

Towards an Open Innovation Centre

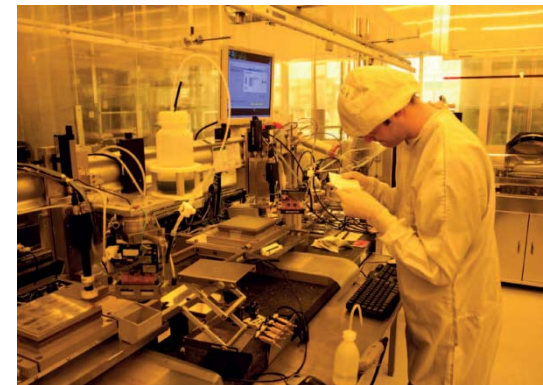
Contribution to

Workshop “Open innovation: bridging the gap between science, technological development institutions and industry”

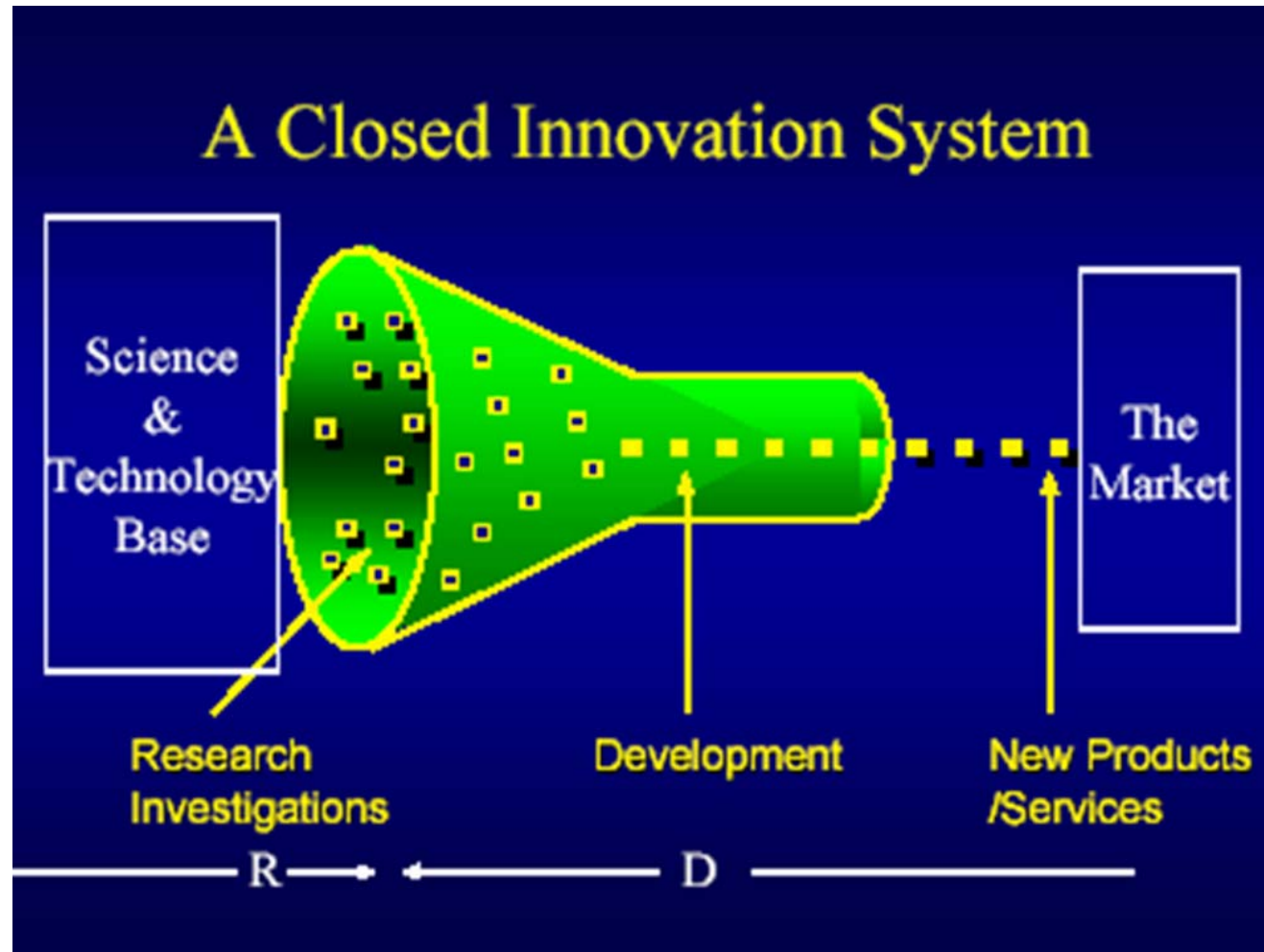
by Geert Schoch

Director International (retired),

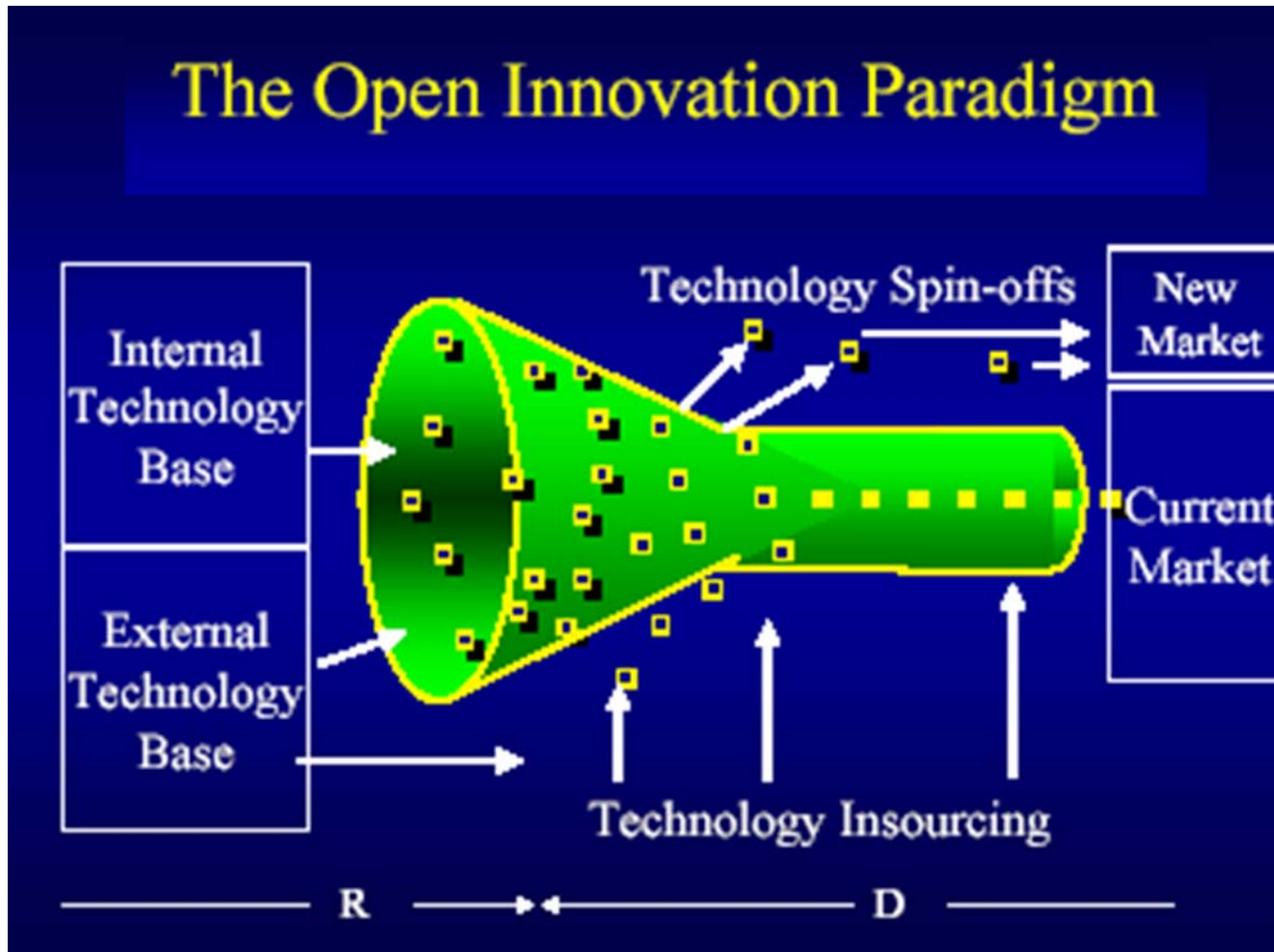
*Netherlands Organisation for Applied Scientific
Research- TNO*



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Closed Innovation Principles

- We have the smartest people
- We discover, develop and ship ourselves
- Discover means market first
- Market means winning
- Create most and best ideas means winning
- Control IP to avoid profit for competitors

Open Innovation Principles

- There is smart people outside too
- External R&D can create value, internal R&D needed to claim portion of value
- We can profit without originating research
- Better business model is better
- Best use of internal and external ideas is winning
- Profit from others' use of our IP and buy others' IP when it advances our business model

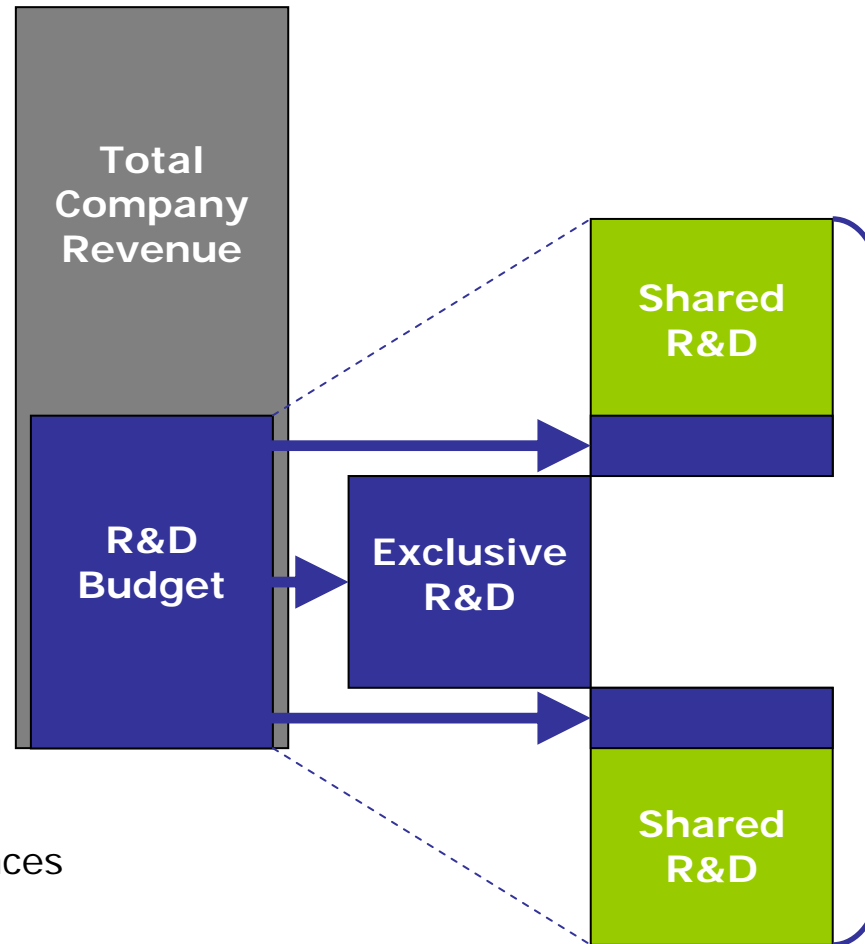
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Open Innovation through Shared Programs

R&D budget
fixed % of revenues

R&D costs grow faster than revenues: due to increased complexity

- Mechanics
- Physics
- Electronics
- Software
- Materials
- Bio / Life sciences
-



Leverage:

1. Sharing ideas
2. Sharing of facilities
3. Shorter time to market
4. Leverage of R&D budget

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Aspects:

1. Assessing the applicability of an 'Open Innovation' approach
2. Defining research domains and roadmaps
3. Building an ecosystem of innovating partners
4. Building a team of talents
5. Building credibility and reputation
6. Formalising partnerships and handling IP-rights
7. Financing an Open Innovation Centre



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1. Assessing the applicability of an 'Open Innovation' approach

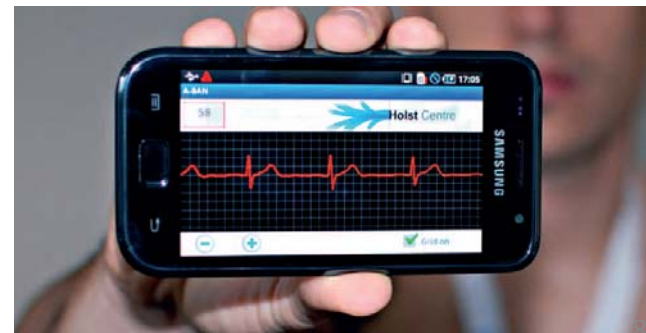
- R&D is becoming more multidisciplinary
- Pace of development is increasing
- R&D community is (globally) connected
- For a company the needed know-how is too broad and volatile
- Costs and risks are stressing the R&D budgets
- Companies along the value chain bringing together in joint innovation
- Shared research differs from open-source 'public' research
- Results can only be accessed by the participants
- Knowledge protection has priority over publication

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1. Assessing the applicability of an 'Open Innovation' approach

Key Questions:

- a. Is there a clear need for organisations to team up for some of their research goals, creating generic results instead of working alone or with others in fully exclusive project mode?;
- b. Can participants create their own exclusive competitive products and services using results of the shared research?;
- c. Is the centre sufficiently positioned as a neutral party, able to act as trusted party amidst commercial participants?



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2. Defining research domains and roadmaps

- It is essential to choose a sufficiently broad research domain
- Research domain must address major needs of industry
- Background know-how that the founding organisations bring in must give the centre a kick-start
- Chosen focus must be based on analysis of the R&D competition
- It must enable the centre to ‘make the difference’, creating unique technologies

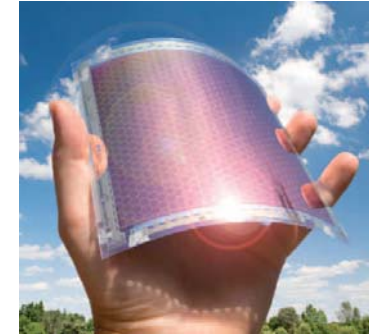


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2. Defining research domains and roadmaps

Key questions:

- a. Is the research domain sufficiently specific to trigger attention and make the difference internationally?
- b. Has the R&D competition been analysed well enough to identify real opportunities for unique results?
- c. Are longer-term research goals defined on an abstract level and have concrete, shorter term goals been derived and laid down in roadmaps?
- d. Is there a sufficient coherence between the views and needs of participants so that a shared roadmap can be created?



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3. Building an ecosystem of innovating partners

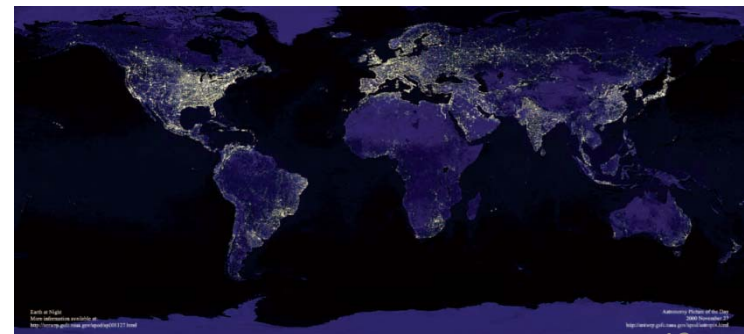
- Participants in an open innovation centre are active partners rather than passive clients
- Key role of ‘Industrial Residents’, employees of the participants collaborating with the centre’s own staff on part-time or full-time basis
- Centre should be a non-virtual centre: researchers under one roof
- A few lead participants should give at the start the centre credibility
- Participants could be each other potential suppliers and customers in the value chain
- Centre should have a fertile ‘home yard’

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3. Building an ecosystem of innovating partners

Key questions:

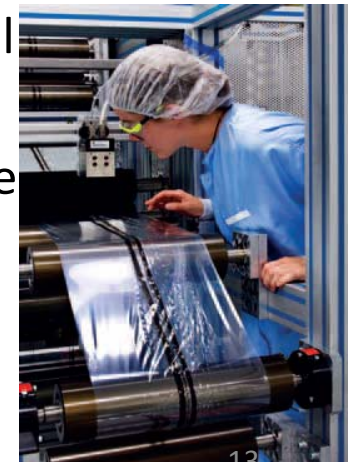
- a. Are a few 'lead participants' identified that will give the centre fast credibility?
- b. Is a larger next group of potential participants identified that will see each other's participation as valuable?
- c. Are sufficient strong players intending to participate to create competitive value chains and credibility?
- d. Is the majority of the activities of the centre at a single location, ensuring intensive daily interaction?



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4. Building a team of talents

- Activities are managed by Program Managers, they lead their teams , set the course for their programs and bring in new participants
- Good balance between: researchers with industrial experience, researchers with academic experience and bright starters having just acquired an academic degree
- At an early stage bring in a few scientists of outstanding reputation acting as a magnet to young researchers
- Besides the centre's own staff researchers of its mother organisations are intensively involved in the programs, bringing additional experience
- Employees of the participants reside physically in the centre



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4. Building a team of talents

Key questions:

- a. Is a highly-qualified initial team of pioneers available to give the centre a kick-start?
- b. Can a few scientists of outstanding reputation be identified and attracted to the centre already in an early stage?
- c. Does the centre possess the right know-how and procedures to attract and recruit talents?
- d. Are region and site of the centre attractive to knowledge workers?
- e. Are the participating companies willing and able to bring in high-quality staff as industrial residents to the centre?



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5. Building Credibility and Reputation

- Reputation of mother organisation(s) is essential
- Researchers should be outgoing: presenting at conferences and participating in platforms internationally
- Centre should stand for a focused technology domain and for a specific way of working
- Managing the right balance between referring to the mother organisation(s) and building an own brand identity requires careful and dedicated communications management
- This balance is required from all employees of the centre. They are expected to embrace multiple affiliations

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5. Building Credibility and Reputation

Key questions:

- a. Do the reputations of the mother organisation(s) support the centre and can they be deployed effectively?
- b. Does the centre have sufficient room to create its own branding and reputation?
- c. Have activities been planned that will quickly enlarge the centre's reputation?



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6. Formalizing partnerships and handling IP rights

- Each participant has a bilateral agreement with the centre derived from a standard agreement
- The centre is responsible for coherence of the contracts
- The centre aims for multiyear commitments
- Participants
 - pay an entrance fee giving them non-exclusive rights to program background as far as needed for exploitation of the foreground created during their participation
 - pay a yearly fee
 - consider the centre as extension to their own R&D
 - are not subsidised themselves, the centre is subsidised
 - receive perpetual non-exclusive rights to the foreground

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6. Formalizing partnerships and handling IP rights

Key questions:

- a. Does the centre have clear, simple and flexible ways of contracting with participants, avoiding complexities such as consortium agreements?
- b. Does the centre have a way of working to fairly treat both early and later entrants, creating a win-win situation?
- c. Does the IP model of the centre motivate and enable the intended participants to become active partners rather than passive clients of R&D?



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7. Financing an Open Innovation Centre

- Two sources of financing:
 - By fees of industrial participants
 - By public funding
- No fixed proportion between public and private part
- Different sources do not translate into separate projects
- Public financing is essential: it allows the centre to explore new directions of research and launch new programs that will then grow by industrial participations
- Total budget must be sufficient to make the difference in the research domain and to create unique technology propositions

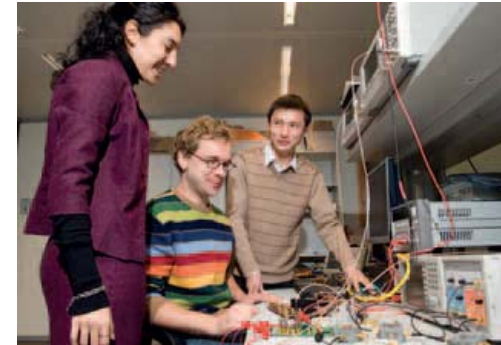


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7. Financing an Open Innovation Centre

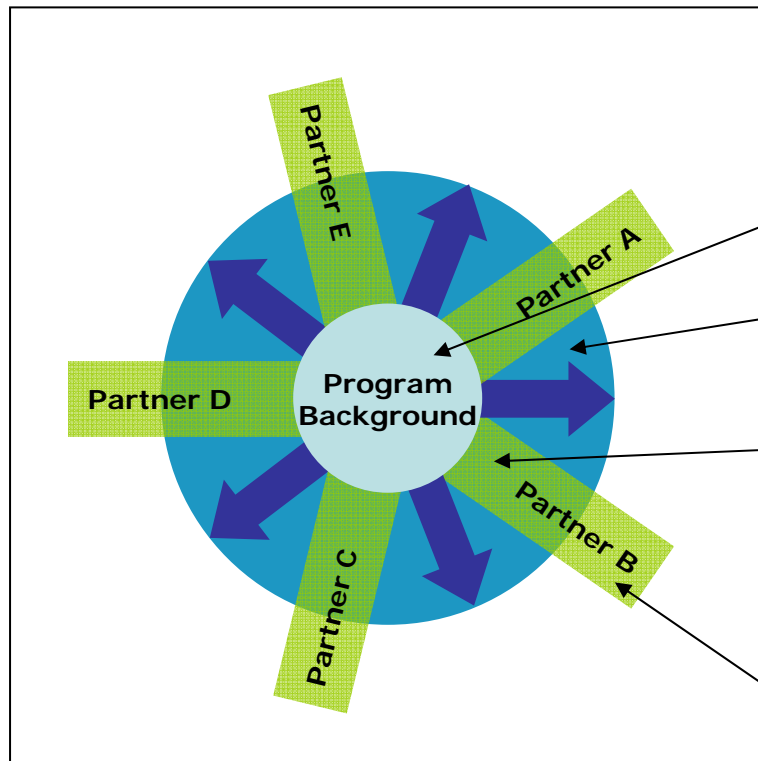
Key questions:

- a. Is the value proposition of the R&D offering sufficiently appealing such that intended industrial participants are able and willing to contribute significantly in cash?
- b. Is the expected impact such that governments support the goals and are willing to contribute?
- c. Is the overall budget sufficient to create a unique and credible position in its domain?



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IP Model Enabling “Open Innovation”



1. Background of Partners: remains theirs

2. Entrance fee: Non-exclusive license on program background

3. Participation fee: Non-exclusive license on program results

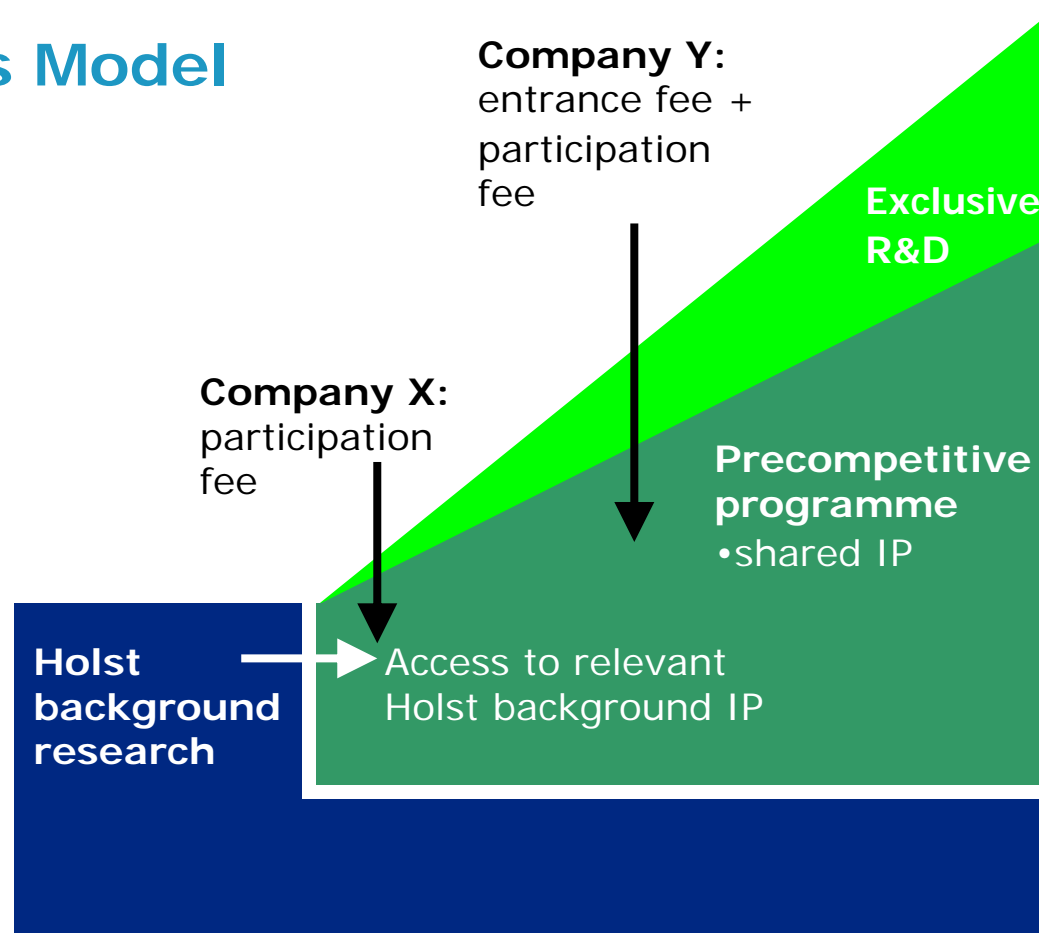
4. Co-inventing by Industrial Residents: co-ownership of IP, sublicensing rights

5. Non-Generic improvements of “Provided Background”: ownership, exclusive in domain

6. Exclusive Programs: ownership of IP

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Business Model



Continuous program adaptation and growth

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High Tech Campus Eindhoven