INNOVATION IN ISRAEL

A DRIVING FORCE FOR ECONOMIC GROWTH

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Israel Innovation Authority

רשות החדשנות
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Background information

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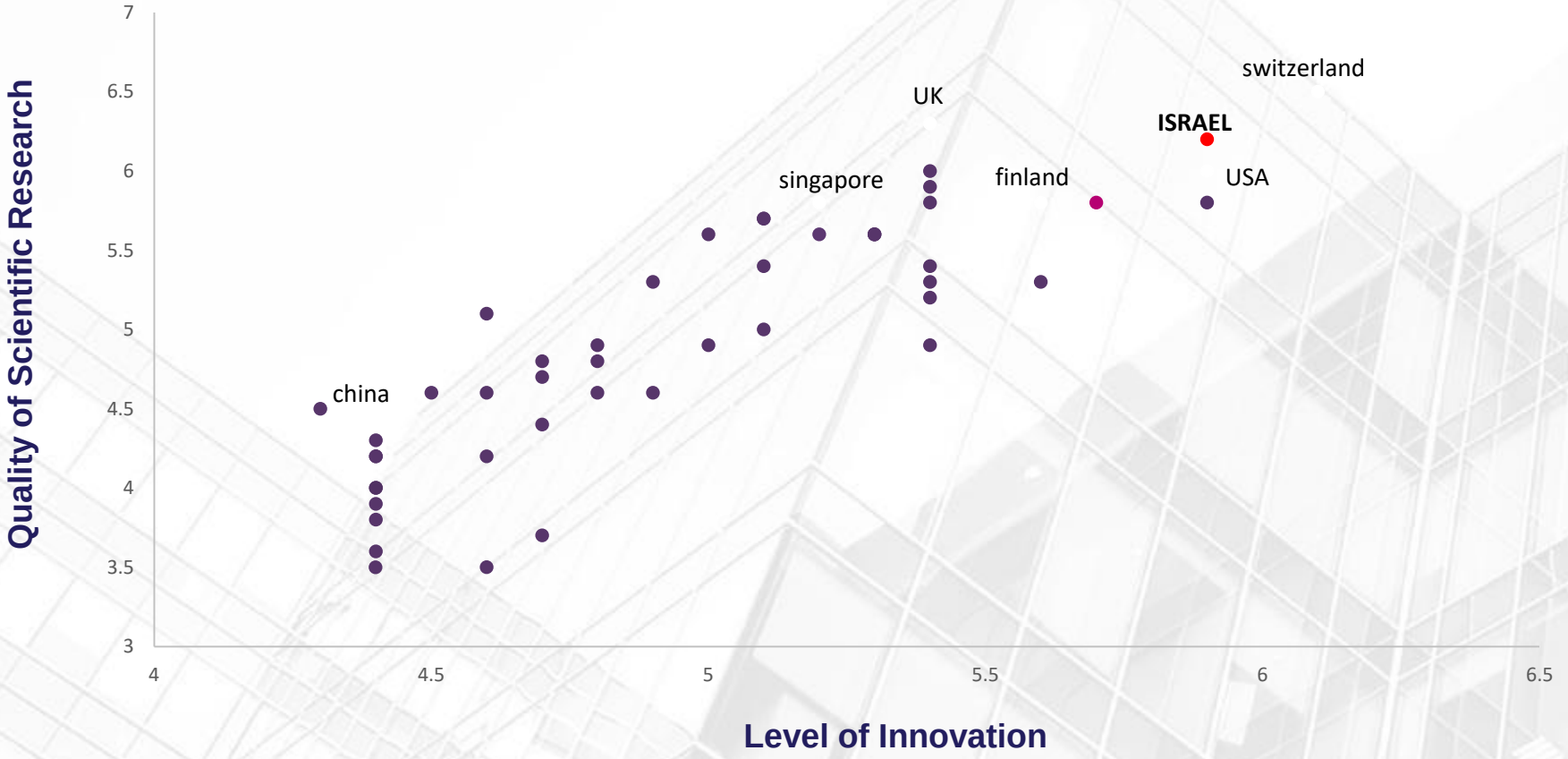
A Global Leader in Research and Innovation



Source: Global Competitiveness Report, 2016-2017

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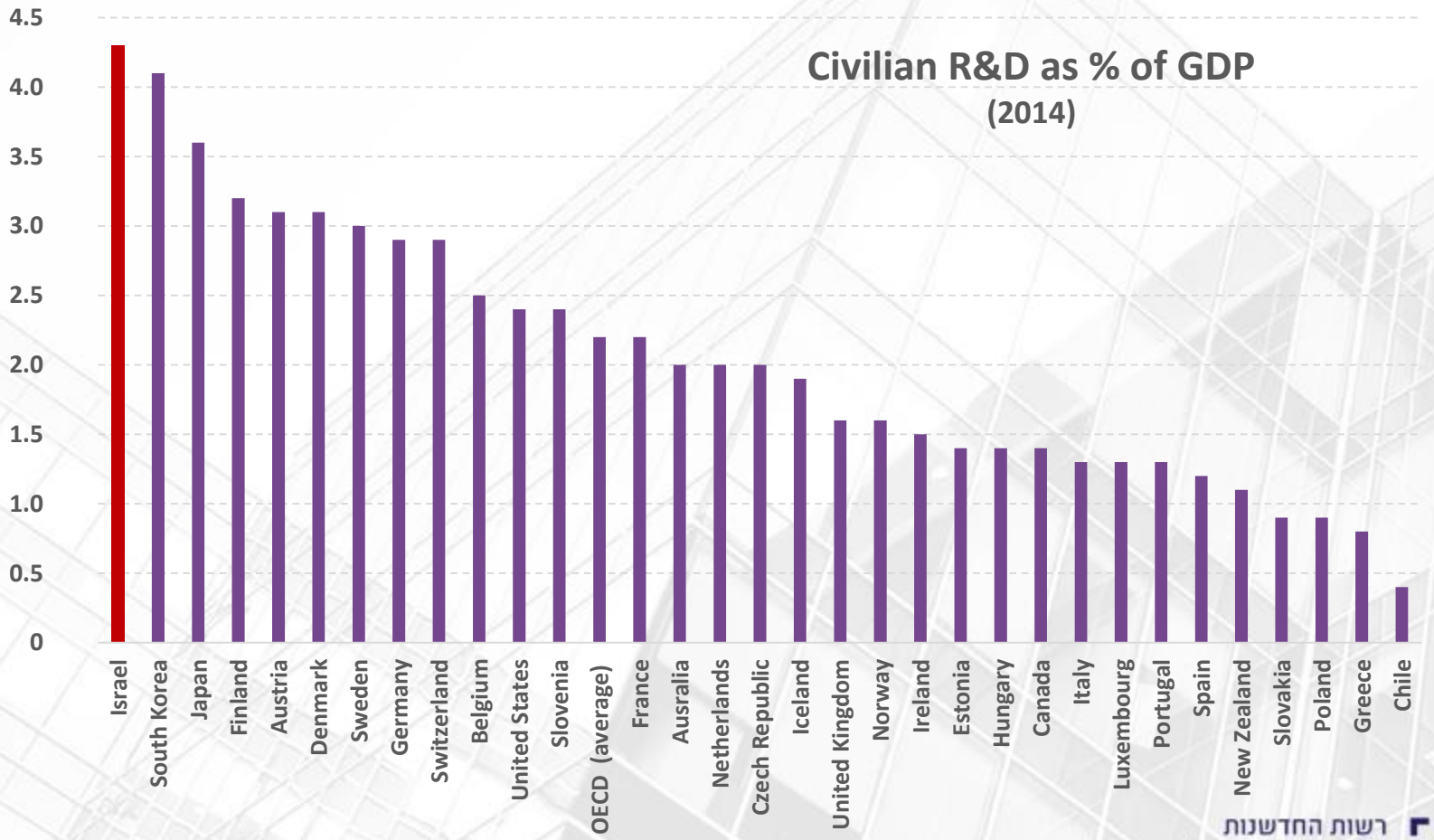
Leading in R&D intensity



Source: OECD (2015). Main Science and Technology Indicators

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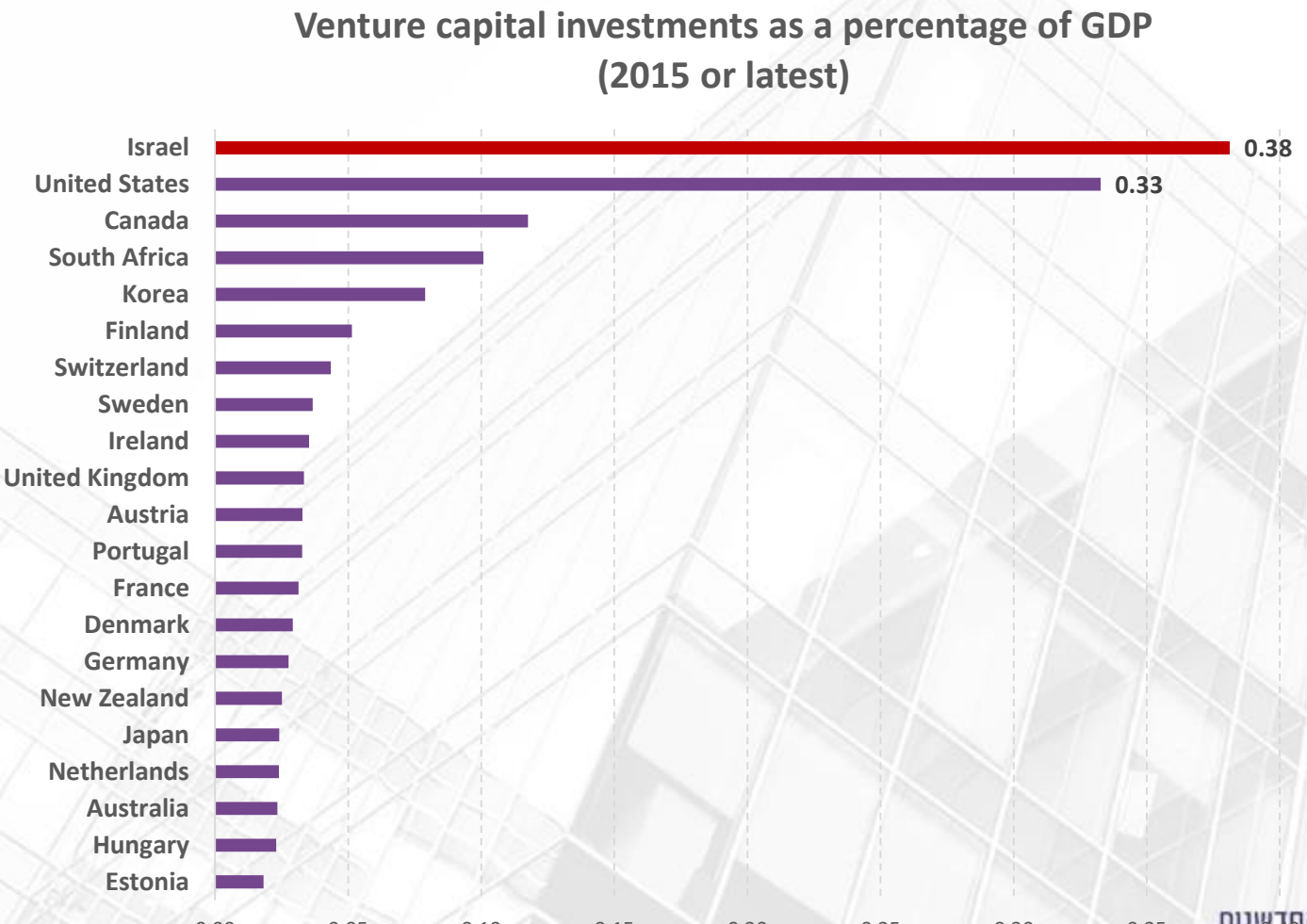
Strong VC activity



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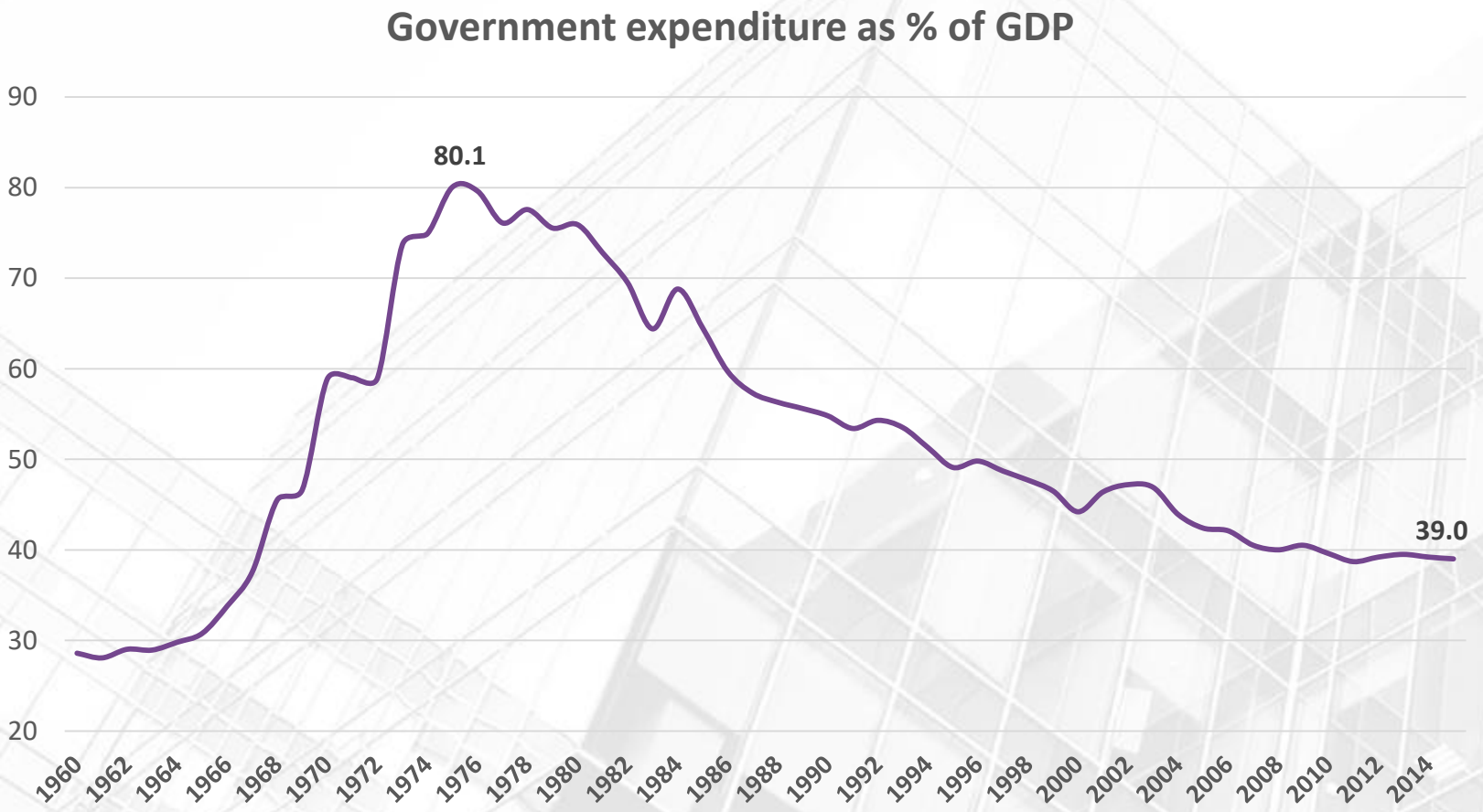
Entrepreneurship at a Glance 2016

But 30 years ago the situation was very different – government dominated the economy



Source: Bank of Israel

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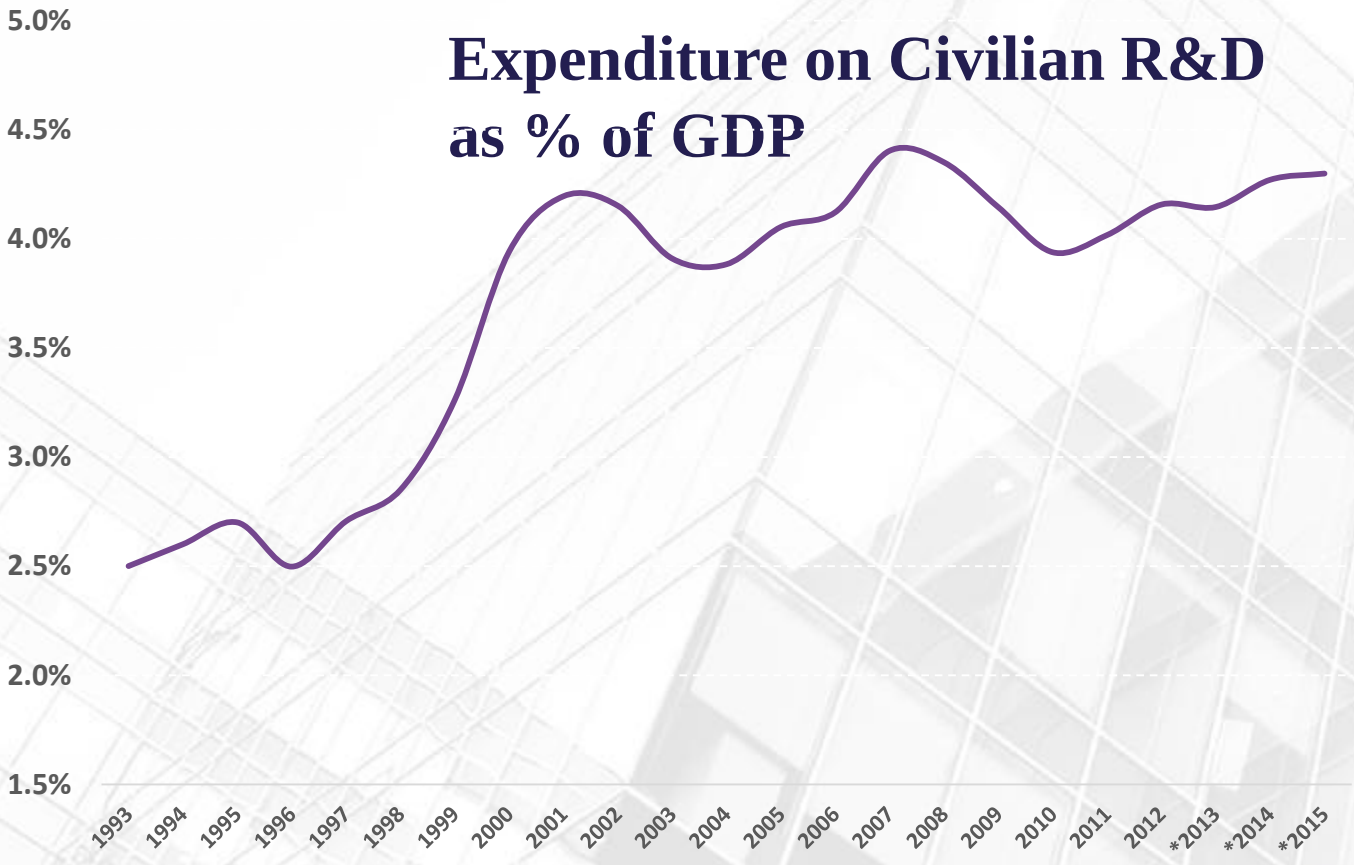
Big leap in R&D activity in the 90s



Source: CBS, 2017
***non final data**

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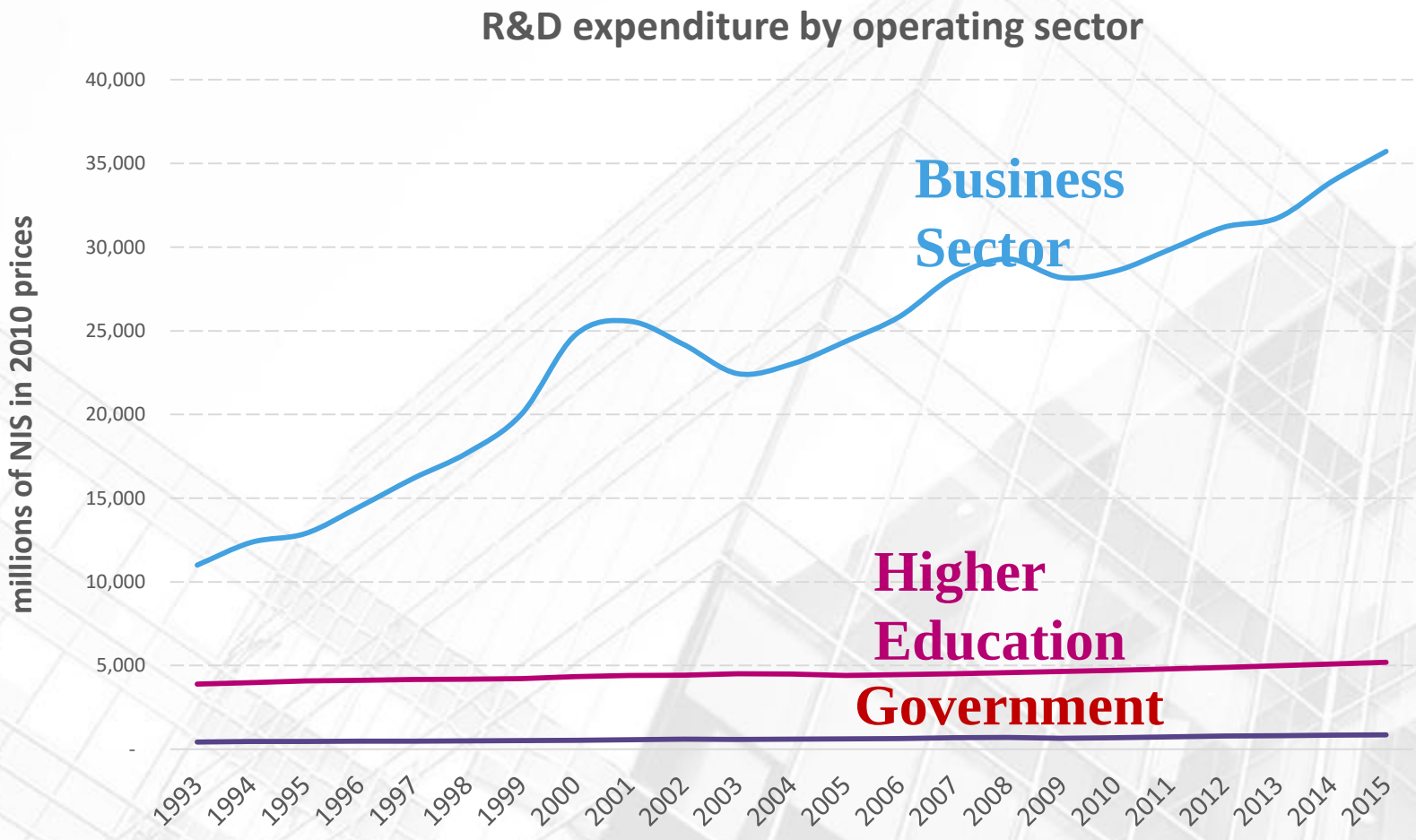
Main engine – the business sector



Source: CBS, 2016

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overview

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Innovation Policy

- **Goal – reinforcing the industry and increasing the economic benefits for Israel**
- **Market failure is a condition for support**
- **Neutral bottom-up policy – supporting all technologies and sectors**
- **Sharing the risk**
- **Negative incentives to export IP / R&D activity**

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Principles of the Innovation Policy

- **Neutrality** – grant is based solely on technological excellence and business potential
- **Reciprocity** – financing firms with conditional loan; repayments based on royalties (no equity is taken)
- **Matching** – matching governmental money with private money

Enabling the market;
Not leading it

Why Israel Innovation Authority's grants are so attractive?

- **Hallmark of the company and the product that is developed**
- **Accessible and fast track**
- **Significant support – up to 75% of R&D expenditure**
- **Continuous support along the progress of the R&D project**
- **No interference in managing the firm; no equity is taken**
- **No guarantees are needed**
- **Repayments based on royalties only upon sales; up to the sum of the original grant**
- **No repayments upon failure**

Lowering risk – increasing chance!

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Innovation divisions

- Technological Infrastructure
- Startup
- Growth
- Societal Challenges
- Advanced Manufacturing
- International Collaborations

The different needs of Israeli hi-tech firms require different policies and tools

Research infrastructure, disruptive technologies

Maintaining a s sufficient deal flow of tech startups and helping them reach fundable milestone

Helping tech firms grow in Israel

Supporting tech solutions for societal and public goals

Pushing the manufacturing industries to a sustainable competitive path

Enabling Israeli technology industry to find its path in the global arena

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Technology Infrastructure Division

ILAN PELED - DIRCTOR

innovationisrael.org.il

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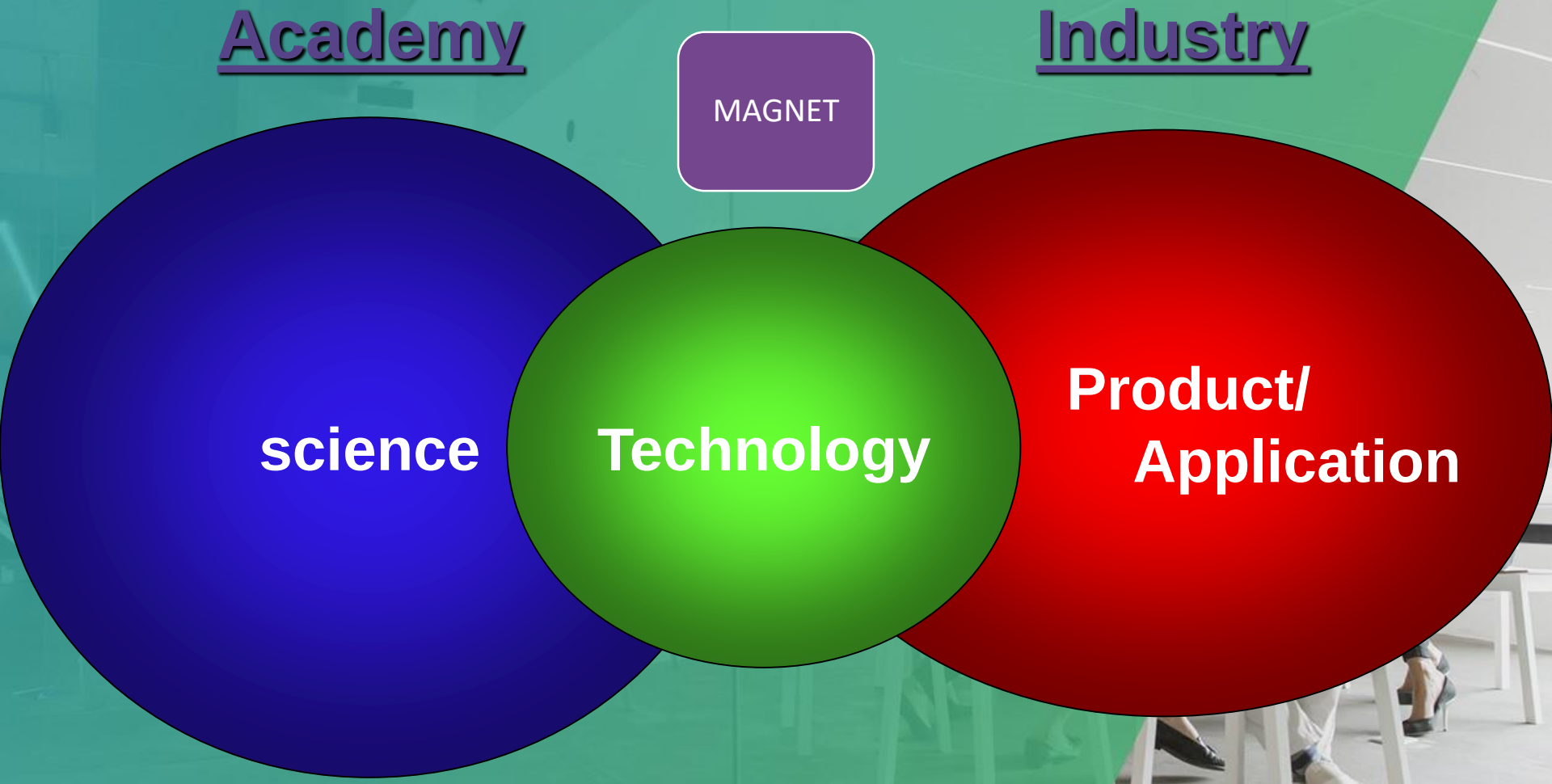
Academy
MAGNET
Industry
science
Technology
Product/
Application

COMMON DILEMMAS

Commitment:

Academic freedom vs. Milestones & Deadlines

Intellectual Property

Commercialization vs. Royalties

Publication

- Applied Research vs. Basic Research
- Timing

COMMON DILEMMAS (cont.)

Compensation

- Individual vs. Organization

Prejudice

Diversity Between Disciplines

TECHNOLOGY INFRASTRUCTURE (MAGNET PROGRAM) SCOPE

Generic pre-competitive technology

All the range **in-between**
Basic Research up to Products

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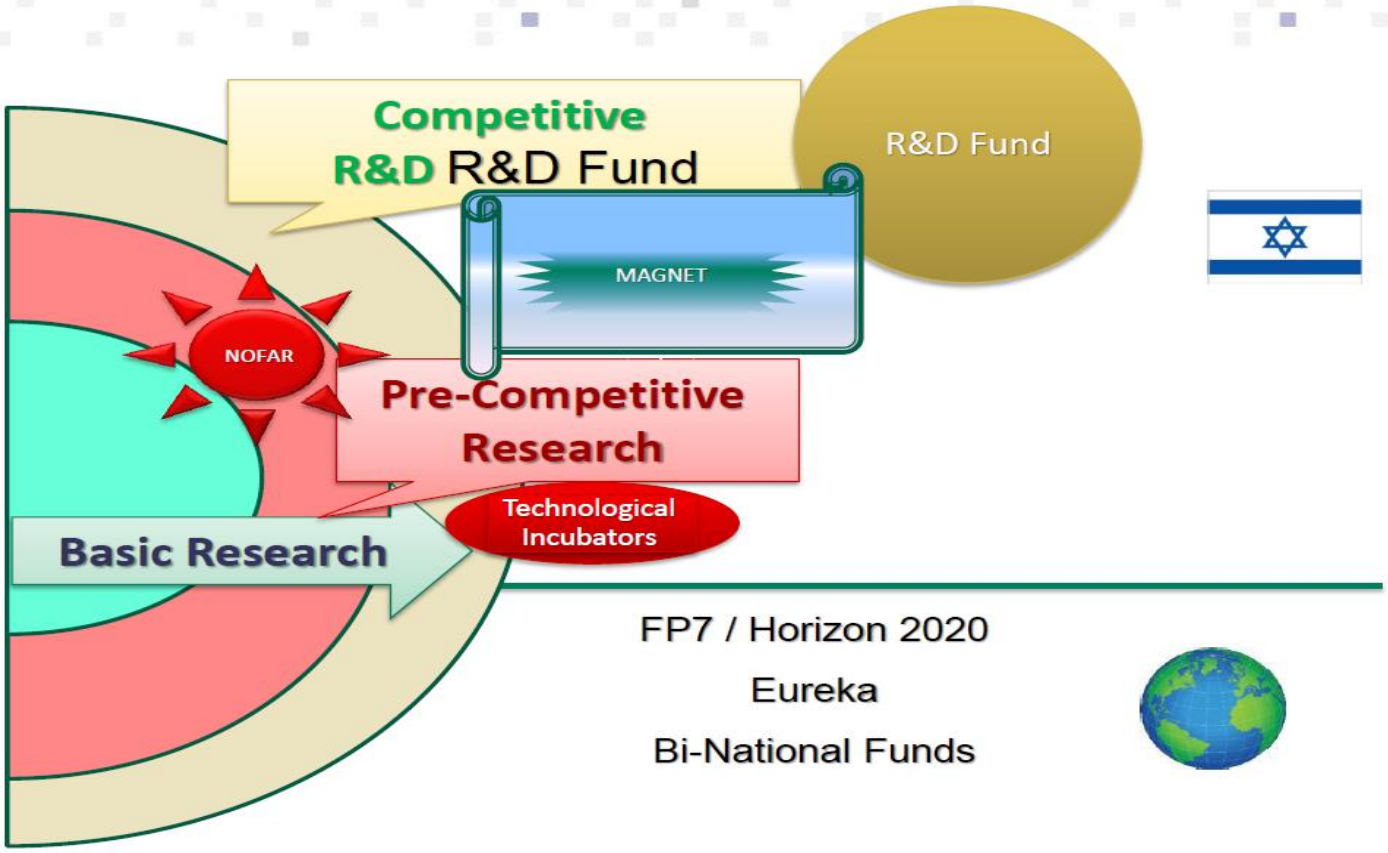

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MAGNET: Generic Pre-Competitive Technologies

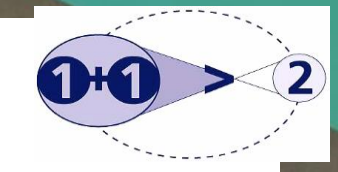
- Collaboration between companies and academic research
- Teams cooperatively develop basic innovative technologies:
  - Building blocks for future generic use
  - Next generation technologies required to keep competitive edge in changing markets
  - Disruptive technologies requiring pull of resources and knowhow

THE MISSING FACTORS

Co-operation

Teaming up is the Key everywhere, especially in a 8 million people country.

We just do not have enough resources to accomplish our goals if everybody is on his own.



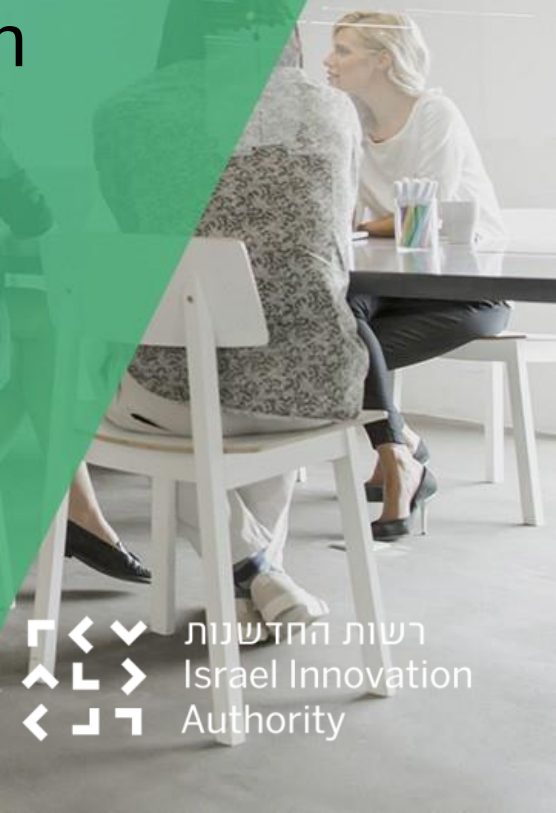
The Missing Factors

The Academic Research

- We Have world-class academic institutions, and they do a stunning amount of Research.
- We must give the Industry access to that wealth.

MAGNET

Enhance the development of the long term competitive edge of the Israeli Industry by creating clusters of companies and research institutes in areas which are important in the international markets, and we might have a relative advantage.



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Magnet's Rational

- ***Critical Mass***

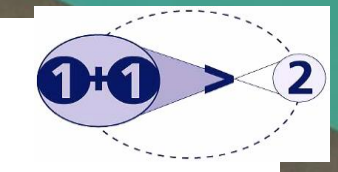
  For building common Technologies

- ***Efficient Exploitation of National Resources***

  Government and Private

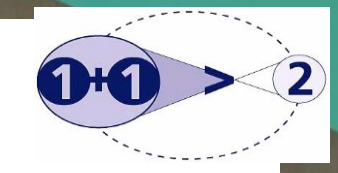
- ***Encouraging Industry to Exploit Scientific Know-how***

  In Research Institutes



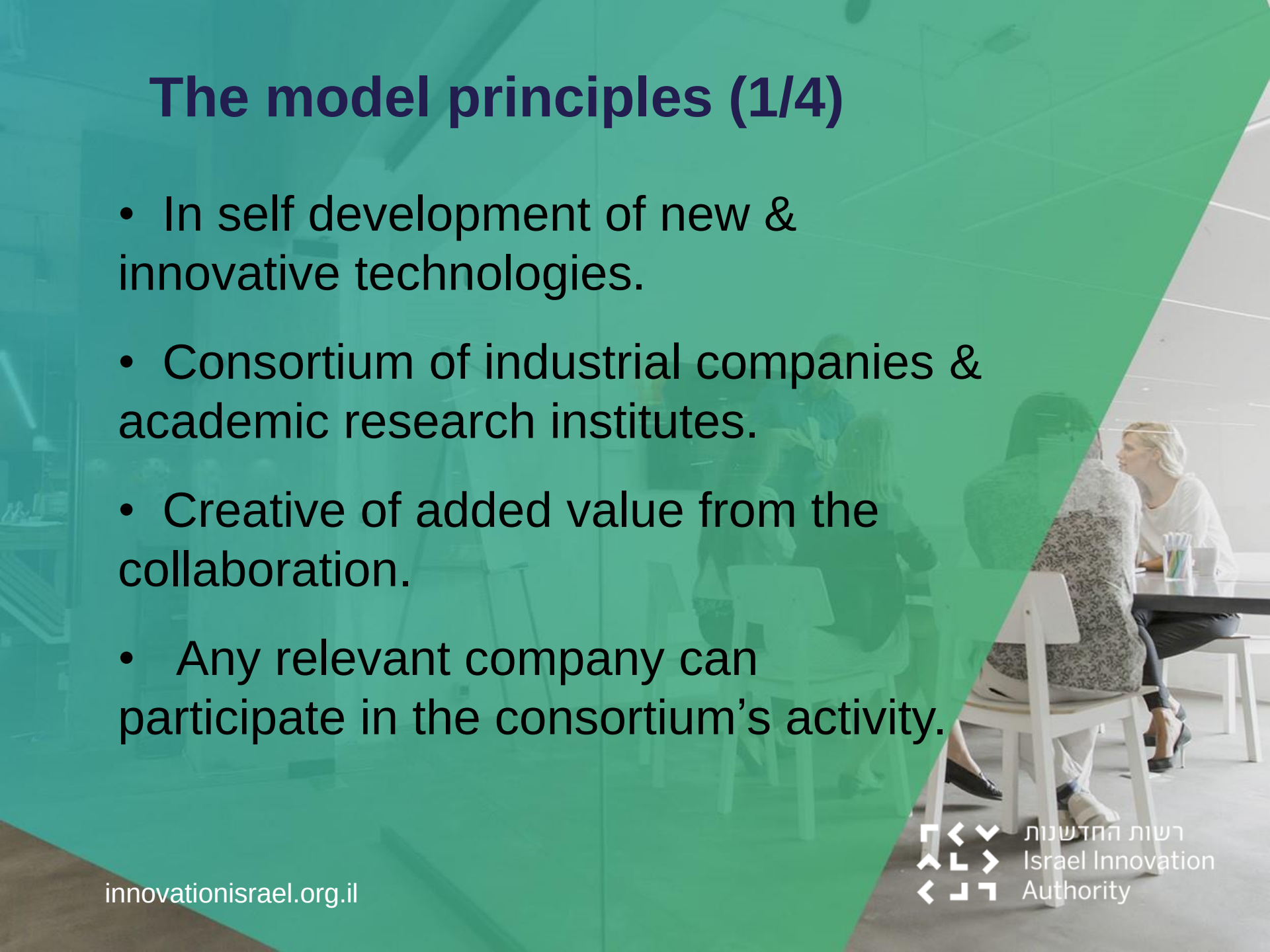
CONSORTIUM -Technology R&D Route

Forming a Consortium of Companies (>3) and Academic groups to achieve a common vision, by developing new technologies and share know-how among the members.



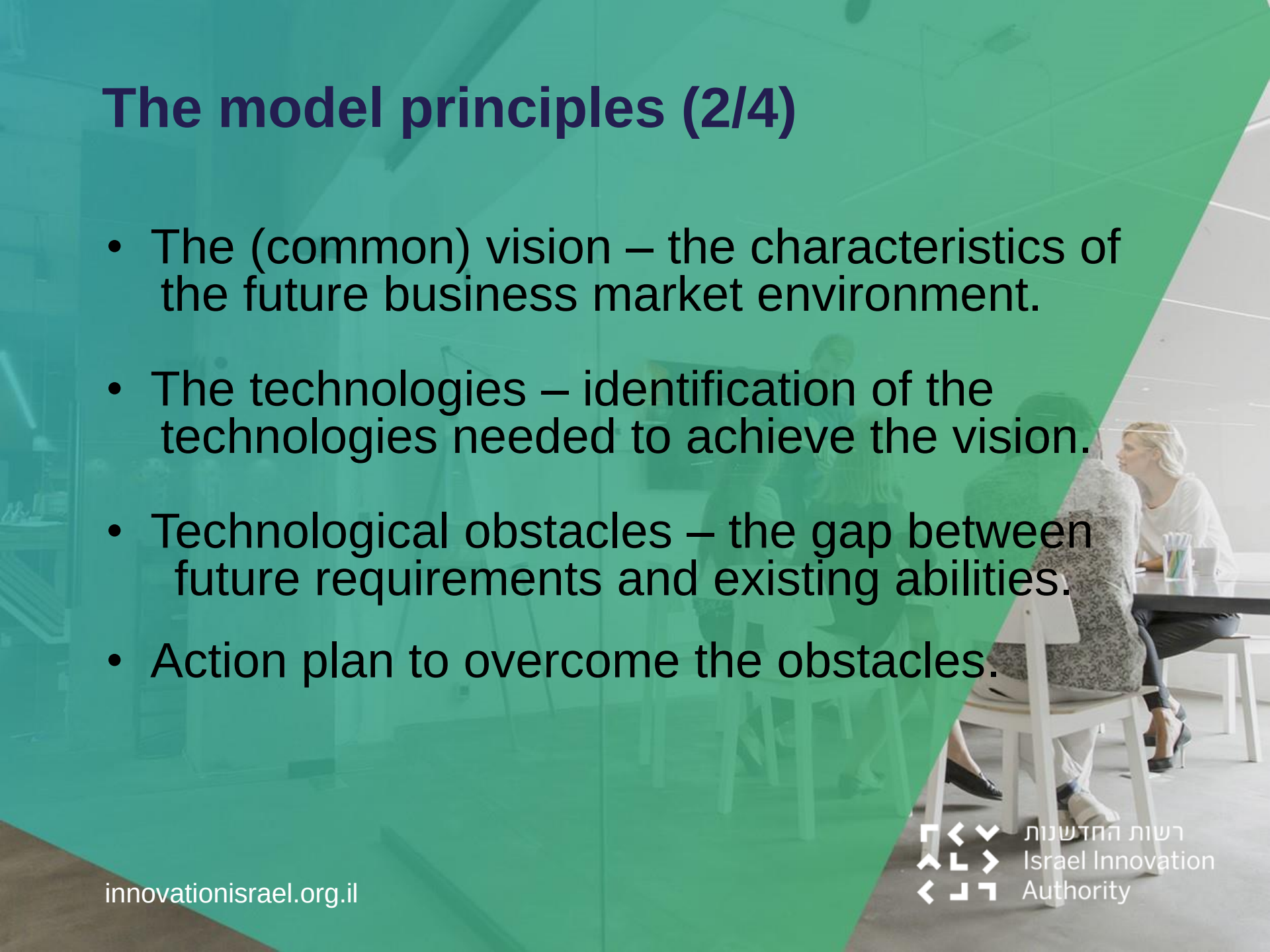
The model principles (1/4)

- In self development of new & innovative technologies.
- Consortium of industrial companies & academic research institutes.
- Creative of added value from the collaboration.
- Any relevant company can participate in the consortium’s activity.



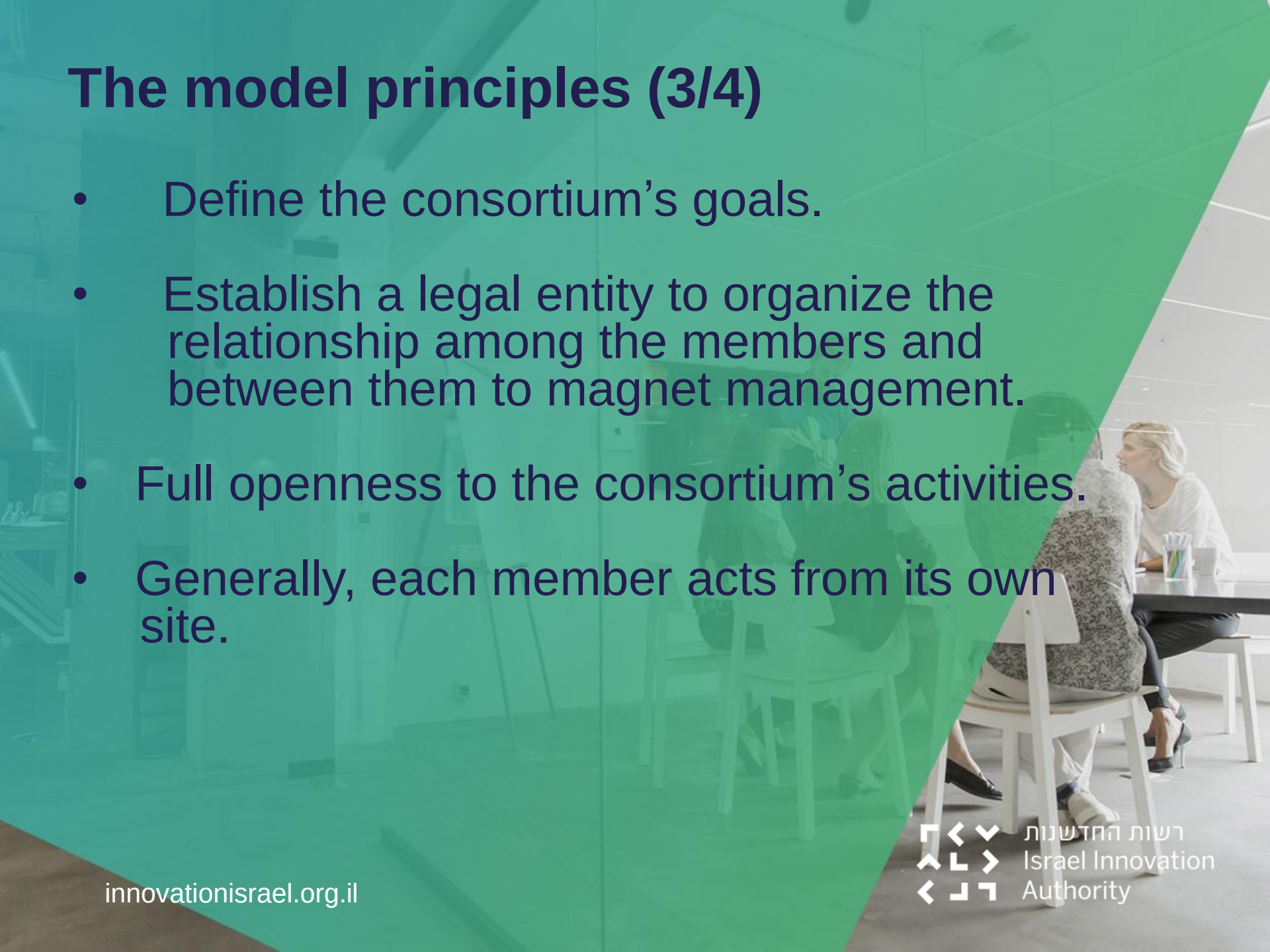
The model principles (2/4)

- The (common) vision – the characteristics of the future business market environment.
- The technologies – identification of the technologies needed to achieve the vision.
- Technological obstacles – the gap between future requirements and existing abilities.
- Action plan to overcome the obstacles.



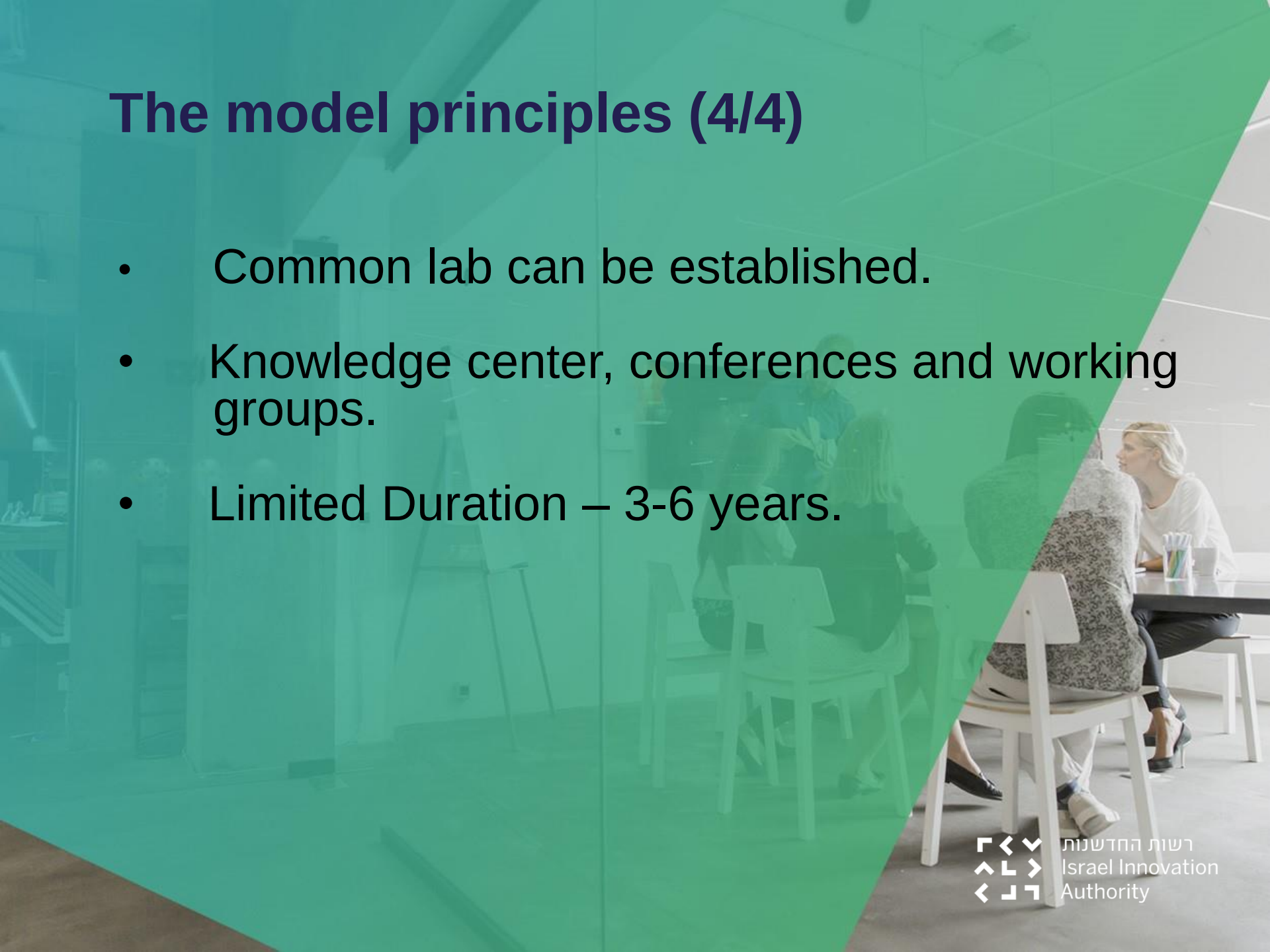
The model principles (3/4)

- Define the consortium’s goals.
- Establish a legal entity to organize the relationship among the members and between them to magnet management.
- Full openness to the consortium’s activities.
- Generally, each member acts from its own site.



The model principles (4/4)

- Common lab can be established.
- Knowledge center, conferences and working groups.
- Limited Duration – 3-6 years.



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IP

Ownership = Developer (S)

Right of use = Each consortium's member
for initial needs only,
free of charge

The Real Incentive

An enormous saving in Resources, especially in Human Resources

Cooperation!

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MAGNETON

Encouragement technology transfer
Dual cooperation-Industry V Academia –
1 company versus 1 academic group doing feasibility research in order to validate chance to use the technology for new product's development

Magneton principle

- **AIM: Encourage transfer technology.**

1.Dual collaboration:

1 Academic group V 1 Industrial company.

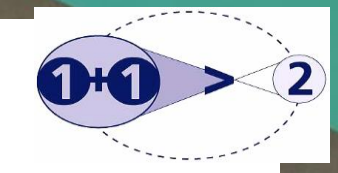
2. Short time activity – up to 24 months

limit budget – up to 800,000 US$.

3. Feasibility proof or uncertainty reduction to the innovative technology.

4. The company has relevant employees (the same areas as the lead researcher).

5. The activity is an address to the company's development.



Magneton data

- **After 10 years with more than 220 projects:**

A. It is very effective route for companies with good engineering and lack of creativity.

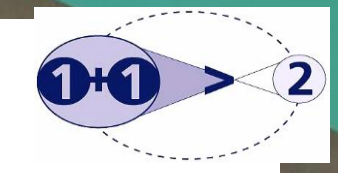
B. It is encouraging the collaboration between Academia and Industry.

C.The steady state is 25 new projects annually.

D. 50% success with proceed projects.

25% success ! but no continuation.

25% failure

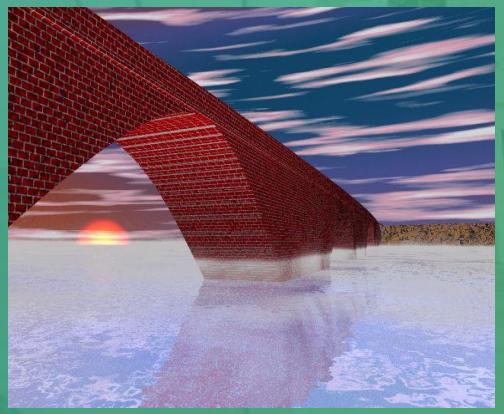


NOFAR

Bridge between basic to Applied research

This is an applied research in the Academia supported by Industry - finance and assistance

Dedicated to Bio-technology & Nano-technology



Nofar principle

- **AIM: Encourage applied research**.

1.Solo academic research.

2. Short time activity – up to 15 months

   Limit budget – up to 100,000 US$.

3. Achieving a milestone that makes sense to industrial candidate.

4. Assistant by relevant company (finance 10%).

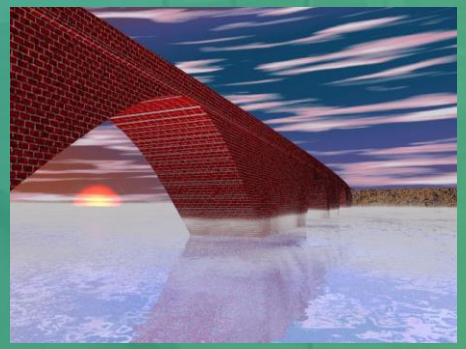
5. The company has priority in commercialization agreement.

KAMIN

Translation the achievements of scientific research and industrial applications

Support research with a potential to become in later stage an industrial product.

No company cooperation required
up to 400,000 NIS per year for op to 24 months.



Research Infrastructure Summary

- Pre-competitive development
- Maturing and transferring knowledge from research organization.
- Diverse programs to answer different needs
  - Consortia
  - Magneton,
  - NOFAR
  - KAMIN
  - ……

Thank You