15.229 - Managing Global Integration

Joe Santos
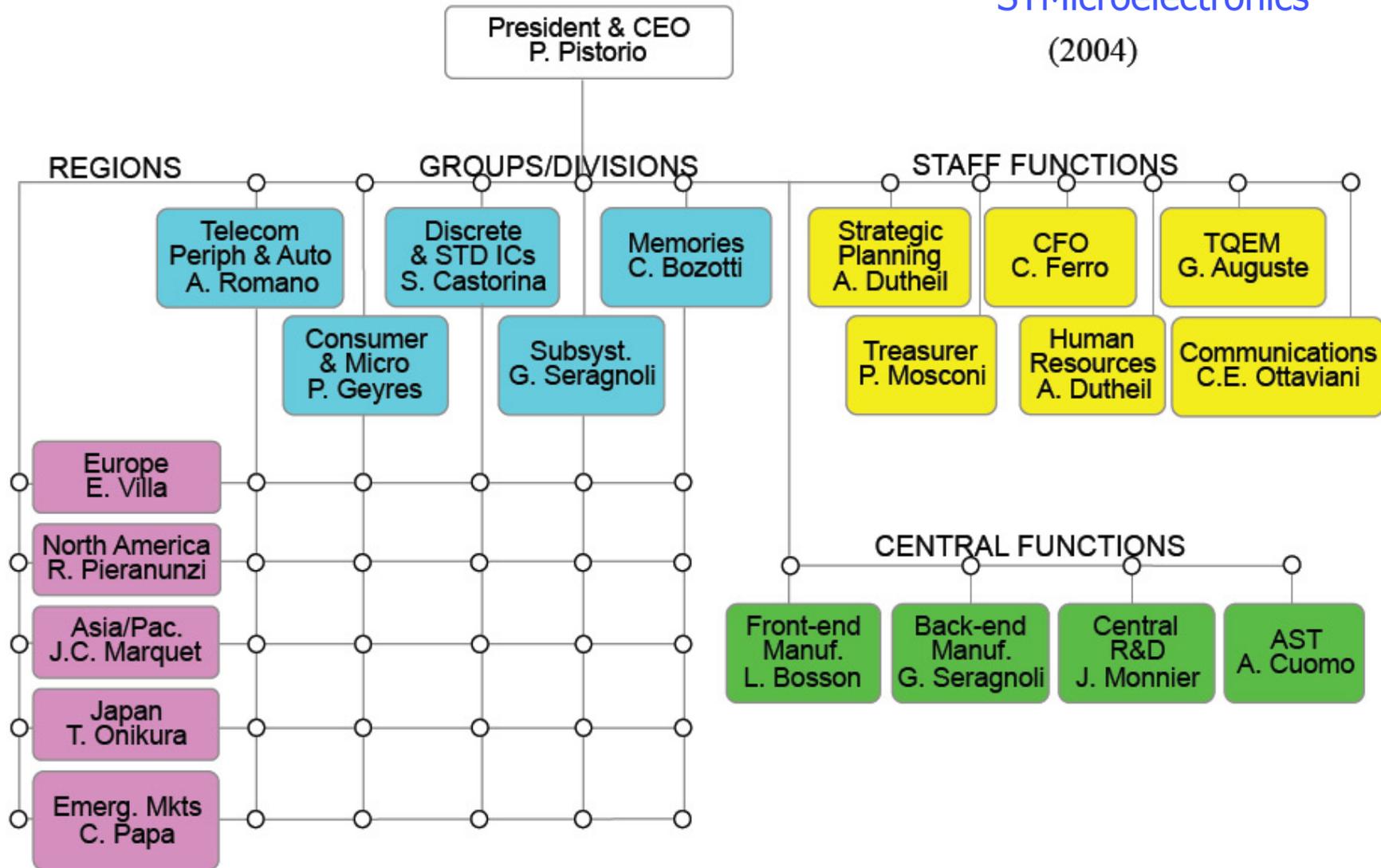
Session 11
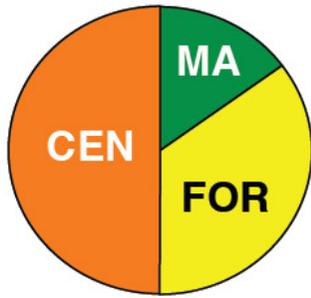
The Multidimensional Organization
(an example of the challenges of global integration)
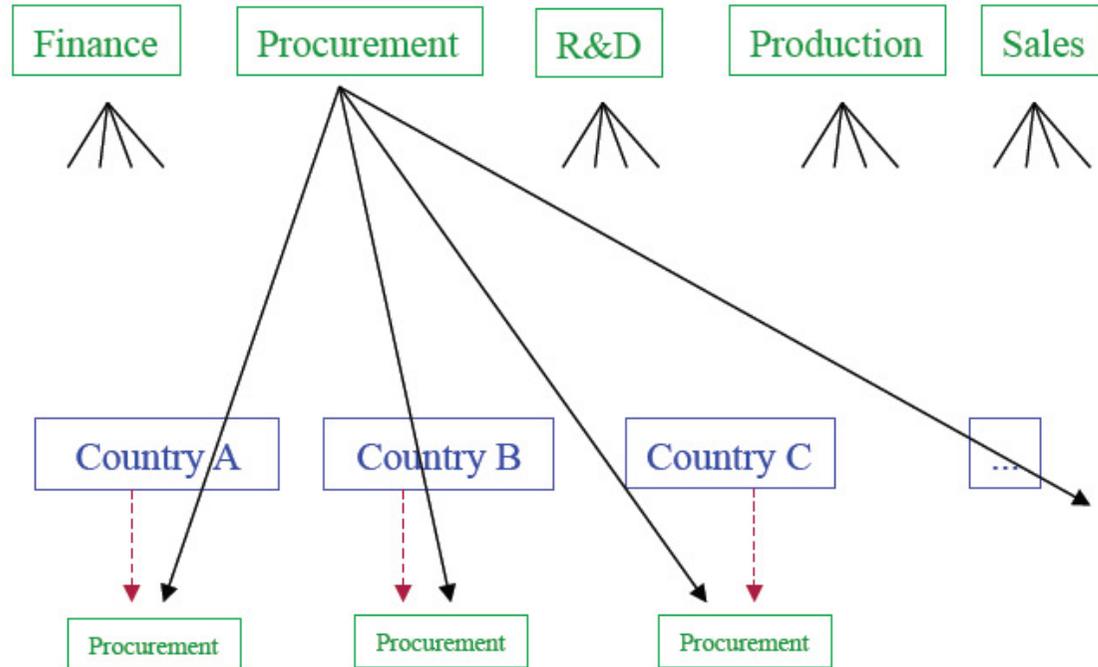
STMicroelectronics

(2004)

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The Global "central"

CEN **MA** **FOR**

Function*
(at HQ or Region)

↓

Geography
(Country or Office)

| Finance | Procurement | R&D | Production | Sales |

Country A Country B Country C ...

Procurement Procurement Procurement
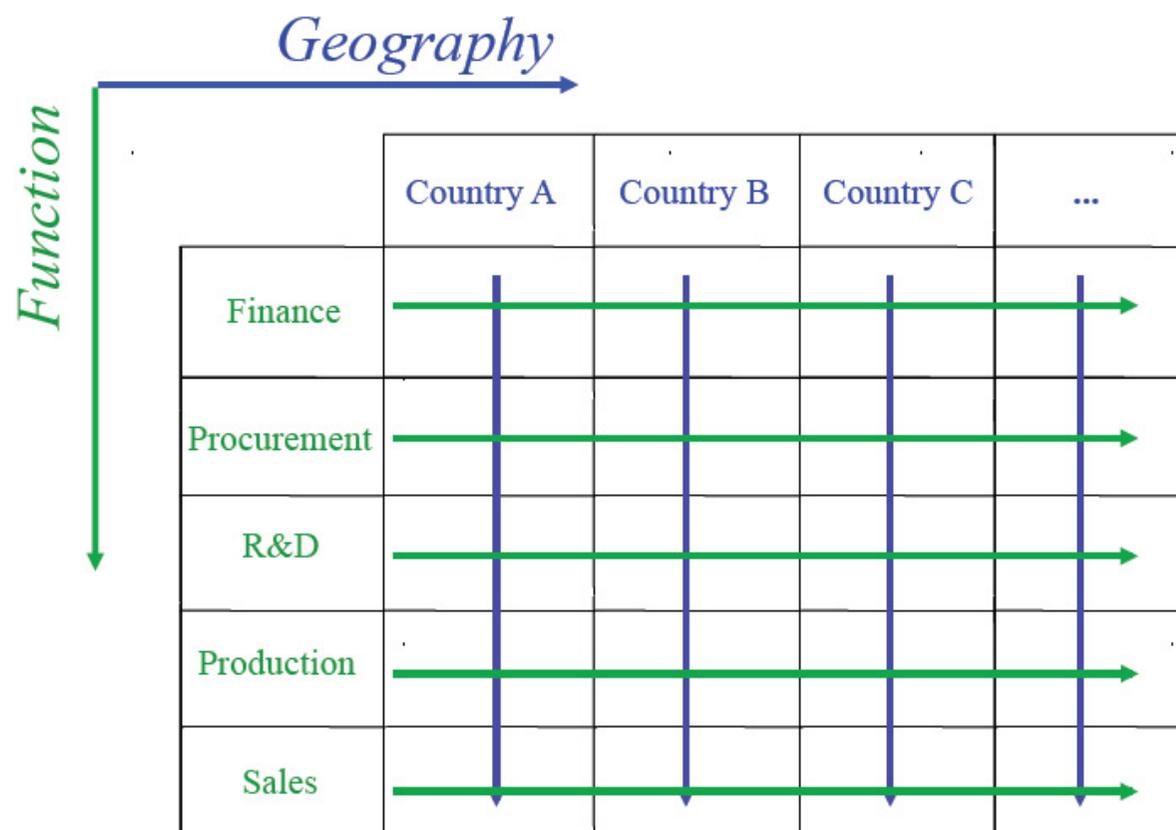
(In some "global" MNCs, "country managers" become legal representatives and "ambassadors" or "hotel mgrs")

3
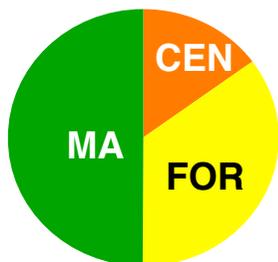
"Matrix" organisation

(Example of a double solid-line reporting organization - in a single business multinational)

Managing in such a "matrix" requires that formalization (say, of functions and processes, as well as of roles and responsibilities of the top line), performance appraisal and information systems all be of high quality – and that "exceptions" be rare. Otherwise the managers in the top level of the two sides of the "matrix" will do nothing else than sort out lower level matters and conflicts. The positive side of such a structure is that it shapes a setting where the top managers in the two sides must "work together" – even if they are not together. High levels of trust and a shared "view of the world" are necessary.

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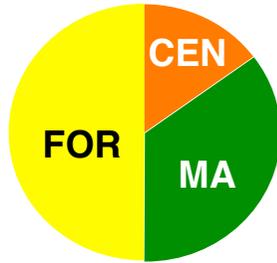
The hybrid "front-back"
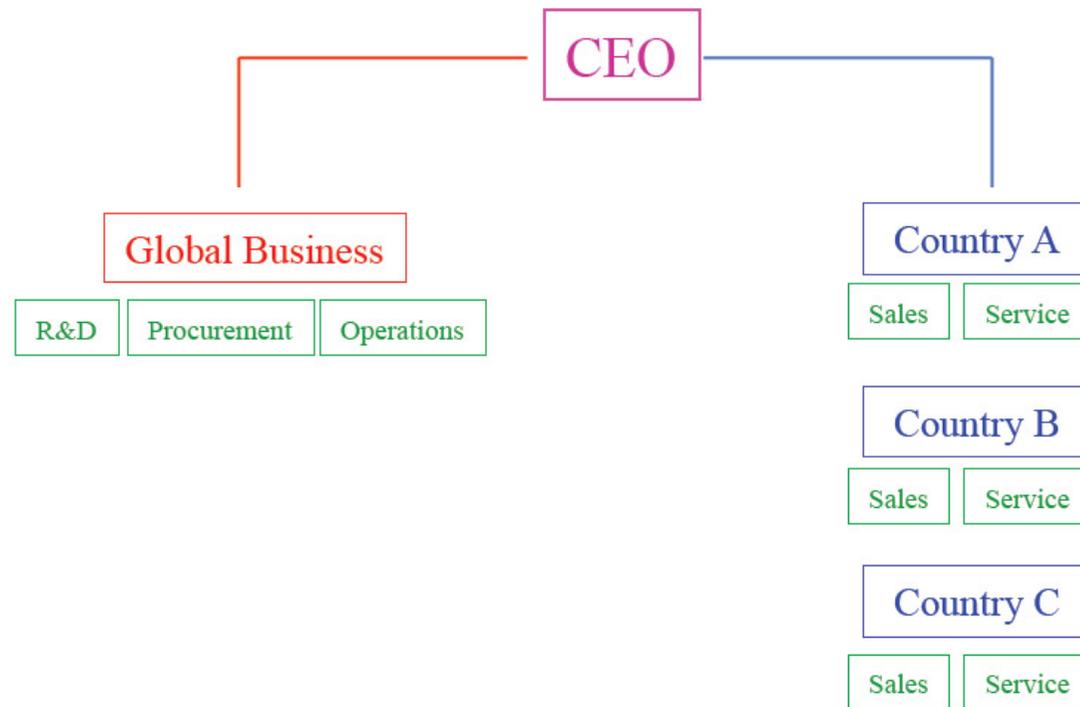
This structure has emerged as multinationals observed different needs of global integration in different functions (with sales and after-sales service usually left in local autonomy mode). The key challenge here is the link between the "font" and the "back", visible for example in new product development, in operations planning, in transfer pricing, and so on. As any hybrid, it calls for different styles of management at the top level, another key challenge.

The dispersion of "order" and "delivery"
(One more factor of global integration)

STMicroelectronics

Sales by customer origin % of 2004 sales

Sales by region % of 2004 sales

27 %
Europe — **46%**

15 %
North America — **28%**

5 %
Japan — **6%**

42 %
Asia/Pac — **17%**

11 %
Emerging Markets — **3%**

"Virtual HQ"
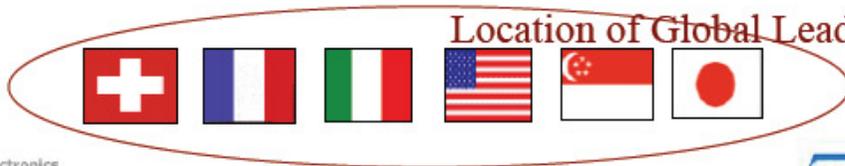
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The top of a multi-dimensional structure organisation:
a "global virtual team"

1) One of the major challenges for managers in a globally integrating company is that management is not done together with colleagues that share the same space and national context. The managers of the top line of a "matrix", for example, are members of a "global virtual team". They may not see it like this, but that does not change the fact that more and more they will have to work together and make joint decisions with colleagues that are both dispersed in distant locations and act in diverse contexts, be it national contexts, functional contexts, or industry context.

2) This is partly a generational issue. Older managers, who tend to be at the top, are exactly those whose careers were likely made in multi-domestic organisations (or in export-mode MNCs). Part of their skills, which made them into what they are now, were in-tune with those simpler forms of organising in a non-global world, not with multidimensional organisations in a global one. It is very hard for a manager that made his career in the home country, moving up the ladder with great local knowledge and local political ability, to suddenly have to evaluate cases or make decisions in alien contexts and with distant foreign managers who are not exactly fellows. Lower down in the organisation, younger managers are part of distributed R&D teams, global account teams, global supply teams, and so on. Most are learning-by-doing how to perform well in a global virtual team, but they find it more normal, they tend to be more familiar with technology-mediated communications, they travel more. And for many, by the way, this is what they did since they begun working. The don't even have the reference point of a classic team, collocated and confluent.

3) In an effective global integrated MNC, there is no alternative to an eGLT nor to the fact that such global leadership team be a virtual team. It is not possible to successfully manage a MNC in a global world with a classic management team of buddy compatriots with offices on the same floor of home-based corporate HQ.

4) A virtual top management team and a dispersed HQ are the hallmarks of the XXI century MNC.
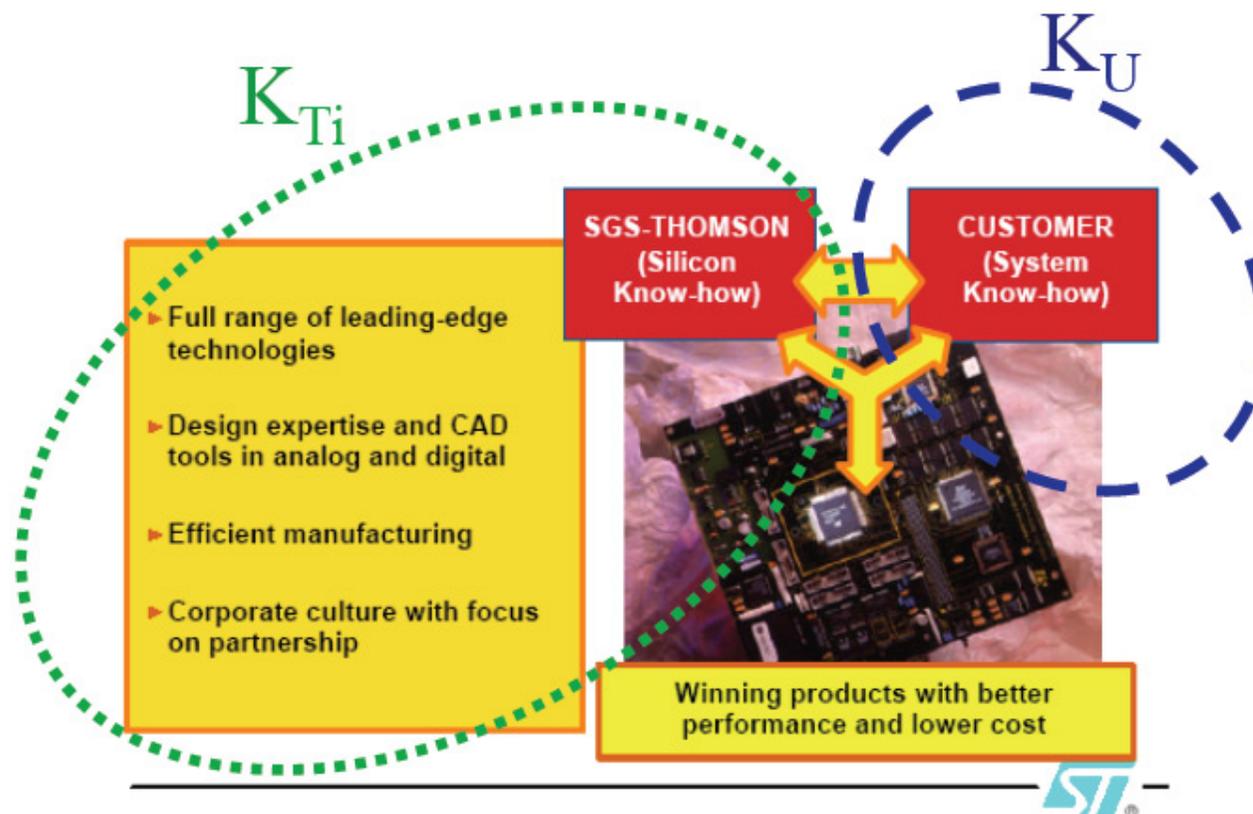
K_{Ti}

K_U

SGS-THOMSON
(Silicon
Know-how)

CUSTOMER
(System
Know-how)

▶ Full range of leading-edge technologies

▶ Design expertise and CAD tools in analog and digital

▶ Efficient manufacturing

▶ Corporate culture with focus on partnership

Winning products with better performance and lower cost

(Source: STMicroelectronics Presentations, as of 1993)
NB: KU and Kti added here to the original slide.

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Chips for HDD

Traditional offer

ST system-on-chip (s-o-c)
a breakthrough innovation

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ST in s-o-c for HDD (Data Storage)

Engineering and Design skills in fast micro-.processors: Bristol, U.K.

Microprocessor development: (JV) Siemens, D

Lead Customers R&D and Engineering: Seagate, Western Digital (California,Colorado, ...)

Process Technology R&D in BICMOS (mixed) and CMOS (digital); Manufacturing(Front End): Grenoble, France

Joint Design center with Seagate: Scotts Valley, CA

Engineering and Design skills in digital servo controllers: (JV) SSD - Dublin, Ir.

Process Technology R&D in Bipolar and BCD; Design competence on analog and mixed chips: Milano, Italy

Competence on R/W technology: (JV) EXAR, CA

Coordination and strategic capability: Geneva, Switzerland

Engineering and Design Capability / Close understanding of customer application / Design Center: S. Jose CA

Design of 'packaging', testing and final assembly (Back End) capability: Malaysia, Singapore

Lead Customers Operations: Singapore

STMicroelectronics in chips for HDD is metanational because…

1. The non-mobile resources required to produce its breakthrough innovation (the s-o-c for HDD) were dispersed around the World

2. It found the optimal combination of resources through an emergent process of interaction with local customers, competitors, and suppliers dispersed around the World (~1985-2000).

i. ST chips for HDD's performance worldwide was superior because the global optimum it found is superior to any national optimum (Doz, Santos, Williamson, 2001) …

ii. … and it found such global optimum with superior efficiency than any other company …

iii. … and it increased its geographic scope in such a way that its original metanational advantage was amplified.

"World, Sweet World"
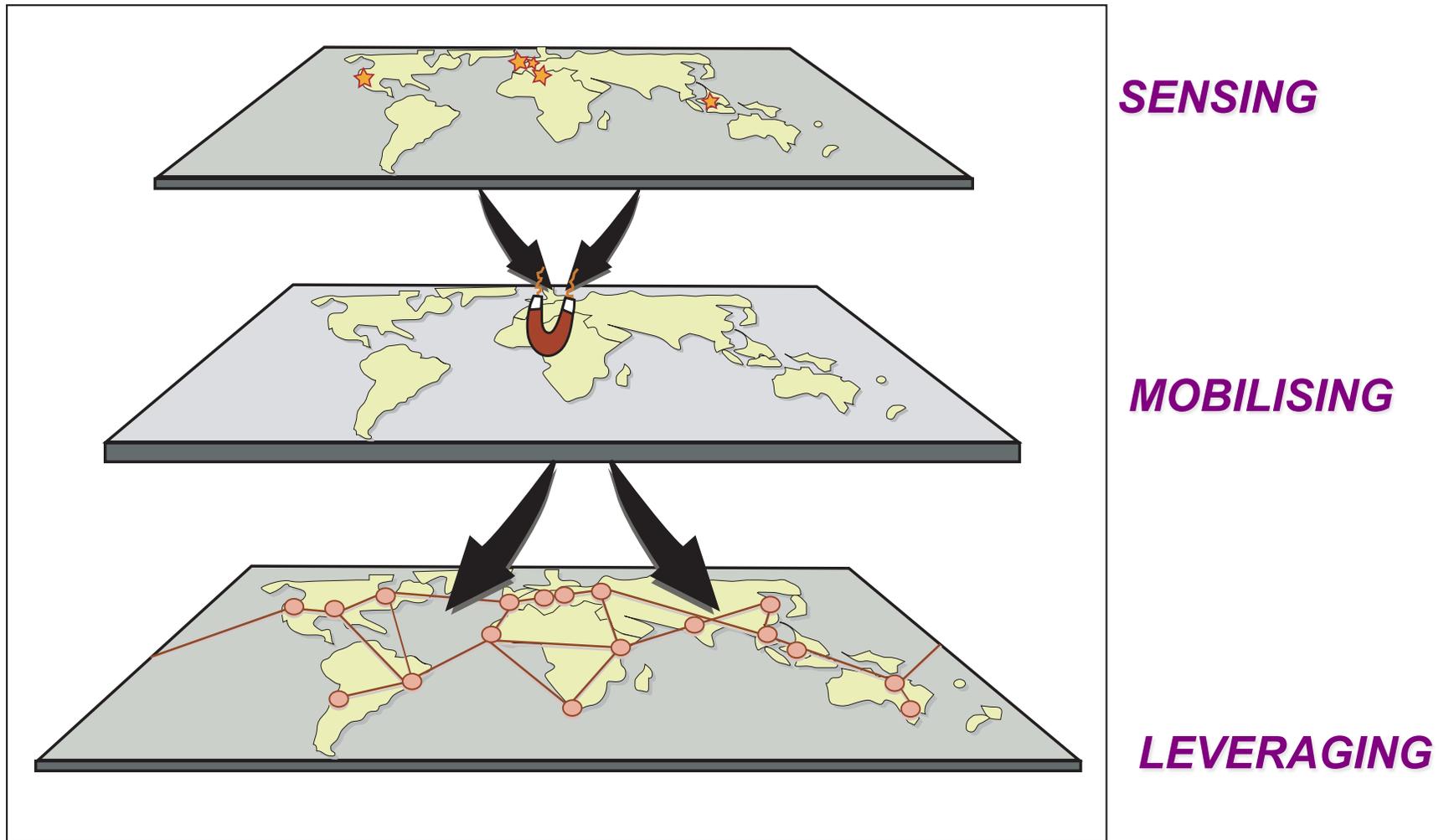## The "3-Planes" in the Metanational Innovation Process

SENSING

MOBILISING
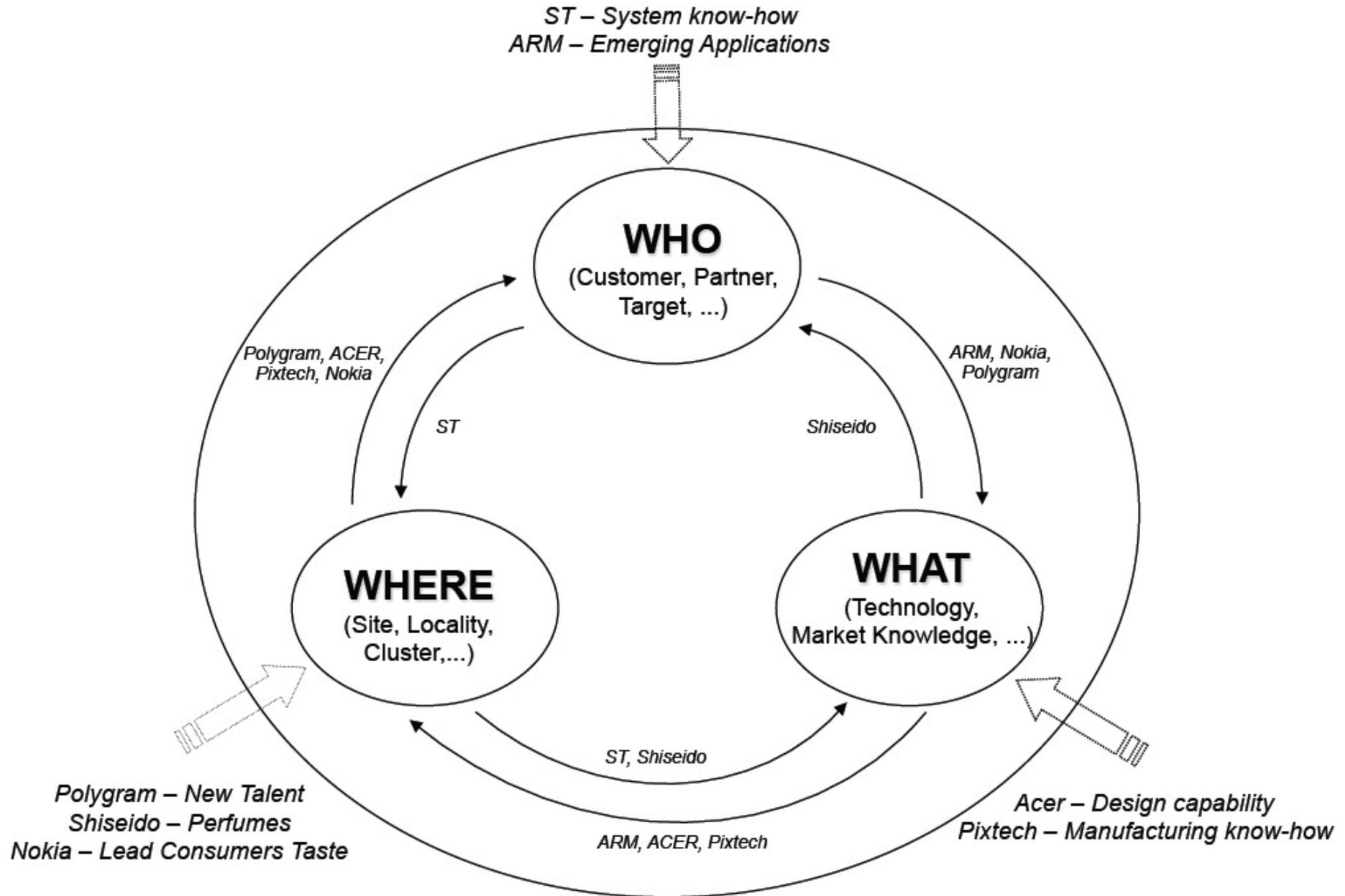
LEVERAGING

Image by MIT OpenCourseWare.

(For more see:" Global Innovation" (article) and "From Global to Metanational" (book))   *For the SFs at MIT Sloan - © Jose Santos, 2012*

Building the Metanational Company

✓ Prospect the world for new capabilities and market knowledge

✓ 'Plug-in' to learn new knowledge

✓ Set up 'magnets' to bring together knowledge items dispersed around the world

✓ Innovate by melding dispersed capabilities and market knowledge

✓ Relay innovations into the operations network

✓ Use global operations to leverage dispersed capabilities and knowledge rather than to 'project' home orthodoxies

(Source: Doz, Santos, & Williamson,"From Global to Metanational")

Sensing world-class knowledge locally

ST – System know-how
ARM – Emerging Applications

WHO
(Customer, Partner, Target, ...)

WHERE
(Site, Locality, Cluster,...)

WHAT
(Technology, Market Knowledge, ...)

Polygram, ACER, Pixtech, Nokia

ARM, Nokia, Polygram

ST

Shiseido

ST, Shiseido

ARM, ACER, Pixtech

Polygram – New Talent
Shiseido – Perfumes
Nokia – Lead Consumers Taste

Acer – Design capability
Pixtech – Manufacturing know-how

(Source: Doz, Santos, & Williamson, "From Global to Metanational")

The functions of the "Magnet"

✓ It specifies (dynamically) what is required to create the innovation

✓ It brings people together by being a piece of common ground

✓ It provides "energy" (purpose, direction)

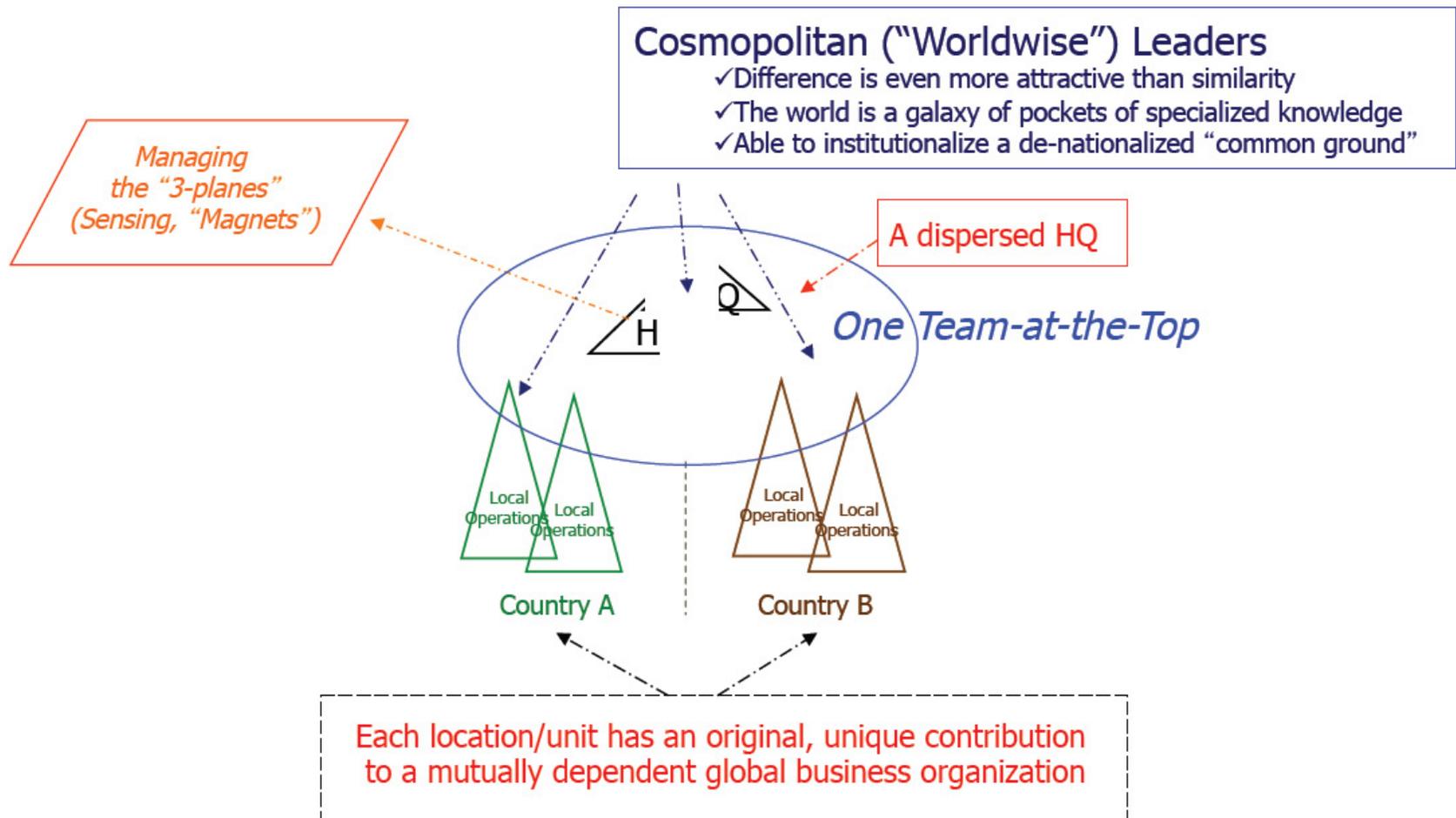✓ It identifies knowledge gaps and new sensing initiatives

Metanationals' worldview

✓ Difference is even more attractive than similarity

✓ The world is a galaxy of pockets of specialised knowledge

✓ Each location/unit has an original, unique contribution to a mutually dependent organisation

✓ The organisation must have a common, yet de-nationalised, culture

(Source: Doz, Santos, & Williamson, "From Global to Metanational")

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Global Integration and Global Innovation
Global diversity as the source of future performance

Cosmopolitan ("Worldwise") Leaders
✓Difference is even more attractive than similarity
✓The world is a galaxy of pockets of specialized knowledge
✓Able to institutionalize a de-nationalized "common ground"

Managing the "3-planes" (Sensing, "Magnets")

A dispersed HQ

One Team-at-the-Top

H   Q

Local Operations   Local Operations

Country A

Local Operations   Local Operations

Country B

Each location/unit has an original, unique contribution to a mutually dependent global business organization

15.229 Managing Global Integration

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