

**LEADER transnational cooperation project and 17th Summer  
Academy joint seminar "Creating innovation and smart  
solutions for sustainable local development"**

Tartu, Estonia, 17th to 21st September 2018

***How can we define and emerge  
innovation on different levels  
(global, regional, and local)? Are  
there any specific differences?***

17th September 2018

Francisco Pizarro – Director of BIC Extremadura

***"Collaborating to innovate, sharing to growth"***

# Primary definition

**Innovation**: The action or process of innovating.

**Innovate**: Make changes in something established, especially by introducing new methods, ideas, or products.

## IN / NOVA / TION



# Secondary definitions

**Action of giving the factors new possibilities to create wealth. (J.B. Say. 1803)**

*Humans can not create the material, but can modify its utility*

**Creative destruction. New combinations of productive factors which breaks the economy out of its static mode. (Schumpeter, 1942)**

*Endogenous system variable, expressed in new products, production methods, markets, inputs or organizational changes.*

**Process of introduction of existing technology and inventions for the improvement of products, processes or systems. (Freeman, 1982)**

Approach from systems theory. Freeman will introduce later the concept of system of innovation.

**The specific tools of entrepreneurship. Need to be organized in a systematic way. Oriented to change opportunities. (Drucker, 1985)**

**Successful production, assimilation and exploitation of novelty in the economic or social environment. (European Commission, 1999)**

Wider concept that introduce not only an economic perspective, but a social one.

The process, the successful result and de environment are key elements.

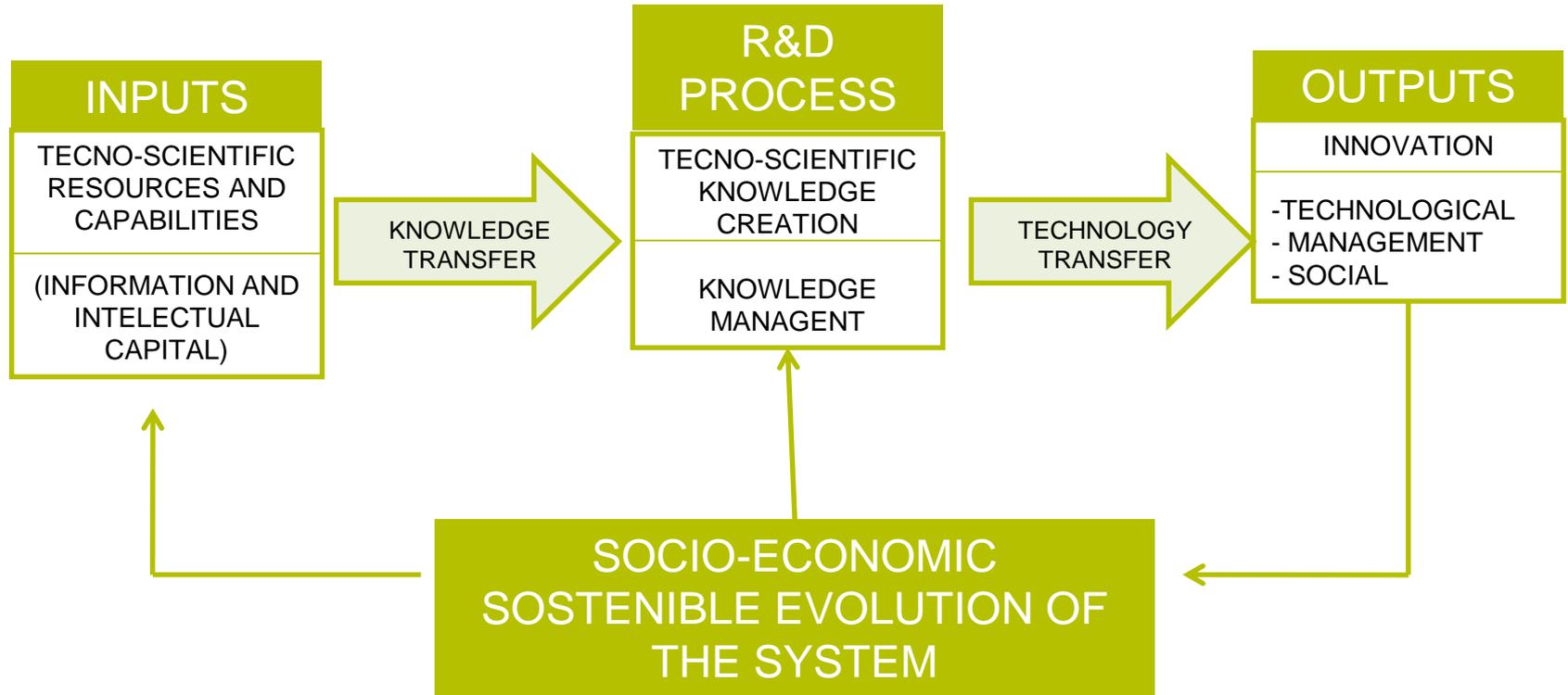
# Evolution of European Commission definition of innovation

<b>Dimensions</b>	<b>Narrow Approach</b>	<b>Broad Approach</b>
<b>Model of innovation</b>	Linear	Recursive
<b>Dominant form of innovation</b>	Radical	Incremental
	Technological	Non-technological
<b>Knowledge base</b>	Scientific, explicit and individual	Practical, tacit and collective
<b>Mode of innovation</b>	STI-mode	DUI-mode
<b>Sector</b>	Manufacturing	Not sector specific
<b>Policy implications</b>	Market failure approach	System approach

QuInne Project. Work paper 2. 2016

# Innovation Process

(Complexity, systems and knowledge theories approach)



Source: Bueno Campos, 2010

# What Knowledge?

## Explicit knowledge:

- Data, information
- Documents
- Records
- Files

5%

## Tacit knowledge:

- Experience
- Thinking
- Competence
- Commitment
- Deed

95%

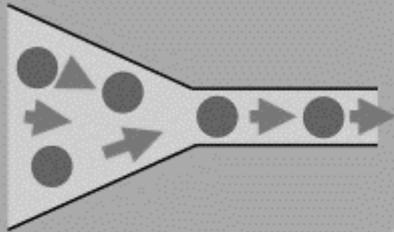
**Don't forget:** knowledge is the only productive factor with increasing marginal returns. (Romer, 1986)

# Evolution model

**OPPORTUNITY /  
NEED**

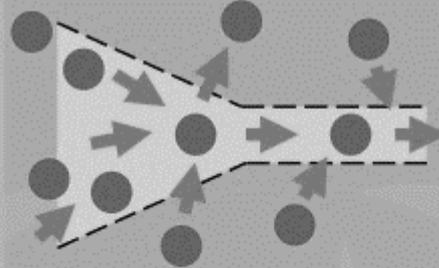
**CHALLENGE**

**MISSION**



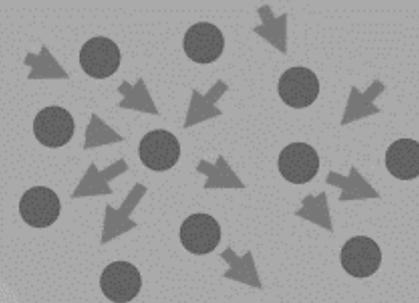
Centralized  
inward looking  
innovation

**Closed  
Innovation**



Externally focused  
collaborative  
innovation

**Open  
Innovation**



Ecosystem centric,  
cross-organizational  
innovation

**Innovation  
Networks  
Ecosystem**

# Importance of geographical proximity in innovation



Studies dedicated to innovation proved that **innovation and knowledge capital are highly concentrated in a minority of urban regions**. Essential elements of the innovation became regionalised (Doloreux and Parto 2005)

1. **Tacit knowledge** and experiences which are concentrated in a particular place have **low mobility**. Sharing them requires social networks. (Simmie 2003)
2. The **economy of agglomeration** forces contribute to knowledge infrastructure by concentrating universities, research centres and their facilities; easier access to rules, standards, regulations.
3. The shorter geographical distance, the less the **cost of exchanging** knowledge.

**BUT, proximity has different forms and dimensions** (cognitive, organizational, social, institutional, geographical) (Boschma 2005), and **ICT can contribute to reduce the importance of geographical proximity, but not to eliminate it.**



# Territorial innovation models

(Moulaert, 2003; Lorentzen, 2008)

2005

## Proximity dynamics

(Rallet, Torre, Gilly,  
Pecqueur, Bellet,  
Grosetti)

## Knowledge economy Learning regions

(Mansell, Machlup,  
Florida, Antonelli,  
Ferraro)

## National and regional systems of innovation

(Freeman, Lundvall,  
Cooke, Silva)

1995

## National and regional competitive advantages

(Porter, Dunning,  
Albuquerque)

## INNOVATION AND TERRITORIAL DEVELOPMENT

## Innovation milieu

## Innovation networks

(Aydalot, Maillat,  
Camagni, Storper,  
Crevoisier)

1985

## Industrial districts and local productive systems

(Becattini, Bellandi,  
Garofoli, Pyke, Sforzi,  
Ybarra)

## Innovation cycles and economic theory of innovation

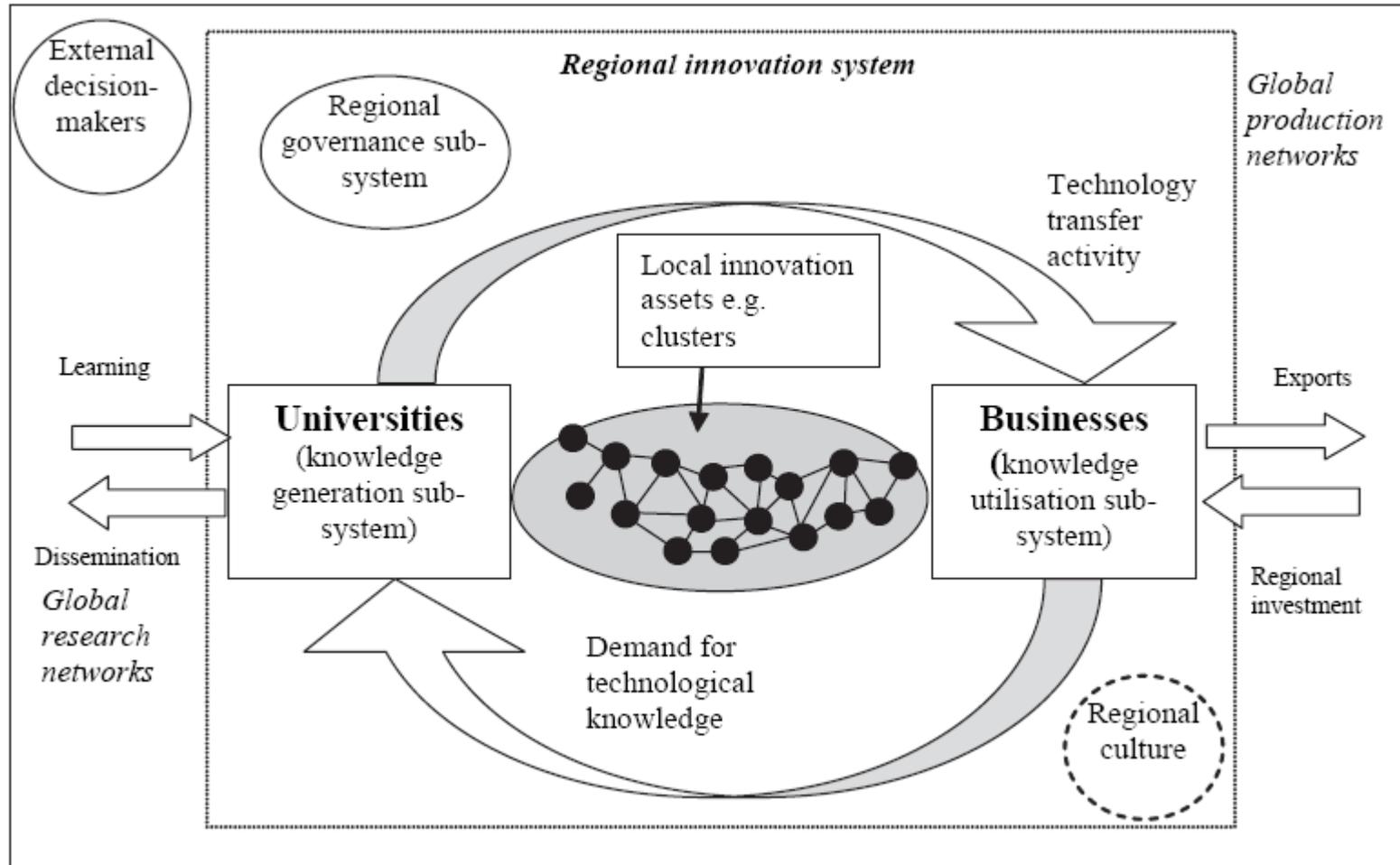
(Freeman, Soete, Dosi,  
Pavitt, Rosenberg,  
Pérez)

## Local and regional development

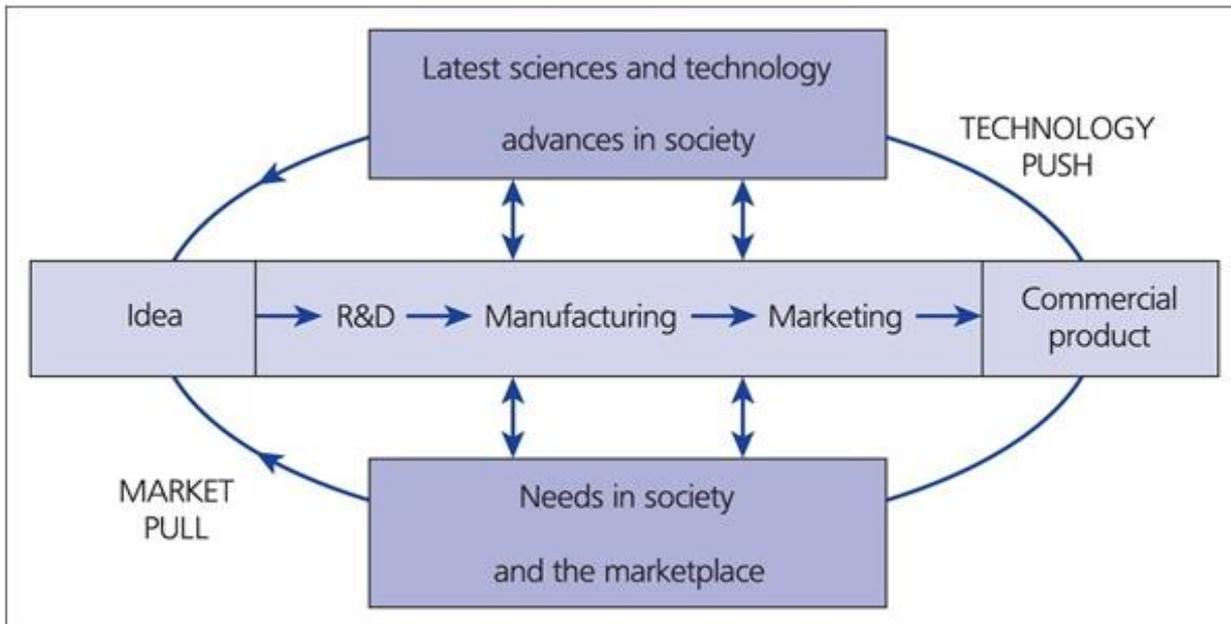
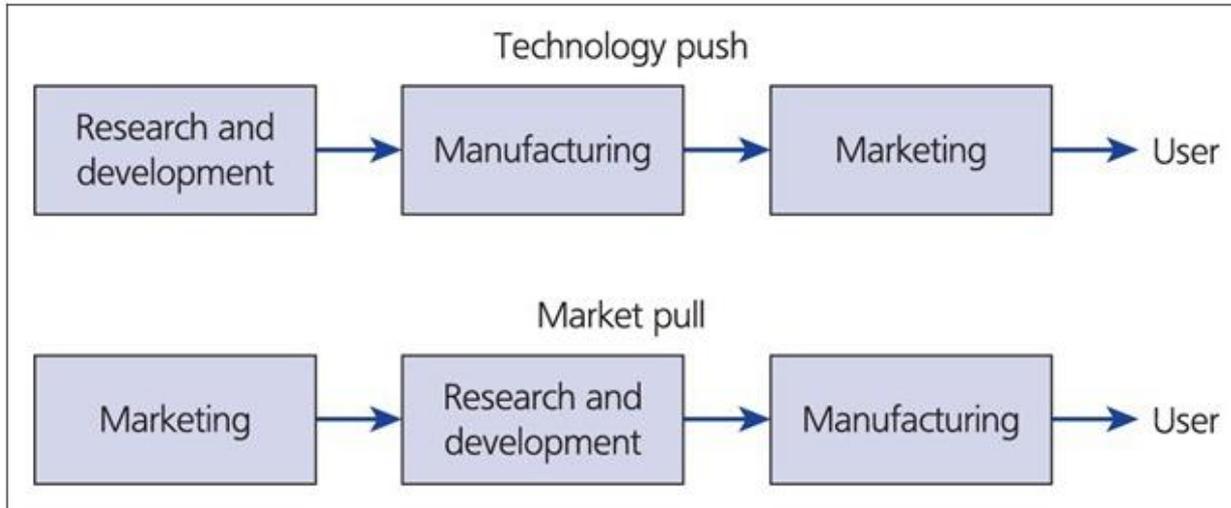
(Stöhr, Quévit, Max-  
Neef, Friedman, Boisier,  
Vázquez Barquero)

1975

# Regional Innovation System



# From linear to interactive model



## WHAT IS **SMART** AND WHAT IS **SPECIALISATION**?

- 
- 1. Place **evidence based**
  - 2. Not top down decision, but **bottom up** partnership approach
  - 3. **Global perspective** on potential advantage & potential for cooperation
  - 4. Source in **Knowledge, services, technologies, talent and investors**

- 
- 1. **Priority setting** in times of scarce resources
  - 2. **Excellence** in something specific
  - 3. Accumulation of **critical mass**
  - 4. Not necessarily focus on a single sector but **cross sectorial approach**

- a) **Best way to exploit territorial potential through innovation**
- b) **Foster interregional comparative advantage**

# 4 Cs of Smart Specialization

**Choices and Critical mass:** limited number of priorities on the basis of own strengths and international specialisation – avoid duplication and fragmentation in the European Research Area – concentrate funding sources ensuring more effective budgetary management.

**Competitive Advantage:** mobilise talent by matching RTD+I capacities and business needs through an entrepreneurial discovery process.

**Connectivity and Clusters:** develop world class clusters and provide arenas for related variety/cross-sector links internally in the region and externally, which drive specialized technological diversification – match what you have with what the rest of the world has.

**Collaborative Leadership:** efficient innovation systems as a collective endeavour based on public-private partnership (quadruple helix)

## Excellent Science (24.4 B €)

European Research Council  
(13.1 B €)

Future and Emerging Technologies  
( 2.7 B €)

Marie Skłodowska-Curie Actions  
( 6.1 B €)

Research Infrastructures  
( 2.5 B €)

## Industrial Leadership (17 B €)

LEIT = Leadership in enabling and industrial technologies

- ICT
- Nano, new materials
- Biotechnology
- Space

( 13.5 B €)

Access to Risk Finance  
( 2.9 B €)

Innovation in SMEs  
( 0.6 B €)

## Societal Challenges (29.7 B €)

Health  
(7.5 B €)

Food  
(3.9 B €)

Energy  
(6 B €)

Transport  
(6.3 B €)

Climate  
(3 B €)

Inclusive Societies  
(1.3 B €)

Security  
(1.7 B €)

Spreading Excellence (0.8 B €)

Science for Society (0.5 B €)

EIT (2.7 B €)

JRC (1.9 B €)

Euratom (1.6 B €)



## MISSIONS

# Mission-Oriented Research & Innovation in the European Union

A problem-solving approach to fuel innovation-led growth

by Mariana MAZZUCATO



Political Agenda Setting and Civic Engagement



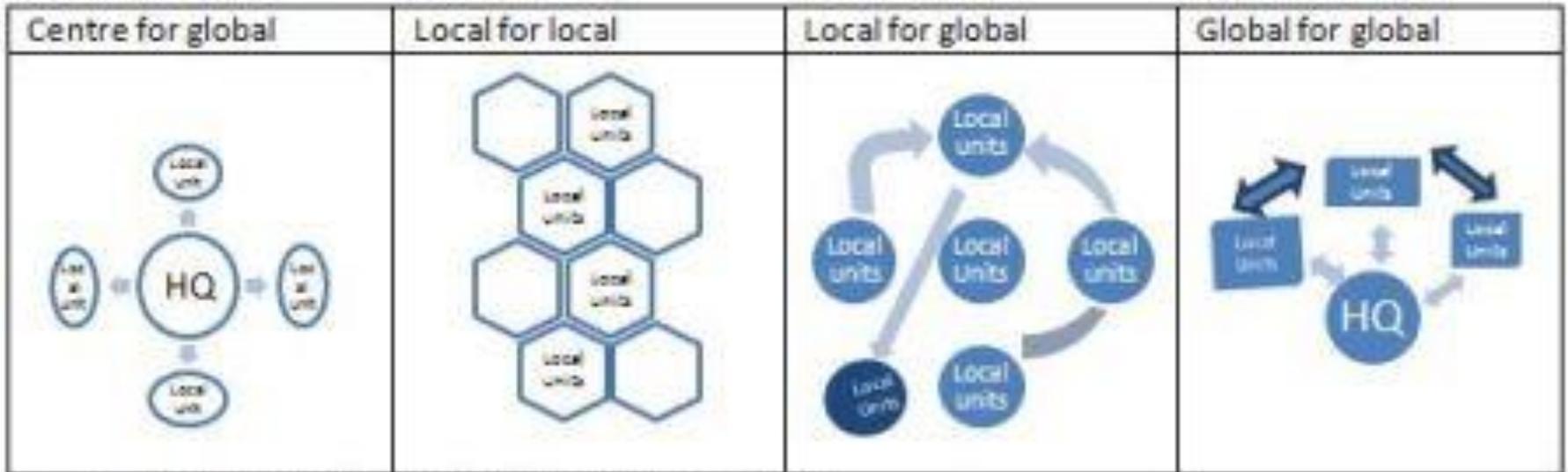
Clear Targeted Missions



Portfolio of projects and bottom-up experimentation

## Mazzucato Report

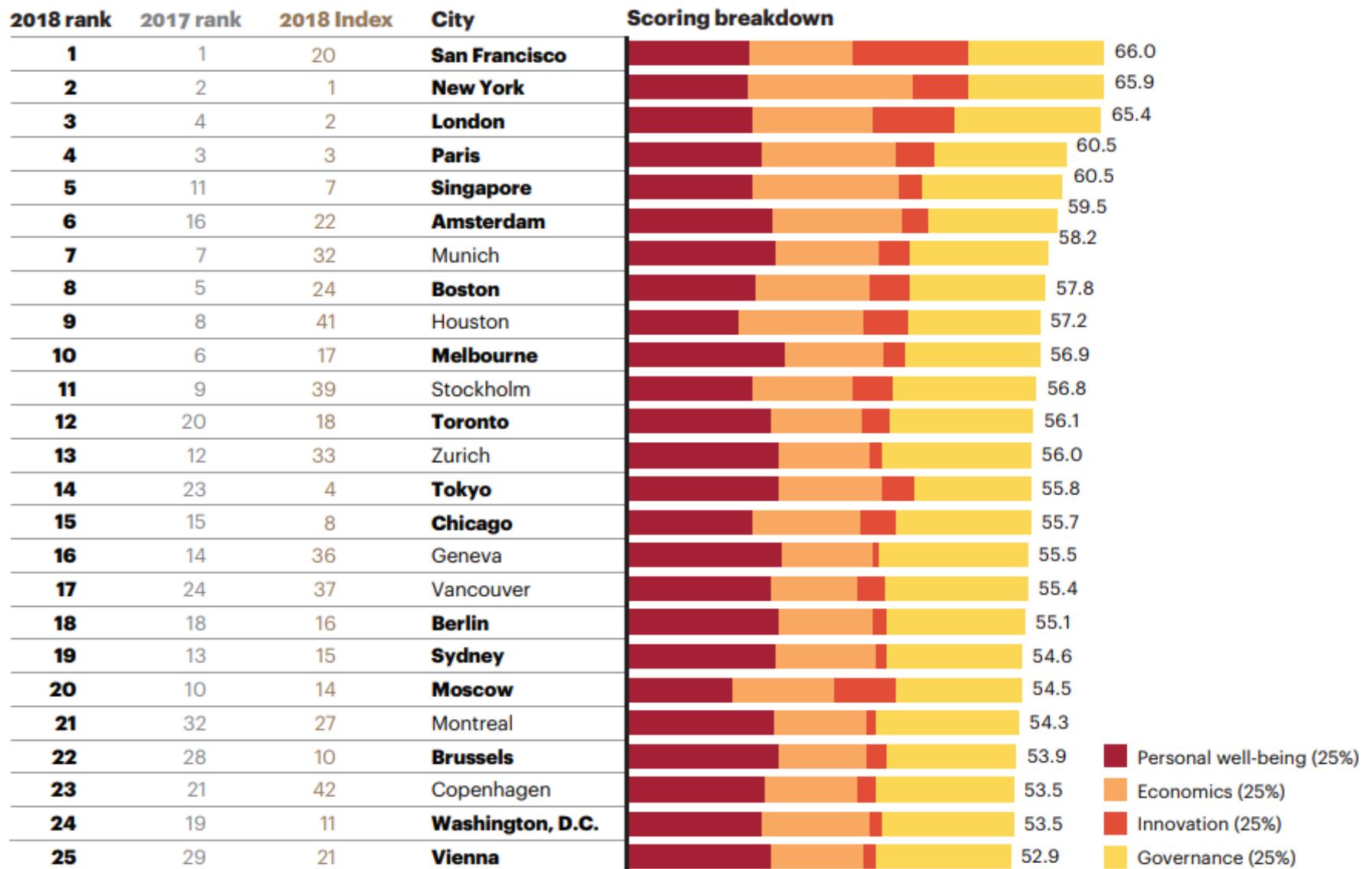
# Global – Local Interactions

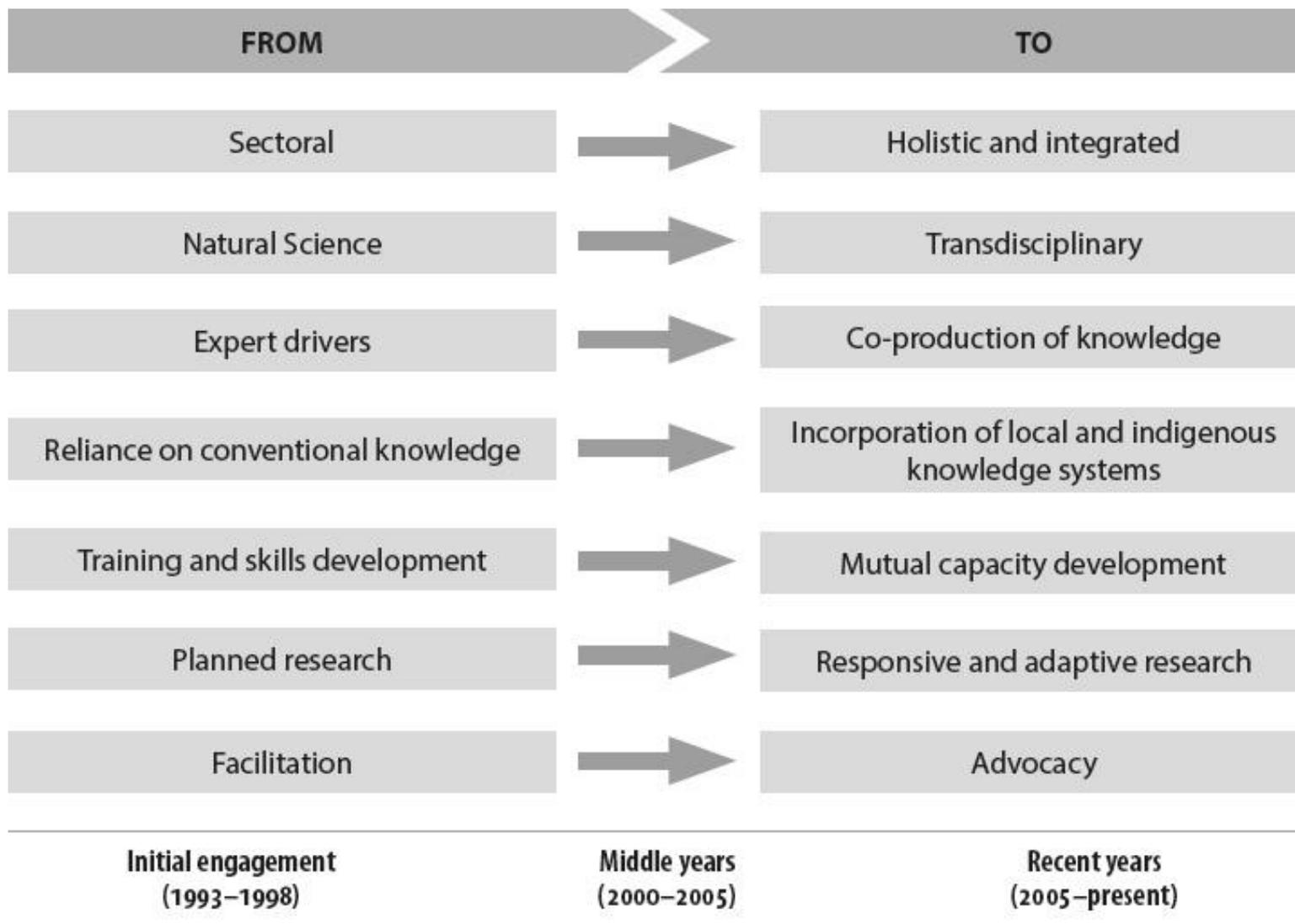


Sowman, 2009

# Global Cities: creation and diffusion of Innovation centers. (A T Karney.)

## Global Cities Outlook, rank and score





Sowman, 2009



THANKS

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