INLIGHT
THINK&BALANCE

The Technology Observatory

A complete ecosystem,

Connecting People, Industry, Innovation & Finance

Israel, Innovation Culture

An Impatient Nation

A Service Nation

A Chutzpah Nation

Israel, Innovation Culture

If You Want Something, Just Ask

Don’t Take Yourself Too Seriously

Say What You Mean and Mean What You Say

Israel, Innovation Culture

Have an entrepreneriul spirit

Be Innovator

If you fall - come back to business!

Do not fear fealure

Create your own network

Be responsable

Live between people

Be open minded

Innovation lifestyle – Education

From the 1950s to the 1980s

The education of gifted learners was being discussed within Israel's education ministry as early as 1958. By 1961 the first residential programme for gifted disadvantaged teenagers had been established. By the late 1960s a variety of after-school enrichment activities were in place and, in 1971, a school for gifted learners was opened in Tel Aviv.

By 1994, the Ministry's Department for Gifted Education has acquired an extensive list of responsibilities including :

- Testing children throughout the country
- Establishing unique enrichment frameworks

Innovation lifestyle – Education

From 2000

‘***The gifted child*** – cognitive, social and emotional aspects, giftedness and gender, stereotypes and the gifted, methods of identification and frameworks for the fostering of the gifted.
Curriculum development for gifted children – theoretical models for integrative approaches, demonstration and practice in the development of interdisciplinary programs for gifted children.
Information technology – developing skills in seeking, classifying and organizing information.
Creative and inventive thinking – developing thinking strategies, meta-cognition, technological aspects and initiatives.
Developing imaginative resources and curiosity – learning via riddles – the question and problem as the center of learning and as a legitimate motivational technique (instead of solution and knowledge), creating interest and developing curiosity, and encouraging achievement.’

Innovation lifestyle – Education

From 2000

- The cognitive dimension
- The social dimension
- The personality dimension

Innovation lifestyle – Army

- **Between Anticipation and Adaptation**

Different strategic cultures vary in their approaches to military transformations and in their capacity to innovate either by *anticipation* or by *adaptation*. The IDF has manifested over the history a strong inclination to incremental and reactive innovations by *adaptation*. An alternative was an exception of the rule, which proved the rule. Historically, strong cultural predisposition to *adaptation*, turned improvisation into the hallmark of the IDF's excellence on the tactical, operational and strategic levels, and turned it almost into a default feature of the Israeli approach to innovation.

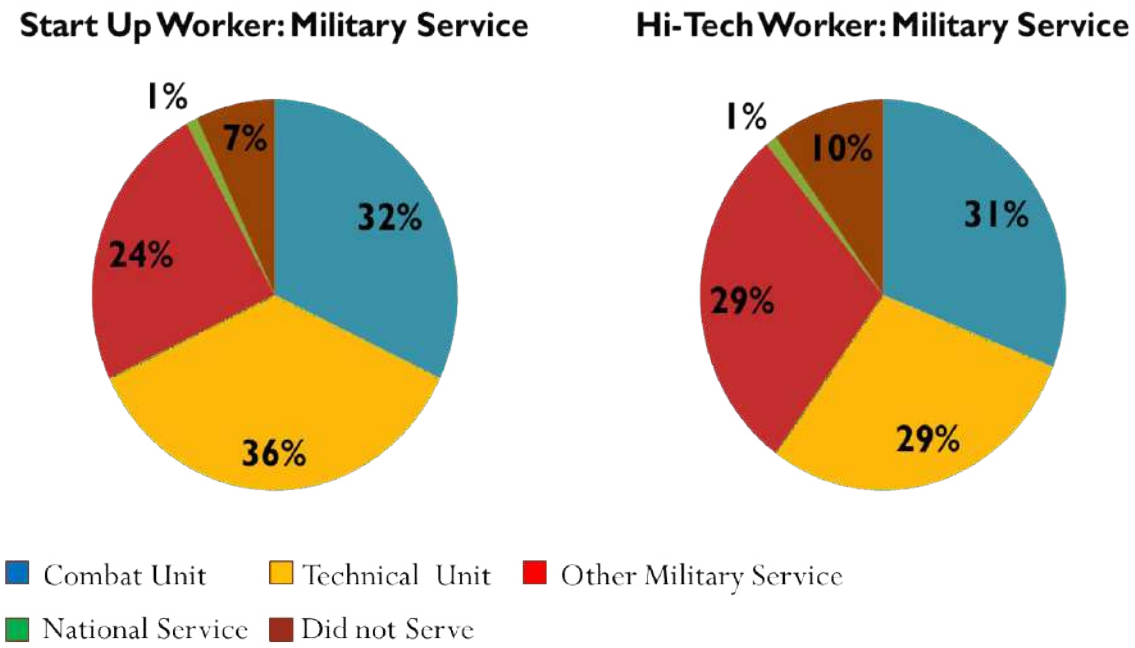
- **The Military as Agent of Socialization and the Military Capital**

- **Military Capital in Action**

Military service has been considered as a valuable element in the process of nation-building[40] that connects and commits individuals to the country's ethos.

Innovation lifestyle – Army

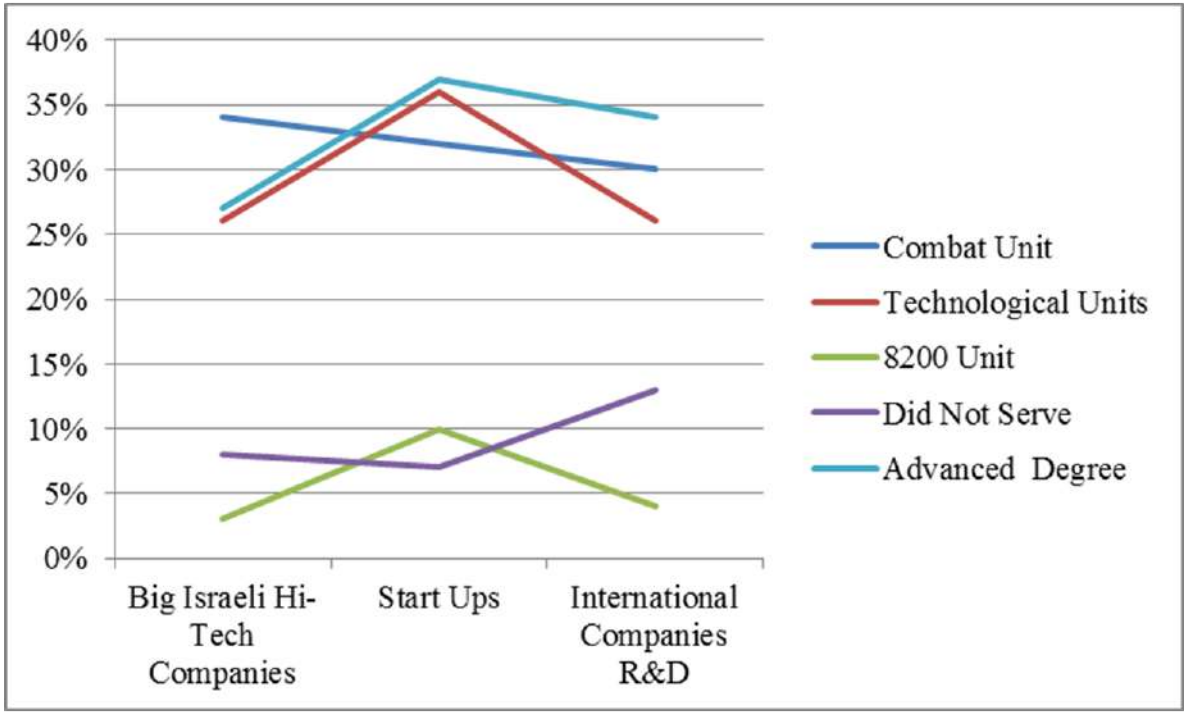
Figure 1: Employees' Military Background in Israeli The Hi-Tech Industry



Source: Ethosia 2012 survey.

Innovation lifestyle – Army

Figure 2: Proportion of Military Units with High Military Capital in the Hi-Tech Sector



Source: Ethosia 2012 survey.

Industry 4.0 & IOT

Industry 4.0 (Industrial IoT) handles technologies that aim to connect physical industrial assets with digital insights, while digitizing the entire chain of production. As the name suggests, companies and technologies targeting this sector view various industrial verticals as their main target markets. such as; manufacturing, energy, construction, oil & gas and so on.

As yet, these verticals have not fully realized the value that data can bring to industrial business processes.

Industry 4.0 & IOT


Operation Optimization


Supply Chain


3D Printing


Sensing & Imaging


Safety & Health


Manufacturing & Maintenance

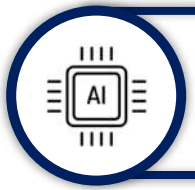

Robotics


Connectivity


Inspection & Testing


Cybersecurity

The Magic of IOT



AI: Learning and Deciding

Prediction is Protection

Listening to Machines

Being Faster, Cheaper & More Efficient

Advanced Materials in Israel

The Israel Innovation Authority approved a budget of NIS 150 million ($43.2 million) for the establishment of three research and development consortia over a three-year period

The Advanced Materials Processing Consortium will focus on material processing in industry using high-powered lasers. The consortium includes companies such as Plasan Sasa, Rafael, Israel Aerospace Industries, Israel Shipyards, alongside R&D companies Ricor, Sivan Technologies, and Ophir Optronics, which will provide the technological basis for the laser and automation systems. Also partnering in the consortium are academic groups from the Technion and other leading universities.

10 Top Materials Industry Trends & Innovations in 2021

2453

Startups & emerging companies analyzed

Data provided by StartUs insights • January 2021

Advanced Materials startups in Israel

VisIC Technologies is a technology licencor and a provider of high-voltage (650V and above), high-volume GaN devices to the rapidly growing power conversion market. The company has created a true GaN Metal-Insulator-Semiconductor High Electron Mobility Transistor (MISHEMT) that is normally-OFF in its native mode.

Fulcrum SP Materials also known as SP Nano Ltd is a nanotechnology company commercializing the use of nano particles in components and products made from composite materials. SP Nano is a developer of SP1- a nano reinforcement protein agent that enables the production of lighter, stronger and sustainable composite products. The unique technology has many other applications, including to glass and aramid fabrics, and can be implemented in various industries.

Melodea has developed an industrial process for the production of Nano Crystalline Cellulose (NCC) from the waste sludge of paper mills. The company uses the NCC to develop eco-friendly foam materials for packing, as well as an additive to enhance strength or other properties of materials such as paper, acrylic, glues, and paints. The company is currently in the process of upscaling its foam production for industrial implementation.

PV Nano Cell (PVN) develops the manufacturing process of silicon cells through inkjet printing of inks based on nano metric materials. The company developed 'Sicrys' a conductive ink which reduces the cost/watt of cell produced. This product Sicrys is available in silver- or copper-based form to have maximum conductivity at lowest price.

Kenaf Ventures specializes in the development and commercialization of solutions that improve the conventional construction

Nanomedic manufactures in-situ electrospun medical products for immediate wound care treatment. Their product, SpinCare (nano-fibrous dressing based on electrospinning technology), mimics the natural extracellular matrix (ECM) an enables tissue integration and regeneration.

NanoMaterials Ltd (Apnano) is a cleantech company operating in the field of Nanotechnology. NanoMaterials develops and produces inorganic, multi-layered nanofullerenes and nanotubes, based on patented platform technology. Tungsten disulfide (WS2) based nanomaterials which have a unique mechanism of friction-induced tribofilm release opened up new possibilities for developing extreme performance lubricants, coatings and polymer composites for industries like defense, mining and metalworking. Acquired by Nanotech Industrial Solutions, Inc in 2013

Valentis NanoTech develops coating and packaging material by combining biodegradable extracts from plant pulp and nano particles. This material is transparent, edible, hydrophobic, spectral and oxygen barrier, lightweight and can be used in food packaging, agricultural films, defense coating and other uses.

Tortech Nano fibers is a joint venture of Plasan Sasa ltd (Israel) and Q-Flo Ltd (UK) that is developing and industrializing a patented process to manufacture ultra-long Non-Woven CNT mats for applications in automotive, aviation and energy markets. CNT mats have better properties as compared to CNT powder


A journey to our premises in Tel Aviv: talent and technology meet in Israel
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