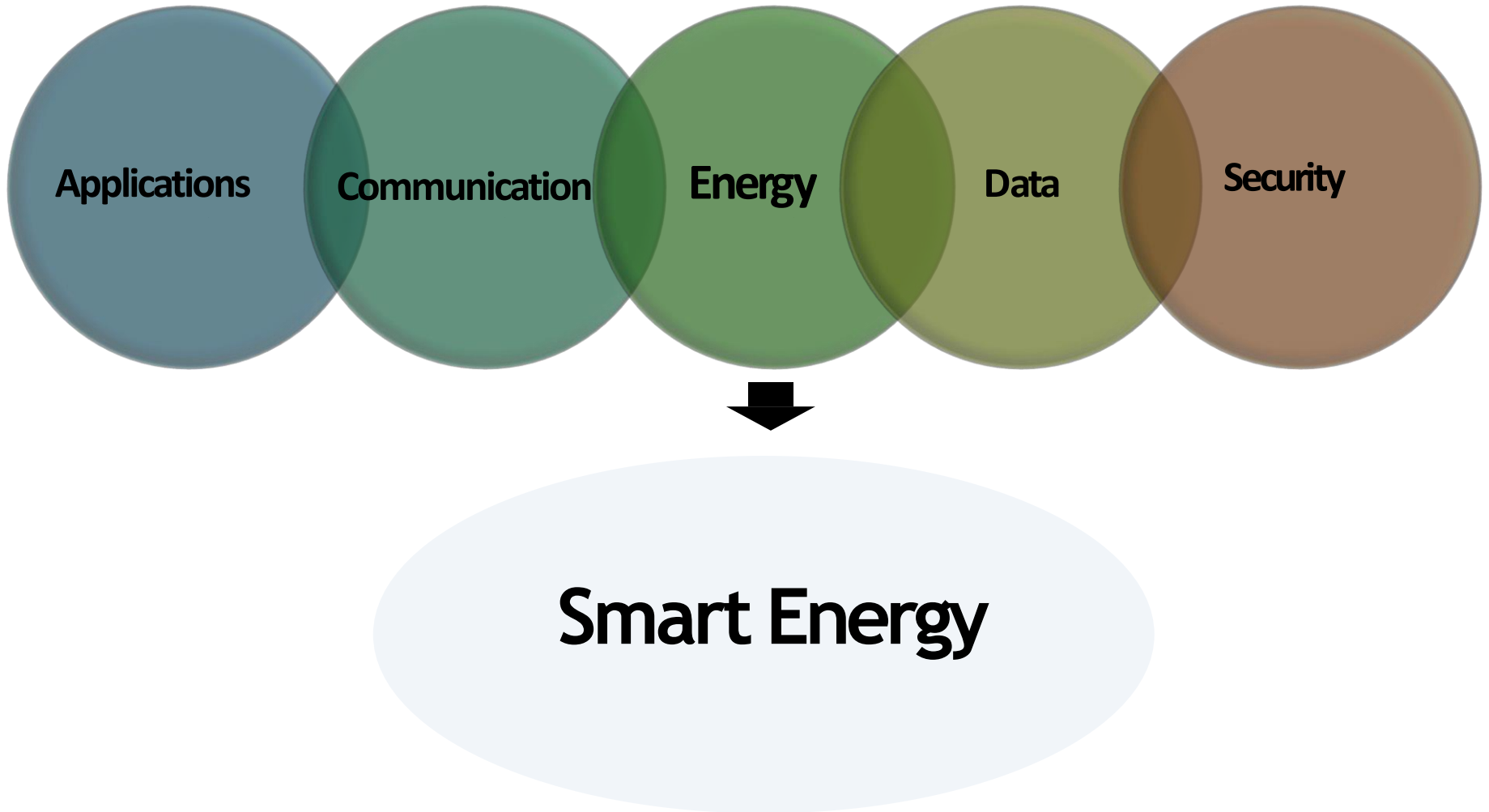
**Industry 4.0
Industrial IOT**

Energy Solutions in Israel



- Renewable Energy
- Smart Construction/Home
- Utilities and Smart Grid
- Energy and Manufacturing (Industry 4.0)

IOT & Energy in Israel



IOT & Energy in Israel

- Smart Metering
- Monitoring devices
- Energy efficient HVAC
- Revenue Assurance
- Smart Grid security
- Communications
- Fault Current Limiters
- Remote sensors
- Automated maintenance
- Data Analytics
- Energy Storage
- MicroGrids
- Energy Management



Israeli partners – IOT & Energy

Startups
Fsight

Technology
Corporate
IBM Research
Haifa

Venture
Capital
Grove
Ventures

Associations
Israel Smart
Energy Association

Innovation Labs
Let Lab and
Infralab

Academia/
Research
IDC Herzliya

Innovation Labs

(Government, Multinationals, and Startups)



 **HAM-LET**
Advanced Control Technology

Let-Lab

Industrial Internet of Things (IIoT)





RENAULT NISSAN MITSUBISHI

Alliance Open Innovation Lab





SHIKUN & BINUI
ARISON GROUP

INFRALAB







PMatX

Advanced materials







Frutarom

Unique functional raw materials for the food and beverage industries



Catalonia & Trade & Investment



 **Generalitat de Catalunya**
Government of Catalonia

CataloniaConnects
catalonia.com

Technology Corporate



IBM Research Haifa

Areas of Expertise:

- ✓ Artificial Intelligence,
- ✓ Cloud Data Services,
- ✓ Image and Video Analytics,
- ✓ Mobile, IOT and Blockchain

Experience in H2020 Projects

- ✓ **Nimble Project** - H2020-FOF-2016 – Digital Automation
- ✓ **BeAware Project** – H2020-DRS-01-2015 - Crisis management topic 1: potential of current and new measures and technologies to respond to extreme weather and climate events

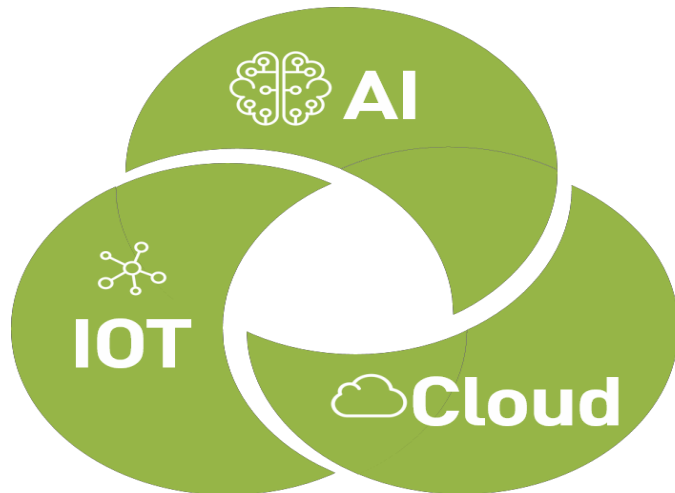
<http://www.research.ibm.com/labs/haifa/>

Venture Capital



Areas of Expertise:

- ✓ Industrial IOT (Industry 4.0)



Sound based solution for Predictive Maintenance in Industrial Machines
(Technology: Acoustic sensors and AI)

<https://www.3dsig.com/>

<http://grovevc.com/>

Academia/Research



Interdisciplinary Center School of Sustainability

Areas of Expertise:

- ✓ Consumer Behavior,
- ✓ Consumer integration into the smart energy grid via smart technologies,
- ✓ Prosumer markets,
- ✓ Energy Security
- ✓ Microgrid

Experience in H2020 Projects

- ✓ **In Between Project - H2020 - EE-07-2016-2017** - Behavioural change toward energy efficiency through ICT

<https://www.idc.ac.il/en/schools/sustainability/pages/home.aspx>

Association



Israel Smart Energy Association

Areas of Activity:

- ✓ Smart Energy, Smart Grid

Experience in H2020 Projects:

- ✓ **Zero Plus Project** – H2020-EE-02-2015
Buildings design for new highly energy performing buildings

<https://www.isea.org.il/>

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