

Knowledge Cities on Smart Cities: 22@Barcelona Case

Josep M. Piqué

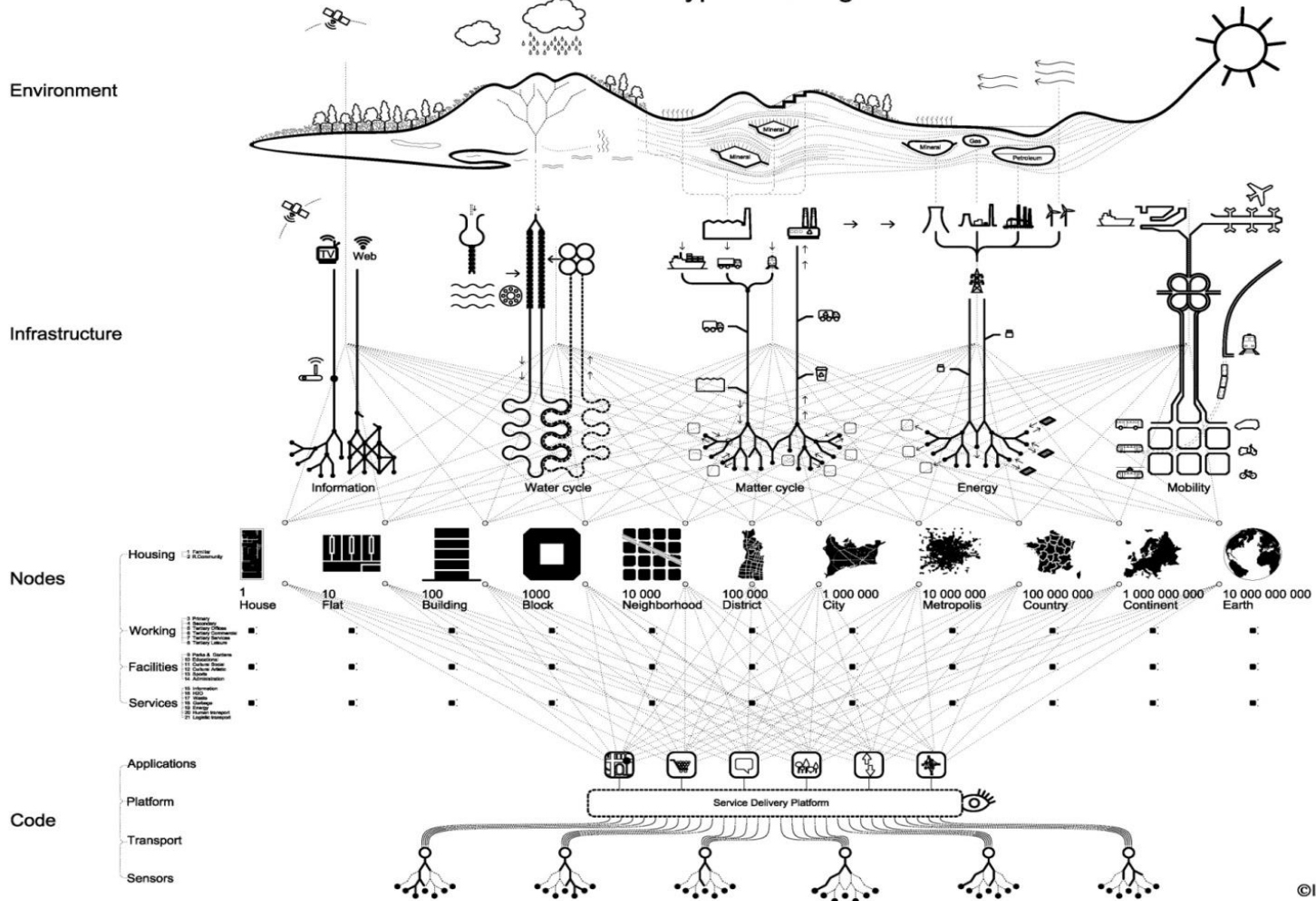
Agenda

- 1 Framework**
- 2 22@Barcelona: Where**
- 3 22@Barcelona: Knowledge City**
- 4 22@Barcelona: Smart City**
- 5 22@Barcelona: Knowledge Economy**
- 6 22@Barcelona: Knowledge Society**
- 7 Q&A**

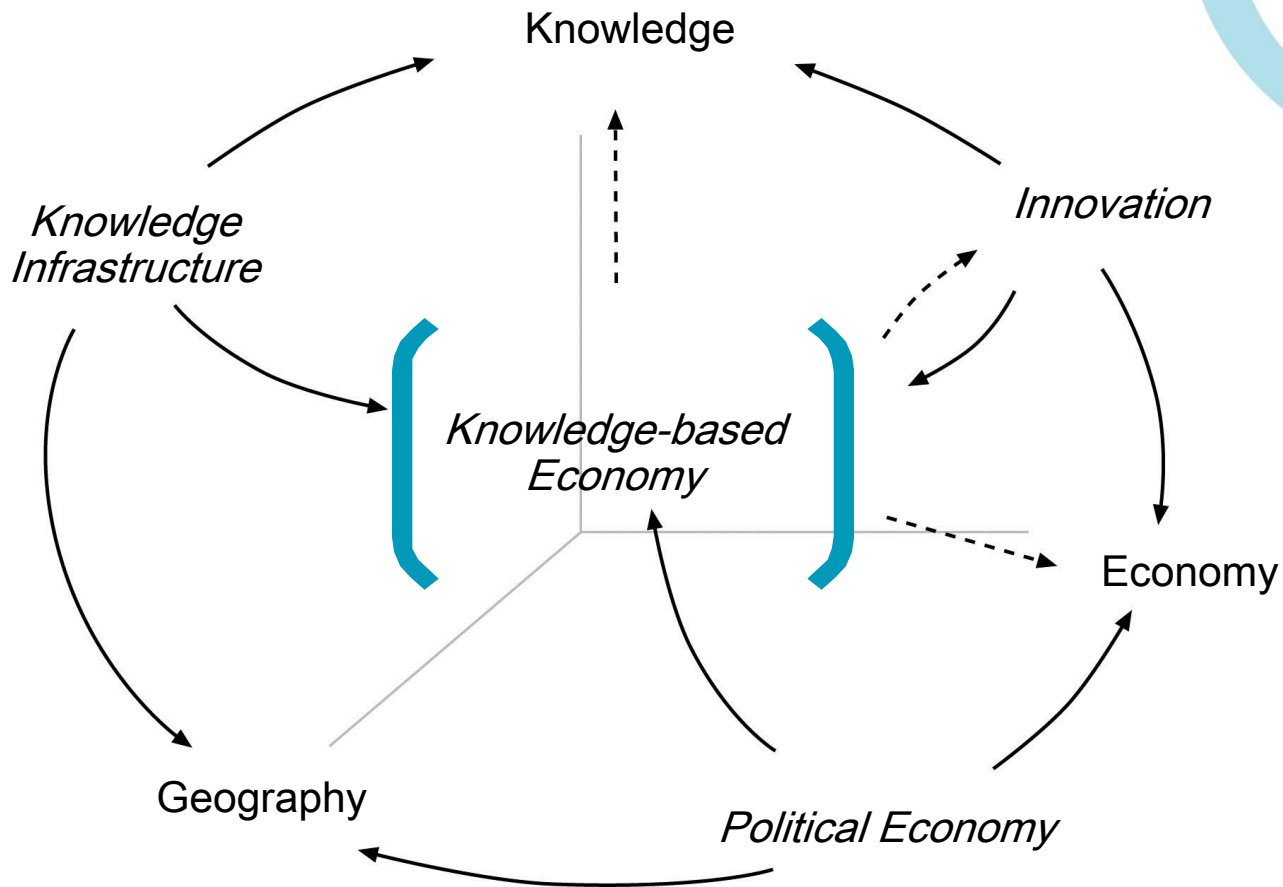
1 Framework

Atlas of City Habitat

cityprotocol.org

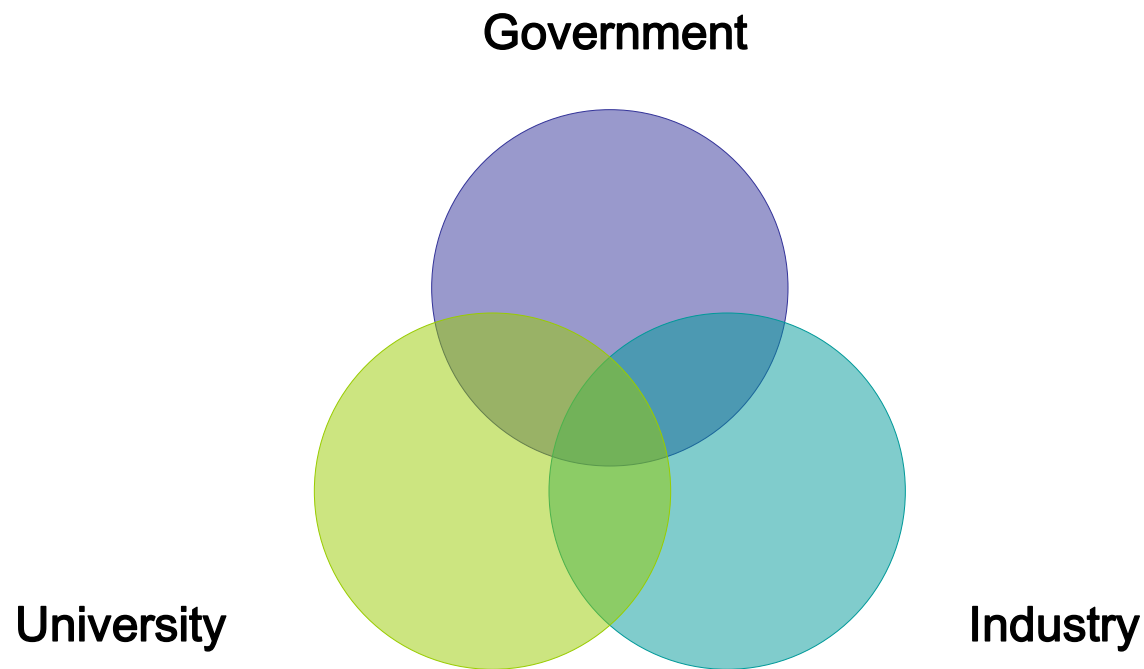


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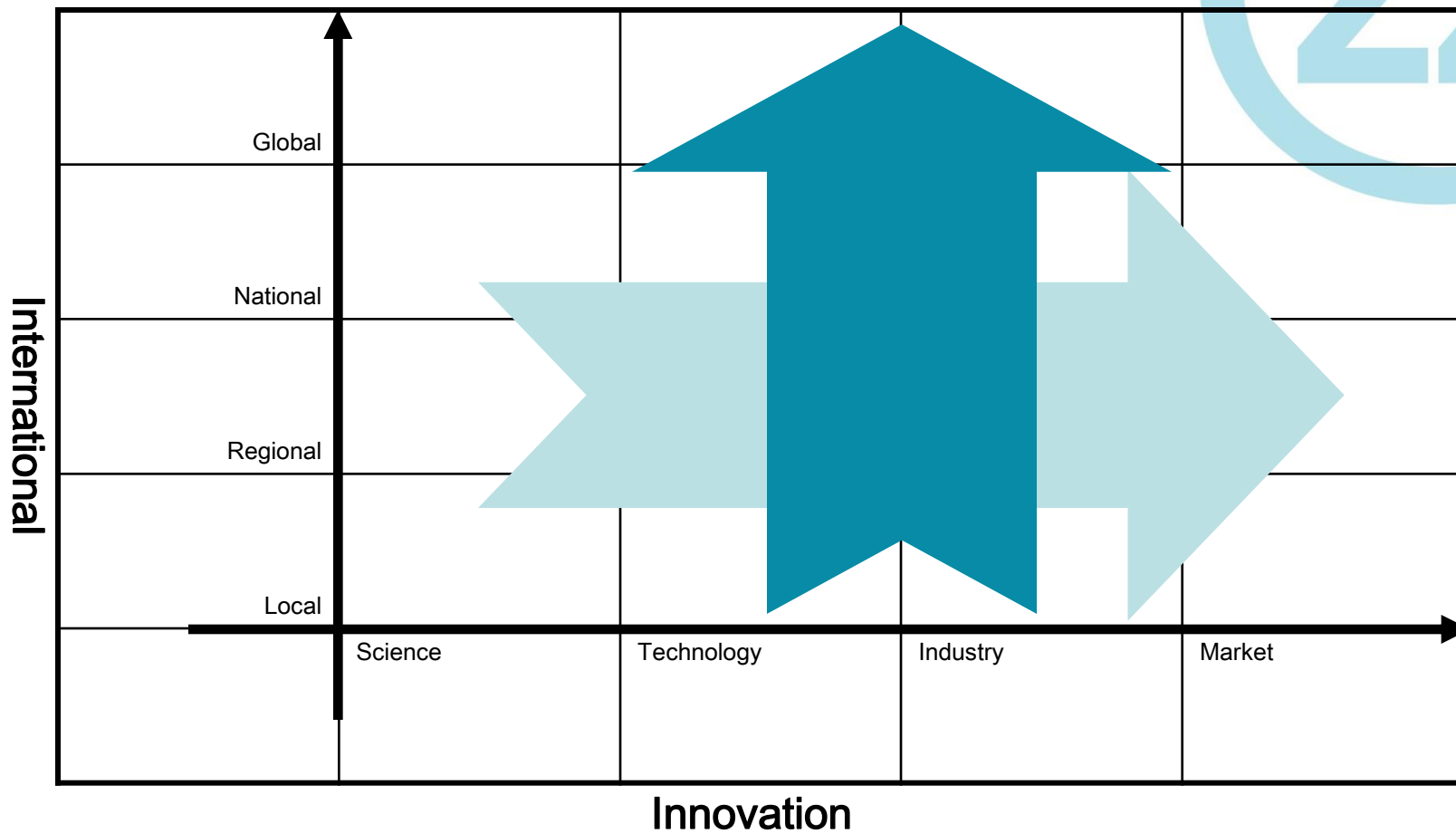
Source: Loet Leydesdorff & Martin Meyer. 2003.

TRIPLE HELIX. Local & Global Innovation System



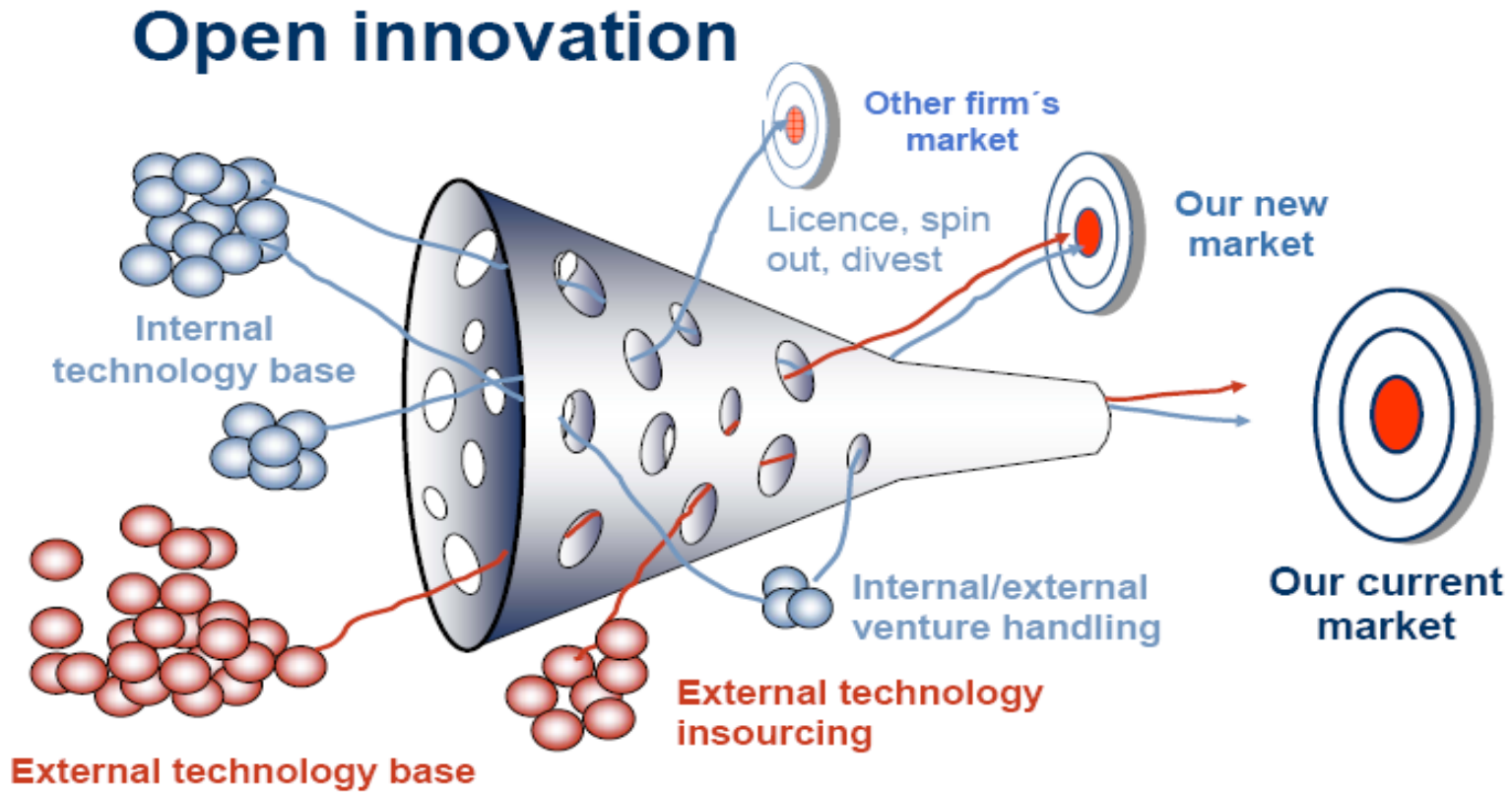
Source: Henry Etzkowitz & Loet Leydesdorff, 2000.

|+|



Source: Francesc Solé Parellada, Josep Piqué & Joan Bellavista. 2007.

Open Innovation



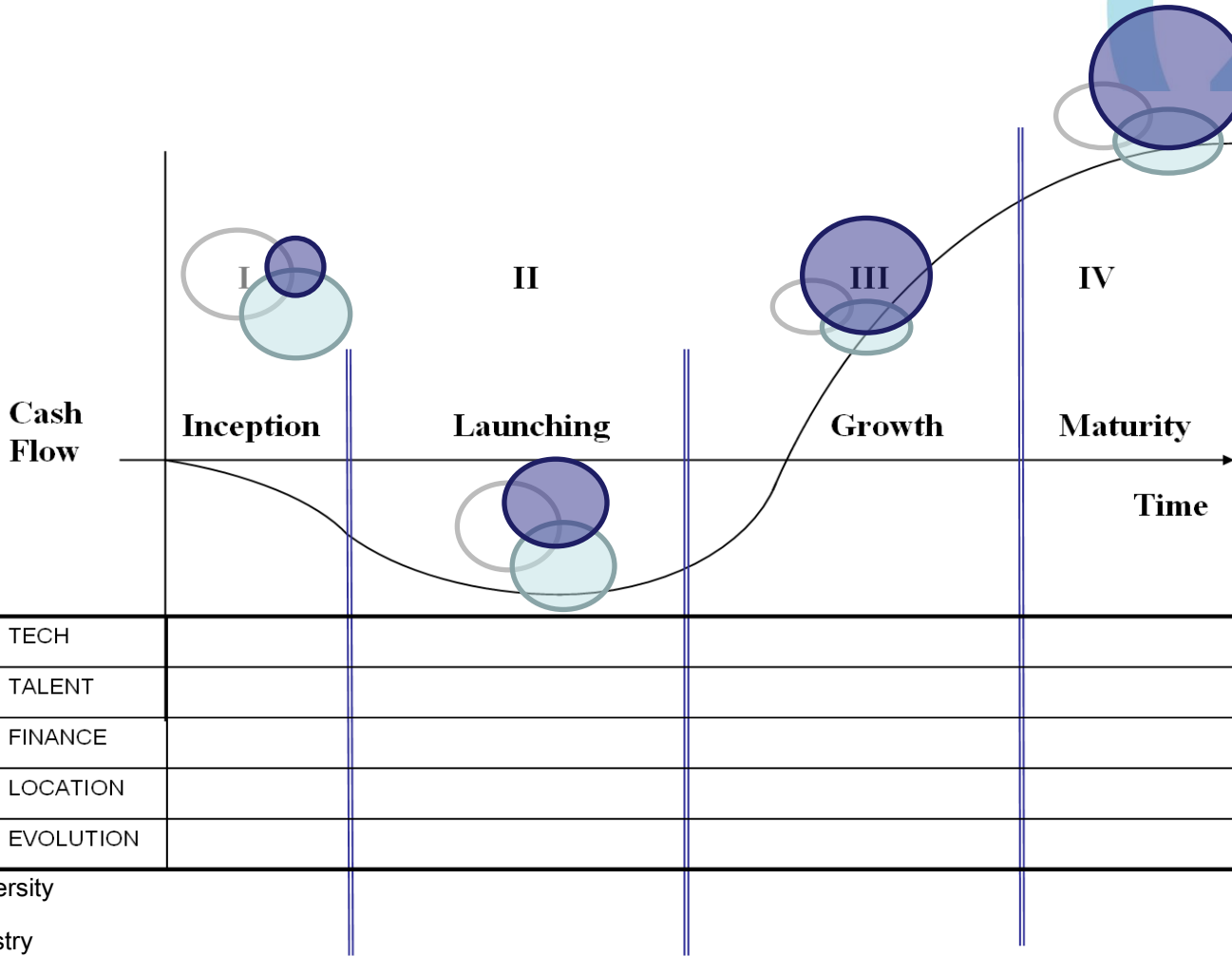
Stolen with pride from Prof Henry Chesbrough UC Berkeley, *Open Innovation: Renewing Growth from Industrial R&D*, 10th Annual Innovation Convergence, Minneapolis Sept 27, 2004

14 © 2002 Henry Chesbrough EIRMA SIG III, 2005-10-20



Source: Henry Etzkowitz & Loet Leydesdorff, 2000.

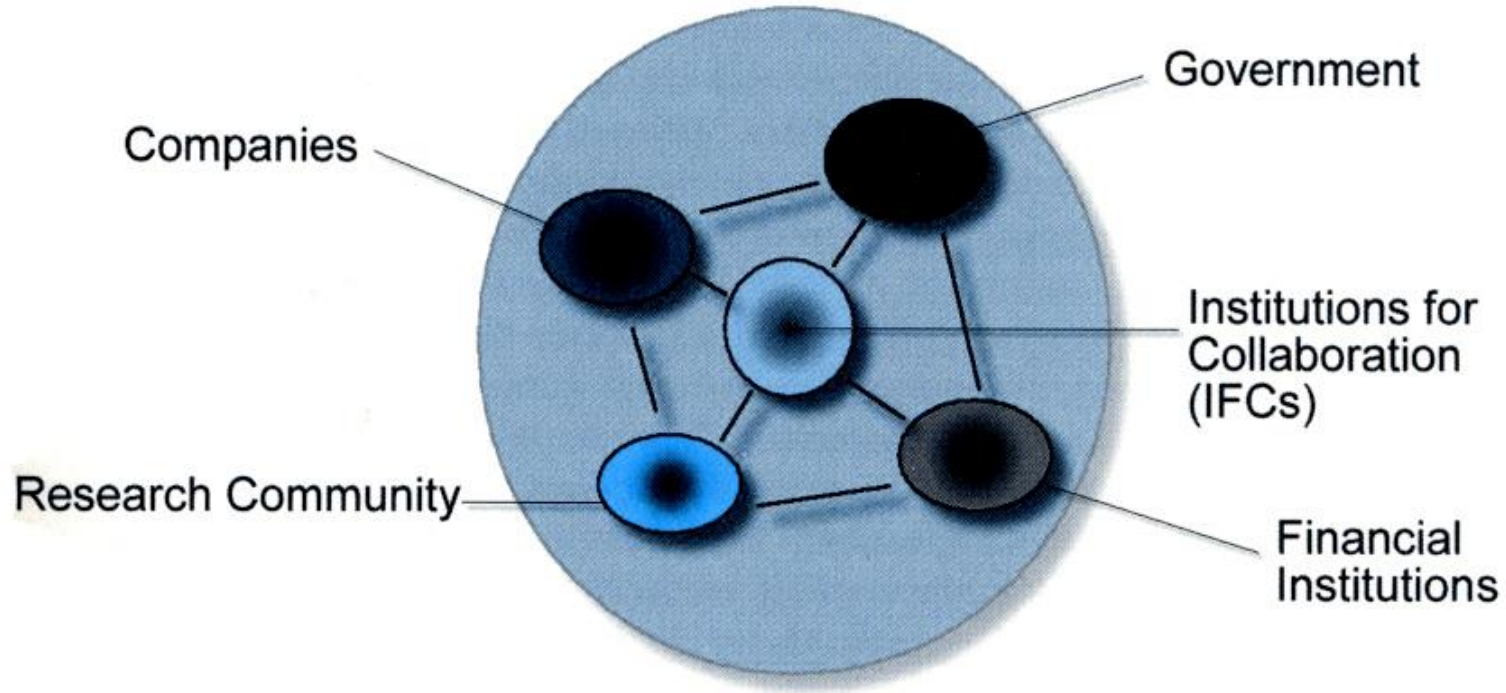
The Path to Grow



Source: Henry Etzkowitz, Francesc Solé Parellada & Josep Piqué. 2007.

Cluster Model

Categories of cluster actors



Source: Adapted from Sölvell et al. (2003)

The Ecology of Innovation



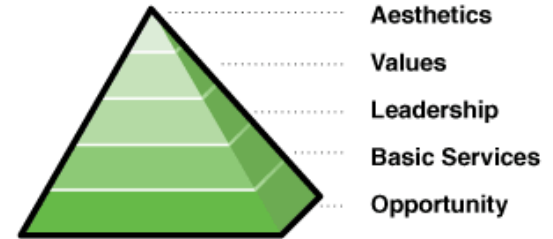
Source: The Ecology of Innovation, Tapan Munroe, 2008

Talent: Who is your city?



MAP BY TIM GULDEN AND RYAN MORRIS

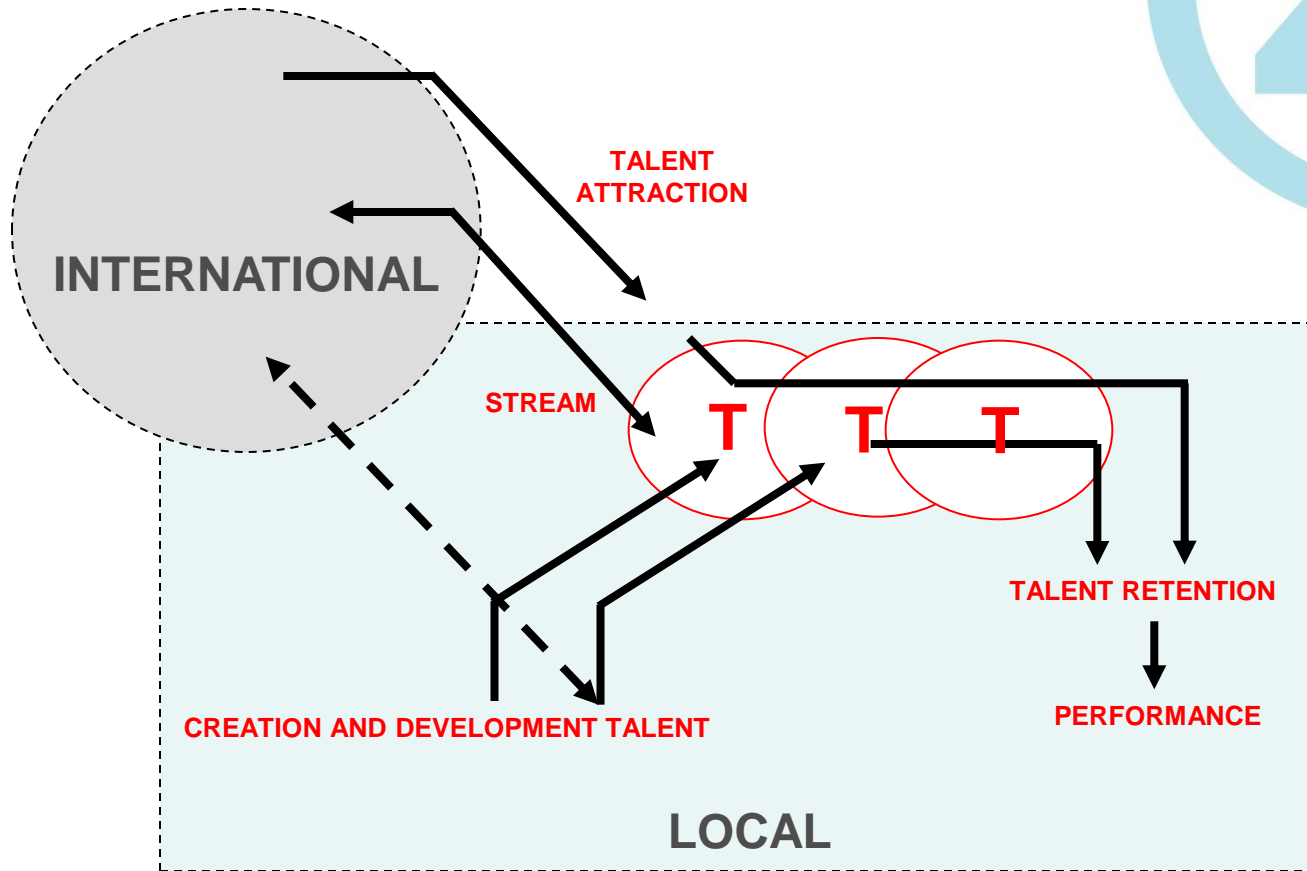
www.WhosYourCity.com



www.WhosYourCity.com

Source: Richard Florida, 2008

T-Economy



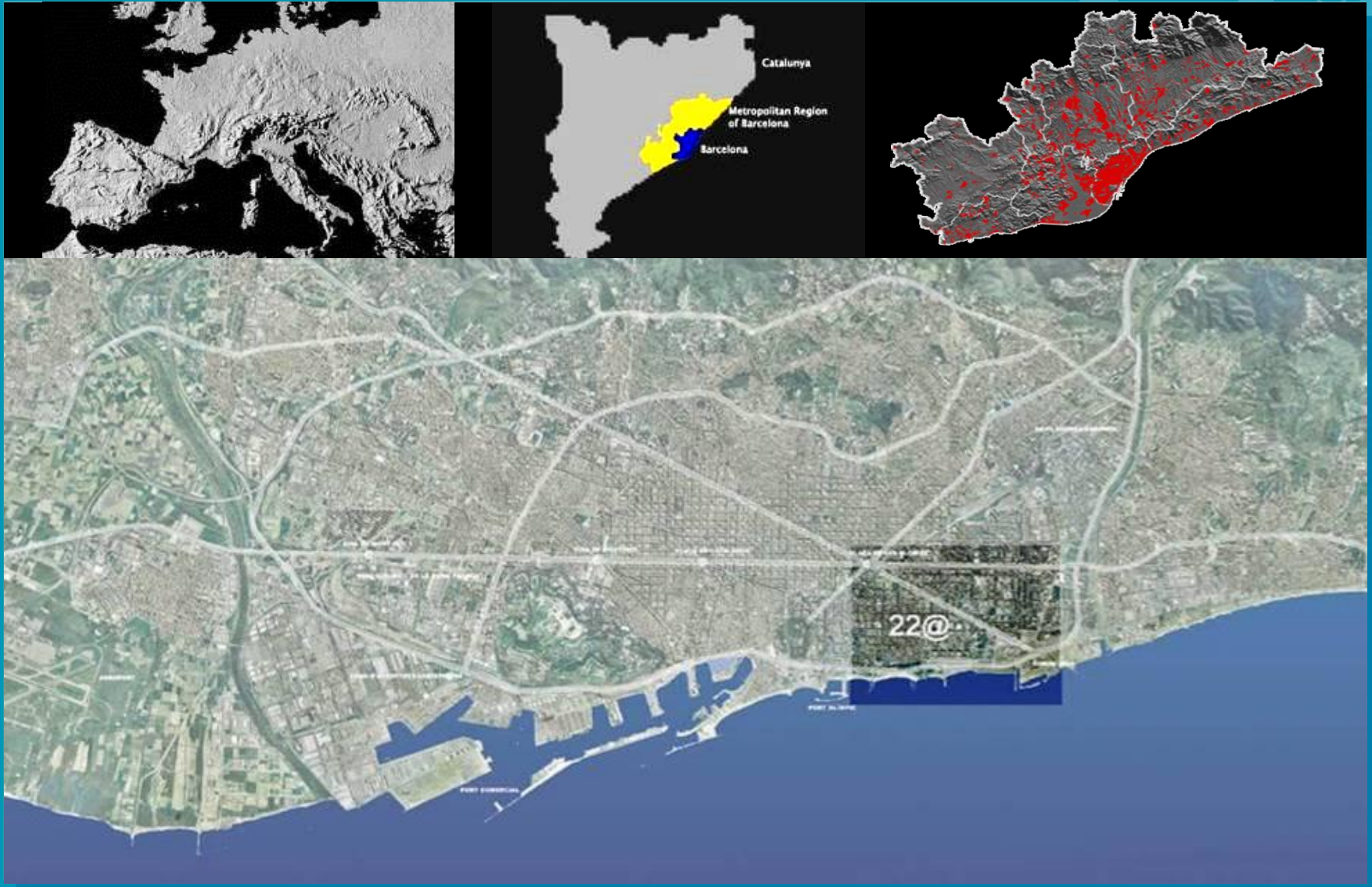
Source: Xavier Marcet and Roser Salvat, 2009

2 22@Barcelona: Where

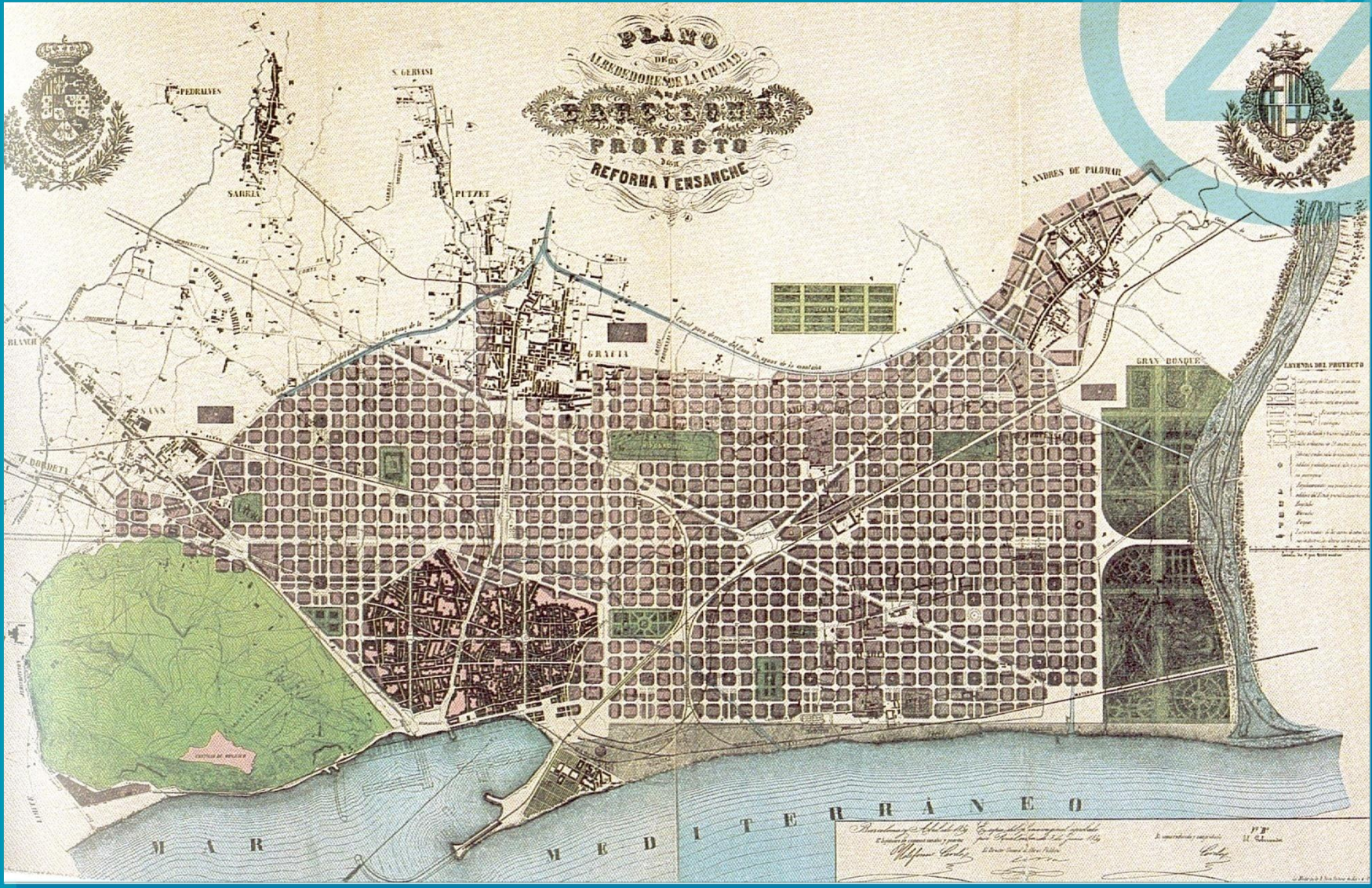
Among the main European capitals



Barcelona's Metropolitan Area



22@Barcelona, included in the Ensanche's plan (1859)



1860 - 1960: the "Catalan Manchester"



1960 - 1990: obsolescence and degradation



The Barcelona's eastern transformation





3 22@Barcelona: Knowledge City on Smart City

Knowledge City on Smart City

A new model of making city
The City as a Platform of the Knowledge Economy and Society



Conceptual model



Phase 3

Phase 2

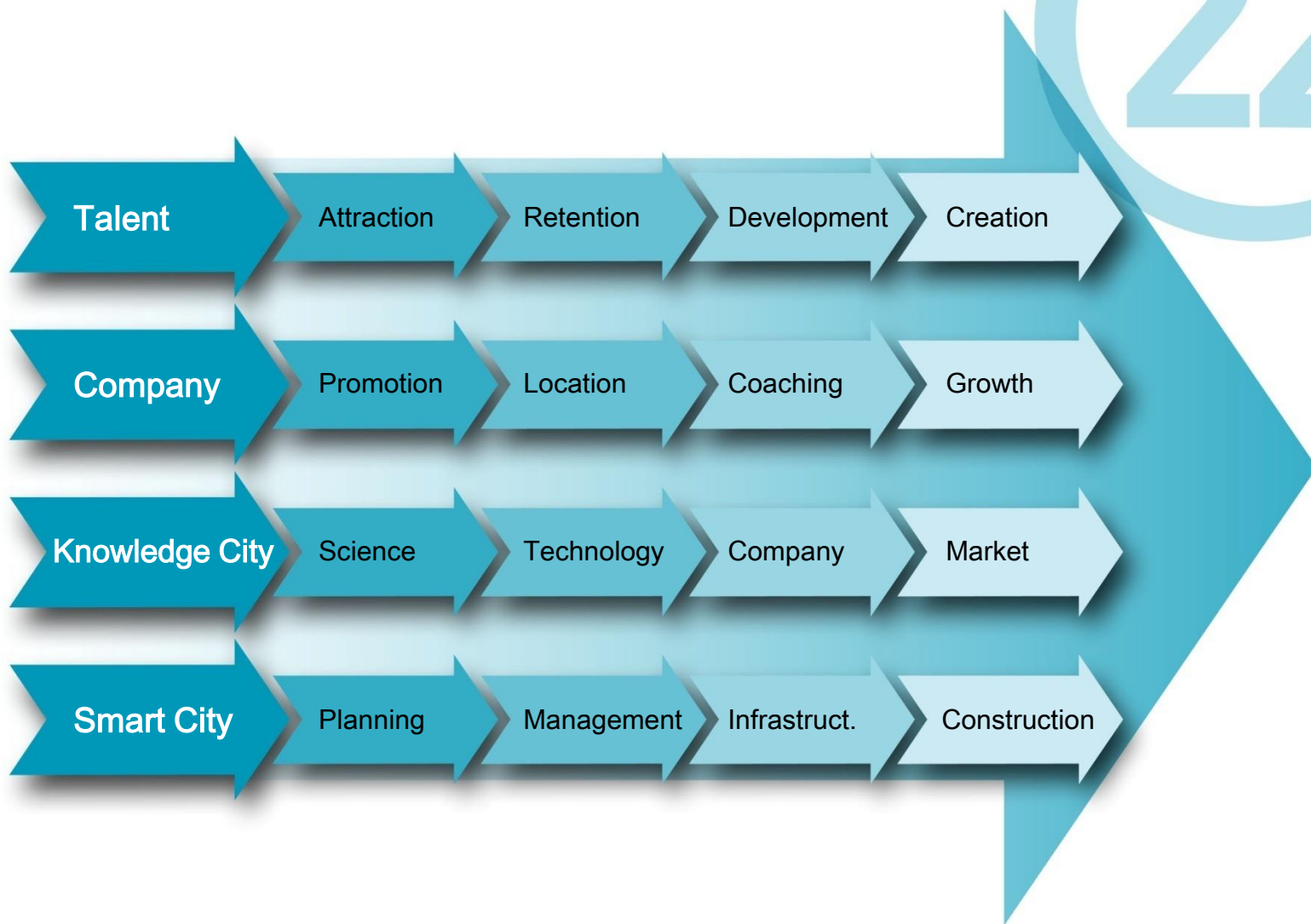
Phase 1

Smart City
Town Planning
Building
Infrastructure

Knowledge Economy
Companies

Knowledge Society
Citizens

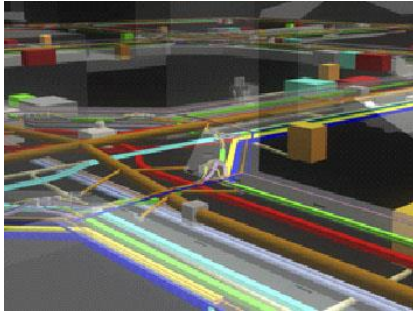
Value chain



The 22@ Plan, a Model of Knowledge City on Smart City



@ ECONOMICS



**GREEN
INFRASTRUCTURES**



HOUSING



INCLUSIVE



SCIENCE AND TECH



MOBILITY



QUALITY OF LIFE



IDENTITY

4 22@ Barcelona: Smart City

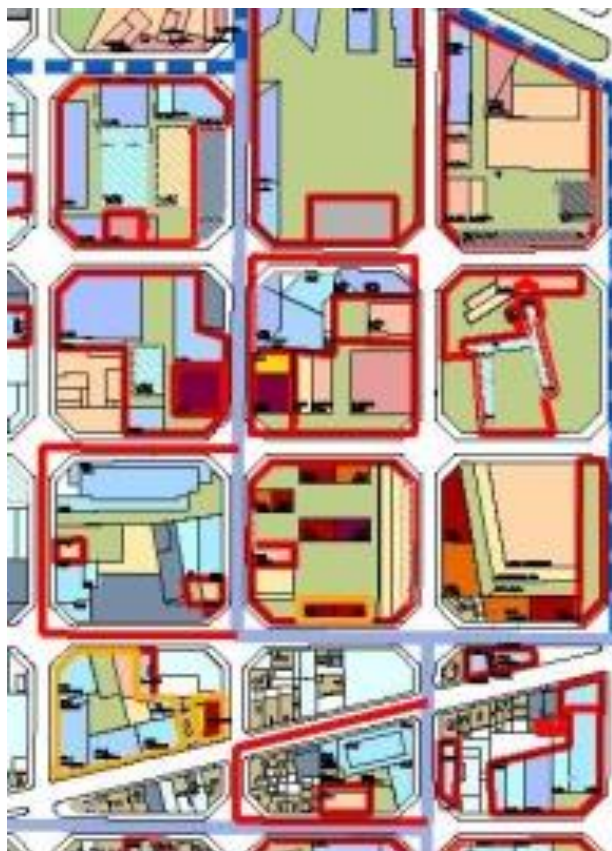
The scale of 22@Barcelona



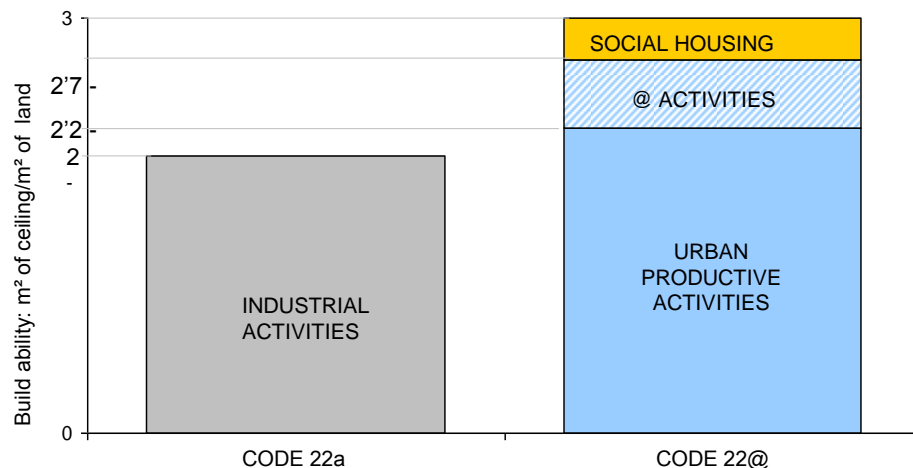
The scale of the project:

Territory	198,26 Ha (115 city blocks)
New gross floor space	4.000.000 m ²
<ul style="list-style-type: none">• Productive Activities• Housing, facilities and services	<ul style="list-style-type: none">3.200.000m²800.000 m²
Increase in green spaces	114.000 m ²
Increase in facilities	145.000 m ²
Investment in infrastructures	200 million €

Urban planning. Density



Increase density:



Balance public and private benefits:

PRIVATE BENEFITS

- More productive uses:
22a → 22@
- Higher density:
2 → 2,2 / 2,7
- Leadind edge infrastructures

PUBLIC BENEFITS

- Free cession of land:
10% for 7@ facilities
10% for subsidized housing
10% for green areas
- Eventual opening of streets
- Financing a part of the Special Infrastructure Plan

Special Infrastructures Plan: The Backbone of the Smart City



New mobility plan



Wi-fi and optic fiber



New energy networks



Selective pneumatic waste collection



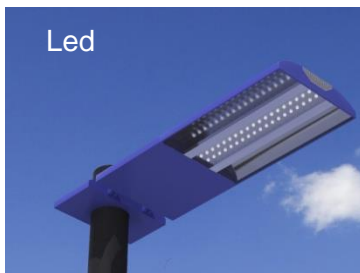
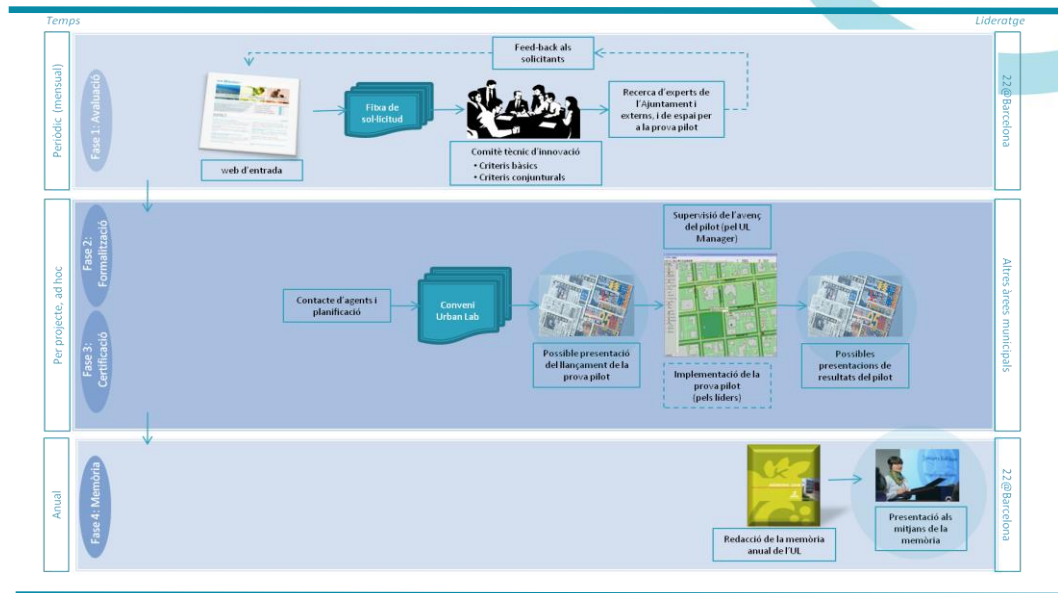
New heating and cooling system



Underground galleries



22@UrbanLab



Open Innovation in Cities

Government

The City as a Platform
The City as Organization
Public Procurement

Triple Helix

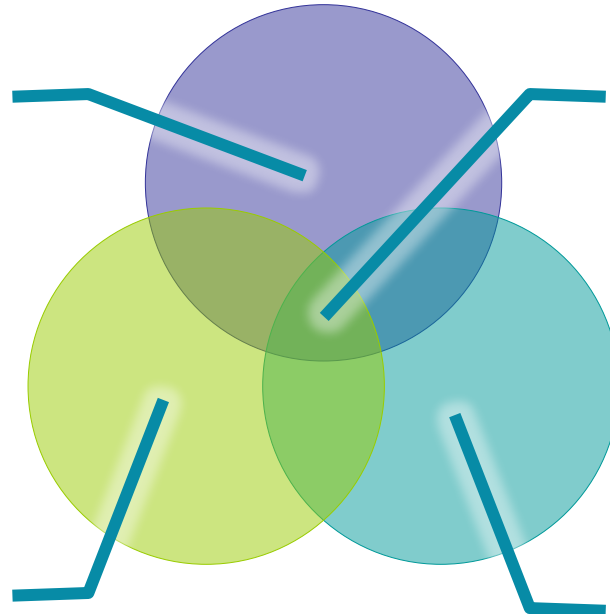
City Challenges
Citizens needs
Ecology of Innovation

University

Driven Research
Tech Transfer
Urban Lab

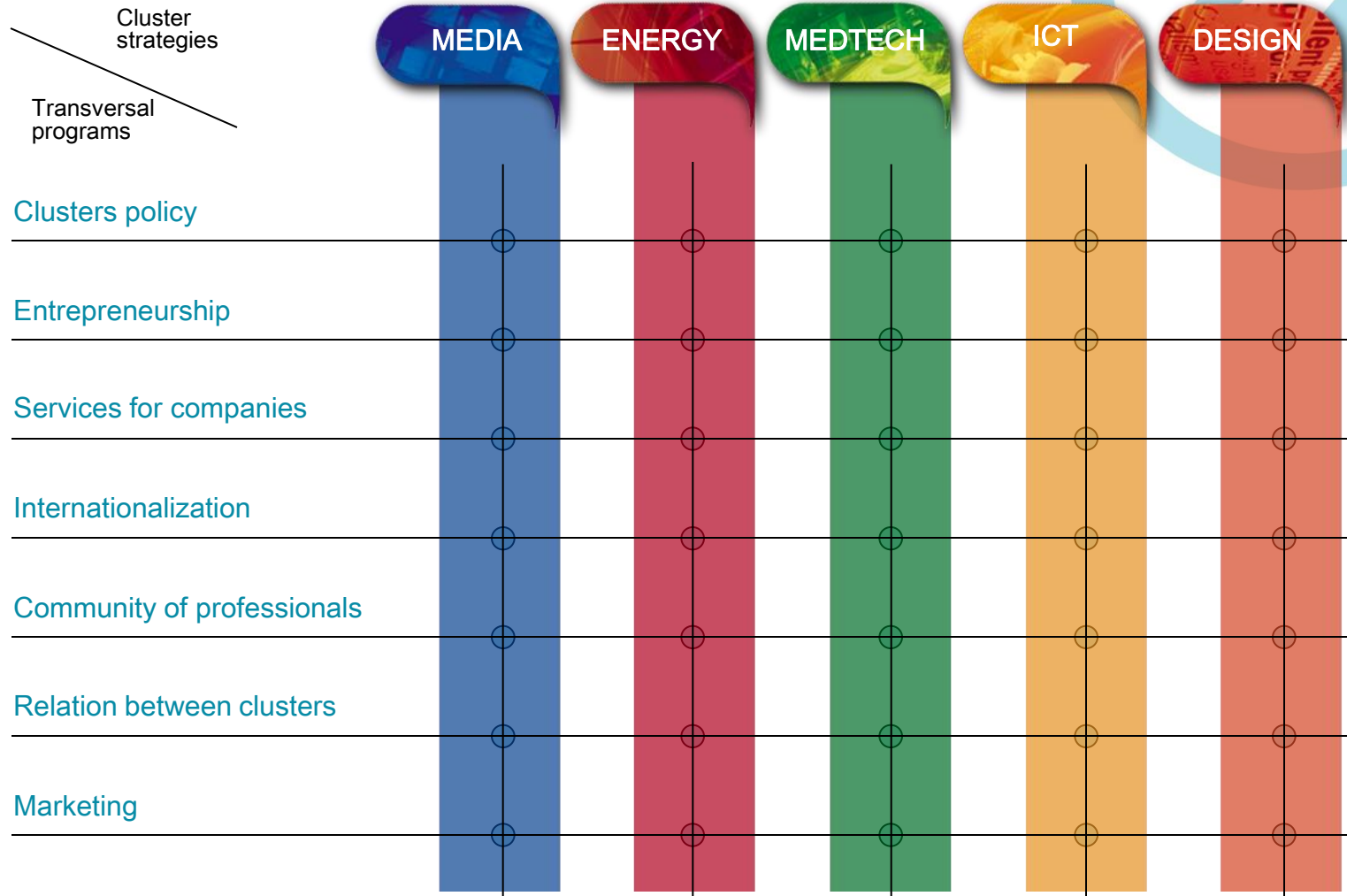
Industry

Golden References
Customer Insights
Scalability



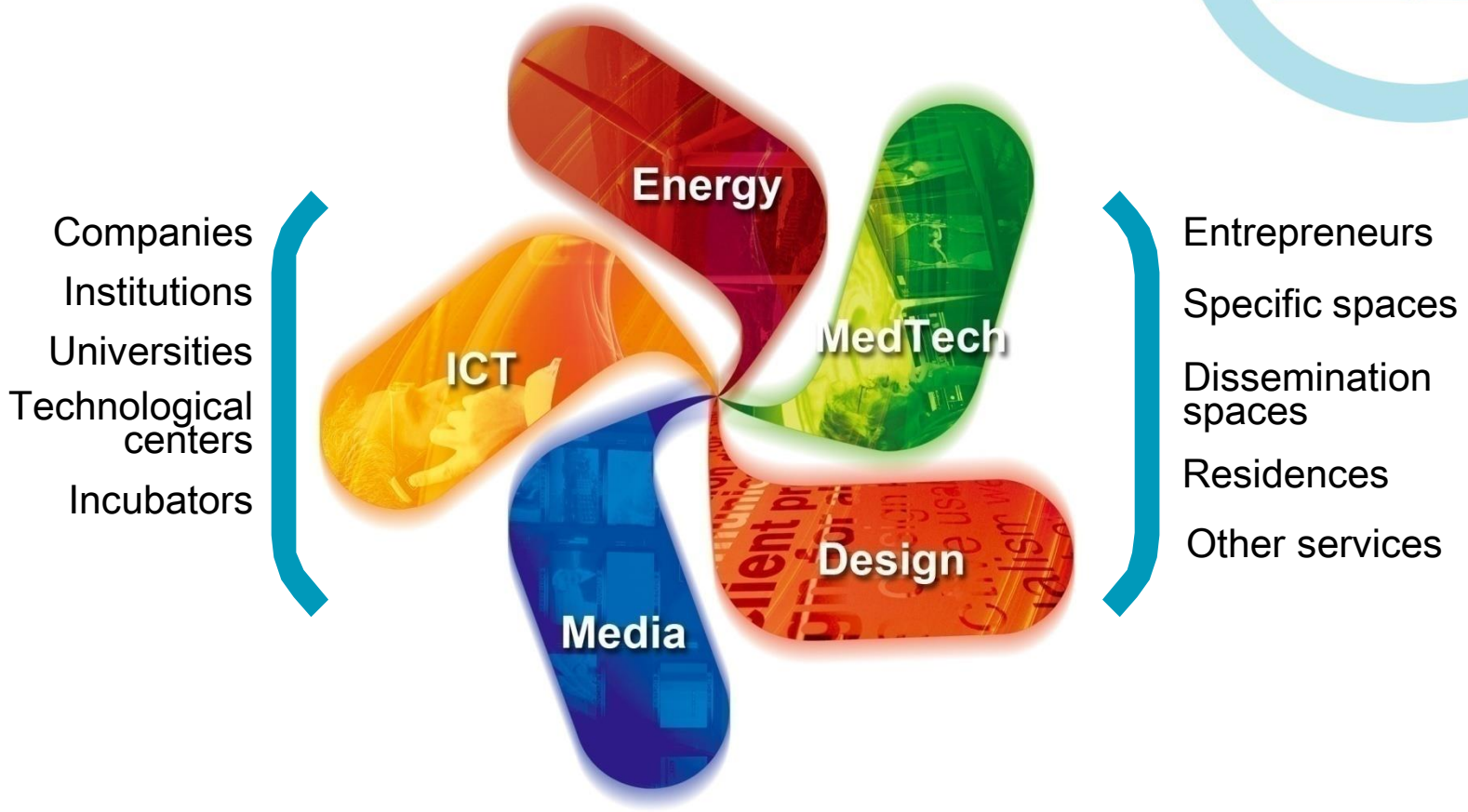
5 22@ Barcelona: Knowledge Economy

Urban clusters

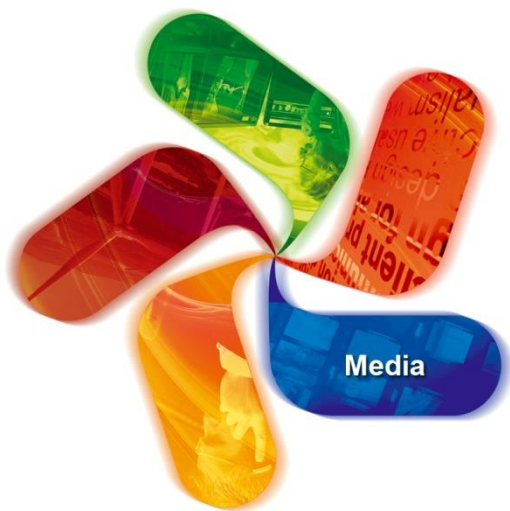


Leadership of projects: current situation and forecast

22@Barcelona: Clusters & activities



Media Cluster



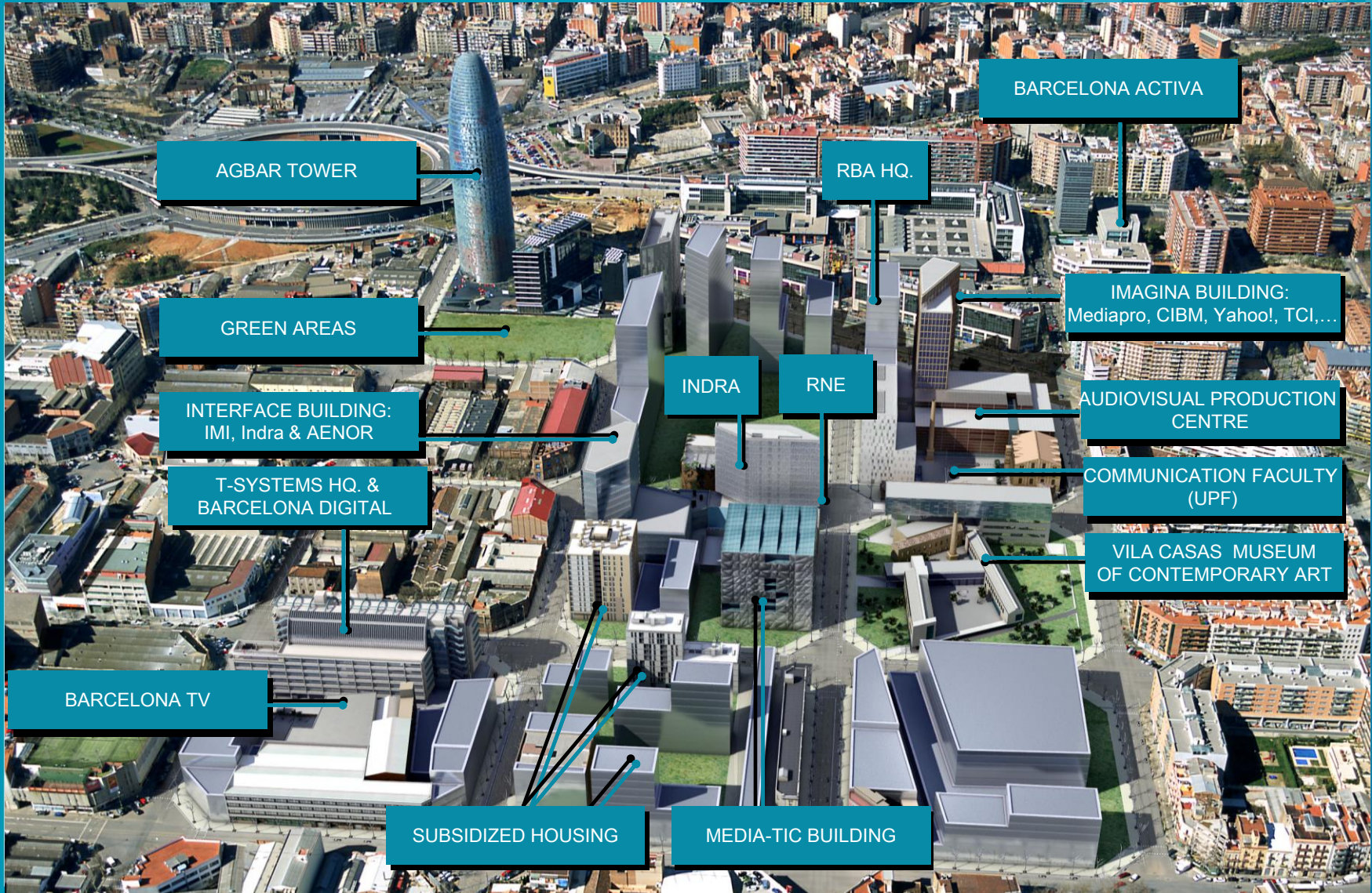
<u>Companies</u>	<u>MediaPro, Lavinia, Cromosoma...</u>
<u>Institutions</u>	<u>RNE, CAC, Barcelona TV...</u>
<u>Specifics spaces</u>	<u>Audiovisual Production Centre (PBM)</u>
<u>Universities</u>	<u>UPF, UB, UOC</u>
<u>Technological centers</u>	<u>Barcelona Media-Innovation Centre</u>
<u>Incubators</u>	<u>Barcelona Activa - Almogavers</u>
<u>Residences</u>	<u>Melon District / Ciutadella</u>
<u>Dissemination</u>	<u>Media Factory</u>

ICT Cluster

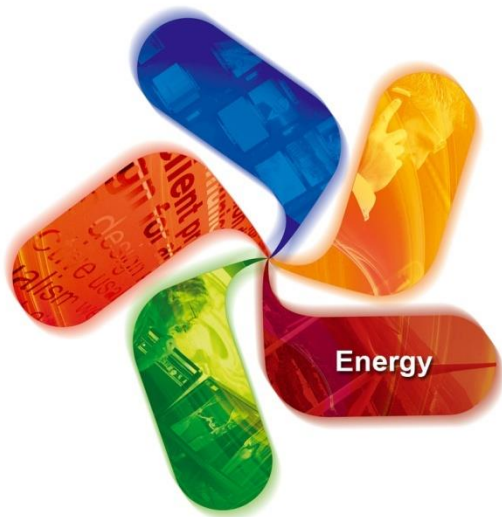


Companies	T-Systems, Indra, Telefónica
Institutions	CMT, Localret, AENOR
Specifics spaces	Interface building, Media-TIC building
Universities	UB, UPC
Technological centers	BDigital Tech Centre
Incubators	Barcelona Activa - Glòrias
Residences	Melon District
Dissemination	Cibernarium

Media & ICT Campus



Clean Energy Cluster: Interuniversity Campus of Besòs



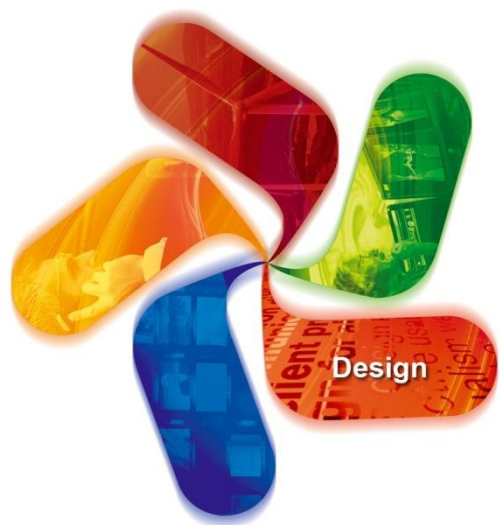
Companies	Endesa, Ecotècnia, Agbar
Institutions	ITER, BCN Chamber of Commerce
Specifics spaces	Campus Offices
Universities	UB, UPC
Technological centers	IREC
Incubators	b_TEC Incubator
Residences	b_TEC Residence
Dissemination	Campus services

Health Cluster



Companies	Matachana, Gaes, Sanofi Aventis, Isdin, Telemedicine
Institutions	CatSalut, Blood Bank, BIOCAT
Specifics spaces	Health Building, BIO Enterprise Park
Universities	UB, UPC, Official Nursing College
Technological centers	22@MedTech
Incubators	Health Building
Residences	Nido
Dissemination	Health Building

Design Cluster



Companies	G-Star Raw, ADD, Node, Estudi Arola, Morera Design, Bassat Ogilvy
Institutions	BCD
Specifics spaces	Palo Alto, PBM, Hub Design
Universities	BAU-UVic, UPC, IAAC
Technological centers	KIM BCN
Incubators	Hub Design
Residences	Melon District / Ciutadella
Dissemination	Hub Design

New companies and new jobs at 22@Barcelona

New companies located in the district since 2000

Companies already located or in process to be installed

1.502

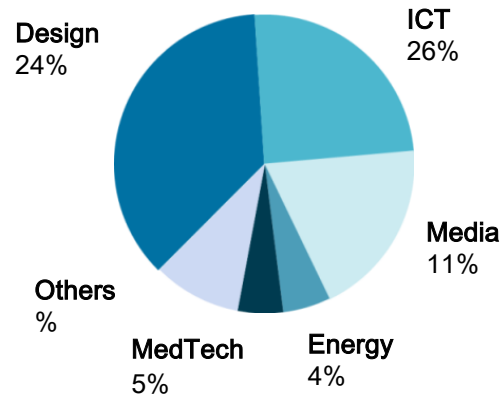
41'8% newly created

New jobs in 22@Barcelona since 2000

Employees of companies already located or in process to be installed

44.600

61,7 %



Cluster's leader agents

b_TEC
Barcelona
innovació tecnològica

biocat
BioRegió de
Catalunya



bdigital BARCELONA CENTRE
DIGITAL TECNOLÒGIC

BCD
Barcelona Centre de Disseny


Centre
d'Innovació

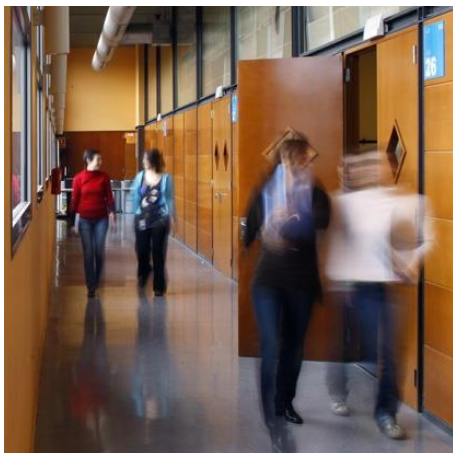
22 Barcelona
Media

Smart City Campus



6 22@ Barcelona: Social and Cultural

Space of personal relation



For the professionals

- International Community: **IN22@**
- Access to education
- Relationship spaces
- Networking: **22@Update Breakfast**,...
- **22@Voluntariat**



For the neighbours

- **22@CreaTalent**
- **22@Digital District**
- Actions of direct communication
- **22@Staying in company**

Increase of the belonging feeling
Creation of the community 22@
Pride to work/live in 22@

The City as Externality: Art, Culture and Technology creation

22@ Cultural Factories

Old Factories as Public Space for Art, Culture and Technology creation.

www.hangar.org

www.laescocesa.org



Can Ricart

Javier De Cea presenta la seva última instal·lació.
I et convidem a la inauguració el proper dissabte 23 de maig a La Niña de los peines a les 18:30h
Javier De Cea ha presentat les seves obres en galeries i centres expositius de Barcelona, Chile, Itàlia, Bèlgica, Espanya i França.
Les seves obres han aparegut també en galeries i esdeveniments virtuals de la Web.

HANGAR.ORG

Le niña de los peines, C/ Verall
(davant dels cinemes Verall) a les 18:30h

20th FESTIVAL D'IDEES LA ESCOCESA

12, 13 i 14 de desembre 2008

Centre de Creació La Escocesa
C/ Penó IV, 345 (a. La Selva de Mar)

Dia 12, 13, 14, 16, 19 i 20
Taller de Participació d'IMMERSIÓ
AMB LA COMARCA DE L'Alt Penedès
TALLERS: MARCA RACONAR I MÓNIC GÓDI
INICIANTS: MEXICO@COMARCADELPEÑEDÉS.COM

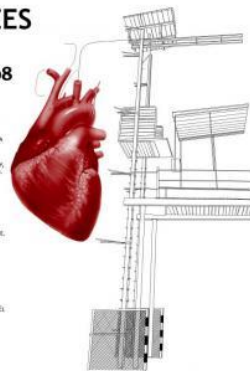
Dia 12, 13 i 14
Instal·lacions
VICENTINA DE TOMAS RIBERA
MÀ L'OBAMA DE L'ESCAMA DE BONA FOL
SOLERA, MARCA RACONAR I MÓNIC GÓDI

18h-20h MARI: CAPILLA FOTOGRAFIA
MÉS ARTISTES MÉS SONS

19h-21h Concert de
CANCIONS DE LA MARELLA
AQUINO I MÉS SONS
AQUINO I MÉS SONS
AQUINO I MÉS SONS
AQUINO I MÉS SONS

Dijous 12
JAVIER DE CEA: PROJECCIÓ DE FOTOGRAFIES
AMB MONTATGE DE FOTOGRAFIES
LUISE PONS: CERCAR

20h INAUGURACIÓ AMB LECTURA DE
POEMA D'OSCAR BIANCHI
I TITRELLA AL LLIBRE DEL VÍDEO
DE LA COMARCA DEL PENEDÈS



45h projecte de
el dibuix de plans
el dibuix de plans
el dibuix de plans
el dibuix de plans
el dibuix de plans
el dibuix de plans

organització: eme, nave, J, HANGAR.ORG

col·laboradors: Ajuntament de Barcelona, Institut de Cultura, Diputació de Barcelona, Diputació de Girona, Diputació de Lleida, Diputació de Tarragona, Diputació de València, Diputació de Castelló, Diputació de Terol, Diputació de Saragossa, Diputació de Navarra, Diputació de La Rioja, Diputació de Cantàbria, Diputació de Castella-La Manxa, Diputació de Castella-Lleonesa, Diputació de Aragó, Diputació de Catalunya, Diputació de País Valencià, Diputació de Illes Balears, Diputació de Ceuta, Diputació de Melilla.



La Escocesa

7 Q & A



Thank you!



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