Open Innovation for Leadership in IT

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Agenda

- IBM Research
- What is Open Innovation?
- Innovation Lifecycle
- Examples:
  - Innovation Jam
  - IBM’s Technology Ecosystem
  - Open Computing
Mission: Be vital to IBM's future success and be famous for our science and technology
Where are the Sources of Ideas and Innovation?

Sources of Idea Generation

External
- Business partners
- Customers
- Consultants
- Competitors
- Assoc's, trade groups, conference boards
- Academia

Internal
- Employees (general population)
- Sales or service units
- R&D (internal)
- Other
- Think tanks
- Internet, blogs, bulletin boards

Source: The IBM Global CEO Study 2006
Innovation Moving out of the Lab

Centralized, inward-looking innovation
Closed Innovation

Externally focused, collaborative innovation
Open Innovation

Ecosystem-centric, cross-organizational innovation
Innovation Networks

Sources: Chesbrough 2003, Forrester 2004, von Hippel 2005
Innovation Lifecycle
Innovation at the intersection of business and technology

Technology Trends
Industry Trends
Social Trends
Trend Scan
3-10 years out
Idea
Prototype
Pilot
Deployement / Productization
Industry Solution Labs
Research
Solution Centers
Research Papers
Academic Papers
Patents
Experience Papers

Ideas management
Business management
Open Innovation and Collaborative Research

In a world of abundant knowledge, not all smart people work for you.  
H. Chesbrough, 2003

Motivation

- **External factors**
  - Change in industry (from vertically integrated to horizontal value nets)
  - Open source movement
  - Investment required to “invent” next technology cycle grows by an order of magnitude

- **Internal factors**
  - Strategy
  - Cost
• 140,000+ people have participated
• 4.2+ million page views of Jam-related materials
• 46,000+ ideas posted – from more than 75 countries and 67 companies

**WorldJam2001**

a new **collaborative medium to capture best practices** on 10 urgent IBM issues.

**ValuesJam**

an in-depth **exploration of IBM's values and beliefs by employees**

**WorldJam2004**

focused on **pragmatic solutions around growth, innovation** and bringing the **company's values to life**

**InnovationJam2006**

IBMers, family, clients and partners discuss how to combine **new technologies** and **real world insights** to create market opportunities
IBM’s Global Technology Ecosystem

Market leaders drive innovation for competitive base technologies

90nm | 65nm | 45nm | 32nm | 22nm

Technology Alliances

| Research | IBM, AMD, Toshiba, NEC, STMicroelectronics, Material and Equipment suppliers |
| Development (ASTA) | IBM, AMD, Freescale |
| Development (ISDA) | IBM, Chartered, Samsung, AMD, Infineon, Toshiba, NEC and STMicroelectronics |
| Common Platform Manufacturing | IBM, Chartered & Samsung |

Environment

| Suppliers | ASML, TEL, Applied Materials, etc. |
| RESEARCH | Albany Nanotech, SUNY, SEMATECH, ETH, etc |
### Collaboration at All Stages

<table>
<thead>
<tr>
<th>Stage</th>
<th>Duration</th>
<th>Collaboration Type</th>
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<tbody>
<tr>
<td>-3</td>
<td>10 years +</td>
<td>Exploratory Research</td>
</tr>
<tr>
<td>-2</td>
<td>5-10 years</td>
<td>Research Alliance</td>
</tr>
<tr>
<td>-1</td>
<td>0-5 years</td>
<td>Development Alliance</td>
</tr>
<tr>
<td>0</td>
<td>Now</td>
<td>Manufacturing Alliance</td>
</tr>
</tbody>
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**Logos:**
- Chartered (semiconductor manufacturing)
- SAMSUNG
- AMD
- TOSHIBA
- ETH (Eidgenössische Technische Hochschule Zurich)
- IBM
- Rensselaer
- APPLIED MATERIALS
- TOYOTA ELECTRON
- STMicroelectronics
- ASML
- Infineon
- Freescale
- Chartered (semiconductor manufacturing)
Open Computing

- **Open standards**
  - Improving information sharing by simplifying integration of disparate technologies
  - Promoting interoperability by using open published specifications

- **Open architecture**
  - Increasing collaboration by easily extending business processes – eg SOA
  - Innovating on top of common specifications

- **Open source**
  - Promoting innovation by leveraging community development
  - Accelerating open standards adoption
Patent Policies Supporting Open Innovation

Supportive Patent Policies

- Interoperability standards Royalty free licensing policy
- Patent license pledges
- Non-assert commitment for Education, Health and software

Patent Pledge

- Free access to 500 patents for to individuals and groups working on open source software (2005)
- To establish a platform for further innovation in areas of broad interest to information technology developers and users

Eco-Patent Commons Initiative

- To create a collection of patents that directly or indirectly improve or protect the environment, made available to anyone free of charge
Summary

- Information Technology is an important enabling factor for open and global markets.

- Openness is a prerequisite for technological advances to become successful in the market.
  - Breakthrough innovations require even more open collaborations to create and enable a healthy supply chain.

- Openness is critical to allow services to grow
  - Many innovations in the services business are and will be driven by the open ICT infrastructure and appropriate regulation fostering openness.
Thank you!