

Business incubation and start-ups in the ICT sector

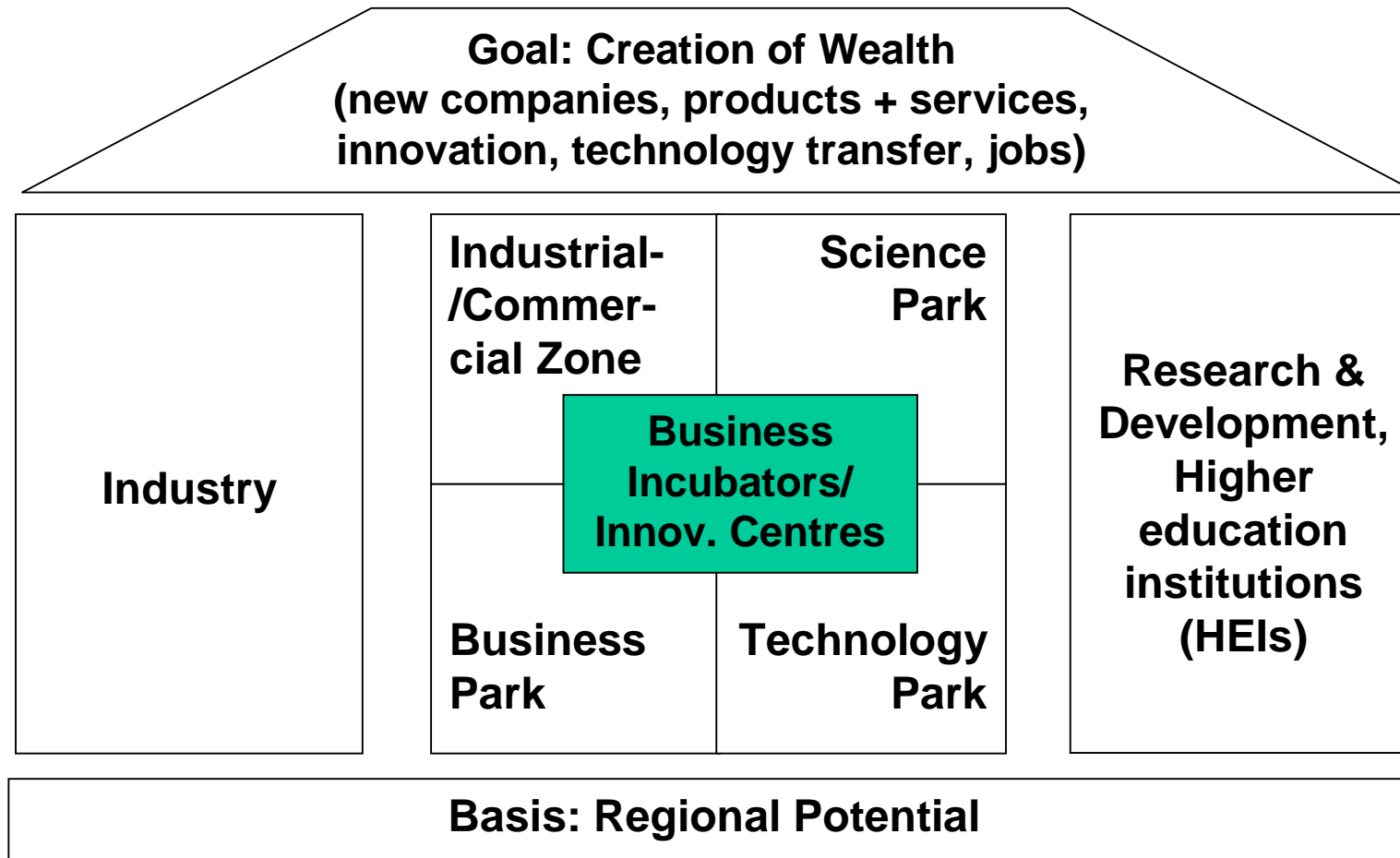
***Support for new and potential start-up incubators in
the field of Information and Communication
Technology (ICT)***

Irina Nunberger



Definition

Business incubators + their relation with the environment



Source: Dietrich 1996



Facilities + services, the model

§ A full-service incubator will offer:

- § **Incubator space:** offices or workshops, sometimes labs, available on a flexible, affordable + temporary basis (**easy-in + easy-out**), more & more: pre-incubation rooms
- § **Common services:** incl. secretarial support, telephone answering, common reception, mailing facilities, LAN and other office equipment, meeting rooms and (in some cases) **cafeteria**/canteen facilities
- § **Business counselling**, namely 'hands-on' assistance with regard to business planning, training in management skills, access to accounting, legal-, marketing- + financial expertise, + ad hoc advice
- § **Access to finance + specialist advice:** some operate own seed + venture capital funds; access to specialist advice will be provided if an incubator does not have the skills + know-how itself

Factors influencing the role a business incubator can play in a region

- § Local support
- § Promoters from different sources
- § Referring to strengths + weaknesses of the region
- § Type of services already available to businesses in the region
- § Type of R&D being undertaken

Role of business incubators in enterprise creation + regional development: Limits

- § The business incubator is an instrument showing effects in the long run:
 - § it is a **medium-term venture**
(with possibly **3-5 years** before it shows sustainable success)
 - § its **impact** will be felt **locally + 15-20 km surrounding**, not nationally + macro-economically

- § Initiatives such as business incubators **make sense only if**
 - § the relationship between entrepreneurship + economic development has been acknowledged and supported
 - § there is **consistency** with the overall economic development strategy

Start-ups and SME

- § Start-up – starting its entrepreneurial activities (young companies – 1-2 years – newly formed company) or not yet existing
- § Small enterprise - < 50 staff, turnover < 10 Mio. EUR (prev. 7 Mio. EUR)
- § Micro enterprise - < 10 staff, turnover < 2 Mio. EUR (prev. not existing)
- § Medium enterprises < 250 staff, turnover < 50 Mio. EUR (prev. 40 Mio. EUR)
- § Definition: European Commission, recommendation 2003
- § Basis for comparison (other countries) – number of staff

Start-ups in the ICT sector

- § Capital intensive – availability of seed and venture capital
- § !!! but 79% of start-ups in Germany finance their growth from own returns (branding at weekend) – conventional web-services for third parties
- § Extremely high share of costs regarding to telecommunication services
- § Difficulties in market attraction – strong support measures at TBI
- § Qualification (rapid development and growth)
- § Skilled ICT managers at TBI – ICT projects management
- § High reactivity of managers at TBI

History

First business incubator + origin of the term

- § First incubation activities in the USA + Western Europe → partitioning space, share services by J. Mancuso
- § **Batavia Industrial Center (BIC):** first business incubator, founded 1959 (Batavia/ State of N.Y.)
- § Still operating (110 tenants, 1000 working places)
- § Had much in common with present initiatives in Eastern + Central Europe



Batavia Industrial Centre (N.Y.)

http://www.mancusogroup.com/properties_bic.html

History

Dissemination of the business incubator concept

§ **European pioneers** in business incubators – based on the science park concept + focussing on promoting technology-based start-up companies:

§ Heriot-Watt University, Edinburgh (1969), Cambridge University

§ **Followed by projects** in

§ Australia (1972)

§ Asia (1974)

§ Scandinavia (1982)

§ Germany (1983) → BIG Berlin

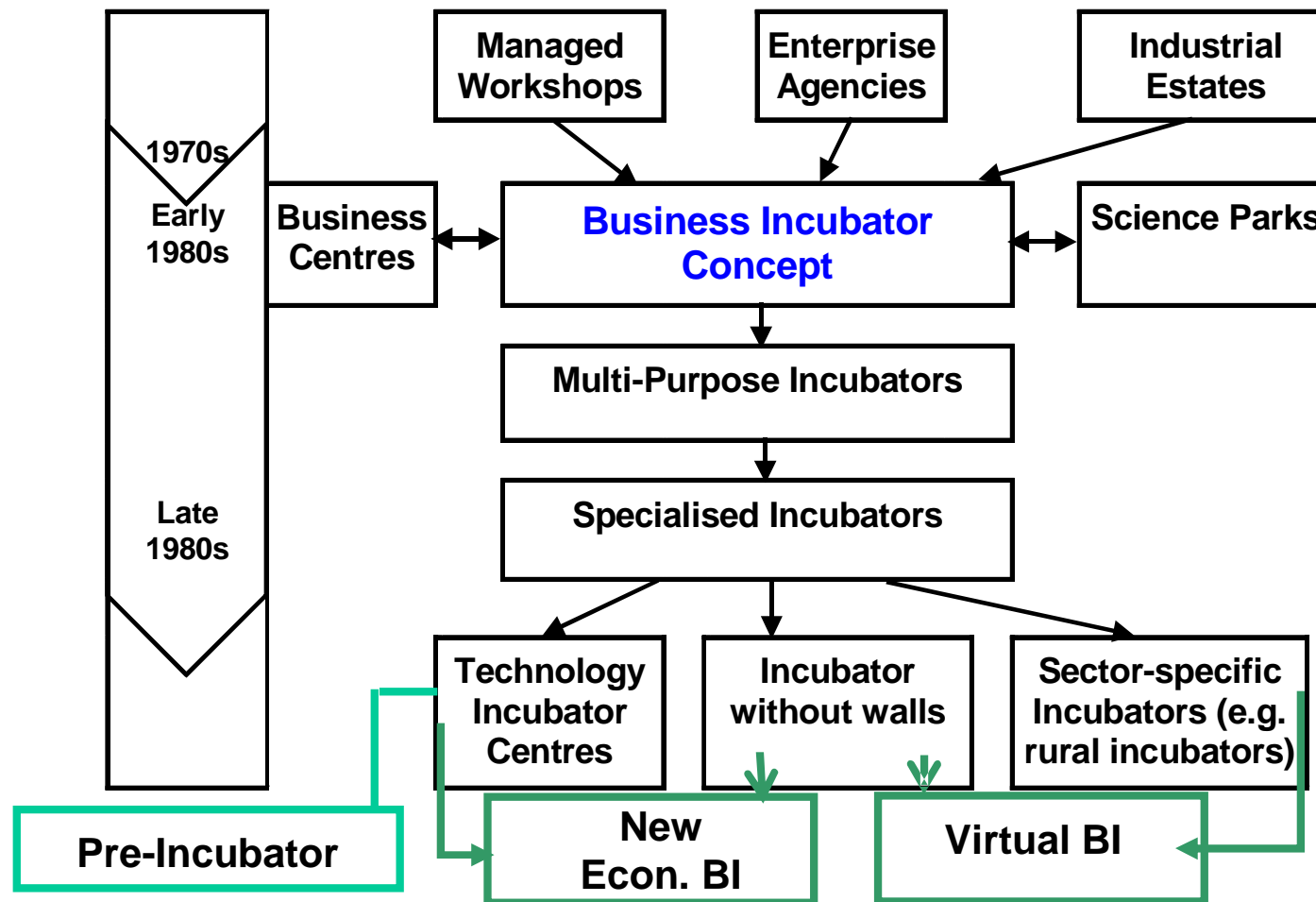
§ Latin America (1986)

§ Eastern + Central Europe (1990) at the same time in Africa

§ Different continents developed quite heterogeneous models

History (cont.)

Development of the concept in US + Western - Europe



Source: UNIDO



Types of business incubators

Different forms of categorisation

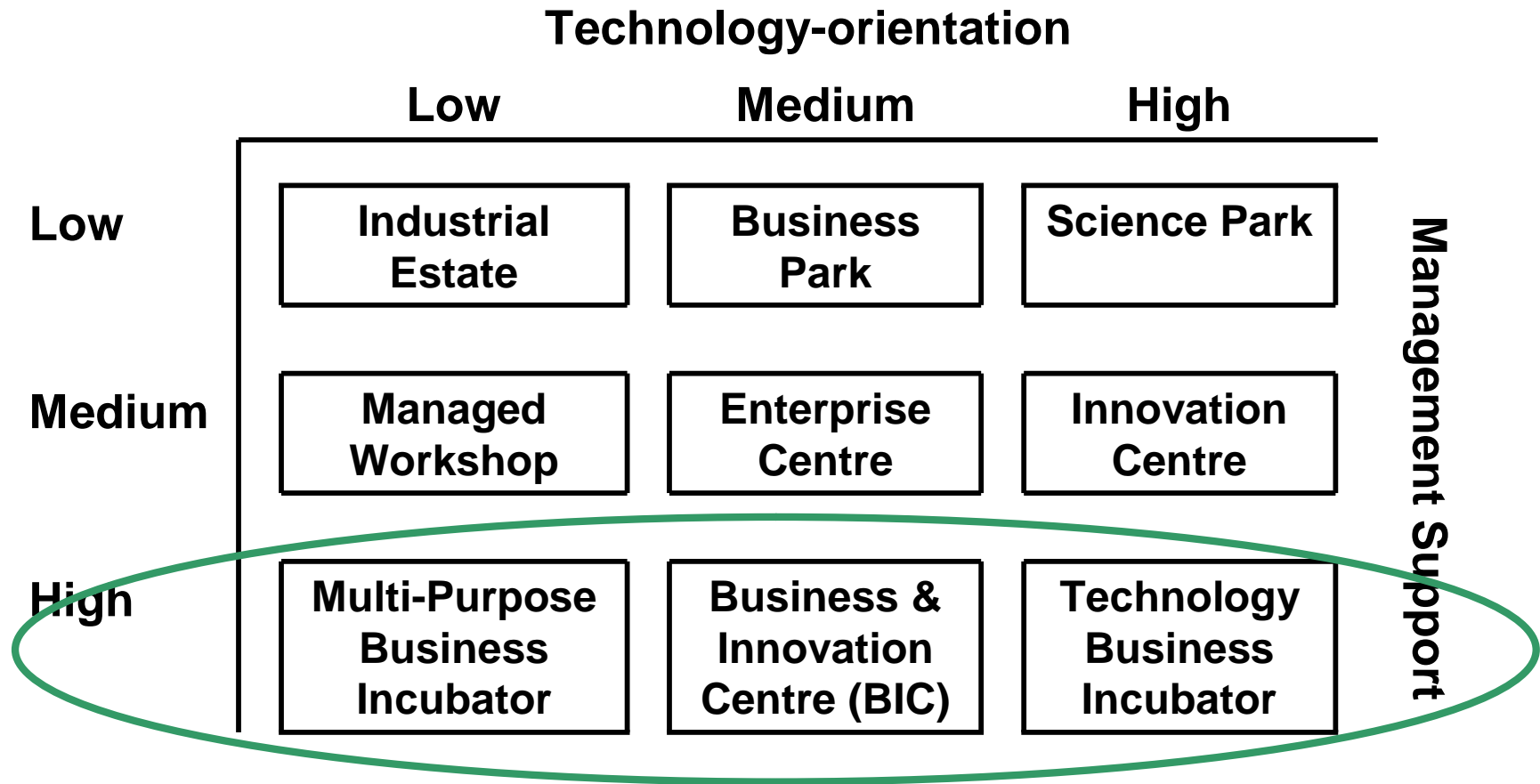
§ Categorisation acc. to objectives (2 groups):

Multi-purpose incubators admitting any type of business satisfying commercial criteria	Specialised incubators focussing on particular activities (e.g. technology, sectors)
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Source: UNIDO

- § Incubators are often integrated **part of a park** structure
- § **Virtual incubator**: new type of incubator; other than the “traditional incubators”, mostly web-based activity
- § **New economy incubator**, exclusively driven by profit interest of venture capital organisations/ bigger companies
- § **Pre-Incubator**, often part of regular incubators

Placement of business incubators in the scheme of business incubation systems



Source: UNIDO



Dissemination of the business incubator concept

§ Today:

§ approx. 60 associations (international + national) of business + innovation centres or science/ technology parks actively promote the development of new companies + regional economic development

§ more than **4,000 incubators worldwide**

in Europe:

§ around **1,200 incubators generating 30.000 gross new jobs/ year**; results being achieved at an average cost per job to public authorities of around 4.000 € net

(Source: European Commission 2002; newer sources, where available)

Dissemination of the business incubator concept

in the US:

- § around **1,000 incubators** which assisted more than 35,000 start-up companies that provided full-time employment for nearly 82,000 workers and generated annual earnings of more than \$7 billion
- § Publicly supported incubators create jobs at a cost of about \$1,100 each, whereas other publicly supported job creation mechanisms commonly cost more than \$10,000 per job created.

(NBIA, <http://www.techno-preneur.net/new-timeis/faqs/faqs.htm>)

Dissemination of the business incubator concept

in Asian countries:

§ total of **1,152 incubators with 6,177 incubator graduates**

	China	Japan	Korea	Taiwan	Singapore	Hong Kong	India	Total
Non-profit	460	159	322	59	42	4	25	1,071
For-profit	-	44	11	5	13	2	6	81
Total	460	203	333	64	55	6	31	1,152
Incub. graduates	3,887	800	1,234	190	-	66	-	6,177

Hong KIM, President, KOBIA (2003):The Improvement of Asian Business Incubation.



Ratio of business incubators to SMEs in EU states

Member State	A – No. Incubators	B – No. SMEs	Ratio A:B
Austria	63	237,000	1 : 3,000
Belgium	131	594,000	1 : 45,000
Denmark	7	235,000	1 : 33,000
France	192	2,166,000	1 : 11,000
Finland	26	180,000	1 : 7,000
Germany	600	3,334,000	1 : 6,000
Greece	7	747,000	1 : 106,000
Ireland	6	160,000	1 : 26,000
Italy	45	3,251,000	1 : 72,000
Luxembourg	2	18,000	1 : 9,000
Netherlands	6	550,000	1 : 91,000
Portugal	23	656,000	1 : 28,000
Sweden	39	243,000	1 : 6,000
Spain	38	2,349,000	1 : 61,000
UK	144	3,355,000	1 : 23,000
EU 15	1.211	18,025,000	1 : 17,000

Business activities in which European business incubators specialise in

Business Activities	Number	Percentage
(1) Sales, marketing and distribution	5	0.4
(2) Business and financial services	8	0.6
(3) Advanced/ high-tech manufacturing	263	18.6
(4) Information & communication technologies	258	18.2
(5) Research & development	173	12.2
(6) Biotechnology/ pharmaceuticals	201	14.2
(7) Knowledge-based industries/ new economy companies	162	11.5
(8) Other manufacturing activities	86	6.1
(9) Other service activities	124	8.8
(10) A combination of some/ all of these activities	134	9.5
Total (multiple responses possible)	1,414	100.0

(Source: CSES analysis of DG Enterprise, Incubator database)



Examples of business incubators

Technology business incubator: TZDO – Dortmund Technology Centre

- § Opened in 1985 + belongs to the largest technology centres Europe-wide
 - § approx. 90 companies, 1.300 work places
 - § size: 70.000 sqm, consists of 8 complexes of buildings
 - § with complete service-package + established network-links to main agents in the region
 - § PPP by local administration, chambers and 7 banks
- § **Focus** on existing **technology potentials** in science + economy: Micro-systems-technologies, IT, technology-oriented services, electronics, mechanical engineering, logistics, environmental technologies, biomedicine



TZDO

<http://www.tzdo.de/>



Technology park Dortmund

<http://www.technologiepark.de>



Examples of business incubators (cont.)

Virtual incubator: nhvbi

- § Resource portal:
 - § supporting entrepreneurs, self-employed and small business professionals by connecting
- § Access and Use:
 - § Sources of free business counseling
 - § Sources of business funding
 - § Virtual tools for business planning, financial analysis, and strategy development
 - § Expert advice

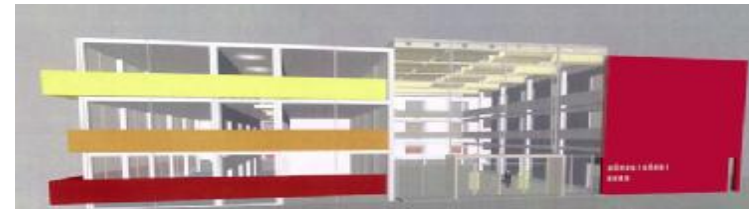
new hampshire
VIRTUAL BUSINESS INCUBATOR nhvbi
<http://www.nhvbi.buzgate.org>



Examples of business incubators (cont.)

Software centre Hagenberg, Upper Austria

- § Founded 1988, located in the Software park Hagenberg
- § Rent able size: 7.200 sqm, enlargement is going on
- § Favourable environment due to location near to on-site research institutes, competence centres + polytechnical university
- § Austrian-wide network provides start-up assistance to entrepreneurs
- § Upper Austria is among the top-networking regions in Europe concerning its **cluster strategies** → key issue: distinctive feature is the importance of a **broader regional technology strategy** in which the incubators are integrated
- § Each centre focuses on particular technologies + clusters



<http://www.softwarepark.co.at>

Examples of business incubators (cont.)

Dublin Business Innovation Centre (Dublin BIC)

today also: Guinness Enterprise Centre (GEC)

- § Opened in 2001 initiated due to need for enlargement of the existing EU-BIC in the **disused premises of a former warehouse** from the Guinness Group
- § Joint initiative of public + private sector (PPP of six partners)
- § Focus primarily on: software services oriented businesses, hi-tech prototype engineering, e-commerce, internet + mobile technology development
- § Own seed capital funds
- § Size: 5.000 sqm
- § 83 companies (2003)
- § Max. tenancy: 33 month



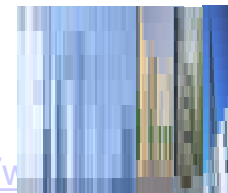
<http://www.guinness-enterprisectr.com>; <http://www.thedigitalhub.com>

Examples of business incubators (cont.)

Innopoli incubators at Otaniemi Science Park, Espoo, Finland

- § **Innopoli** – Opened in 1991; size: 20.000 sqm; focused on hi-tech start-ups
- § **Innopoli II** – Completed 2002; specialised in software; size: 19.500 sqm
- § **Innolinko** – Pre-incubator at Innopoli II: early stage companies; support professors + students to transform their business ideas (no rental costs)
- § Tenants at Innopoli: 140 companies employing > 800 people
- § Located in Otaniemi Science Park, one of Europe’s largest commercial science parks, outskirts of Helsinki
- § **Main objective** for setting up the incubators: **revitalise the regional economy** severely effected by the decline of traditional industry → Reactive approach

<http://www.innopoli.fi/english/v>



EXPER
PLAN

Examples from Asian countries: Japan, Kyoto Research Park - Technology Business Incubator

- § Regarded as a **leading business incubator** and international center for high-tech R&D
- § Privately-owned research park, established in 1987 as a 100% subsidiary of Osaka Gas. Co., Ltd.,
- § Now over **200 tenant companies** and research facilities specializing in fields ranging from life sciences, to business services
- § Park complex has developed into a **cluster** of new media and IT companies with over 45% of tenant companies falling into these categories
- § Total floor space: 1,076,000ft² [100,000 m²]
- § Average monthly rent: US\$ 3.50/ft² [US\$ 34/m²]
- § No. of staff: 95



<http://www.krp.co.jp/english/>

Examples from Asian countries: Japan, KRP - Technology Business Incubator (cont.)

§ **Business Services:**

Market research, Business matching, Technology matching, Financial advice, Venture Capital Coordination, Introduction to public subsidies, Bookkeeping, Legal services, Incorporation support, General office equipment, Computer services and/or equipment, Secretarial services

§ **Other Services:**

Infrastructure includes a Data Center, 1 Gigabit LAN, Labs, Meeting rooms, Rental apartments, Catering facilities, Gymnasium, and Conference facilities that host **over 1000 conferences** per year.

<http://www.krp.co.jp/english/>



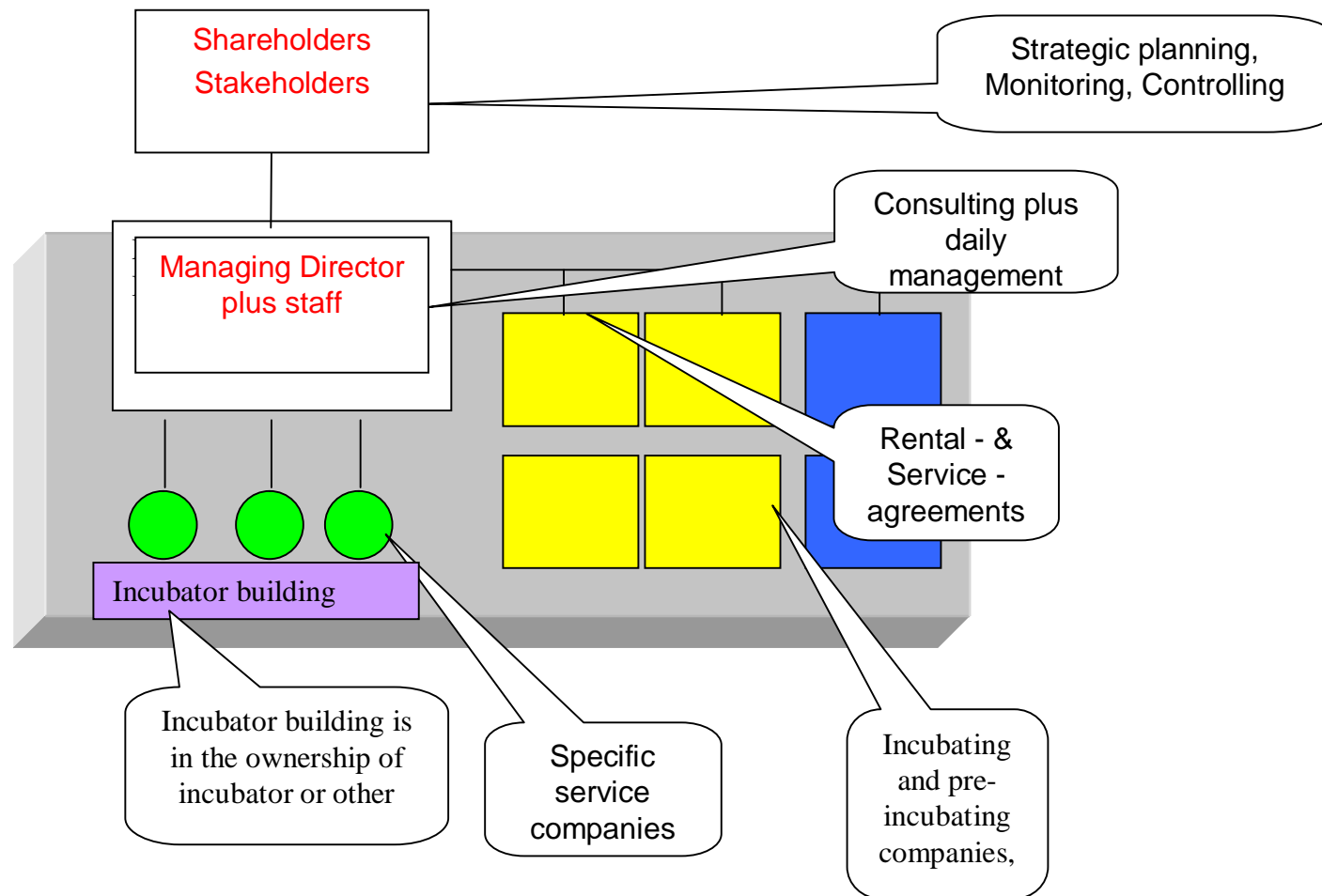
Key European incubator performance statistics + suggested benchmarks

Setting up + operating	Average	Range	Benchmark
Average capital investment cost	€ 3.7 m.	€ 1.5 – 22 m.	na
Average operating costs	€ 480,000 p.a.	€ 50,000-1.8 mio.	na
% of revenue from public subsidies	37%	0-100%	25%
Incubator space	3,200 sqm	90-41,000 sqm	2,000-4,000 sqm
Number of incubator tenants	27 firms	1-120 firms	20-30
Incubator functions	Average	Range	Benchmark
Incubator occupancy rates	85%	9-100%	85%
Length of tenancy	35 months	6 months – no max.	3 years
Number of management staff	2.3 managers	1-9 managers	2 managers min.
Ratio of incubator staff: tenants	1:14	1:2 – 1:64	1:10–1:20
% of managers' time advising clients	39%	5% - 80%	50%

Source: Europ. Commission

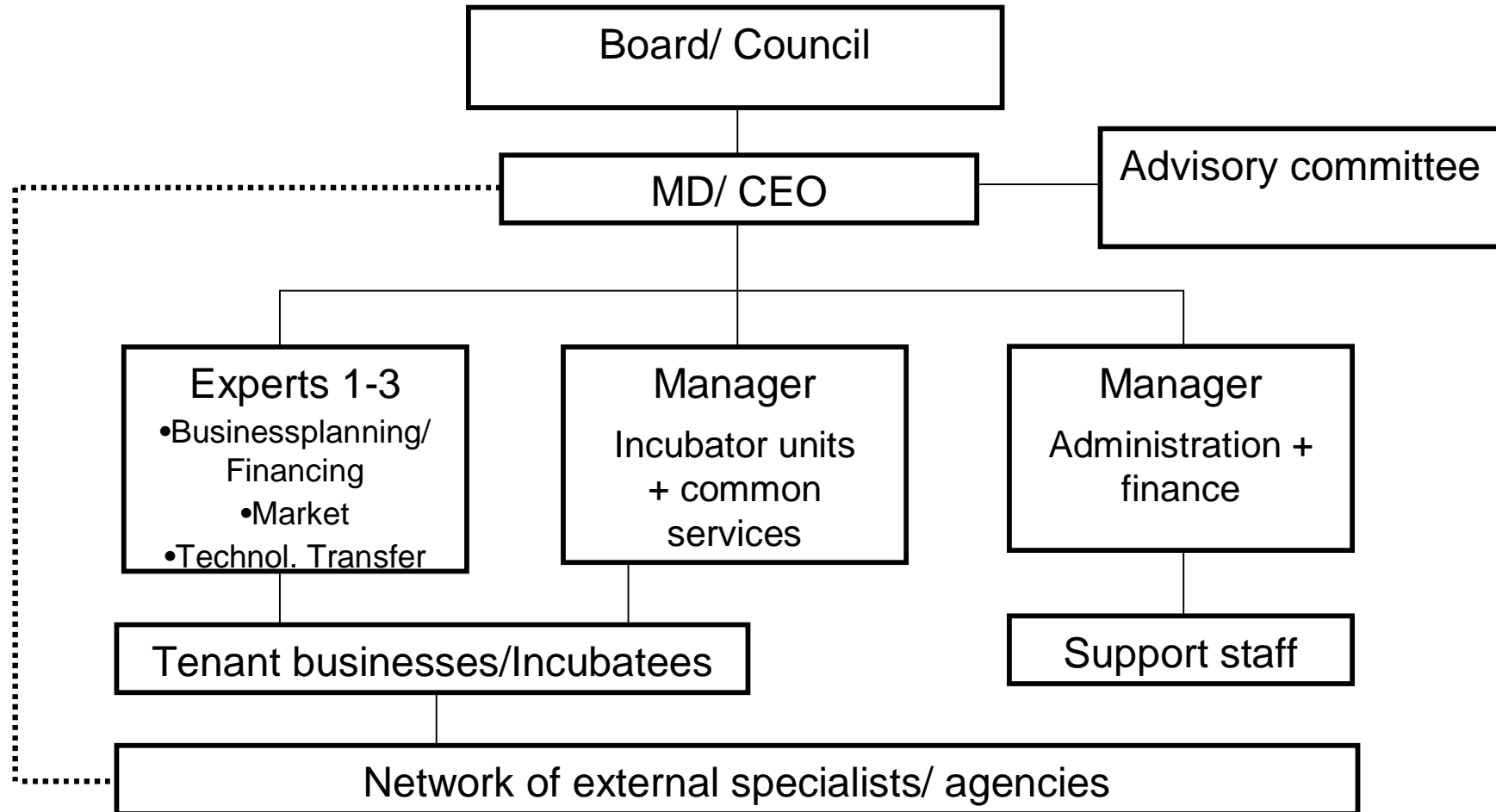


Operational Environment of a business incubator



Organisation, operation + financing (cont.)

Legal structure – typical management structure (Minimum!)



Source: UNIDO



Organisation, operation + financing (cont.)

Legal structure

- § **Typical partners:** local authorities, RDA, business associations, chamber of commerce, chamber of handicraft, banks, HEIs, R&D institutions, private firms

- § Probable nature of relation between **promoters + objectives:**
 - § Public × Ø job + enterprise creation
 - § University × Ø transfer of technologies; commercialisation of academic research
 - § Private × Ø real estate investment, financing, social responsibility

Organisation, operation + financing (*cont.*)

Enterprise-like operation + PPP

- § Business incubators: generally legally incorporated as
 - § Companies with limited liability (joint stock company, Incorporated or limited liability co.)
 - § Association
 - § Foundation
- § Public Private Partnership (**PPP**) is most recommendable
- § Relatively few business incubators operate as ‘**for profit**’ organisations; generally impossible in the short + medium-term
- § Few incubators also are just part (department) of a University or Science Park holding or governmental organisation

Organisation, operation + financing (cont.)

Group 1: investments for building + infrastructure

- § Incubators should be operated and financed as enterprises
- § With equity + loan capital – as any other industrial estate –
- § Equity capital can be replaced by a resp. share of public subsidies
- § Loan capital usually financed by a long-term (medium-term) mortgage
- § **Alternatives for municipalities/ regional governments:**
 - § **Donation** of buildings or
 - § **Lease** at **nominal rates** or to
 - § **Guarantee rent** of a privately owned/ financed building

Organisation, operation + financing (cont.)

Group 2: costs for getting started + operation

- § Costs for personnel, expenditures for energy, maintenance, cleaning, security, marketing, external services etc.
- § Bigger problem concerning financing than with group 1
- § Different options to finance:
 - § **Assigning of costs directly** to tenants (difficult in starting phase; only possible if incubator is nearly full let + of minimum size (> 3.000 sqm))
 - § Charging **lump sums** (fixed monthly amount or related to space)
 - § Use of equity capital and/or **subsidies** in start-up phase of the incubator
 - § Cross – financing by rents
 - § Sale of (consulting) services to **external customers**
 - § Project work



Key success factors for technology incubators

- § Significant regional demand for an TBI
- § Broad support from different stakeholders
- § Adequate incubator building (free)
- § Secured long-term financing
- § Clear entry- and exit criteria
- § Actively embedded into a national and international network
- § High professional, dedicated and qualified long term staff from different educational background

Thank you for your attention.

Links

- § European Commission/ Promotion of entrepreneurship:
http://europa.eu.int/comm/enterprise/entrepreneurship/support_measures/incubators/index.htm (***)
- § EU Business incubators case studies:
http://europa.eu.int/comm/enterprise/entrepreneurship/support_measures/incubators/map_case_studies.htm (***)
- § OECD-Leed Programme (Local economic and employment development):
<http://www.oecd.org/EN/home/0,,EN-home-545-5-no-no--no,00.html> (***)
- § WorldBank/ Infodev incubator initiative: <http://www.infodev.org/incubator/>
- § UNIDO/ Business Incubators: <http://www.unido.org/en/doc/3736>
- § APCTT Asian + Pacific centre for transfer of technology
<http://www.apctt.org>
- § SPICE Science Park and Innovation Centre Experts: <http://www.spicegroup.de/>

(***)=
very comprehensive up-
to date information;
recommended



Links (cont.)

- § EU Business Incubator Database: <http://www.cordis.lu/incubators/>
- § EBN European Network of Business and Innovation Centres:
<http://www.ebn.be/>
- § AdT German Association of Technology + Incubation Centres:
<http://www.adt-online.de/>
- § Database on German Centres:
<http://www.adt-online.de/zentren/standorte.htm>
- § Links to international incubation associations +organisations:
<http://www.infodev.org/incubator/annex1.htm>
- § Business Incubators Worldwide Database:
<http://www.smallbusinessnotes.com/incubation.html>
- § NBIA: <http://www.nbia.org/>

Links (cont.)

- § Asian Association of Business Incubation AABI: <http://www.aabi.info>
- § Japan Association for New Business Incubation JANBO:
http://www.janbo.gr.jp/eng/e_index.html
- § Korean Business Incubation Association KOBIA:
<http://www.kobia.or.kr/english/index.php>
- § China Business Incubator Association
- § Business incubator development programme:
<http://www.wtec.org/loyola/bid/bid-eng.html>
- § Business e-Coach for Asia-Pacific SMEs:
<http://www.technology4sme.com/ecoach/index.htm>
- § Best practice in business incubator management:
<http://www.uark.edu/~genesis/about/bestpracrpt.pdf>

Sources

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- § European Commission/ Enterprise DG (2002): Benchmarking of business incubators. UK/Brussels.
- § OECD (2003): Entrepreneurship and local economic development – Programme and policy recommendations. Paris.
- § Lalkaka, R. (1997): Lessons from international experience for the promotion of business incubation systems in emerging economies. UNIDO. New York.
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