

Urban Innovation Environments in Shanghai

**The cases of
Fenglin Biomedical Centre
Hongkou Shipping Services Cluster**

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Interlace-Invent ApS
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Innovation in China?

Transforming Cities.



Global-scale innovation networks: Hubs & Regions

- » Outsourcing and global scale networks of production as well as **global 'knowledge networks'**
- » As large firms globalize they create systems to integrate activities across wide swaths of geographic space
- » Increase in supplier competence and codification including shared designs and innovation functions:
 - **Innovation** becomes more and more **a global process**
- » **The city-region** operates not as a self-contained unit, but more as a node or **a Hub in global networks**

A new Emerging Urban Model:



‘Third generation science parks’

- » The integration of the functions of the science park in a (dynamic) urban environment and in the city-region
- » The importance of *place* (the urban environment) to shape a unique set of qualities (incl. an entrepreneurial culture)
- » A more comprehensive supply of advanced service functions towards innovative activity, also services not linked to R&D activity
- » Innovation theory: **Interactive (Tech. Push + Market Pull)**

Examples under development in China, Singapore, Europe

*Second Generation Science Parks:
IDEON / Lund*

University

Ideon
Research
Park

Industrial zone
with research labs









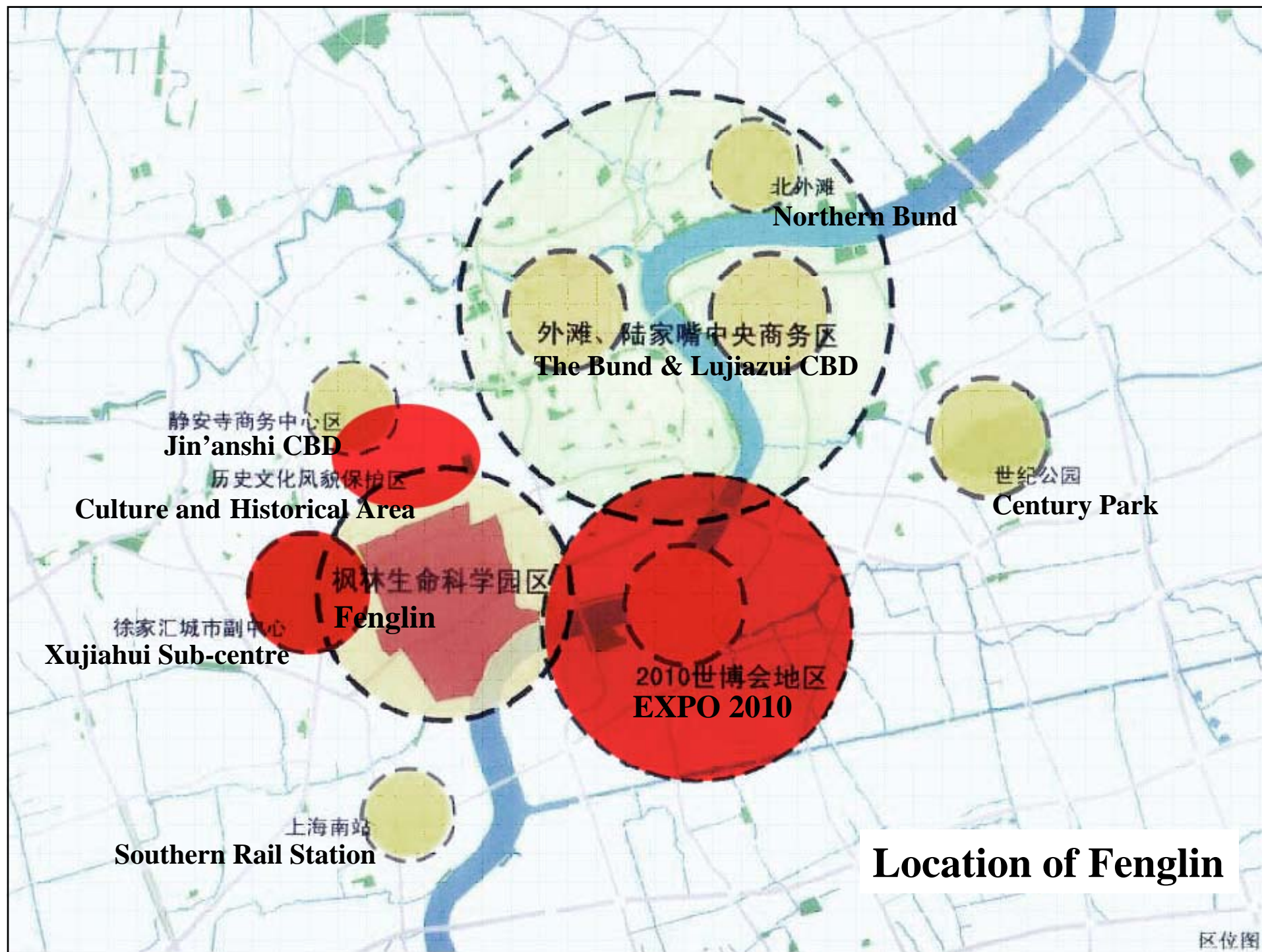
Fenglin Biomedical Center

Shanghai



*An example of hubs and interlinked clusters:
 Global "Biomedical Hubs"*





静安寺商务中心区
Jin'an Temple CBD
历史文化风貌保护区
Culture and Historical Area

徐家汇城市副中心
Xujiahui Sub-centre

枫林生命科学园区
Fenglin

外滩、陆家嘴中央商务区
The Bund & Lujiazui CBD

北外滩
Northern Bund

世纪公园
Century Park

2010世博会地区
EXPO 2010

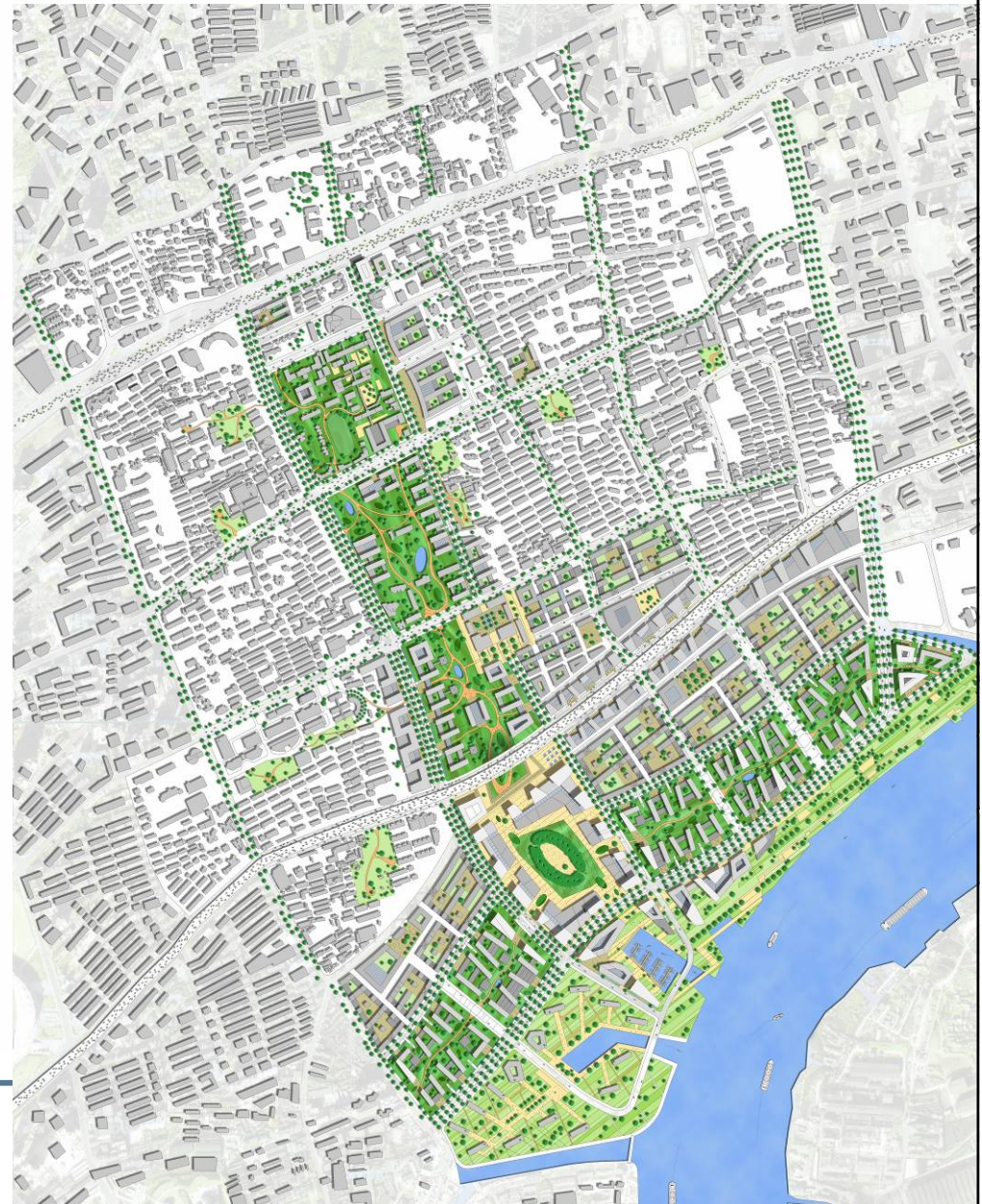
上海南站
Southern Rail Station

Location of Fenglin

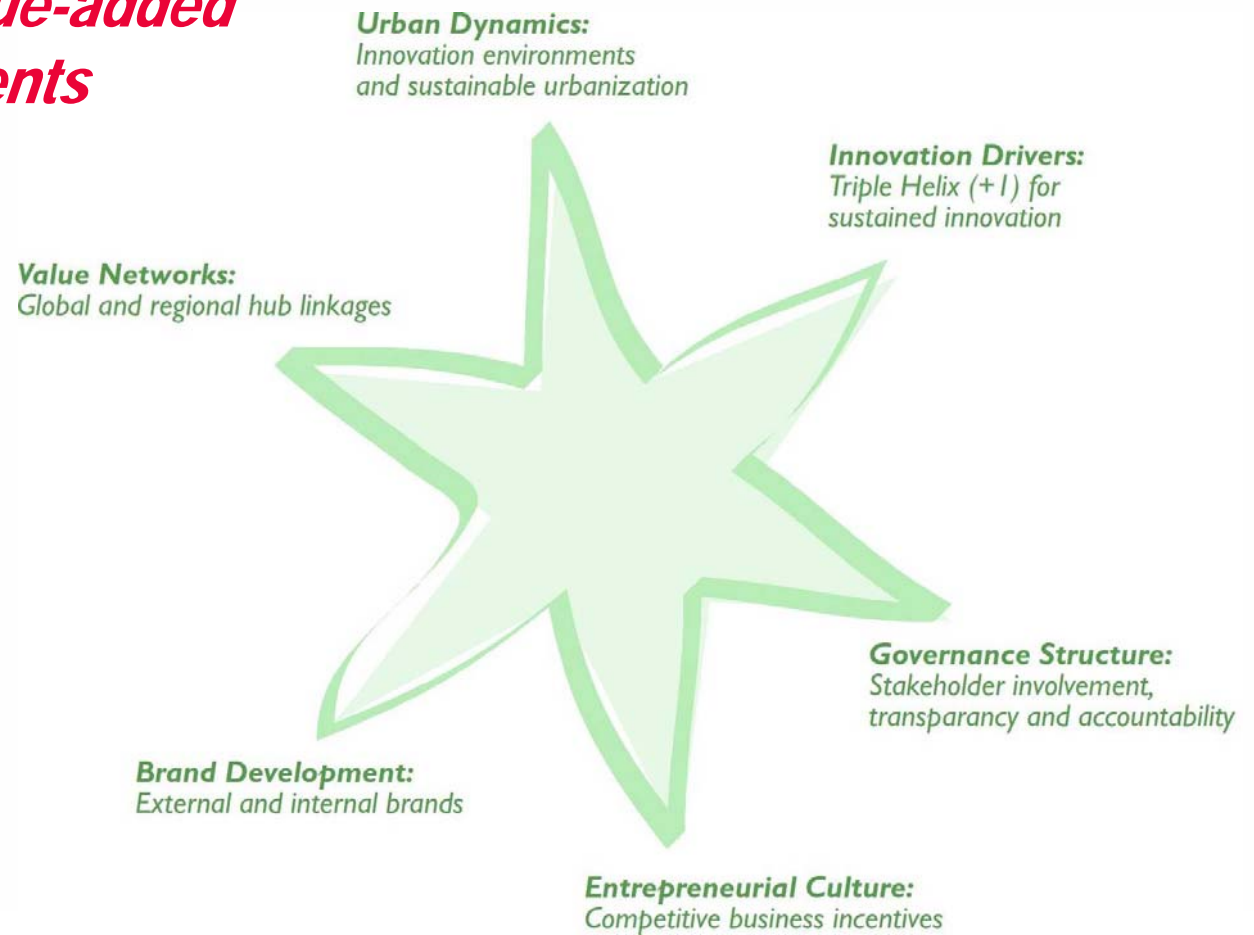


Shanghai Biomedical Center

- » 546ha Biomedical District
- » R&D → Commercialisation reflecting China's globally competitive research capacity
- » Gateway to 1.3bn end-user market
- » Unique Life-style and Quality of Life in one of the world's most dynamic metropolises
- » Integration of existing communities
- » Seamless integration of Research and Clinical environments to accelerate innovation processes
- » Value-Chain embedded into global flows of research, innovation and management



Six dimensions of value-added innovation environments



Global Comparative Review

- » Systematic Review of 21 leading global biomedical hubs
- » 10 Tailored Evaluation Criteria
- » Combines economic, cultural and urban factors
- » Applied also at local institutional level
- » Drawing on unique inter-disciplinary insights
- » **Result:** Emerging trends and competitive breakdown of Hub features as basis for strategy development



Evaluation Criteria

Global Study of Biomedical Hubs

C.1	Infrastructure
	Review of those factors critical to the operation of the Biomedical Center (i.e. Laboratories), as well as of the urban district (i.e. Transport). Furthermore, ICT & 'mobility' infrastructure.
C.2	Research-Clinic Interaction
	Spatial and Functional integration of Research and Clinical activities in response to emerging trends in the organisation of biomedical research.
C.3	Life-Style / Quality of Life
	Lifestyle and Quality of Life as attraction factors for firms, institutions, & residents
C.4	Branding
	Recognised Brand with consistent Unique Selling Points for global and local positioning of the Biomedical center
C.5	Advanced Services (incl Financial)
	Services to Entrepreneurs, residents, employees, firms: such as Incubators, Patenting Support, Certification, Market intelligence, International Quality Legal and Financial Services
C.6	Education Facilities and Offering
	Local, Regional and World-class educational facilities, specialised educational offers tailored to clusters needs and competences, alliances with leading global institutions.
C.7	Urban / Regional Integration
	Active integration into urban and regional socio-economic, cultural and spatial context. Urbanisation of Biomedical Center into mixed use context.
C.8	Entrepreneurial Culture
	Policies and instruments (i.e. incubators, entry level business units) supporting Entrepreneurial Culture, Awareness building of Biomedical sector as growth sector
C.9	Sustainability - Ecology
	Ecological / Environmental Sustainability, application of environmental standards & considerations throughout Biomedical Center activities
C.10	Governance, Organizational structure
	Organizational management in terms of communication, leadership, and management skills as well as supporting services and institution. Stakeholder involvement in Leadership of Cluster.

Biomedical Stakeholder Associations



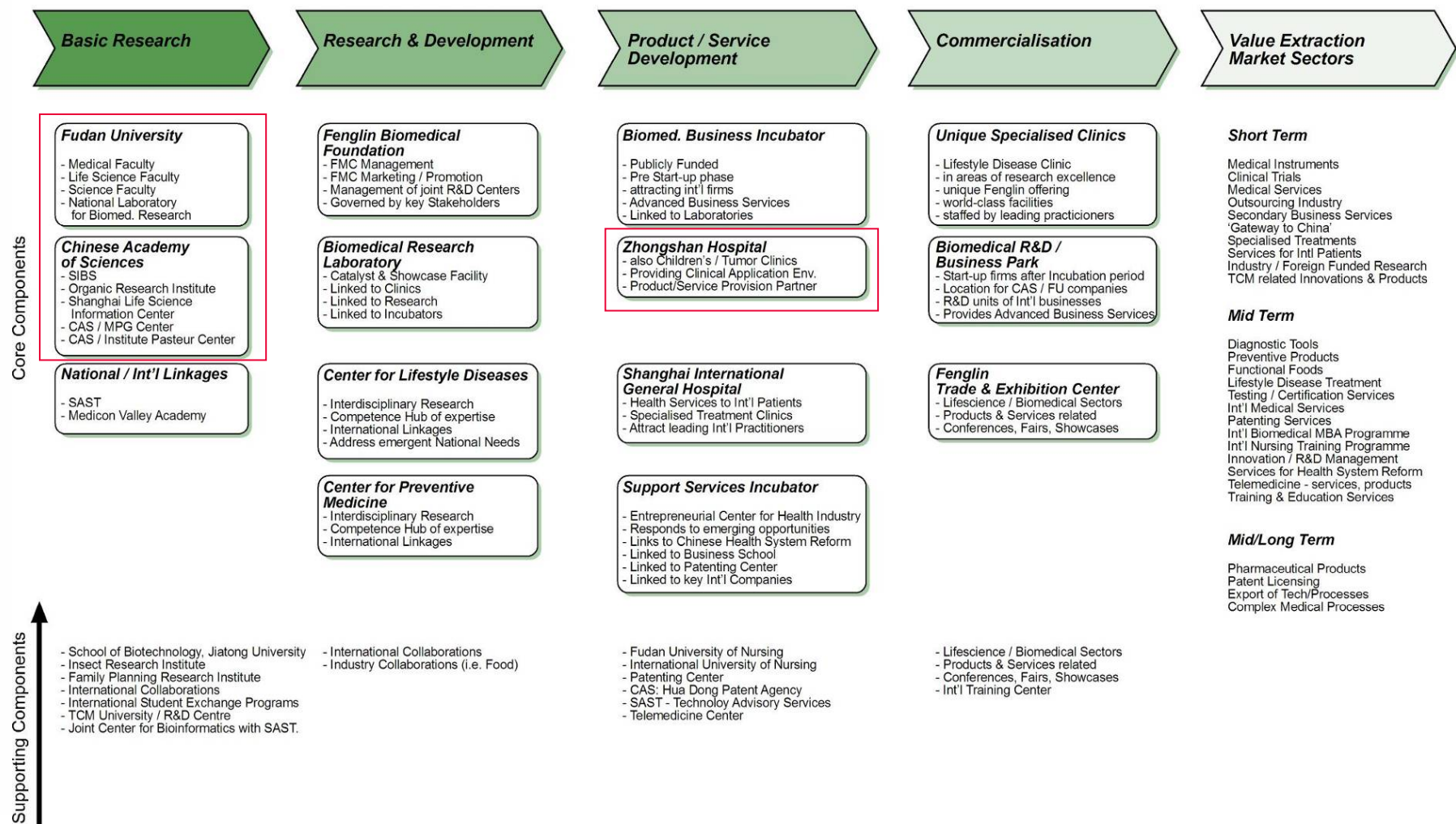
1. Harvard Medical Center
2. TURKU Science Park
3. European Institute for Bioinformatics
4. Berlin-Buch
5. Lyon Rhones Alpes Science Network
6. Rockefeller University
7. Institut Pasteur
8. Barcelona PRBB
9. Kobe Medical City
10. National Institutes for Health



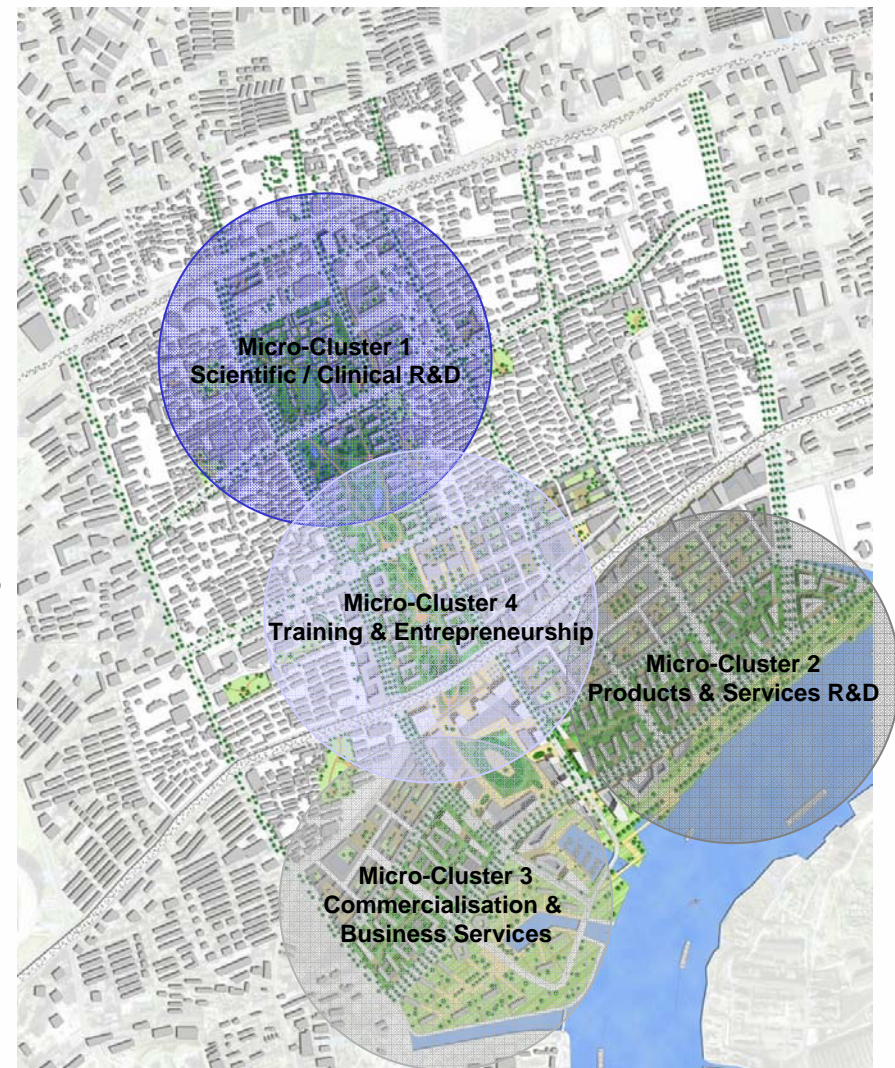
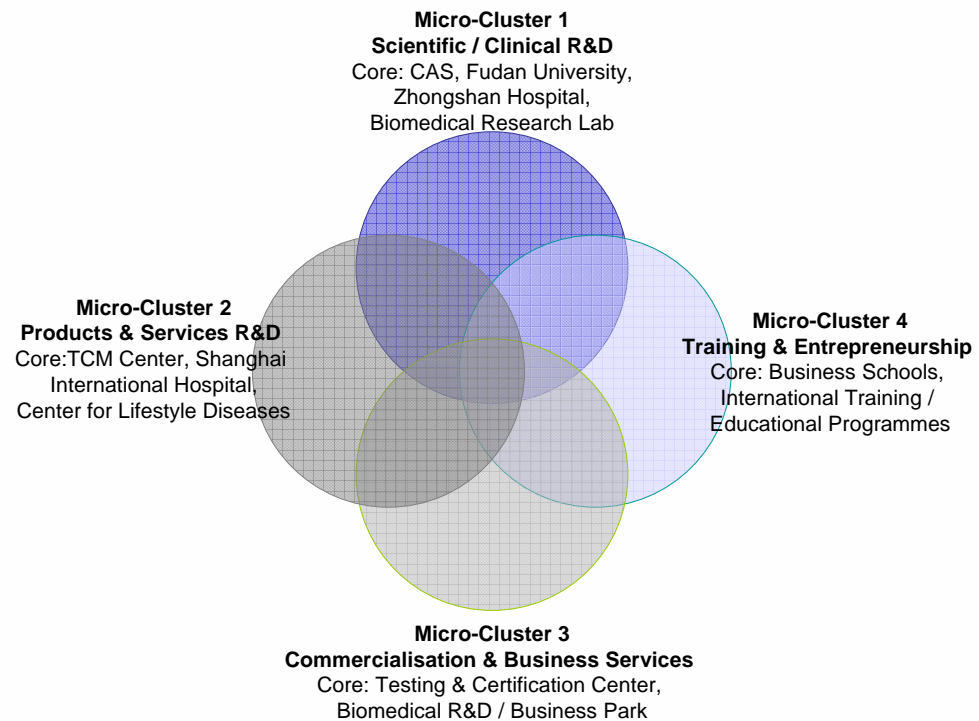
Brand Actions: Talent, Firms and Services

Target Group	now	future	Explain	Retain	Promote	Mobilise	Return	Recruit	Attract
Local Firms & Employees	X		X	X	X	X			
Institutions (Research / Agencies)	X	X		X	X	X			X
Hospitals / Clinics	X	X		X	X	X			X
Experts: Doctors, Researchers, Faculty	X	X		X	X	X	X	X	X
Nurses, key staff	X	X	X	X					
Entrepreneurs, Business Angels...		X	X		X	X			X
Resident Community (Fenglin/Shanghai)	X		X	X					
Regular Patients	X			X					X
Patients for World-Class Hospitals		X						X	X
National & International Students	X	X		X	X	X		X	X
Political Decision-makers	X		X			X			
National Business Community / Firms	X	X	X	X	X	X			X
Multi-National Firms: R&D, HQ		X	X			X			X
Int'l Institutions / Agencies		X	X			X			X
Secondary Industries (i.e. Adv Services)	X	X	X	X	X	X		X	X
Attendees of Congresses, Events		X				X		X	X
World-Class Resident Researchers		X		X	X	X	X	X	
Financial Sector / Investment		X	X			X			X
Start-up Firms		X			X	X			X

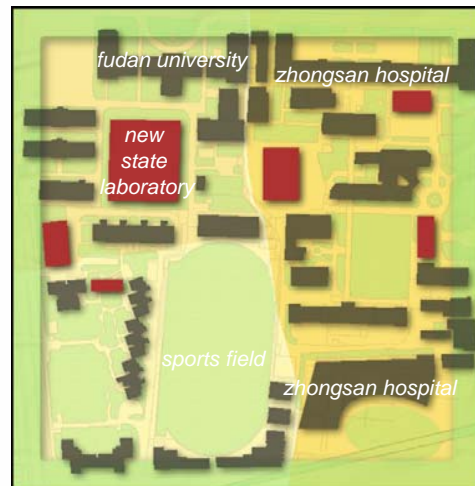
Fenglin Biomedical Center Value Chain: Core & Supporting Components, Commercialisation



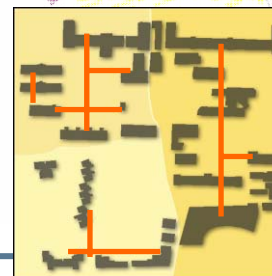
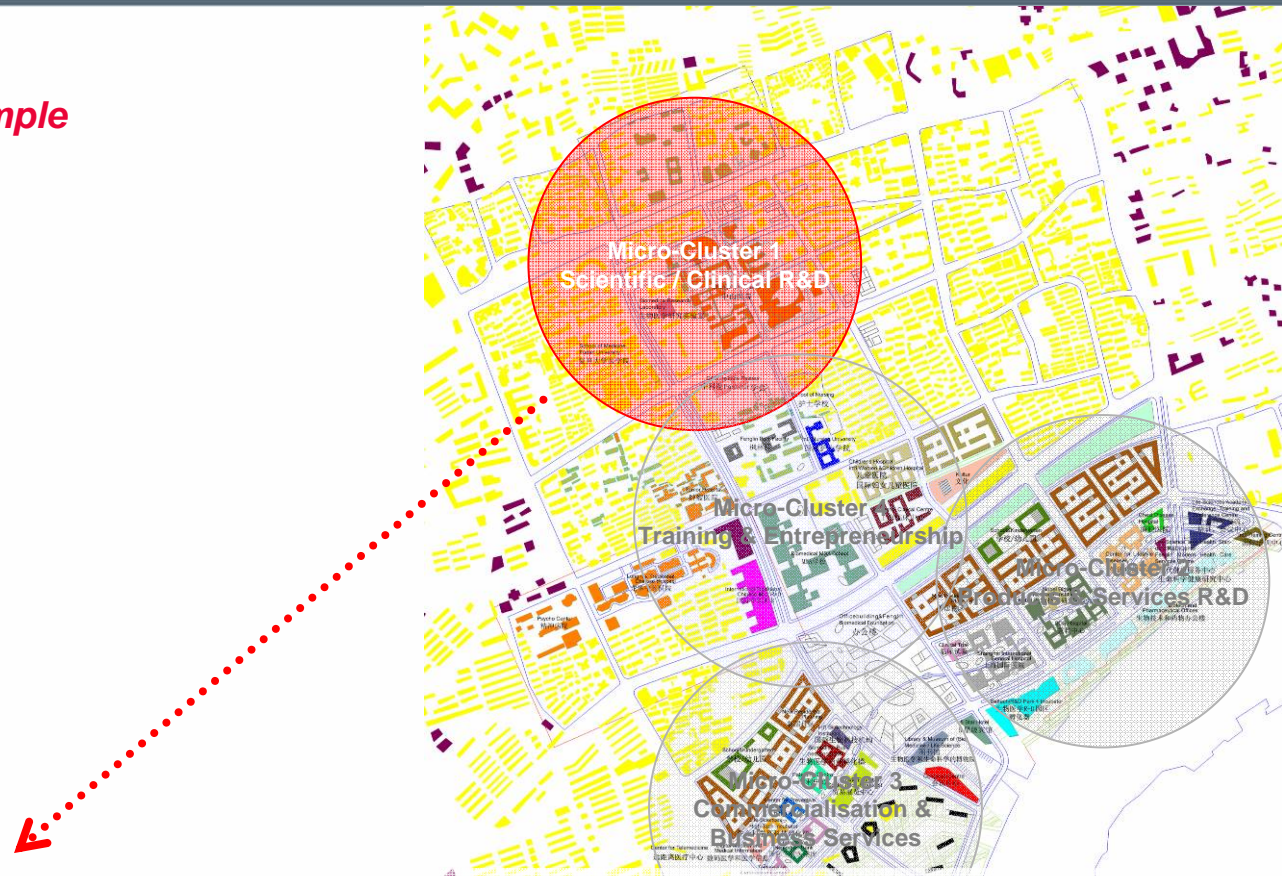
Specialised Micro-Cluster Development



Fenglin: Configuration Example
Micro-Cluster 1
Scientific / Clinical R&D



Micro-Cluster 1: Integrating New Components to complete Cluster Configuration



1. function specific links



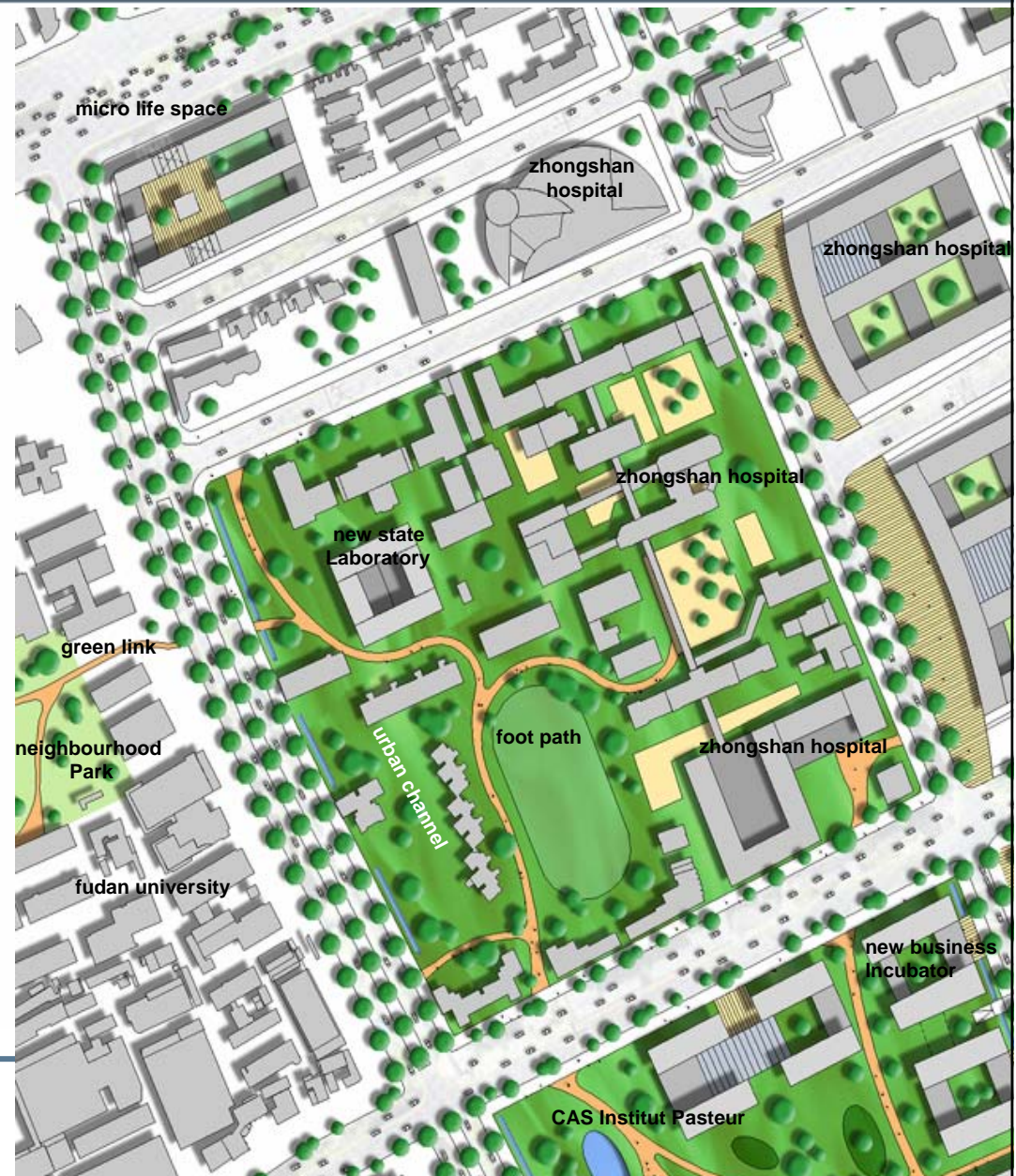
2. Distribution of functions



3. New components to complete the cluster

Micro-Cluster 1 Scientific / Clinical R&D

Key-Components of the Masterplan:



4 General Models of Hub Governance

1. Company Managed:

Accountable to shareholders (often university, investor, city or combinations of)

2. University / Institution Managed:

Managed under governance codes

Accountability towards the university / funders.

3. Key Stakeholders:

Shared interest in promoting a location and increased inter-sectoral collaboration.

Accountable to its statutes and shareholders.

4. Elected Representation:

Cluster members elect a board (can include experts)

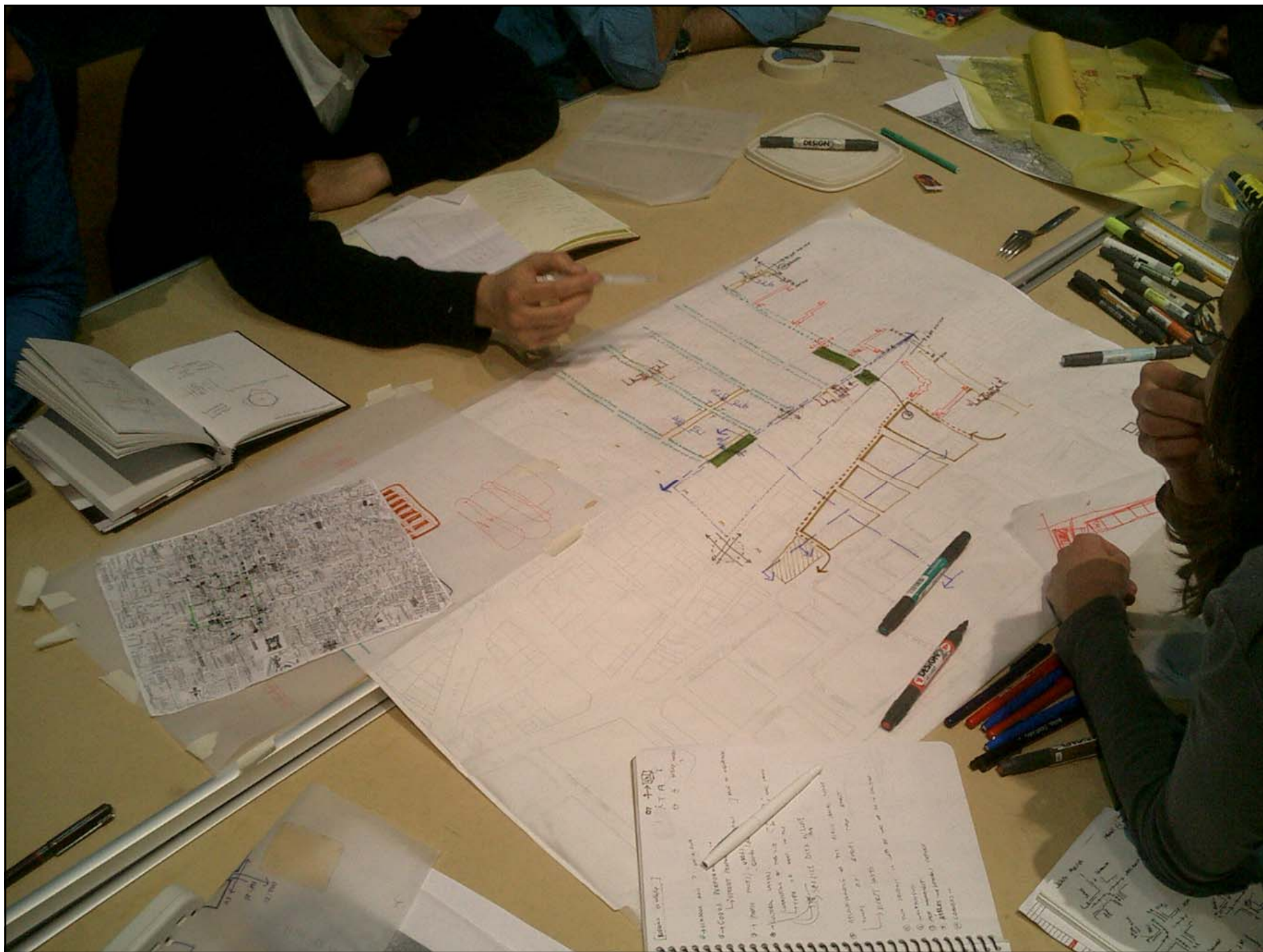
Accountable to members.

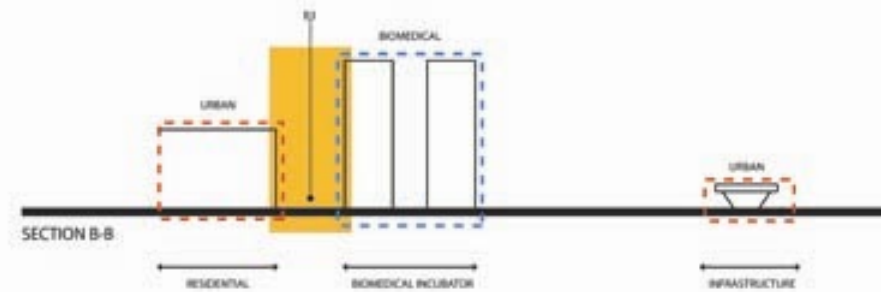
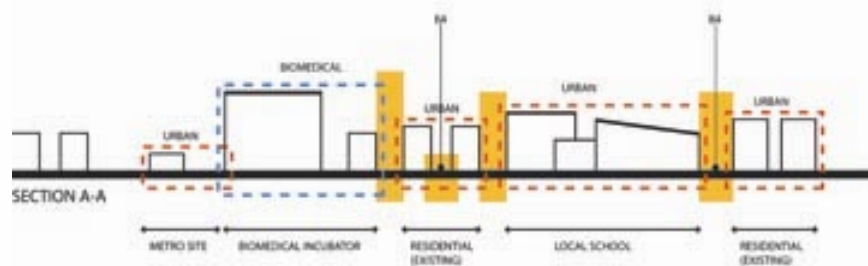
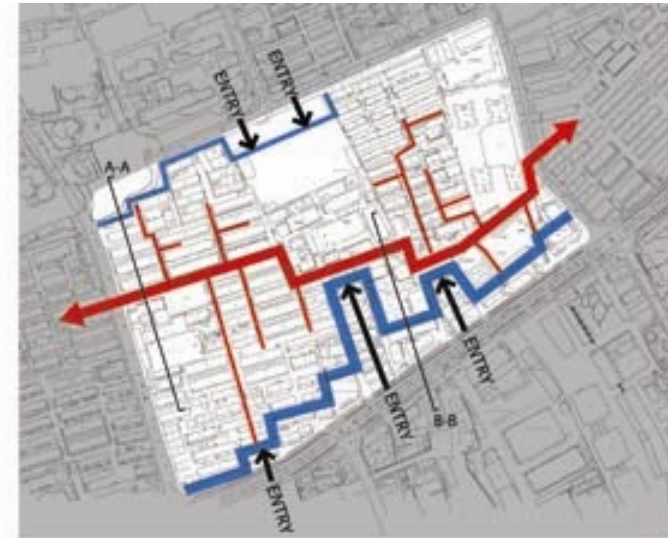
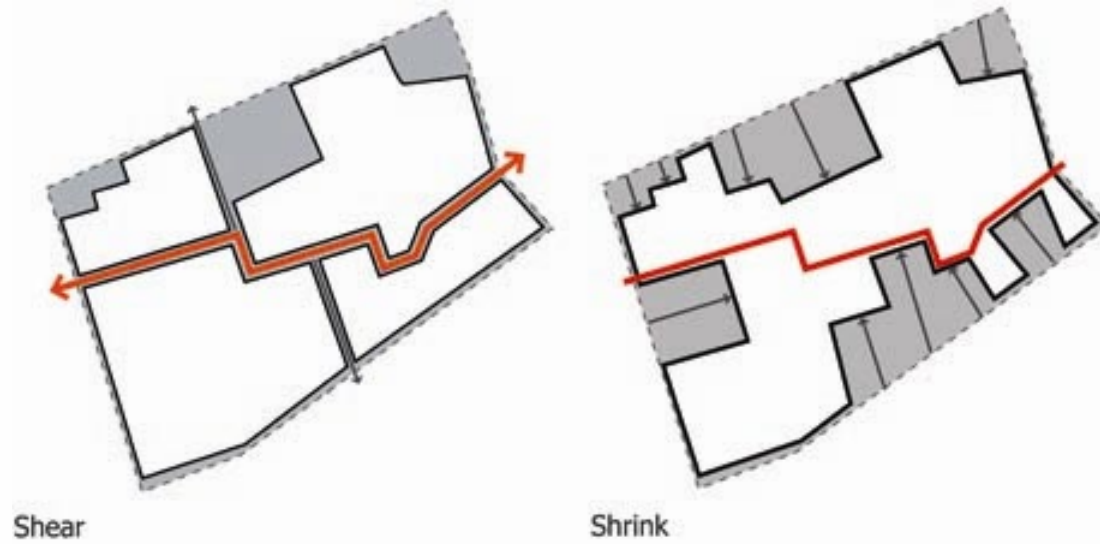
Reference Site	Management Company	University / Institution	Membership / Elected Board	Key Stakeholders
1.1 Texas Medical Center			X	
1.2 Harvard Medical Center		(X)		
1.3 Rockefeller Univ Hospital		X		
1.4 National Institutes of Health		(X)		
1.5 Kobe Medical City				X
1.6 Berlin-Buch	X			
1.7 Singapore Biopolis/One-North*	X			
2.1 Heidelberg Technology Park			(X)	X
2.2 Biosciences Center Liverpool		X		
2.3 School of Biological Sciences, Manchester		X		
2.4 European Bioinformatics Institute Cambridge		X		
2.5 Institut Pasteur, Paris		X		
2.6 Medicon Valley Academy Biomedical Center, Lund			X	
2.8 Biomed. Research Park * Parc Cientific de Barcelona				X
3.1 Stockholm BioScience				X
3.2 TURKU Science Park, Finland	X			
3.3 Lyon Rhone Alps Life Science Network				X
3.4 BioValley Switzerland, Germany France				X
3.5 Biotech M, Munich	X			
3.6 BioRegio Regensburg BioRegio Bavaria	X			
.0 Fenglin Biomedical Center (Today)	-	-	-	(X)

Governance in Globally Reviewed Biomedical Centers.

Shanghai Investors Panel: with 20 global firms & institutions







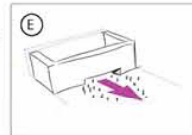
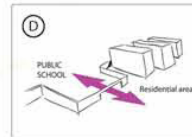
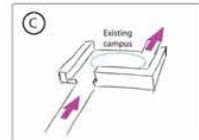
WHAT IF...



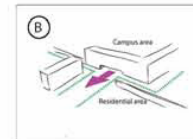
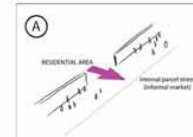
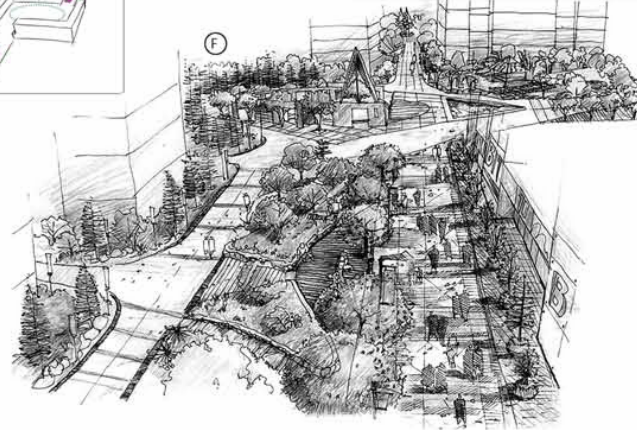
6.1_REVALUATING LAND

LENGEND:

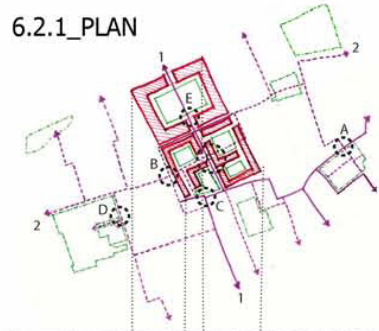
- high potential negotiated land
- low potential negotiated and reintervened land
- institution/school related to biomedicine
- high potential intervened land



6.2.3_ DIFFECIATED CASES OF BOUNDARY-NEGOCIATED AND SCENARIO OF MAIN INTERNAL LINK



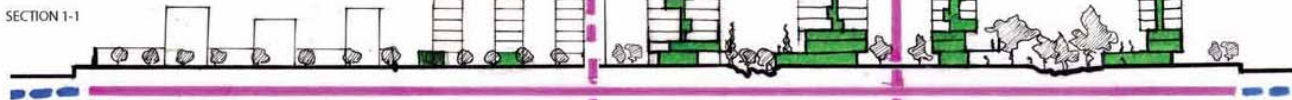
6.2.1_PLAN



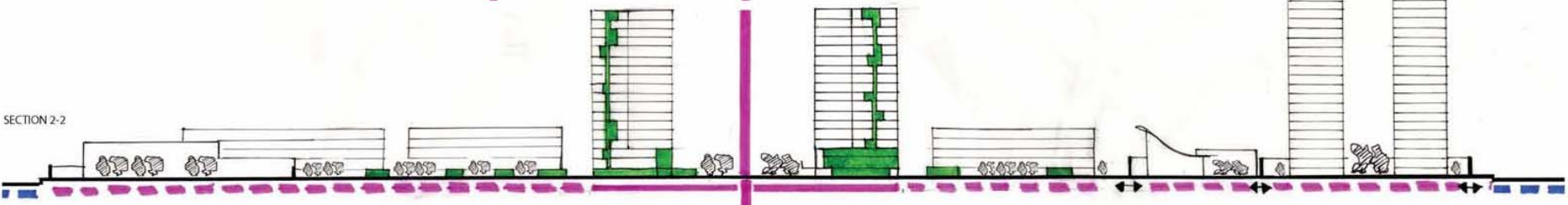
EXISTING BOUNDARIES, MAIN INTERNAL-LINK AND SECONDARY INTERNAL-LINK WITHIN DETAILED STUDY AREA

6.2.2_SECTION OF NEW INTERVENTION AND PROPOSED INTERNAL LINK NETWORK

SECTION 1-1



SECTION 2-2



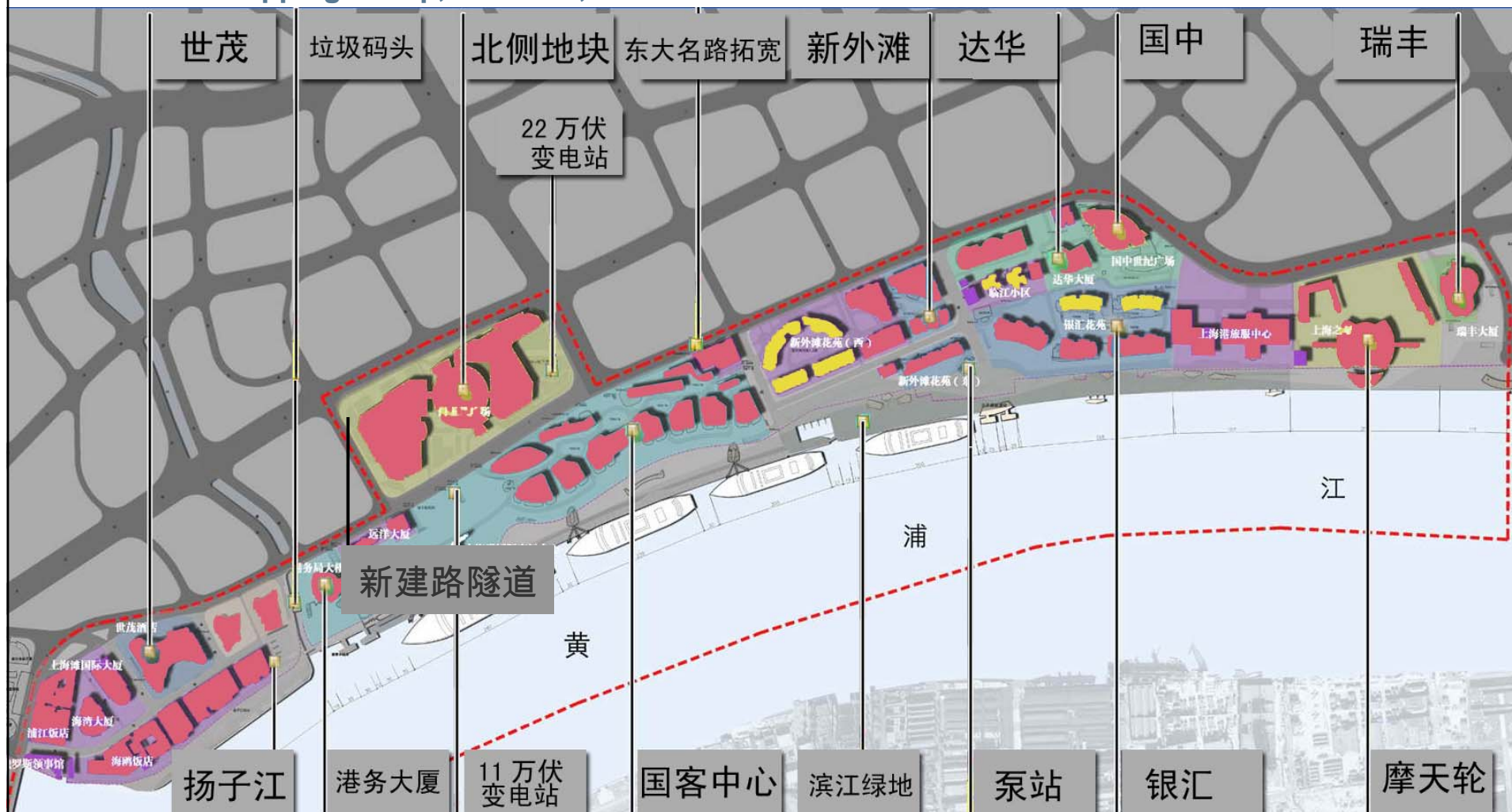


Hongkou Shipping Services Cluster (Shanghai)



Cluster of Shipping Enterprises

- Over 2,000 Shipping Enterprises
- Headquarters of the Top Three Shipping Enterprises in Mainland China
China Shipping Group, COSCO, SIPG



North Bund Area: Vision of creation a world-class shipping services cluster



International Cruise Terminal (ready at the beginning of 2007)



Hongkou Shipping Services Cluster



Broad Cluster Activities

Shipping
Intermediary Services
Maritime Governance and Regulation
Support Services
Industry Associations
Client / Demand Organizations
Tourist Services
Shanghai as Lead Market
Competitive Market Structures
Advanced Demand Structures
Innovative Regulatory Frameworks
Cost Advantages
Global Transfer Structures
Export advantages
Internationalisation

Specialist Focus Areas

Insurers
Port Operators and Logistics Providers
Financial services providers
Technical services consultants
Maritime lawyers
Cultural and language services

Action Plan for Implementation

Innovation pressure
Knowledge diffusion
Complementarity
Cluster linkages and cluster cooperation
Customer involvement
Availability of highly-specialized services
Up-to-date education and training
R&D and technology services

Stakeholder Platform



Public Sector Bodies

District & City Mayor
P.R. China Ministerial Level
Local / Regional Development Agency
North Bund Development Office
Inward Investment (local / regional / national)
Export Agencies (local / regional / national)
Economic Promotion Department (local / regional)
Urban Planning / Maintenance Department
Tourist & Events Bureau(s)
Public Services Bureau
Education, Research, Innovation Departments
Regulatory and Standards Bodies
Information Society Departments
China Maritime Arbitration Commission

International:
Partnerships
(incl. Hamburg, London, Singapore, Gothenburg)
European Commission
EU, US, Asian National Regulatory and Trade Dep.

Intermediary Institutions

Maritime Associations
Port Authorities
Regulatory and Standards Associations
Business Incubators
Foundations
Chambers of Commerce
Cluster Organisations
Local Business Organisations
Smart and Secure Tradelanes Initiative
Shanghai Shipping Exchange
Trusted Intermediaries (Individuals, Companies, Institutions)



Business Community

Advanced Shipping Services providers
Savings Banks
Leading Shipping and related Companies
Financial Institutions
Venture Capitalists, Business Angels, ...
Citizens & Community Leaders
Port Operators
ICT Business Community
ICT Solution & Infrastructure Providers
Tourism Sector (hotels, hospitality, taxi)
Cruise Operators and Service providers
Travel Agencies, Event Organisers
Metropolitan Transport Corporations
Media (newspaper, radio, TV)
Entrepreneurs
Real-Estate Developers

Research Community

Universities (Management, Shipping, IT)
Public and Private Research Centres
Publications
Incubators
Technology Transfer Centres
Entrepreneurship Centres
R&D and Innovation Funding Programmes
International knowledge, education and network partners.

Thank you.

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