Public-Private Partnerships (PPPs) for Science and Technology Parks (STPs) and Innovation Districts

Stoyan Kaymaktchiyski
Project Officer
Competence Centre on Technology Transfer, JRC

EC-CC-TT@ec.europa.eu

European Commission

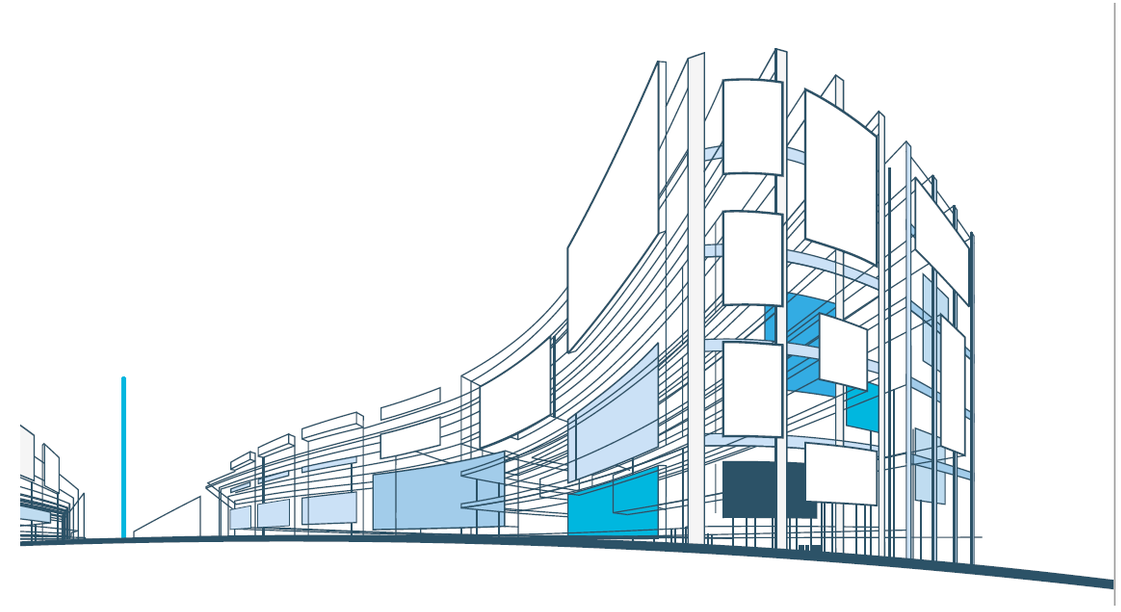
Overview of presentation

1. Introduction, PPPs, location-based Innovation ecosystems: STPs, Innovation Districts

2. JRC study: Public-Private Partnerships (PPPs) for Science and Technology Parks and Innovation Districts

   $\Rightarrow$ Short case studies of identified projects

3. Conclusions



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Before we start ..

“When you’ve seen one Public-Private Partnership, you’ve seen <u>one</u> Public-Private Partnership.”

Jonathan Law

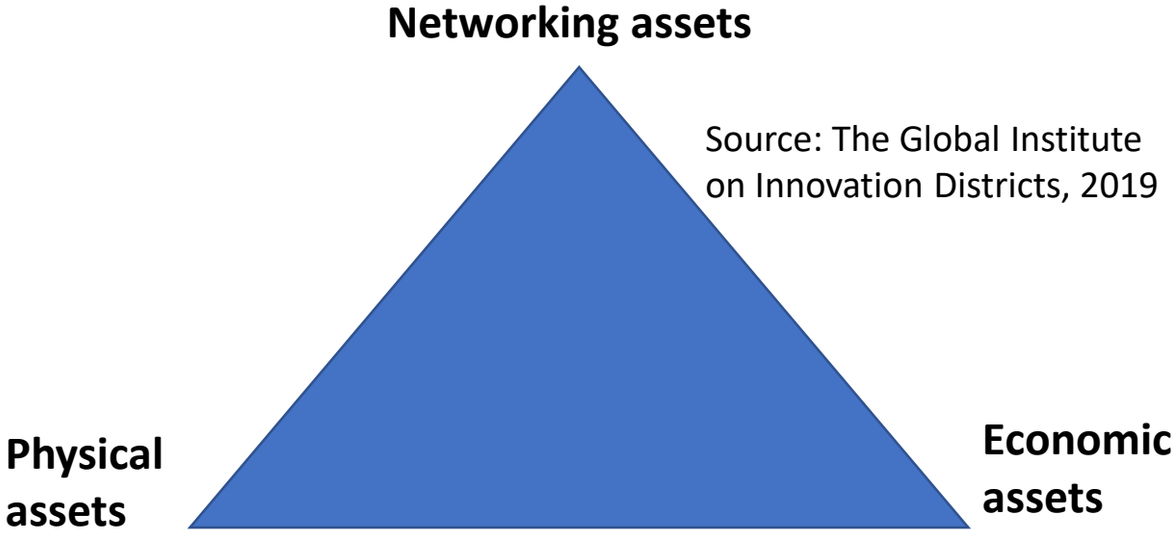
According to most definitions, including the one used by Eurostat, only projects that bundle together **construction** and **operation** are considered to be true PPPs.

- **risk** and **management responsibility**
- remuneration **linked to performance**

- *Study was prepared before COVID pandemic!*

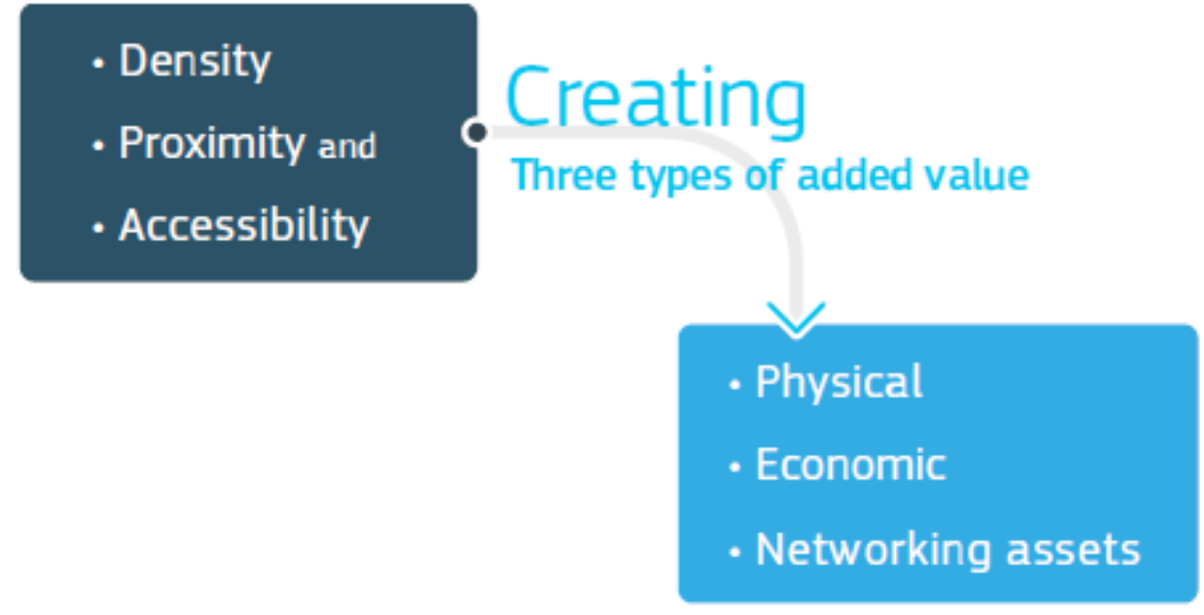
Innovation Districts and value creation

- Walkable, connected, accessible, **mixed-used infrastructures** and amenities (restaurants, sports leisure)
- Experimental facilities /living labs for PoC and quick market entry
- Regeneration of idle/underutilised buildings and infrastructures



Source: The Global Institute on Innovation Districts, 2019

Figure 2. Common traits of Innovation Districts and asset creation

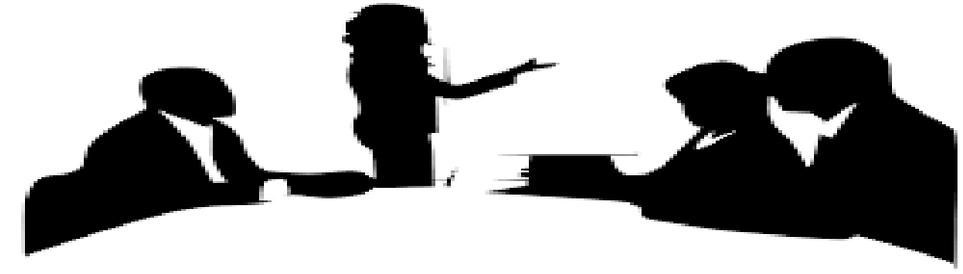


Background

- JRC has been receiving questions and requests for support from science park practitioners in particular in Central and South-Eastern Europe related to:
  - Financing of construction and operational costs
  - Management structure
  - How to engage private investors?
  - Sustainability?

- The JRC commissioned a study to be based inter alia on several practical case studies aiming to explore existing and identify emerging models

Purpose of study



- To explore how **PPP** and related **modalities** can best be utilised and applied for the construction and operation of sustainable STPs/IDs.

- For this purpose the Competence Centre on Technology Transfer assembled a **team of five independent experts** who have helped shaped the questionnaire; conducted personal interviews with STP/ID managers.

- The study was conducted **in partnership with the International Association of Science Parks and Areas of Innovation (IASP)** utilising its vast network of Members.

In collaboration with IASP

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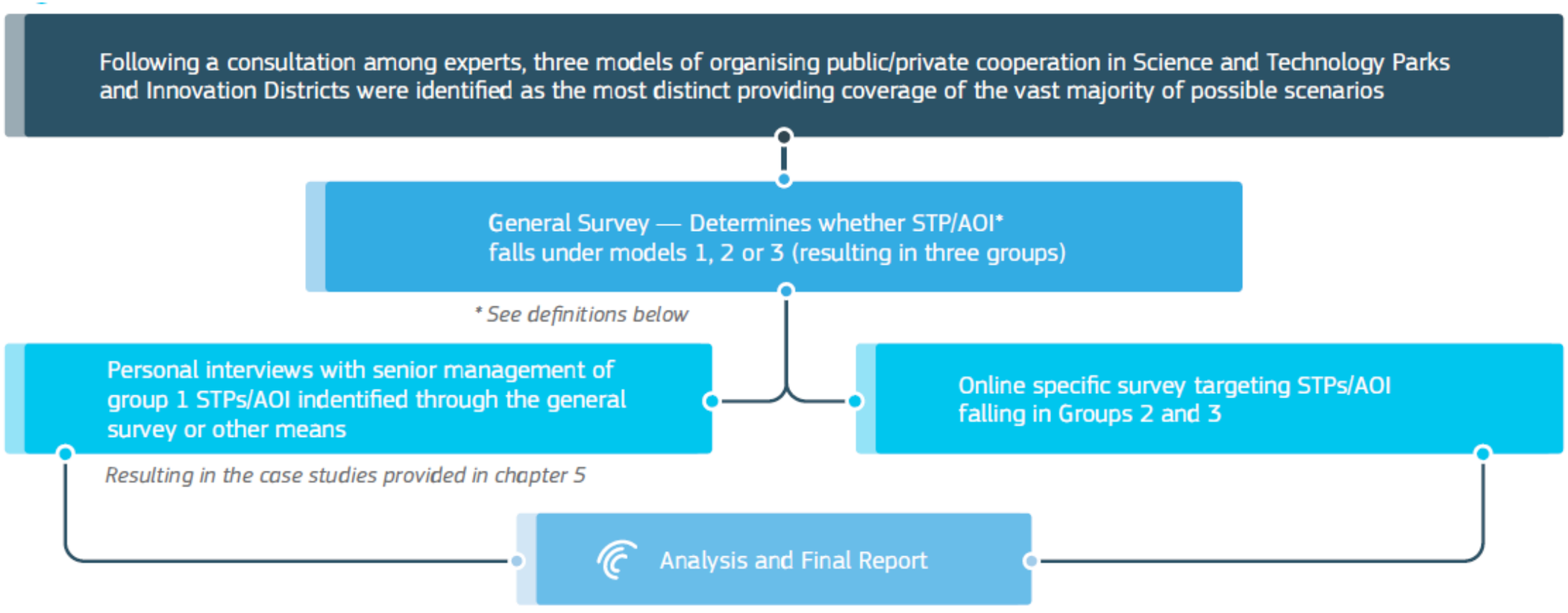
Methodology and steps



Surveys with IASP

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Features of PPPs

- **Long-term** contract between a public authority and a private partner
- Focus on the **provision of services** rather than [only] assets
- **Transfer of risks** (e.g. design, **finance**, build, operate..)

- **Remunerating** the private partner through either:
  - performance-based **payments** for the provision of the service
  - right to generate **revenues** itself from the provision of the service

Features PPPs and innovation infrastructures

(i) ensuring that the private partner has a **degree of latitude in developing and managing the infrastructure** and – especially in the case of Innovation Districts – service provision

(ii) insulating Public Sector partners from the **commercial risk** of a particular project that is **transferred** to a private operator, and

(iii) Ensuring that the public **partner retains a level of influence** on strategic decision making and R&D&I focus.

Benefits of PPPs

- Savings in public resources
- Transfer of commercial risk to private partners
- Improve quality and efficiency of public spending by utilising the expertise and know-how of the private partners

(!) PPPs for STP combine the benefits of both (especially important for large scale regeneration projects)

Market efficiency mechanisms

Public direction, support and legitimacy

Concessions – in general

- An essential principle for concessions - the final **users pay continuously** throughout the lifetime of the project
- **User charges** thus reimburse the private partner (concessionaire) for the investment costs
- Mobilising private capital for investments in infrastructure and services **without increasing public debt**.

EU Concessions Directive
(2014/23/EU)

*"**maximum duration of the concession in EU** shall **not exceed the time** that a concessionaire could reasonably be a expected to take to **recoup** the investments made in operating the works or services together with a **return on** invested capital […]"*

(!) it is quite difficult to estimate the cash flows for complex mix-used and multi-stakeholder infrastructure such as STPs and Innovation Districts

- Operating risks
- No guarantee for recouping the investment

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So what remuneration for the private partner?

Defining the minimum offer for a **fair and adequate compensation of the private investor** partner must be done on a **case-by-case basis** considering all the **advantages and risks**!

- a too high threshold could be a disincentive to participate at all in a venture
- a too low would mean a loss of value for the public sector

(!)This is a typical challenge for complex public-private partnerships and concessions and not an easy one for public authorities

Market demand and demand profile

- ✓ The **demand profile** affects the potential for development of an STP or ID
- ✓ In **overheated real estate** markets the main customer would be the **real estate investor**
- ✓ In location with a **flat demand** the main customer would be the public sector promoter **institution** (government, municipality, etc.)

Sound Private Sector Engagement in PPP

From co-creation of solution to deriving profits and co-ownership

Different Levels of Private Sector Engagement in PPP Contracts

	Identify Infrastructure Need	Propose Solution	Project Design	Project Financing	Construction / One-off development	Operation/ Maintenance	Ownership
Traditional Procurement for Construction (no PPP)	Public Sector				Private Sector	Public Sector	
Complex, long term & far reaching PPP with strong private sector involvement (clear PPP / concession)	Public Sector	**Private Sector Partners** → Public + Private Co-creation		Private Sector Operation + continuous Investments/Usage & Deriving Profits; Concession elements			Private Partners often become co-owners. In concessions: "ownership" or the right to use is limited in time

Source: Partially based on Brookings analysis and expert interviews

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Survey: Three models of STP and ID's

Question:

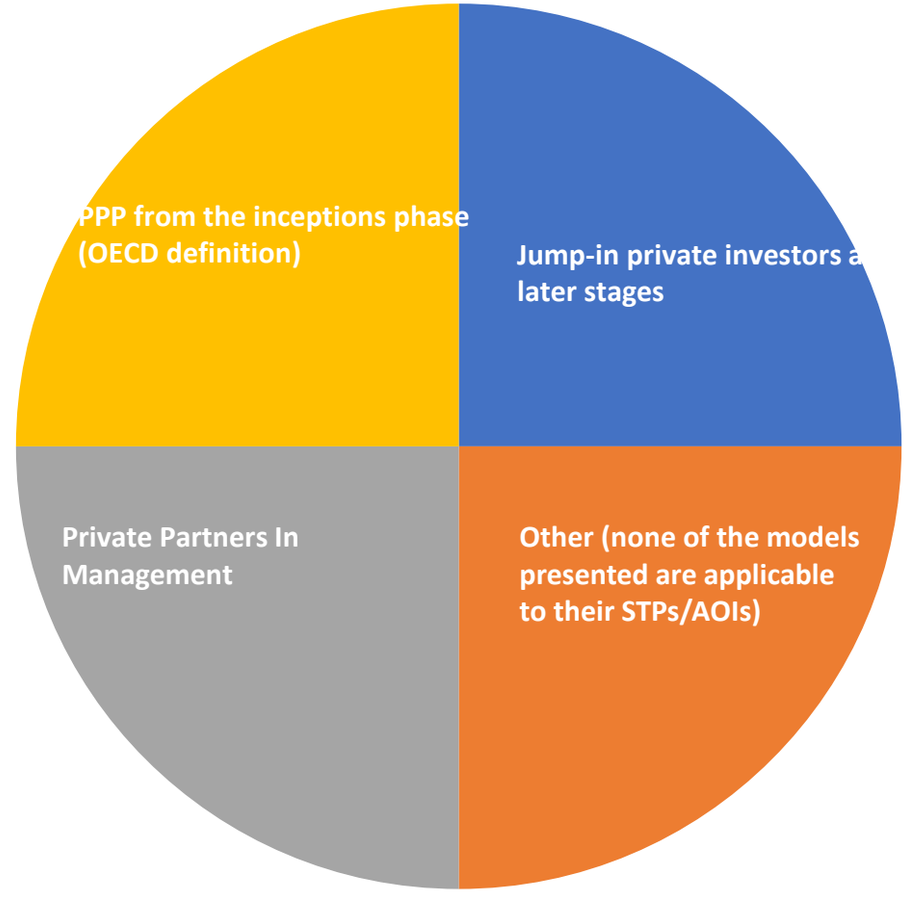
"*Has your STP or area of innovation (also referred to as innovation district)* ***been created as a result of a collaboration between the public and private sectors****, in any one of the following 3 models?*"

MODEL 1: PPP from inception	MODEL 2: JUMP-IN MODEL or late stage private investment	MODEL 3: Management partnership
PPP often refers to projects with a strong collaboration between public and private and a **significant risk sharing** of the private partner." (OECD definition)	The park or district is launched and owned by a public agent. At a certain point, private investors are given the opportunity to **develop some elements of the park and exploit these.** In most cases the private investors build offices and/or workshop space to rent it out to tenants.	The park or district is promoted, launched and owned by the public sector but the owners **outsource the management of the project to a private company**, or invite the private sector to participate

Survey results confirmed three broad models for engaging private partners into STPs and Innovation Areas

(!) no clear line and many hybrid models

- **Survey sent to 280+ STPs/AoIs**
- **58 replies from STPs/AOIs located in 35 countries around the world were received (note: window for responses was rather short)**



- **The responses were evenly distributed among the three proposed models, but other models or variations also exists!**

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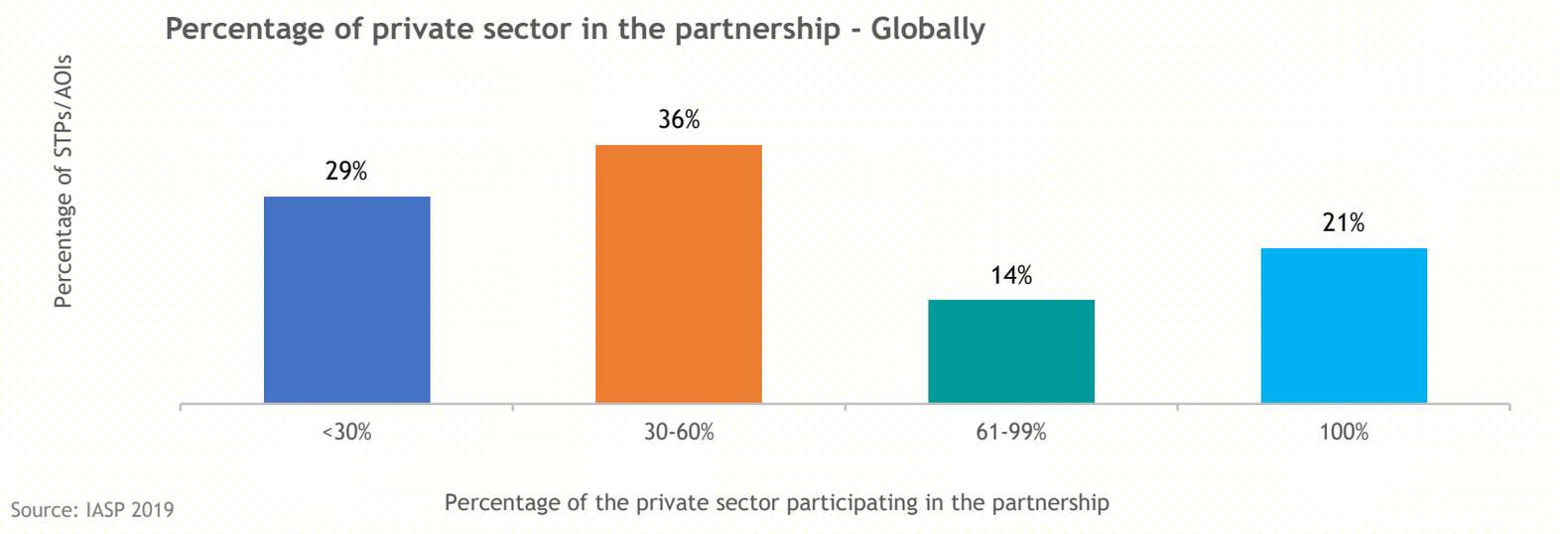
Results continued..

Question (for those choosing model 1):

"Please indicate the percentage of the private sector participation in the partnership."

The 16 parks/areas that selected model 1 in the first question were asked about the percentage of the private sector participation in the partnership. 14 of them replied to this question, for 36% of these the participation of private investors represents between 30 and 60%.

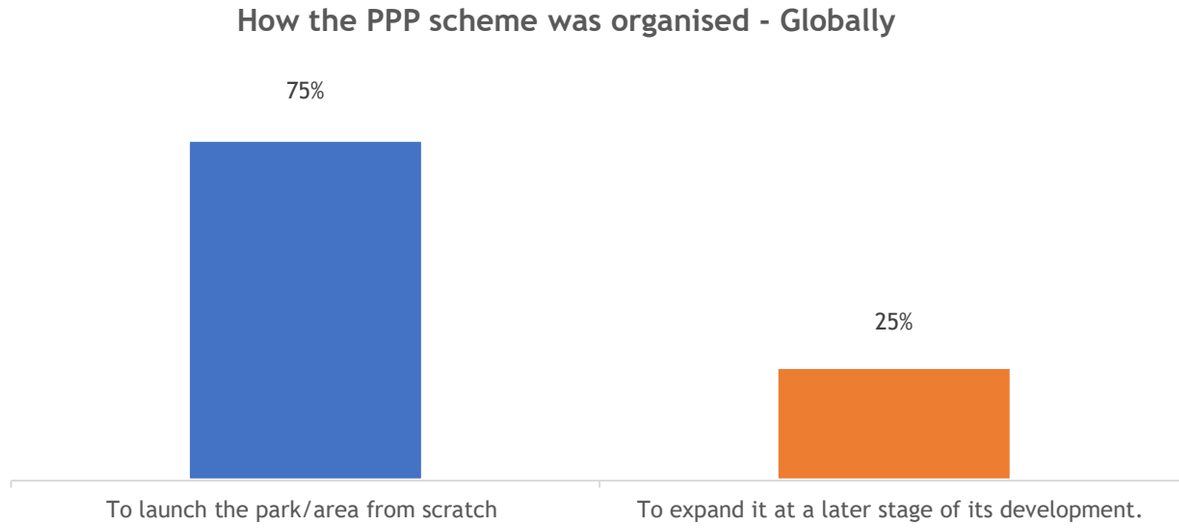


Source: IASP 2019

Results continued..

Question (for those choosing model 1): "*Please indicate how this PPP scheme was organised*."

The majority (75%) of STPs/AOIs within the model 1 stated that said model was established from the very beginning of the project lifetime, when the park/area was launched.



Source: IASP 2019

Case studies

Question groups and case studies (one-to-one interviews)

1. Institutional set up
2. Contribution of each PPP partner
3. Role of the PPP partners in the management and operation
4. Ex-post view of the PPP venture: lessons learned

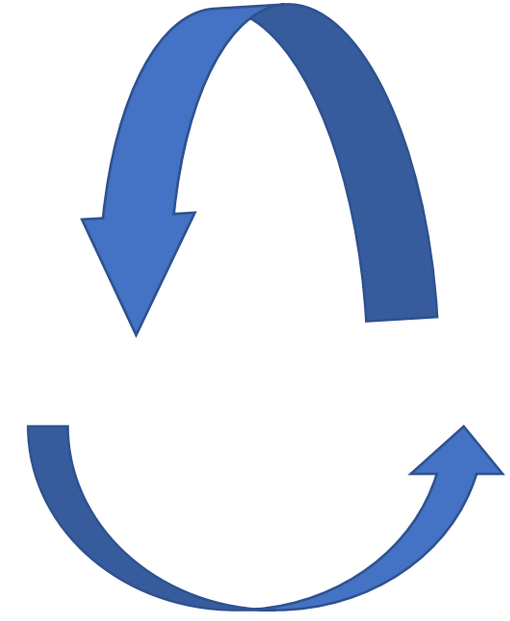
- Ann Arbor SPARK, USA
- Johanneberg Science Park, Sweden
- MIND Innovation District, Italy
- Ørestad Innovation City, Denmark
- Gav-Yam Negev Advanced Technologies Park, Israel
- Technology Park Ljubljana, Slovenia
- Here East & Plexal, London, United Kingdom
- Technology Park Brno, Czech Republic

Real estate <=> R&D&I activities

- Strongly interlinked and dependent upon each other!

but..

- To what extent the real estate operation can support the sustainability of the STP/ Innovation District in relation to the other activities (R&D&I incl. provision of value-adding services such as incubation and TT services)?



Technology Park Ljubljana, Slovenia

City / Municipality

Research Institutes

Private partners; companies

Technology Leadership + stakeholder alignment

Land; EU grant

Participating with equity and loan guarantees. Later became owners of the premises (70k of 75k sq. m)

PARK Management Company (not-for-profit)

European Commission

Technology Park Ljubljana: *operational funding and revenues*

Renting 5000sq.m.

Projects (innov/tech. related)

Tech-related Services to tenants

40% of revenues

40% of revenues

20% of revenues

Total revenues for the PARK Management Company (not-for-profit)

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Here East, London, United Kingdom

Public Owner of the Land/Site: London Legacy Development Corporation

Private Investor Developer Company winner of the tender

Shared Vision

Awards a 200-year lease of the space and buildings + **defining** the scope of the project

consulted

dividends

Invests 150M GBP into redevelopment and new premises, initial operation costs

Here East Management Company (fully owned by the investor):
=>**Operates** the Infrastructure
=>**Orchestrates** the Innovation Ecosystem (serving all stakeholders)
⇒ Bears the **risks** and deficits; benefits from dividends

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MIND Innovation District, Milan, Italy

Concession contract => long-term view on value creation

Human Technopole, the University of Milan and the Galeazzi Hospital

Bringing critical mass of researchers, students, visitors

public anchors help develop vibrant ecosystem

Public Partner AREXPO incl. Ministry, Region and Municipalities as shareholders

Payment of yearly rent fee to AREXPO (approx. 250M EUR in NPV for the 99 years)

Awards concession contract to design, build, finance and operate (DBFO) MIND.

Right to make use of 477,500 sq.m. area

Private Partner Infrastructure Developer **Lendlease** to develop the district (and manage it respectively) by investing:

- ✓ EUR 135 million for the urbanisation infrastructure, plus
- ✓ Costs for the construction of the innovation district itself
- ✓ In total up to a total of roughly EUR 2,5 billion investments for 99 years

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Johanneberg Science Park, Gothenburg, Sweden

Industry, Tenants

Academia

commercialisation success

access to best research

STP =>“training camp" for growth and innovation development

Real estate developers

- Together with the City develop projects that use on occasions [parts of] the **city as a test bed / living lab for future solutions** and where citizens are involved

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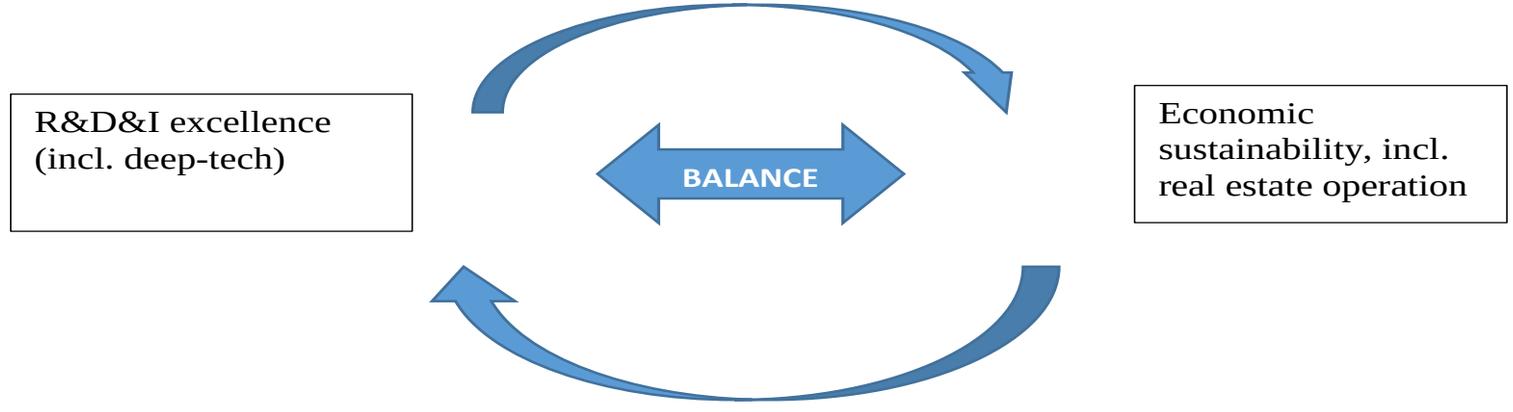
Results: Software <=> Hardware
Intangibles, Services etc. <=> Infrastructures

- It is recognised that if the **software fails** i.e. insignificant scientific production, scientific outcomes don't turn into innovation and then marketable products bringing value, then the entire success and longer term sustainability of the hardware is also compromised.
- Some Innovation District projects have opted to **devise two separate financial strategies for the hardware and software** parts respectively considering the positive and negative impacts.



Results: Land and Buildings Development

Public land /buildings are capital assets that must be utilised to create long term economic and social impact

- ✓ Public land is transferred to a **Special Purpose Vehicle -** publicly owned but privately managed organisation (Copenhagen) or a triple-helix joint venture (Brno)
- ✓ Public land is leased to a **Private Partner** who invests into [re-] development and construction works and then manage a multi-stakeholder STP/ID acting as concessionnaire (London and Milan) and being remunerated through users

(!) Leases and concessionary models and their duration, conditions, financial and state aid implications have to be elaborated at conception on case by case basis

Results: What should I do before initiating a major science park or innovation district?

- ✓ **Feasibility** study and consultations with stakeholders including industry to **ensure existence of the demand**
- ✓ **Preparation phase** is essential and needs sufficient time and attention
- ✓ Infrastructure must be linked to the **actual needs on the market** in terms of tenants and innovation sectors

(!) The more focused the programming and offerings are to the local needs of industry, the greater the likelihood of success

Recommendations for Management

- ✓ **Representation of all triple helix stakeholders** (government/city, academia, private investors) **in supervisory bodies** such as the Board of Directors
- ✓ Involve and engage a **broad range of actors from civic society to contribute** with the their know-how, research and valuable inputs including alumni, successful entrepreneurs, visionaries, researchers, civil society organisations, residents, visitors, consultants etc.
- ✓ Ensure a **balance** between **strategic goals and effective / efficient operation**
- ✓ **Industrial specialisation** jointly developed and decided on **by all partners**

Recommendations for Management

- ✓ **Engage the neighbouring communities** with the creation of new and value-adding educational, labour and leisure opportunities
- ✓ Public partners do **not** need to be engaged in the management of the day-to-day operation, but they are regularly consulted
- ✓ Academia educating **graduate** profiles that are **demanded** thus making sure the fast growing companies can sustain their growth with the influx of new talent.

Results: Operations and Budget

Operational costs may consist of a mix of public and private funding organisations.

- In some cases the university commits an amount comparable to that of the city and private partners.
- In other cases there are independent income lines through services and/or
- In some cases constant income from renting of buildings.

The sources of funding may thus include:

✓ rents
✓ private foundation sponsorships
✓ consultancy,
✓ [non-rental] membership fees from public, private and academic members
✓ innovation-related services including to tenant companies
✓ competitive projects from national or EU programmes
✓ direct contributions from academic and municipality/public partners

Results:
Reinvestment of tax into innovation

An insight into the model of **Ann Arbor Spark**

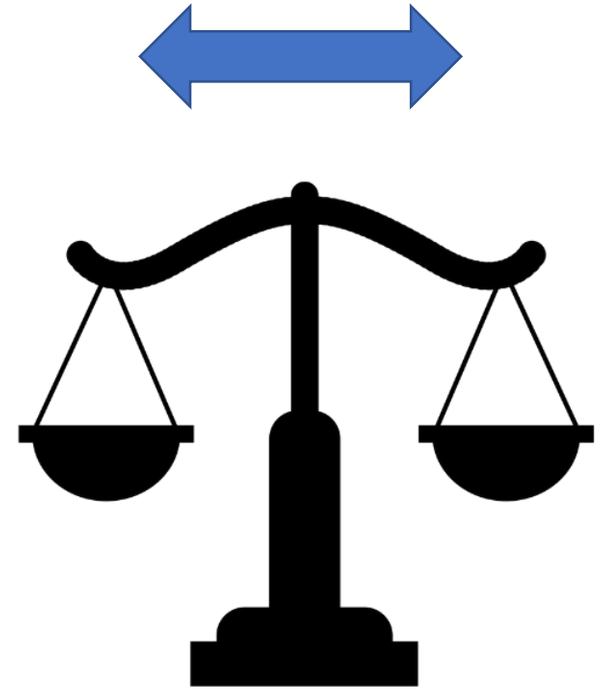
- the state **allocates a portion of the revenues generated from taxing real estate** value growth as a result of business activity in the district ..
  - **to support the growth and acceleration of technology start-ups**
    - **creating a virtuous cycle**: as growing tech companies filled up vacant space market rates for the space increased thereby further increasing the tax base!

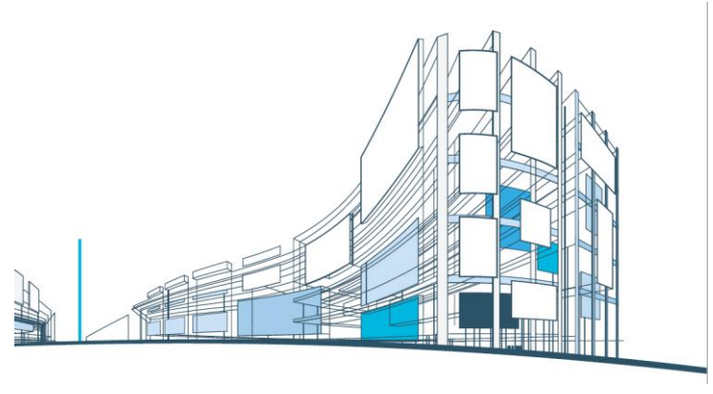
Conclusions

- ✓ The long-term nature of the contracts incentivises **private investors with long-term interests** in the project development and success
- ✓ PPPs and concessions offer opportunities for the **(re-) development of capital assets in public possession** (land, buildings)
- ✓ A prerequisite for success is the long-term strategic **interests' alignment**
- ✓ Think about the development and orchestration of the **innovation community**, an activity that requires **resources, both human and financial**
- ✓ **Public partners should aim to provide continuous strategic legitimacy, support and recognition** for the science park/innovation district project including constant incentives for attracting further investors, tenants & companies

Balancing of interests

inevitable tendency of private partners to focus on monetisation of the real estate, by aiming for high or full occupancy rates



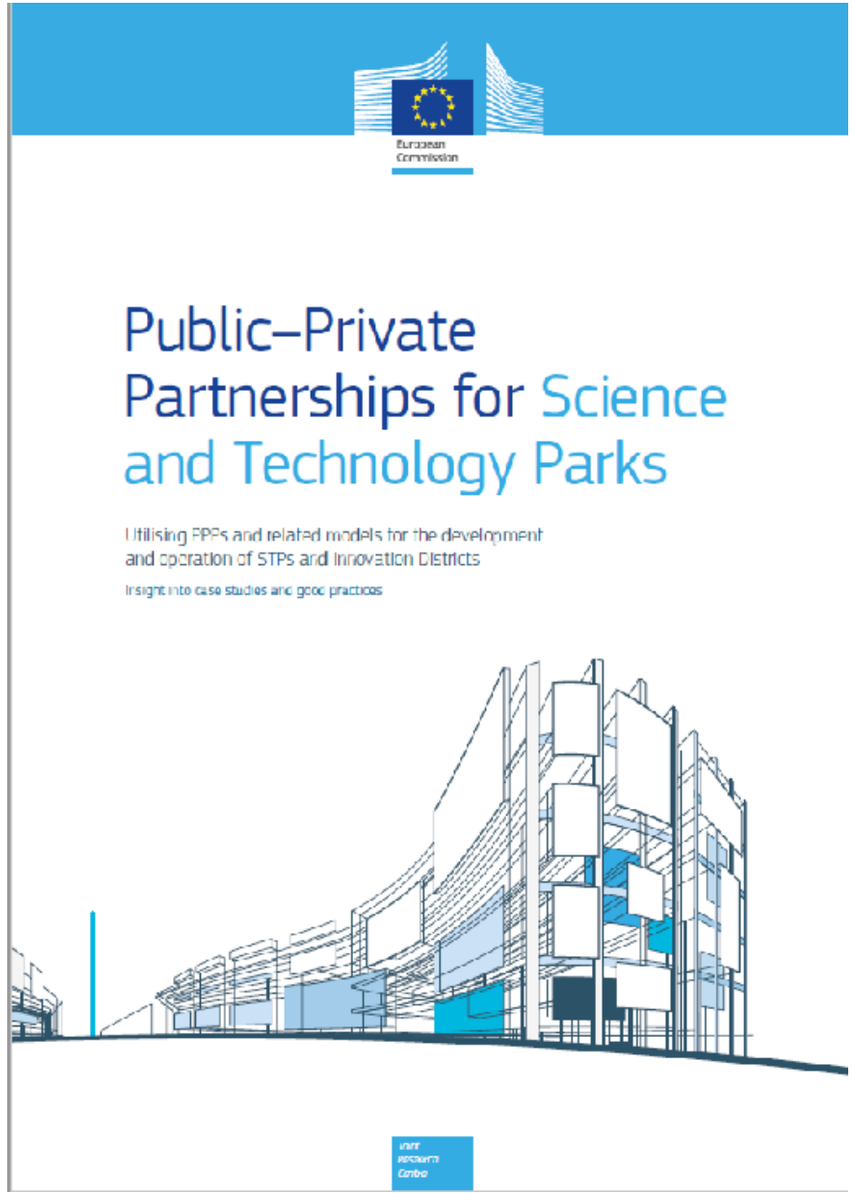


need to ensure that **occupants have relevant profiles** (bringing value to the composition of the cluster) and that adequate **investments are made in laboratories**, common areas and amenities

Impact measurement ?

- Number/growth/revenues of tenant companies?
- Survival rate of startups (deep-tech vs. software!)
- No of Jobs/Employees?
- Taxes paid/collected?
- Creation/ protection / commercialization of IP?
- Broader social impact (young people in the country?)
- Regenerate local community?

Thank you!



Lund, E., Addarii, F., Schmitz, H., Kokorotsikos, P. and Bush, R., Public-Private Partnerships for Science and Technology Parks, Kaymaktchiyski, S., Fazio, A. and Shamuilia, S. editor(s), EUR 30439 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-25169-9, doi:10.2760/3057, JRC122409.

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