

# **Tapping the World for Global Innovation**

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***Yves Doz***

***The Timken Chaired Professor of Global Technology and Innovation***

**INSEAD**

- **Austin, Texas;**
  - **Bangalore, India;**
  - **Boston, Massachusetts;**
  - **Cambridge, England;**
  - **Helsinki, Finland;**
  - **Salt Lake City, Utah;**
  - **Seattle, Washington State;**
  - **Singapore;**
  - **Sophia-Antipolis, France;**
  - **Tel Aviv/ Haiffa, Israel.**
- Hyderabad, India**
  - Budapest, Hungary**
  - Hsinchu, Taiwan**
  - Oulu, Finland**
  - St Petersburg, Russia**
  - Ekaterinenburg, Russia**
  - Tsukuba, Japan**

**Wired Magazine's 10 "Hotspots" Any IT Company Needs to Track**

# Knowledge for innovation is now dispersed

- **Technology Convergence and knowledge diversity** (electronics, materials, energy...)
- **Lifestyle products/concepts** (leading and lagging markets, customer groups), and need for flexibility and speed
- **Capability development in new regions** (India, China, Brazil, Russia...)
- **Innovation clustering in creative communities around the world**
- **Dispersion of key suppliers**
- **Active outsourcing by OEM companies**

- **Not learning from new founts of technology?**
- **Not learning with new lead customers?**
- **Being blindsided by new competitors? both new companies and emerging knowledge locations?**
- **Missing the opportunity to gain a unique advantage?**
- **Not leading nor even being fully part of regional integration?**

*Home-Country  
Leadership*

- Competence
- Cost
- Competition
- Customers

**The Traditional  
Multinational**

*Learning  
From the World*

- Sensing
- Melding
- Leveraging

**The New  
Metanational**

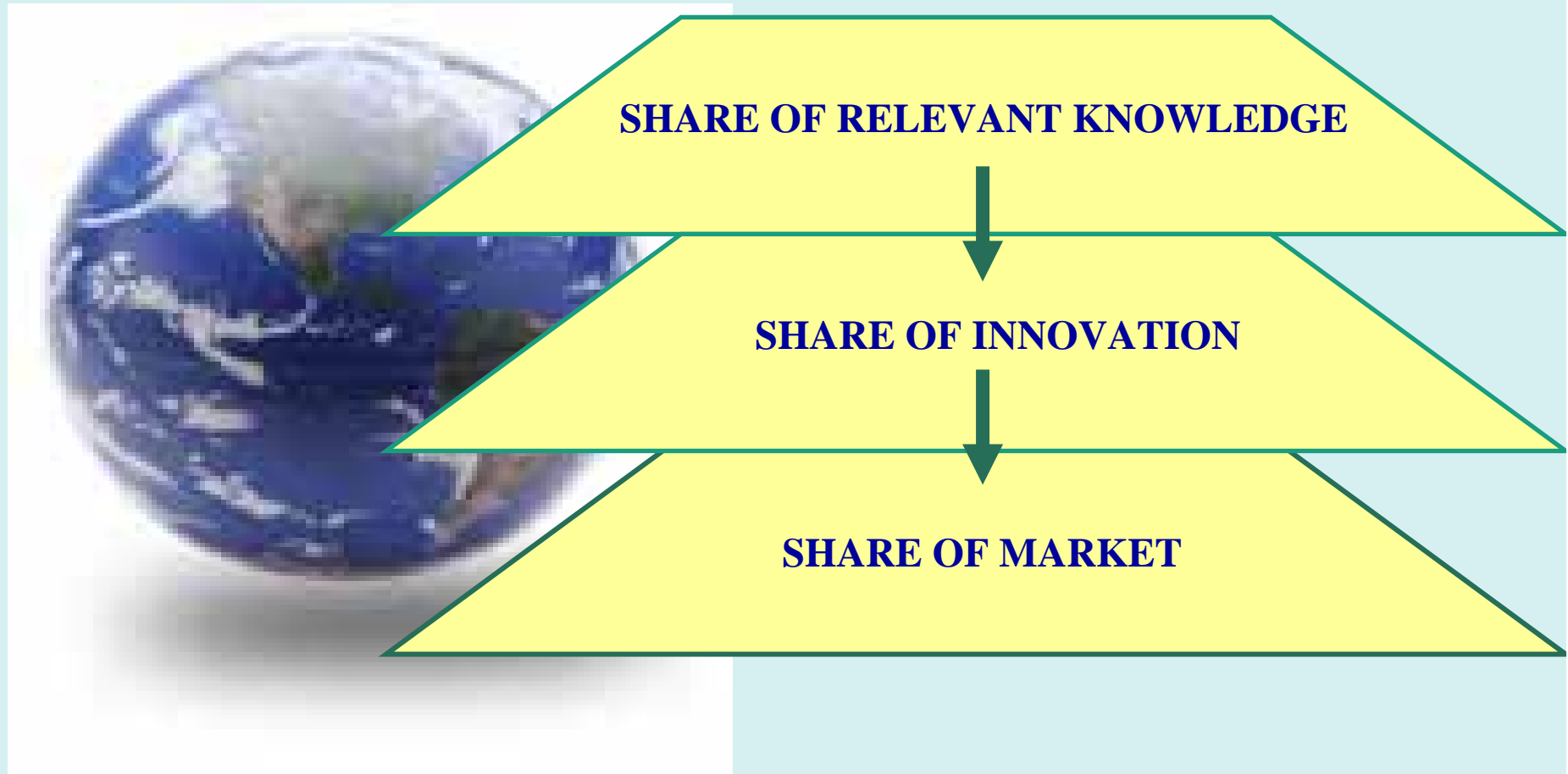
## GLOBAL

- ✓ Globalisation as a problem of penetrating country markets
- ✓ Global advantage based on home-country clusters
- ✓ Location-specific advantage
- ✓ What counts is ...  
... “WHERE you’re from”

## METANATIONAL

- Globalisation as a problem learning from all over the world
- Global advantage based on connecting different clusters
- Company-specific advantages
- What counts is ...  
... “WHO you are”




# Fostering global innovations call for a new mindset:



... And a three-step approach:

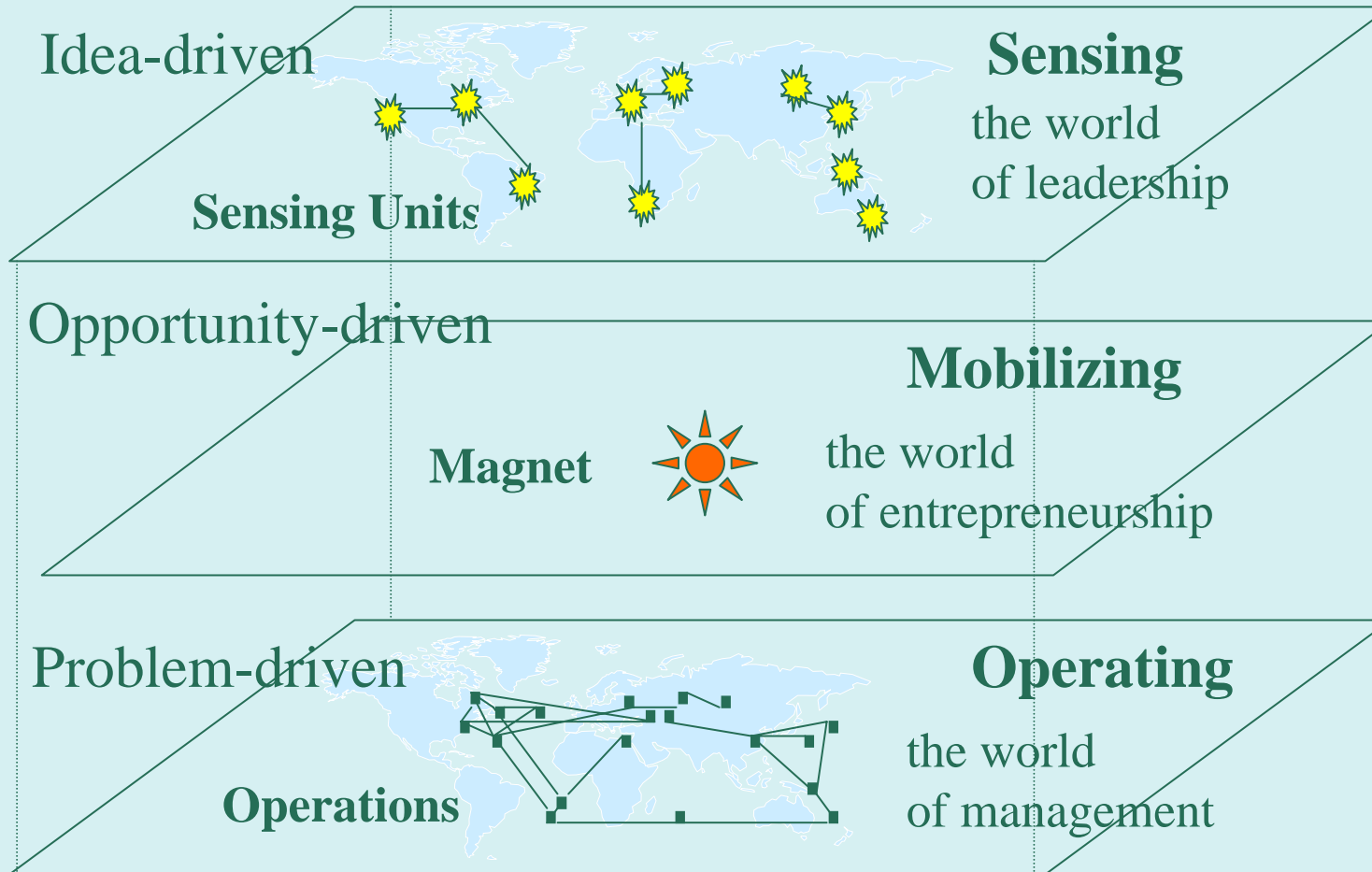
**Mindset**

**Activity**

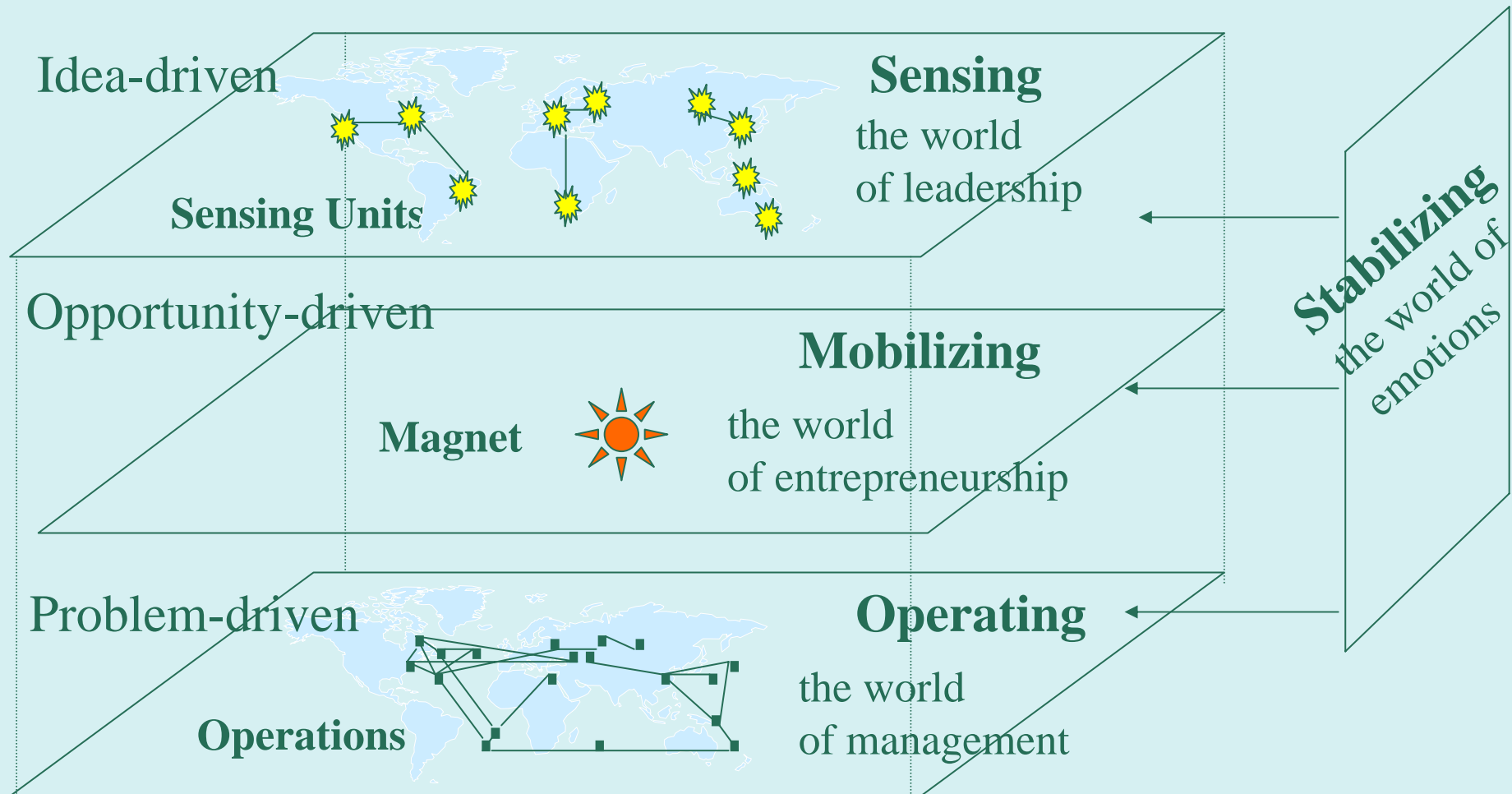
<p>Competing for Share of relevant knowledge</p> 	<p><b>Sensing:</b> Prospecting the world for new technologies and emerging customer behaviours</p>
<p>Competing for Share of innovation</p> 	<p><b>Mobilising:</b> Launching new innovation initiatives that bring together and meld new, dispersed knowledge</p>
<p>Competing for Share of market</p> 	<p><b>Leveraging:</b> Successfully scaling up innovations into profitable products/services</p>



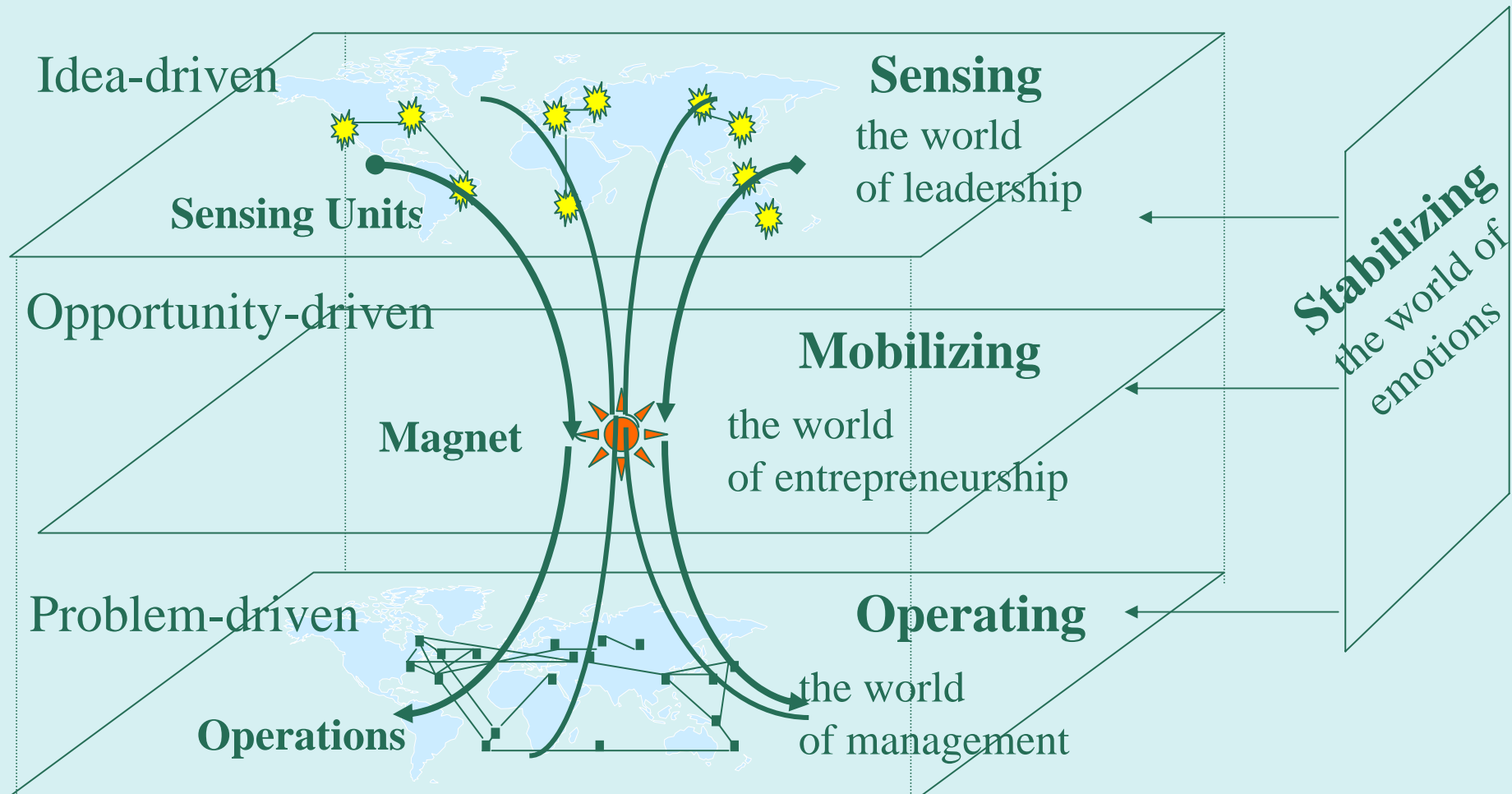
# The Metanational process



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# The Metanational process



- ✓ **Prospect the world for new capabilities and lead market knowledge**
- ✓ **'Plug-in' to learn locally embedded knowledge**
- ✓ **Set up 'magnets' to bring together knowledge pieces dispersed around the World**
- ✓ **Innovate by melding dispersed capabilities and market knowledge**
- ✓ **Relay innovations into the operations network**
- ✓ **Use global operations to leverage metanational innovations rather than to project home orthodoxies**

## **1. How widely to look for new knowledge?**

Advantage of diversity vs. cost of dispersion.

## **2. How to share knowledge effectively?**

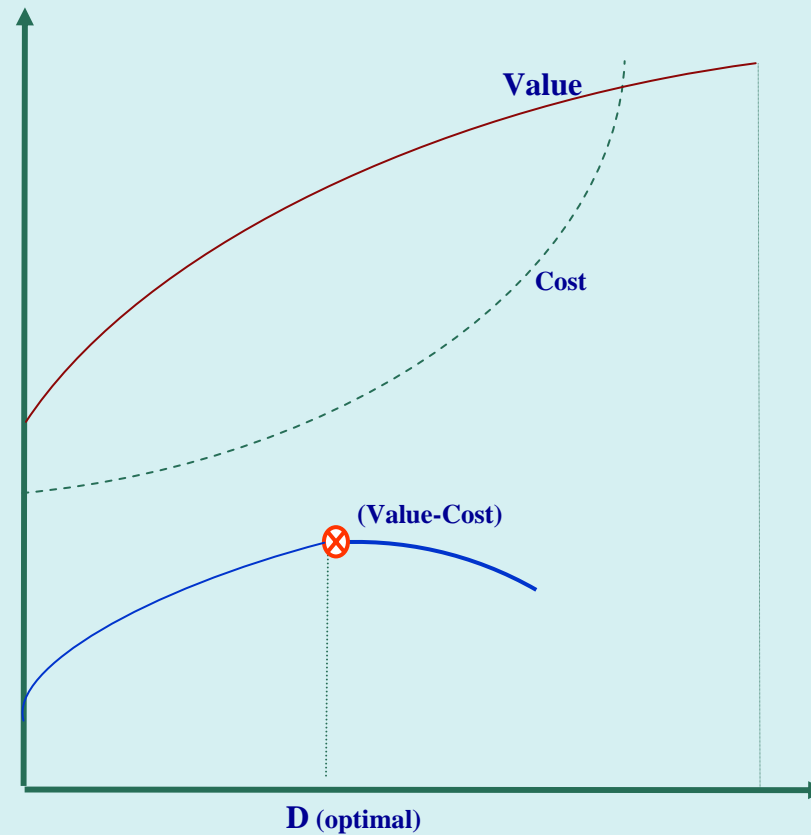
What we lose by making knowledge simpler vs. what we gain by making it more mobile.

## **3. How to foster global teamwork?**

## **4. How to grow cosmopolitan managers without diluting the strength of our culture?**

# **1. How widely to look for new knowledge: Optimizing the 'Footprint'**

# Value and cost of an innovation, as a function of dispersion



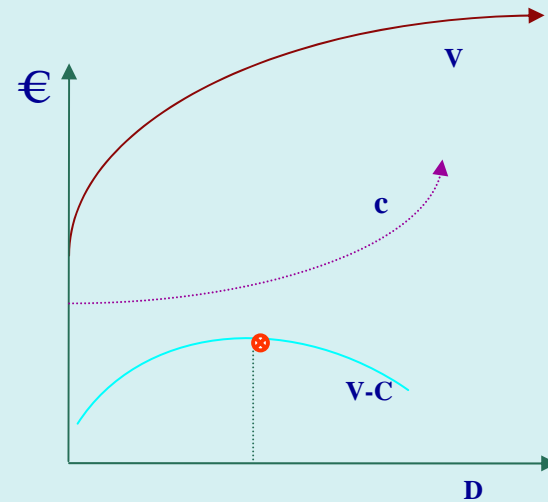
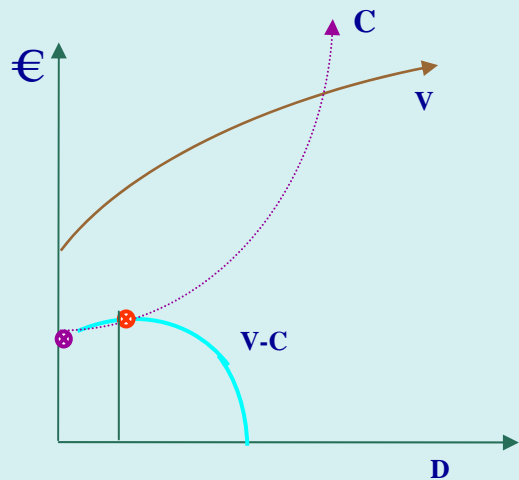
*D (Degree of Dispersion = "footprint")*

# Value and cost of an innovation as a function of dispersion

• **STRONGLY CO-LOCATED EXCELLENCE**



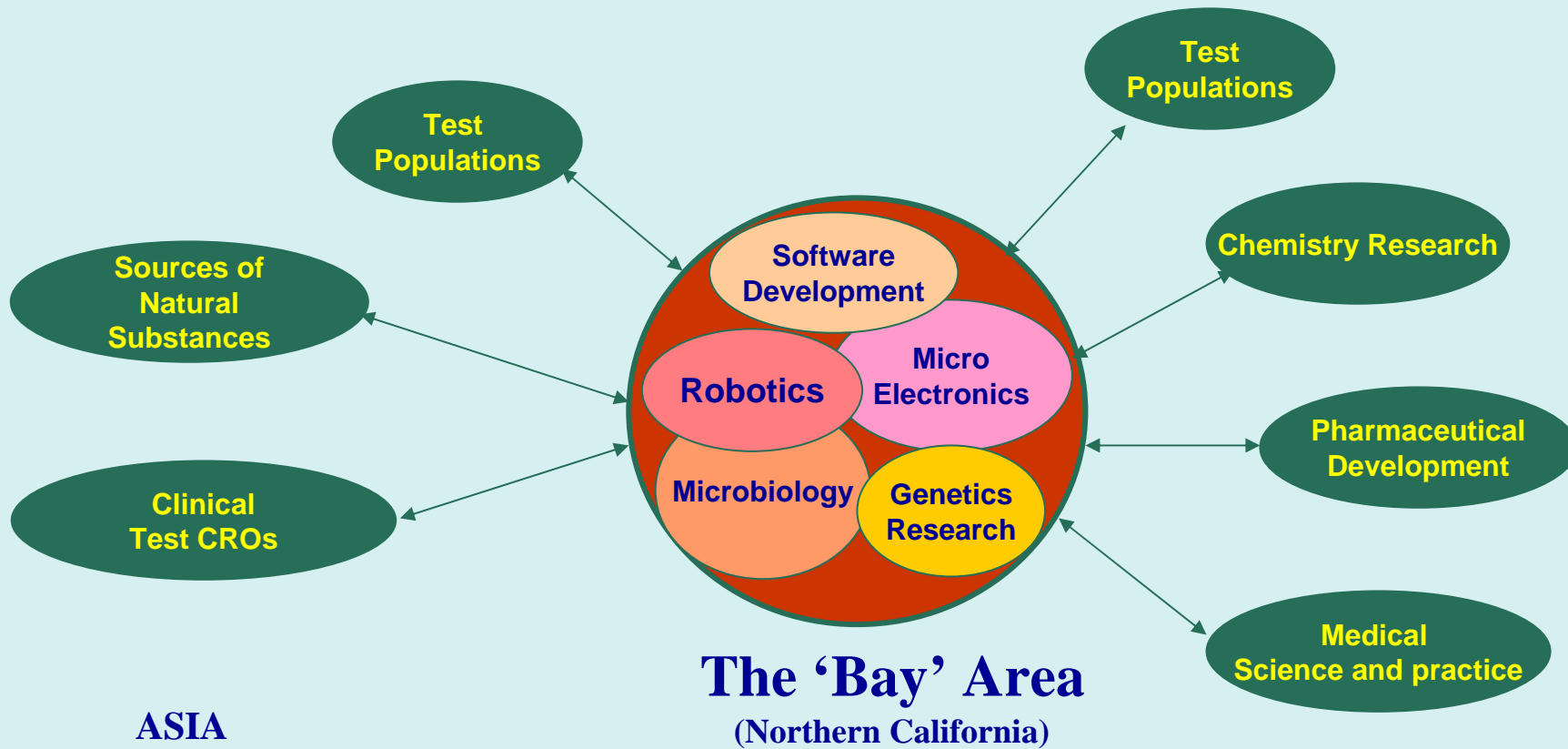
• **DISPERSED COMPLEMENTARY SOURCES OF EXCELLENCE**



Knowledge Location: Co-located vs. dispersed  
(e.g., high speed drug lead screening vs. flat panels)



# An example: high speed drug lead screening (Affymax, Affymetrix, etc....)



**ASIA**

**EUROPE**

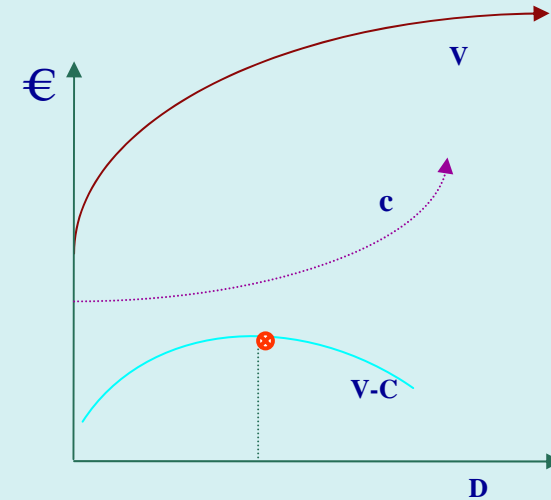
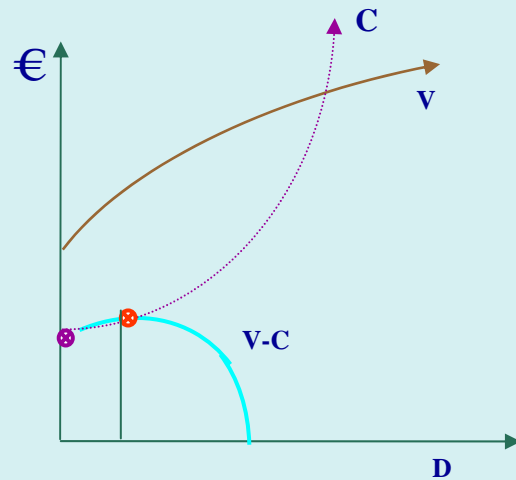
**It Happened in California, with Strong Global Links....**

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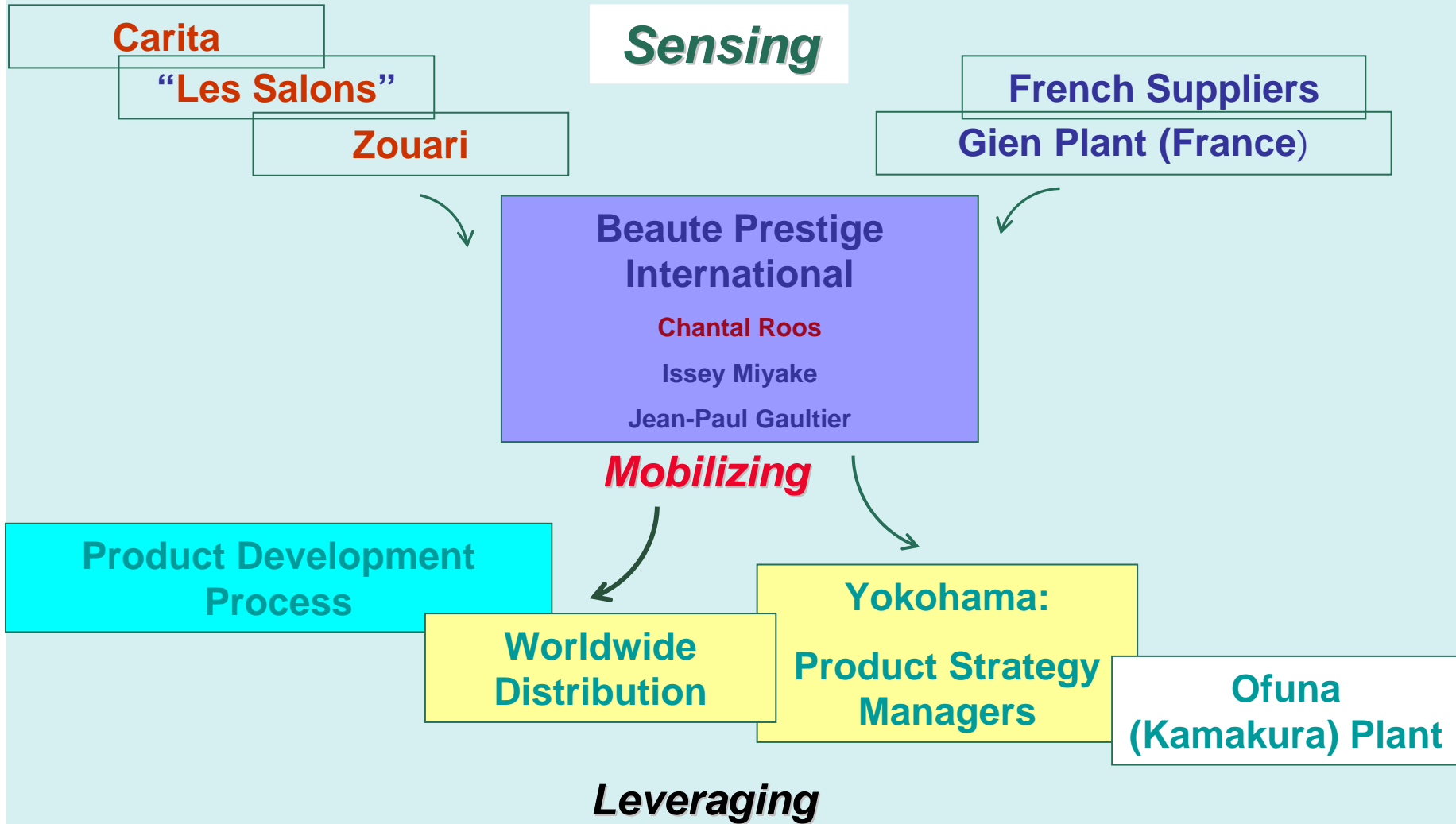
**A CONTINUUM OF SITUATIONS**

• **DISPERSED COMPLEMENTARY SOURCES OF EXCELLENCE**



Knowledge Dispersion for Your Innovations (e.g., high speed drug lead screening vs. flat panels)

The nature and mobility of needed knowledge (e.g., perfumes vs. software)

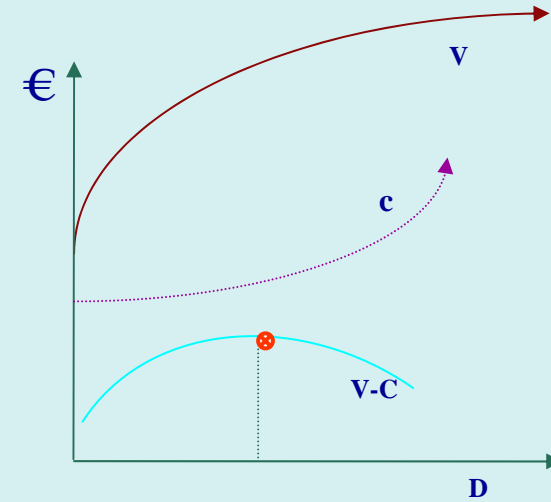
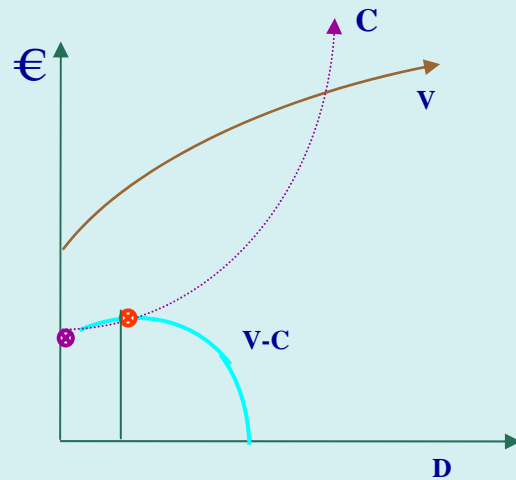


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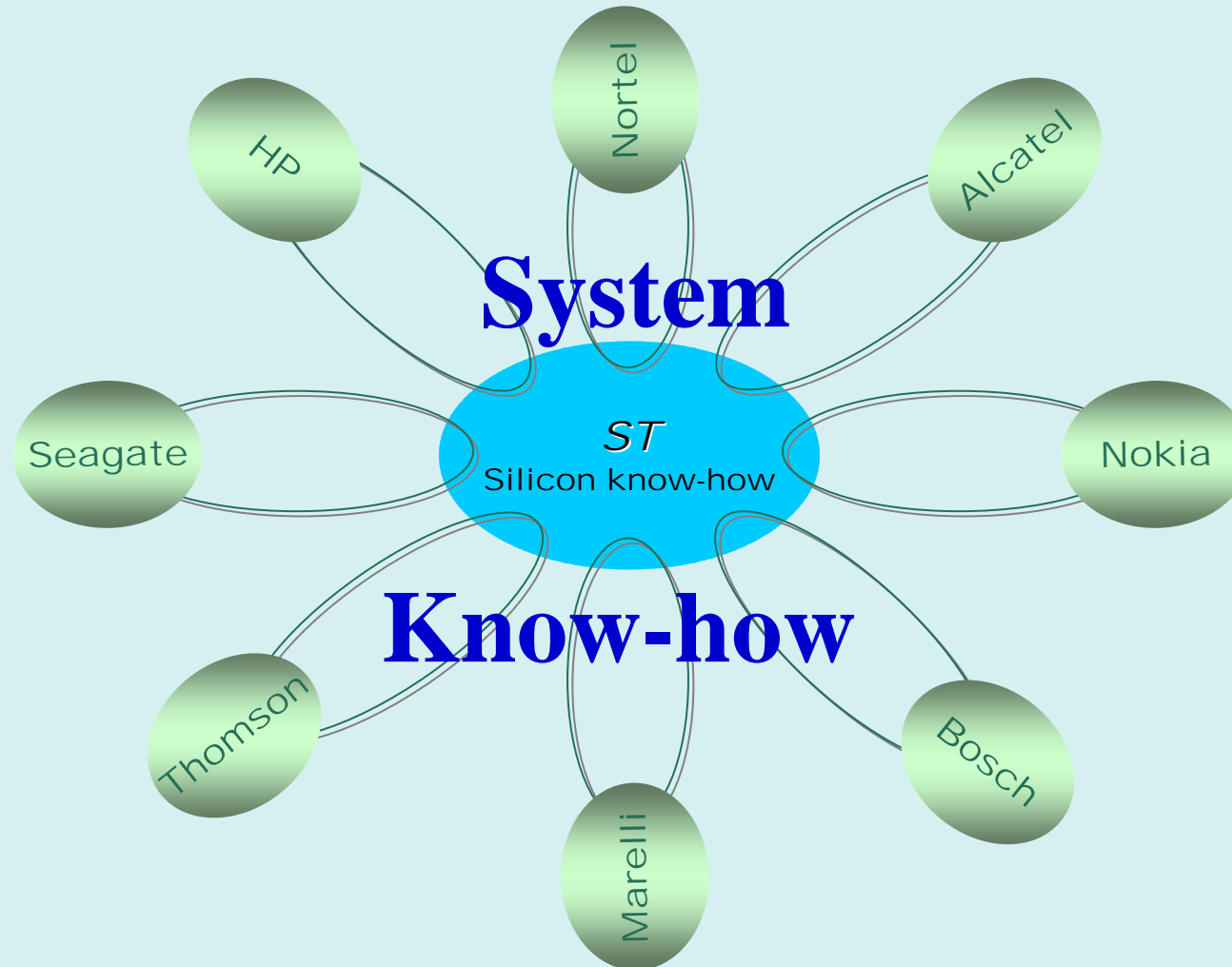


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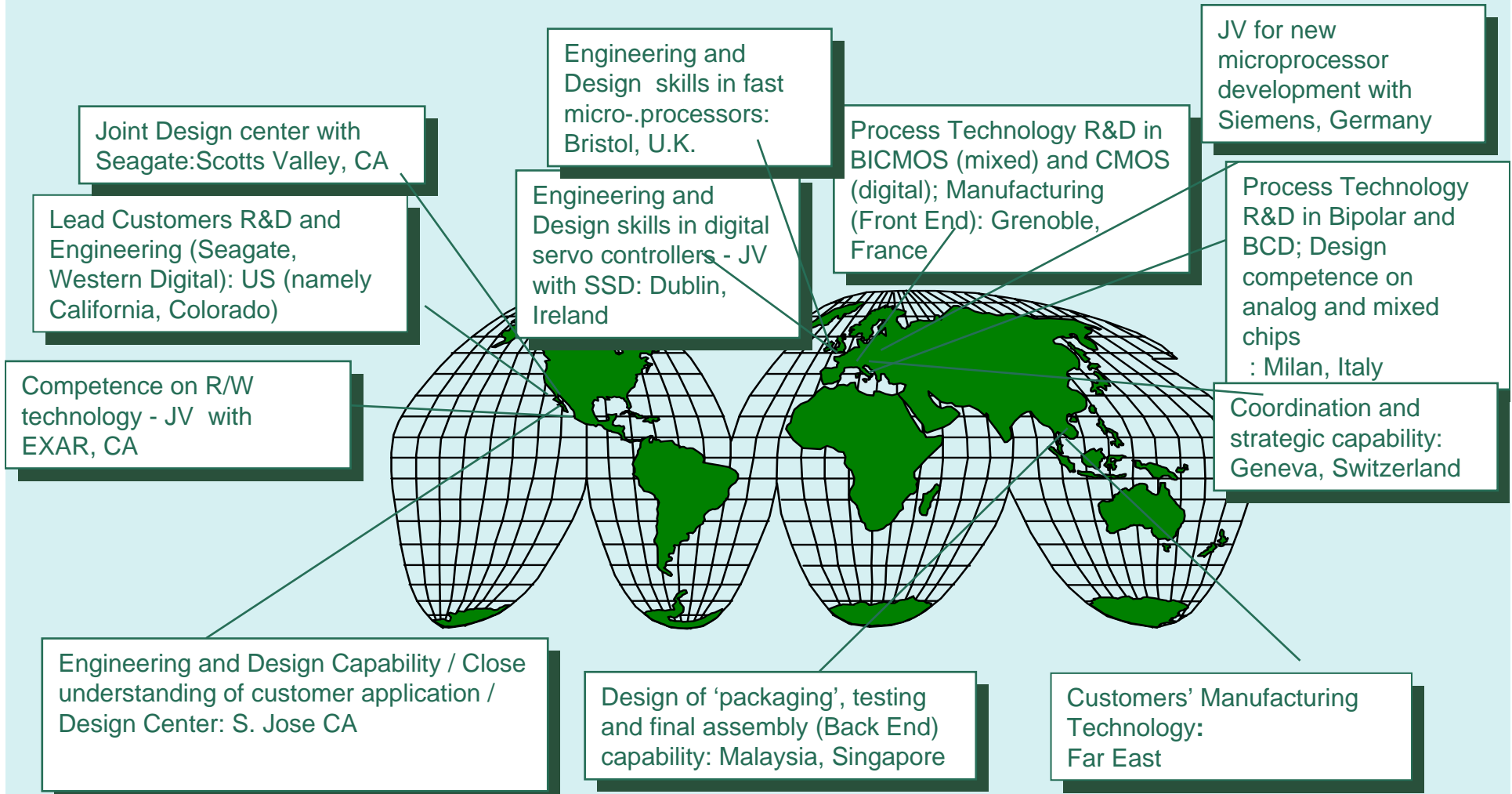
The nature and mobility of needed knowledge (e.g., perfumes vs. software)

Your strategic choices (e.g, Intel vs. STMicroelectronics)

# An example of sensing: ST's customer partnerships



# An example of extreme dispersion: STMicro (HDD project)

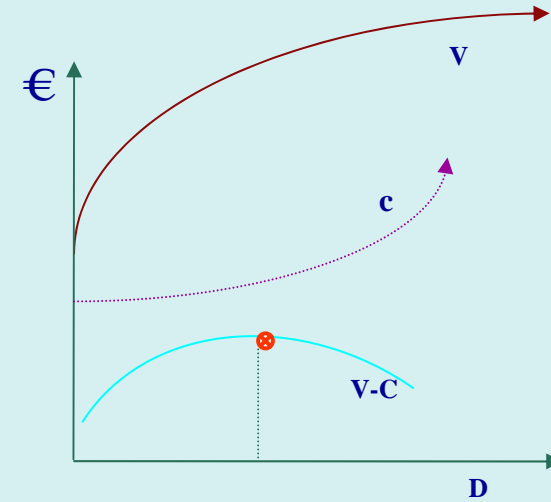
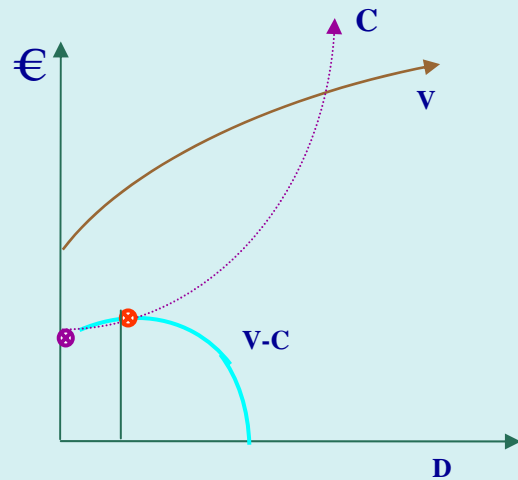


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Your heritage and competence trajectory (e.g., Toyota vs. GM )





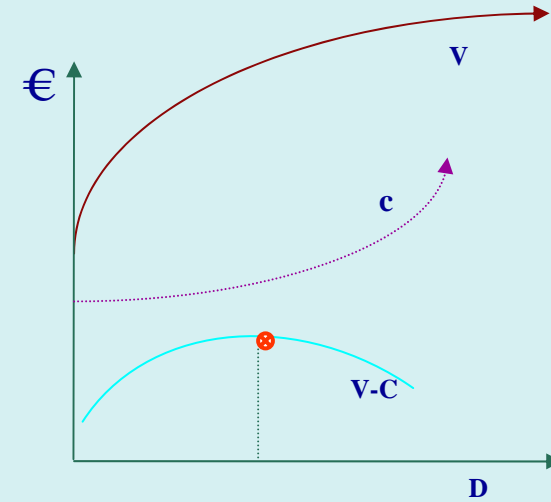
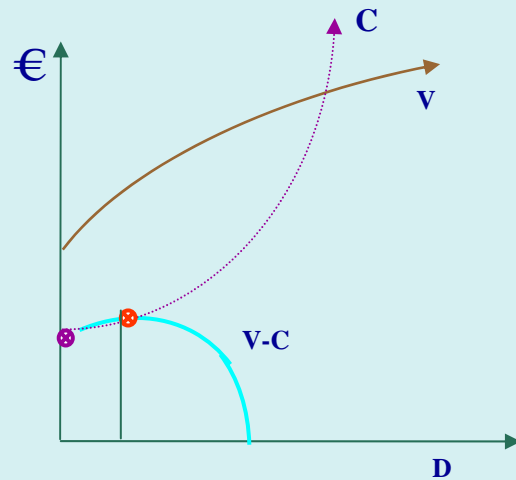


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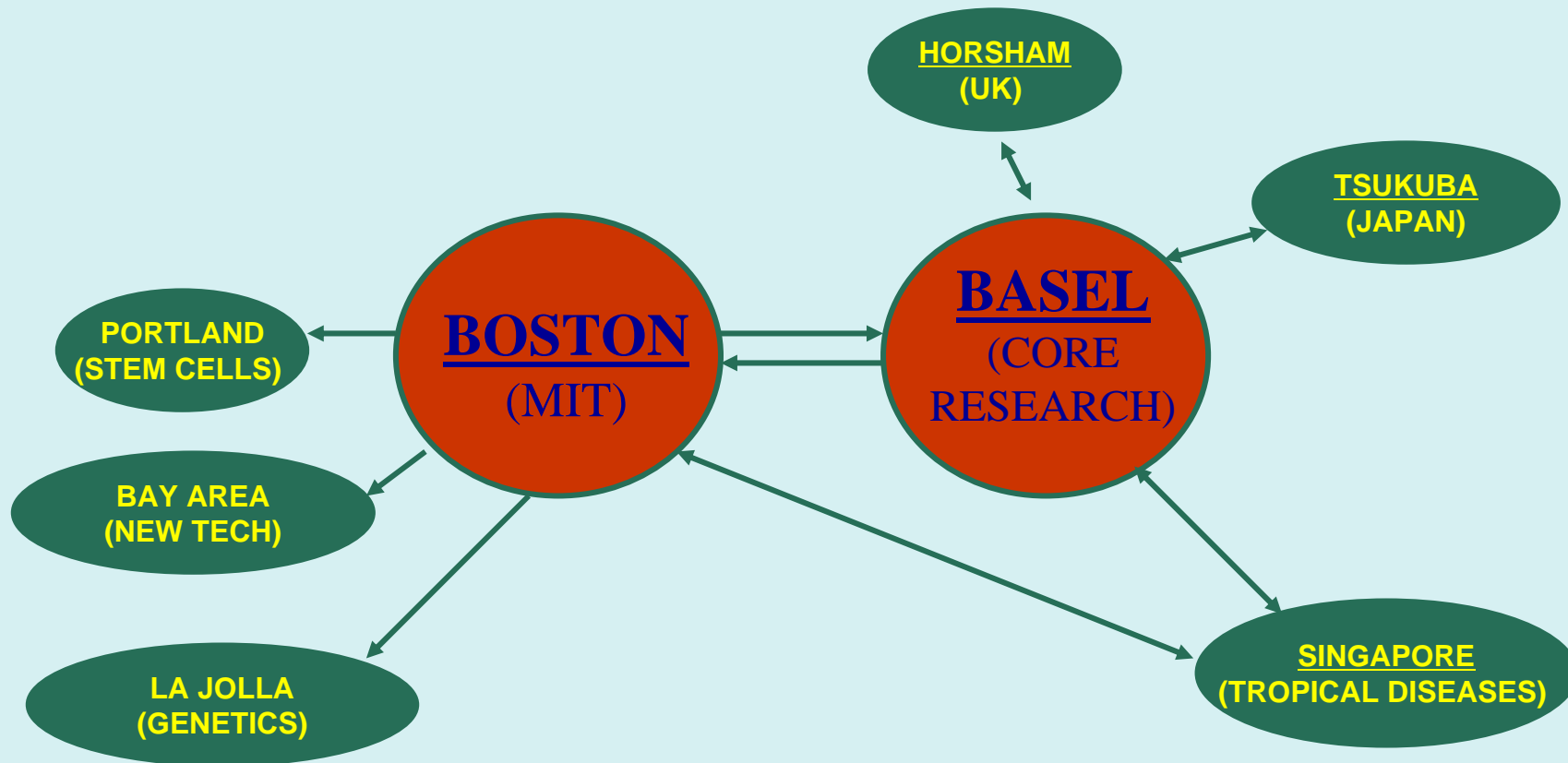
Your heritage and competence trajectory (e.g., Toyota vs. GM )

Distributed entrepreneurship and serendipity (e.g., Intel Israel, HP Singapore, Fuji Xerox, Glaxo-Japan Tobacco)

So as to minimize 'distance':



# An example: Novartis' "footprint" for innovation



(simplified chart)

## **2. How to Share Knowledge effectively?**

**Making knowledge simpler to move,  
and improving our ability to  
share knowledge...**

## The advantages of *Co-Location* (“*here, together, now*”)

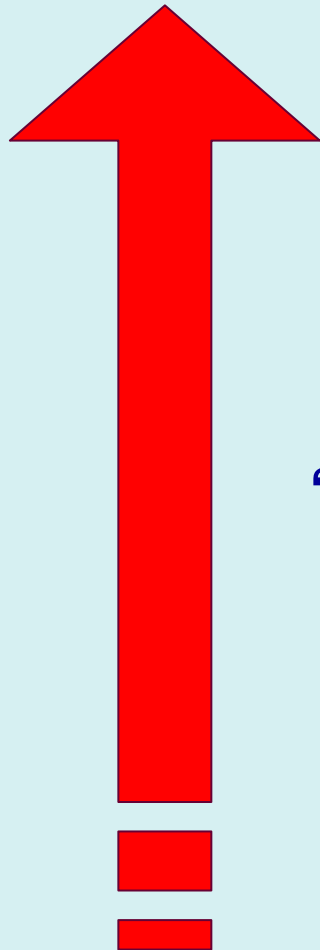
- ✓ random encounters
- ✓ “down-the-corridor” search
- ✓ frequent interaction, instant feedback
- shared physical context
- very high bandwidth communication
  
- ➔ *effective non-verbal language*
- ➔ *efficient mutual adjustment*
- ➔ *dealing with “tacitness”*

*Sharing through Socialization, Melding by Working Together*

## The advantages of *Confluence* (“*being in-tune & in-sync*”)

- ✓ **shared language**
- ✓ **shared stock of knowledge**
- ✓ **shared system of meaning / learning style**
- ➔ **high probability of unequivocal understanding**
  
- ➔ *effective verbal language*
- ➔ *efficient alignment*
- ➔ *dealing with “**embeddedness**”*

*Sharing by Externalization, Melding by Combination*



**Knowledge Complexity**

**“Tacitness”**

**“Embeddedness” (Context-dependency)**

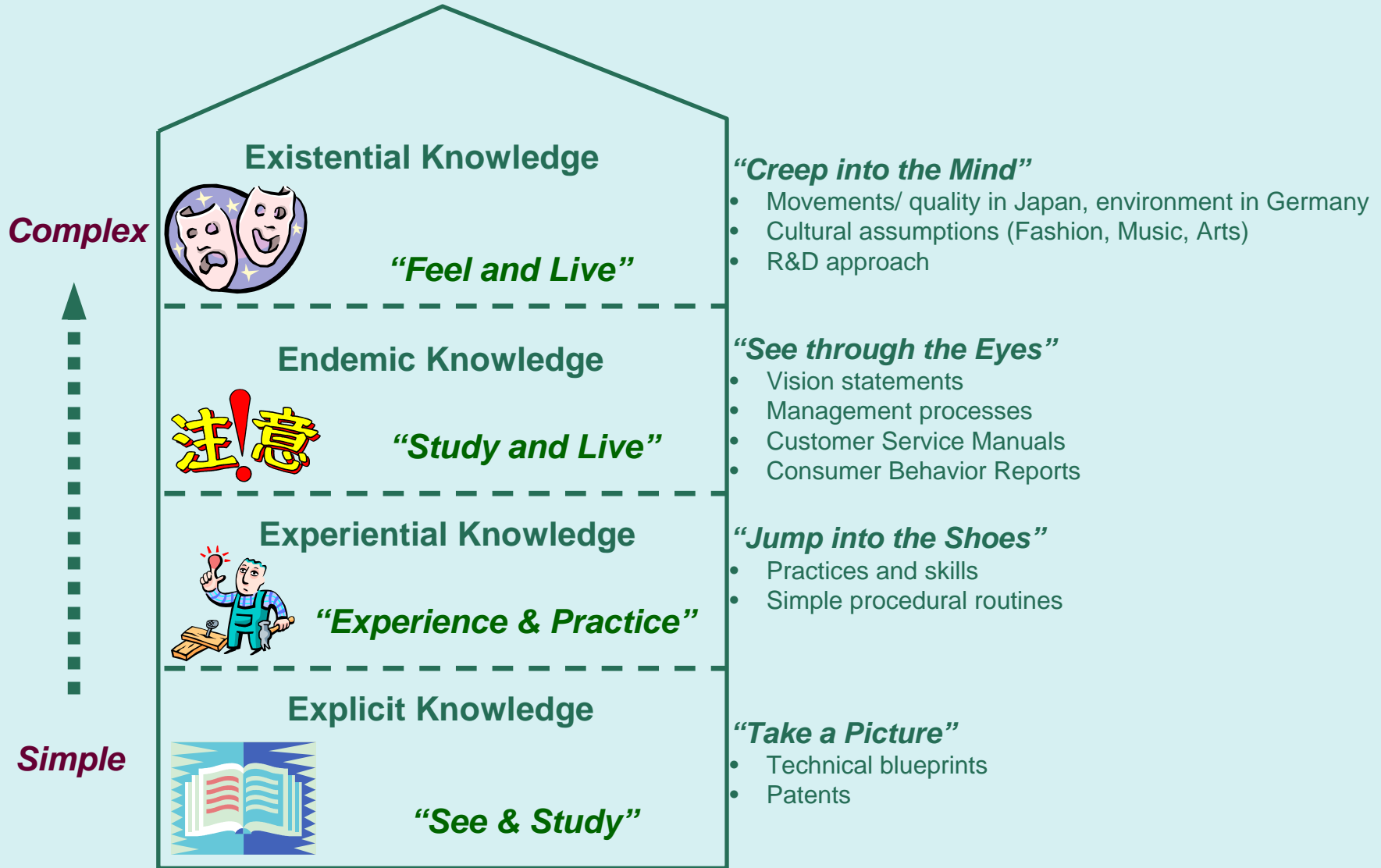
*‘Scale’ (Individual vs. Organisational)*

*Time compression*



# Knowledge complexity

*(How easy to find? How messy? How sticky?)*



Knowledge does not flow ...

... 'Carriers' / 'Packages' of knowledge flow

**'Packages' of Knowledge**

Data, information, ... models, components, tools, machines, ..., people

Knowledge re-creation by the 'receiver'

De-contextualization ('sender') and Re-contextualization ('receiver')

Knowledge 'transfer' as a dialogue ...

... about contexts and the object of knowledge

**Understanding the NIH Syndrome**

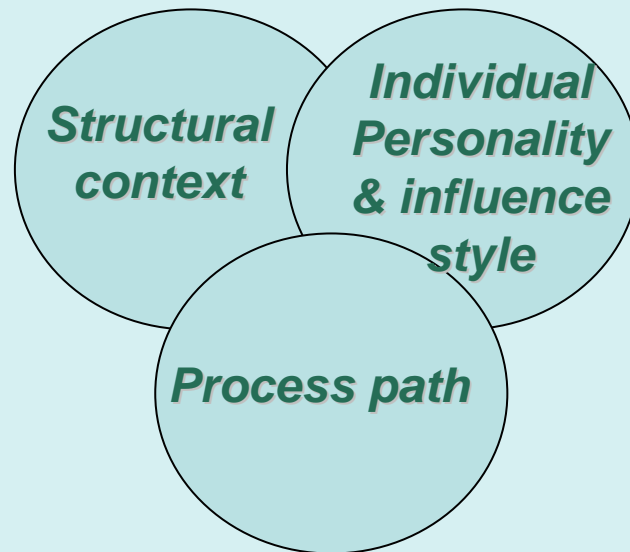
- **How complex is the piece of knowledge?**
  - How tacit?
  - How context-dependent?
- **What is the context of the ‘receiver’?**
  - How close / familiar?  
How may knowledge fit in the ‘receiver’s context?
- **Can we “de-contextualize” the piece of knowledge?**
- **What “carrier” to select and prepare?**
  - Information, Manual ...Tool, Machine, Plant ... Simulator ... People
- **How much knowledge on your context to share with the ‘receiver’?**
- **Then, send the carrier of knowledge.**

- ✓ **Under dispersion and diversity, the various knowledge processes *must be managed - explicitly.***
- ✓ **To manage knowledge, we must understand the *complexity* of knowledge ...**
- ✓ **... and the “knowledge architecture” (what “pieces” of knowledge and how they interact)**
- ✓ **Global Innovation calls for more than just “teamwork”.**

## **3. How to Foster Global Teamwork?**

# Fostering cross-unit collaboration & global teamwork

- Organisation
- Measurement
- Identity
- Rewards



- Persuasion capabilities
- Belief structure
- Prior (formative) experiences
- Perceptions of self-worth & self-efficacy

- Confluent perceptions
- Early conflict resolution
- Trust building
- Leadership

## Enabling conditions for global teamwork:

- ✓ **Knowledge sharing/ mutual context familiarity**
- ✓ **Complementarity and co-specialisation**
- ✓ **Mutuality, balance, equity in exchange**
- ✓ **Exclusivity, commitment**
- ✓ **Fair process in decision making**
- ✓ **Adaptive leadership in involvement**
- ✓ **Processes of building collaboration**

## **4. Developing Cosmopolitan managers, without diluting the advantage of a common culture**



- **Decontextualize corporate culture from home country culture**
- **Foster international career paths**
- **Move to locations with “sticky” knowledge**
- **Share common values, goals, principles**
- **Build and enforce norms of transparency, analytical clarity and procedural fairness**
- **Foster norms of reciprocity and unilateral commitments**
- **Create supportive score keeping for people**

# **Implications for Corporate Leaders and Public Policy Makers**

- **Global companies**
- **Internationalising companies**
- **National and Regional Policy makers**
- **Subsidiaries of multinational companies**

- **Global companies**
- Internationalising companies
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- Subsidiaries of multinational companies

## Three Main Reasons:

### 1. The deeply embedded primacy of the home base

- In structures, mindsets, and decision making processes
- In the location of key strategic decision makers
- In the location of R&D – still mostly near headquarters

### 2. The tradition that “Voice = Weight”

- Those with the most sales, assets or people have the loudest voices
- A generator of in-built inertia? Looking for knowledge in the wrong place?

### 3. The Assumption that local adaptation is relevant only locally

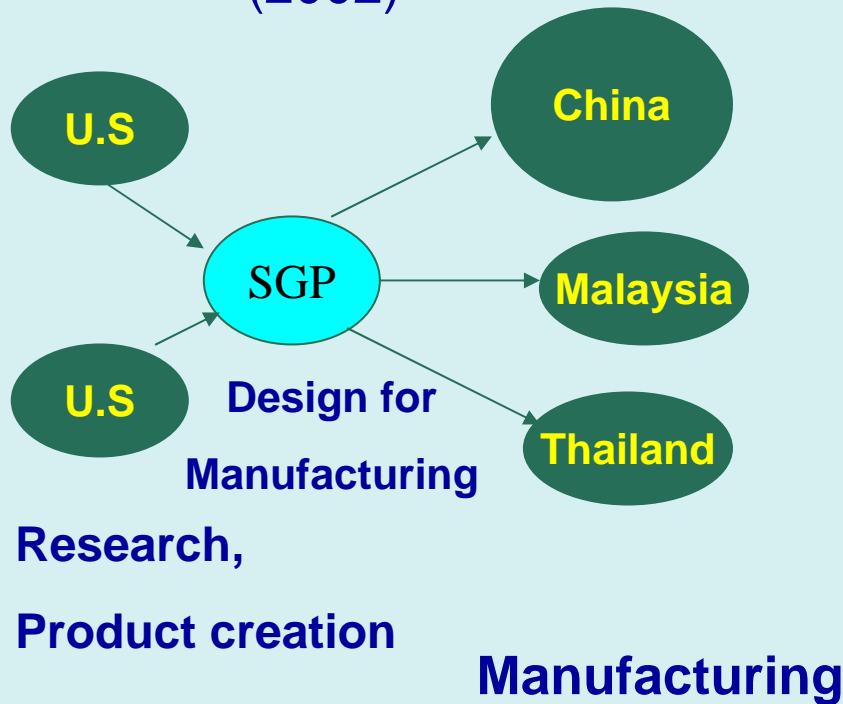
- The old adage in multinationals “think global, act local”

- Don't give up ambition even when you don't have all the competencies at home, search the world for them (Essilor)
- Build effective sensing processes for new knowledge ( Samsung)
- Reconfigure activities to best access knowledge (Novartis, Canon)
- Become an ecosystem builder (HP in Singapore)
- Exploit local competencies strategically (Fuji Xerox)
- Build global innovation networks (Nokia)

# A Tale of Two Products

## Printers

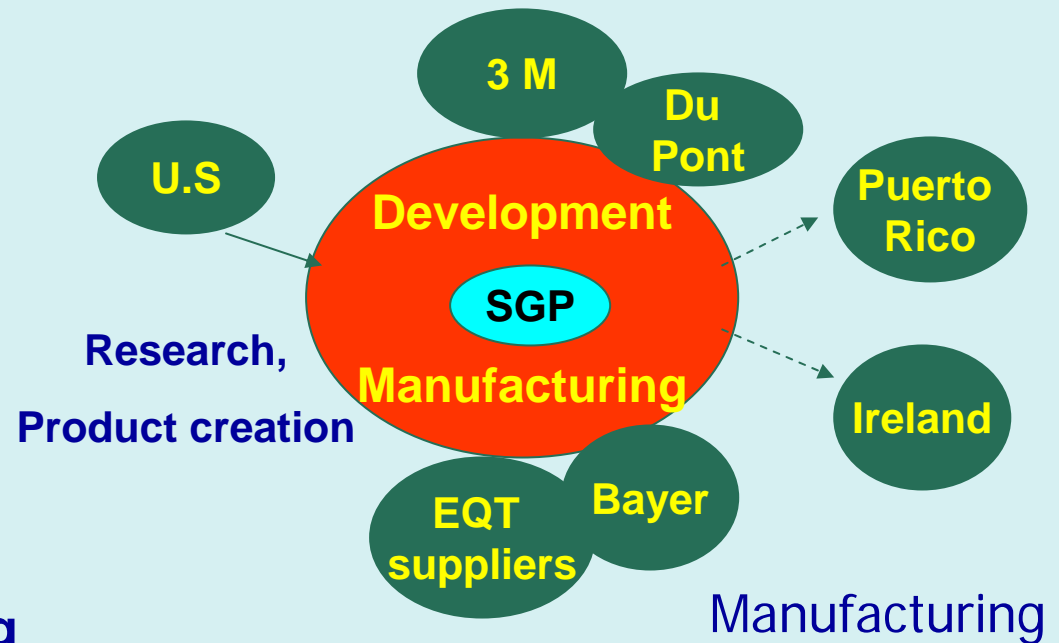
(2002)



Migratory

## 'Pens'

(2002)



Deeply rooted

- What Resources do I bring? How well can I Trade Them for Knowledge?
- How can I extract Valuable Knowledge from existing relationships (distributors, customers, partners, etc...)?
- What critical Elements of Value Adding Activities do I need to master to remain essential to value creation?
- How do I make myself a partner of choice for MNCs? What unique knowledge of value do I contribute?



- Global companies
- Internationalising companies
- **National and Regional Policy makers**
- Subsidiaries of multinational companies

- Investing in education and scientific research is not enough, invest in strengthening local “rootedness” of activities
- Embrace “Open innovation” (including mobility of capital and labour) and regional integration
- Make knowledge synergies a key factor in foreign investment, not just market entry or cost
- What are unique contributions of Japan in the future?
- Beyond clusters, think “knowledge hubs”
- Keep encouraging exit from maturing sectors and development of new knowledge hubs

- Subsidiaries of Multinational Companies

- What unique resources and skills can I contribute to the company, beyond what I need to operate successfully here?
- How can I “root” my activities in local knowledge and capabilities? (Avoiding the “long thin arm” syndrome)?
- How do I gain “voice” in corporate choices? How do I effectively represent and communicate what my country has to offer?
- How do I grow the contribution of my subsidiary to global knowledge creation over time?

## Japanese consumer electronics' Lab in Singapore

### Criteria

1. What may become strategically critical but is not yet...
2. What should have a divisional "client" in Japan
3. Where Singapore is a lead market, or is likely to become one...
4. Where Singapore can enjoy a unique advantage
5. What provides a consistent longer-term skill set development for lab

### Example

- MPEG3, CODEC Software
- Audio and video division
- Digital interactive broadcasting
- English negotiating skills in standard-setting alliances
- Codec software, other application (mobile multimedia, etc...)

**“Think Local, Act Global”**

Forthcoming:

“Managing Global Innovation”

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