





# From Universities to Multi-versities: Alternative Views on Innovation Ecosystems in a Disruptive World



Manchester Urban Institute
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https://sites.manchester.ac.uk /synergistics/

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Leader future wise cities



# OUTLINE

- 1. Introduction
- 2. Transitions in cities & regions
- 3. Mapping the relational & emergent (dynamics & interdependencies)
- 4. From University to Multi-versity– emerging models



www.peri-cene.net







# a) Introduction



# b) Green new deal transitions in cities & regions



Figure 5-3

# CIRCUL-ONOMICS-III



Co-evolution from linear to circular resource flows: with finance, social & public value

# a) RE-CIRCULARIZATION

#### **FINANCE:**

mutual finance for integrated value chains

Carbon mortgage or long green bonds??

#### TECHNOLOGY:

circul-onomic design principles

#### **INDUSTRIAL ECONOMY:**

design for material loops & cascades

Buy a new eco-product or fix the

old one??

#### **GOVERNANCE:**

recircularization policy principles

Circles are everywhere if you look for them...

#### **URBAN SYSTEMS:**

regenerative cycles of assets & resources

#### **SOCIAL:**

livelihoods of socio-circular value

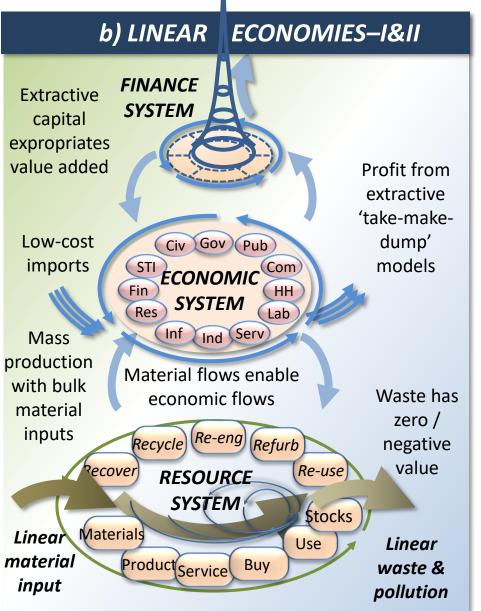
Share 'preloved' or lease new stuff??

#### **ECOSYSTEMS & RESOURCES:**

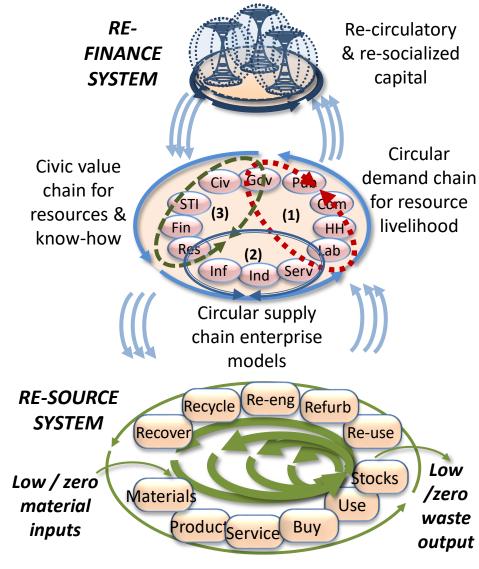
local / regional / global recirculation on 'socio-eco-services' principle

# **GREEN NEW DEAL 3.0 - CIRCULARIZATION**

Co-evolution from linear to circular resource flows: with finance, social & public value



### c) CIRCULAR ECONOMIES—III



# **GREEN NEW DEAL 3.0 - CIRCULARIZATION**

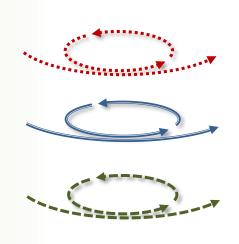
Co-evolution from linear to circular resource flows: with finance, social & public value

### c) PATHWAYS

**Socio-political gaps**: culture of material consumption & obsolescence:

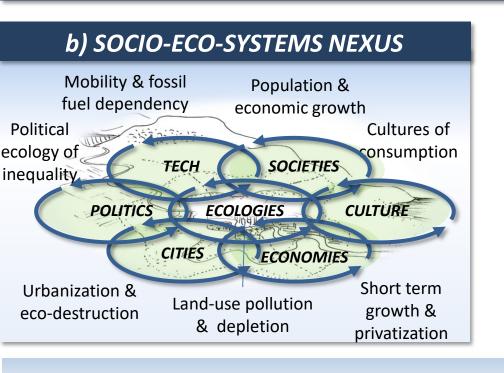
**Techno-economic gaps:** low ambition & myopic supply chains

**Eco-financial gaps**: short horizons promotes materialism & waste:



- 1) Circular livelihood (demand chain): mutual ownership for collective re-use of assets
- 2) Circular co-production (supply chain): markets & enterprises on service model
- *3) Circular investment* (civic-chain): eco-social finance for whole chain innovation

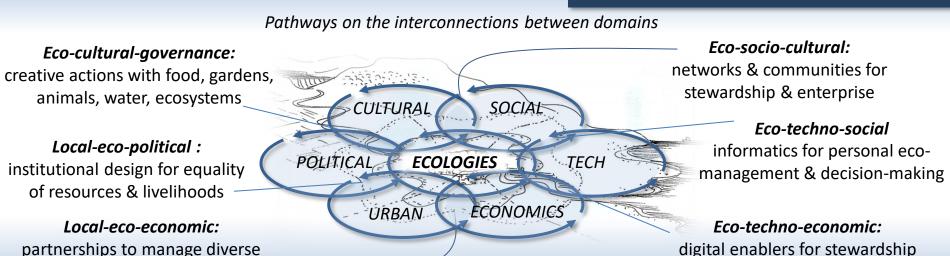
# GREEN NEW DEAL - AGENDA



niches & micro-habitats

## c) ECOLOGIES—CONNEXUS

finance & business models



## FROM S3 to JRC INDUSTRIAL TRANSITIONS PROGRAM















Ken GUY, Wise Guvs

WORKING GROUP RAPPORTEUR Erik ARNOLD, Technopolis

#### **EXPERTS CONDUCTING** REVIEWS

- Héloïse BERKOWITZ, CNRS
- Patries BOEKHOLT, Innovation Policy Matters
- Matthijs JANSSEN, Utrecht University
- Totti KÖNNÖLÄ, Insight Foresight Institute Ruslan STEFANOV, ARC Fund
- Yannis TOLIAS, Innovatia Systems
- Christos EMMANOUILIDIS, Cranfield University
- Gabriela PIRVU, Romanian Clusters Association
- Mircea PETREA. ElfNet

OECD



IRC TECHNICAL REPORT

#### Projecting Opportunities for INdustrial Transitions (POINT)



#### MEMBER STATES

- Regional authorities Andalucía (Spain)
- Western Macedonia
- (Greece) · All regions (Romania)
- · Catalonia [own resources] (Spain)

#### National authorities

- · Ministry of Development
- (Greece) · Council of Ministers (Bulgaria)
- Ministry of Economy, Energy and Business Environment. and other ministries with inputs in S3 (Romania)

#### **ADVISORY BOARD OF** DISTINGUISHED EXPERTS

- Effie AMANATIDOU, University of Manchester, UK
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# JRC SCIENCE FOR POLICY REPORT JRC SCIENCE FOR POLICY REPORT **FORTHCOMING**

POINT Review of Industrial Transition of POINT Review of Industrial Transition

JRC SCIENCE FOR POLICY REPORT

**FORTHCOMING** 

**BG DOWNLOAD** 

JRC SCIENCE FOR POLICY REPORT

GR -

<u>DOWNLOAD</u> https://s3platform.jrc.ec.europa.eu/industrial-transition



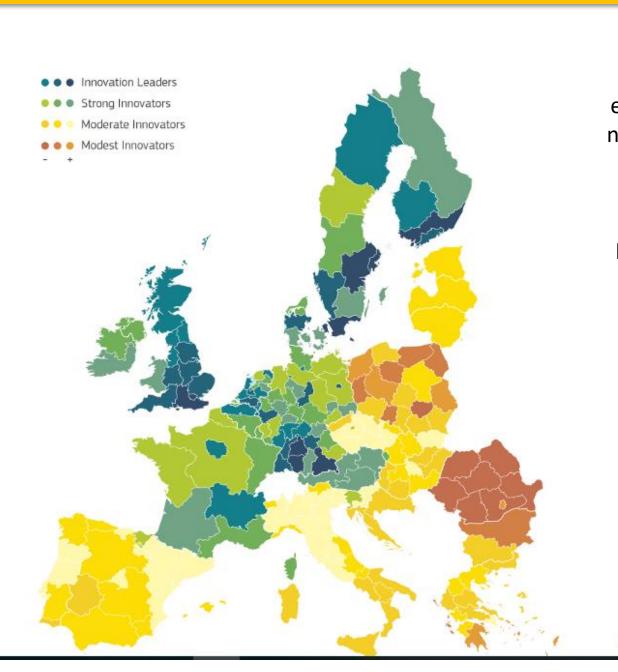
**MULTIPLE IMPACTS** 

#### A European Green Deal

Striving to be the first climate-neutral continen

- + RRF / JTF/ JTTP (GR)
- + ROP (BG)
- + Energy Strategy (AND)

# REGIONAL SCOREBOARD versus 'OTHER FACTORS'



Global political / Some transparency economic elite controls & diversity national elite, enables the economy to Different function & political grow parties lead to same elite & establishment Younger lack a Dissent is positive future undermined by older have lost division of

stable past

labour

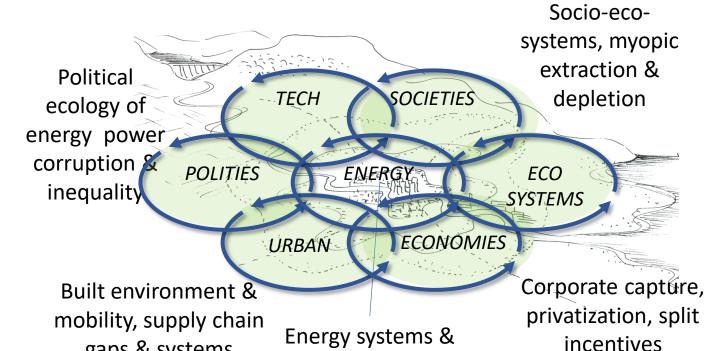
# **ENERGY & CLIMATE: 'NEXUS'**

Smart energy innovation, displacement & disruption

gaps & systems

barriers

Energy poverty, social justice, behaviour inertia, culture of affluence



geopolitical power,

elite technocracy,

hyper complexity

financialization of

commons

## LOW CARBON TRANSITION – ALTERNATIVE PERSPECTIVES

#### a) SOCIO-TECHNICAL TRANSITIONS

(Geels, Schot et al): multi-level perspective:

- niches /regimes / landscape:
- push & pull effects

#### B) SOCIAL PRACTICE THEORY

• Behaviour, institutions,

#### C) SOCIO-ECOLOGICAL STUDIES

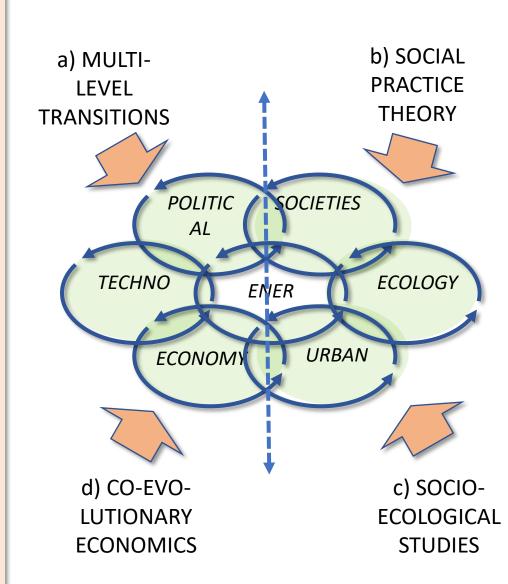
Eco- / social / spatial systems interactions

# **D) PLANETARY ECONOMICS** (Grubb et al): changing models:

- Pillar 1 micro-economics: 'satisficing'
- Pillar 2 neo-classical: market 'optimizing'
- Pillar 3 (co)-evolutionary / institutional: 'strategizing'

#### E) SYNERGISTICS – integration of all systems

- Analysis & systems mapping
- Synthesis & pathway design



#### SOCIO-TECHNICAL TRANSITION & MULTI-LEVEL PERSPECTIVE

# Socio-technical Iandscape

 International politics: technology: market & finance: culture etc

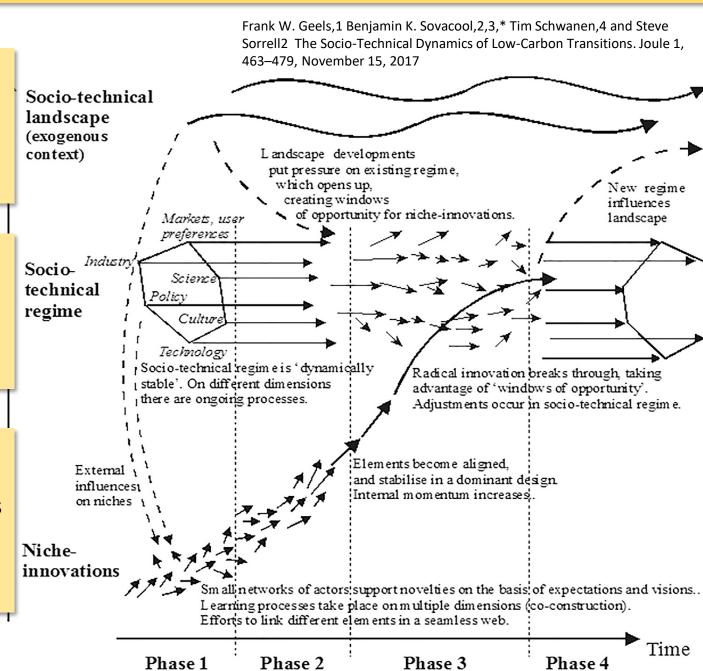
### Socio-technical regime:

 Oil & gas industry: skills & labour: supply chains: infrastructure etc

#### Socio-technical niches:

 Supply side technologies: business models: market innovations: demand

side models etc

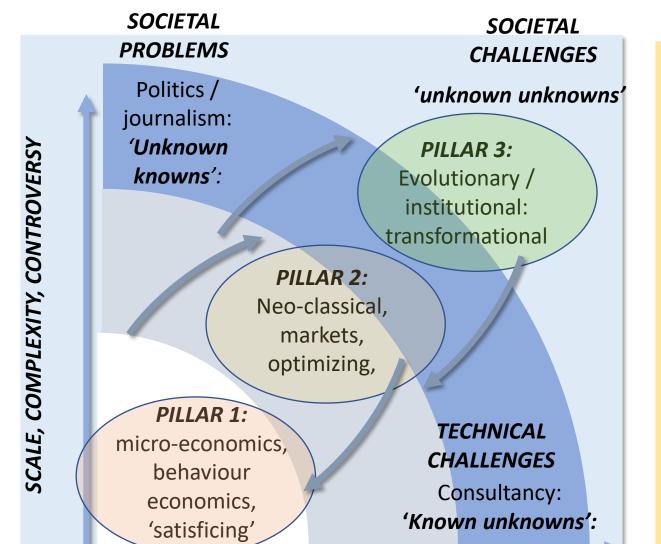


#### **PLANETARY ECONOMICS & 3 PILLARS**

**Source:** Grubb, M, with Hourcade, J-C, and Neuhoff, K. (2014): *Planetary Economics: energy, climate change and the three domains of sustainable development.* NY, Routledge:

Ravetz, J, & Ravetz, A, (2016). Seeing the wood for the trees: Social Science 3.0 and the role of visual thinking.

Innovation: the European Journal of Social Science Research, Vol 30(01):104 - 120



#### **APPLICATIONS:**

- Transition management& foresight approach
- Supply chain management
- Science/ tech / innovation policy
- Infrastructure political economy:
- Distributional questions
   & inter-generation
   ethics
- Urban structures & governance
- Public services
- Economic development& trade policy

## LOCAL-ONOMICS-III

Obsolete industries

Pollution from

ort & industry

ntrepreneurs & nvestors leave

a) 'INDUSTRIAL CITY' (I)

The workers are striking again but their jobs are finished...

Obsolete labour & communities

Shipping & fishing goes to global logistics hubs

b) 'POST-INDUSTRIAL CITY' (II)

Cultural heritage is a commodity for tourists.
Roads replace living city

Fragmented workforce, precarious service jobs

Socio- patterns broken, communities are vulnerable

CBD expands & pushes out workers

waterfront regeneration enclaves

tourist cruise ships & super-yachts

c) 'SYNERGISTIC CITY' (III)

DO WERVENDED

Business / innovation centres are networked through the city

Green design links urban communities & marine space

Cultural heritage is a multivalent community asset

Social & community enterprise in the foundational economy

Mutual finance with local

How about a city where everyone has a livelihood?

There's some new jobs in

waterfront cafes &

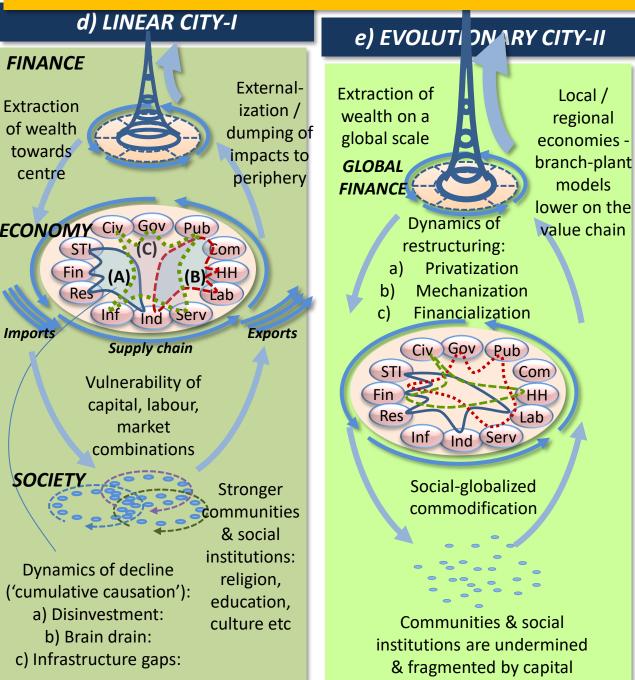
tourist boutiques..

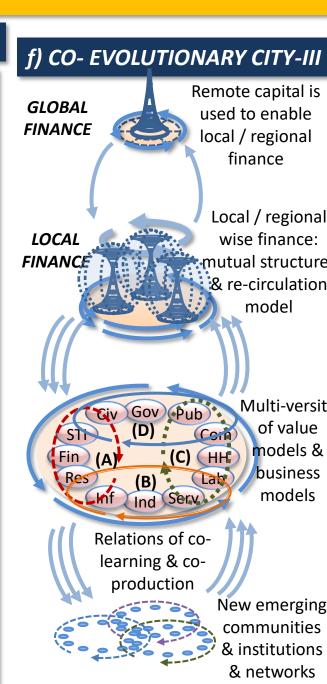
Creative exchange of visitors & residents

Blue economy, eco-tourism, niche pharma / bio-tech

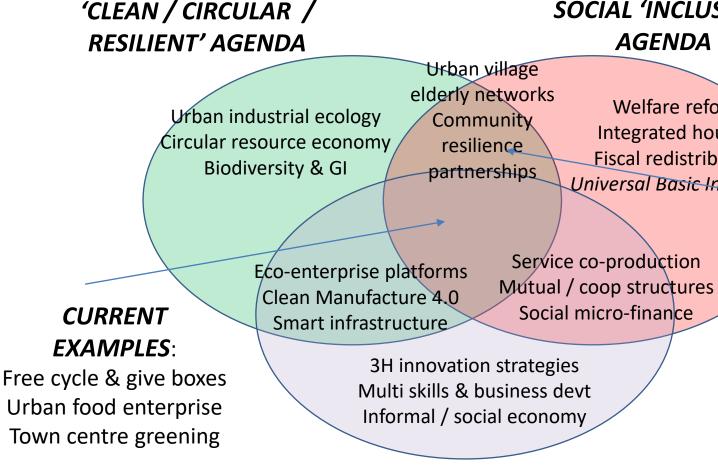


# **LOCAL-ONOMICS-III**





# 'CLEAN/CIRCULAR INCLUSIVE GROWTH' - SPACES OF OPPORTUNITY



# SOCIAL 'INCLUSION' **AGENDA**

Welfare reform Integrated housing Fiscal redistribution Universal Basic Income??

> **GENERIC** INTEGRATED **MODELS'**

> > "Social-enterprise-geo located-value-chain-co production....

"Eco-service-localglobal-cultural-cocreation-enterprisemodel...

"Living-lab-prototyping design-thinking-

GROWTH / **DEVELOPMENT AGENDA** 

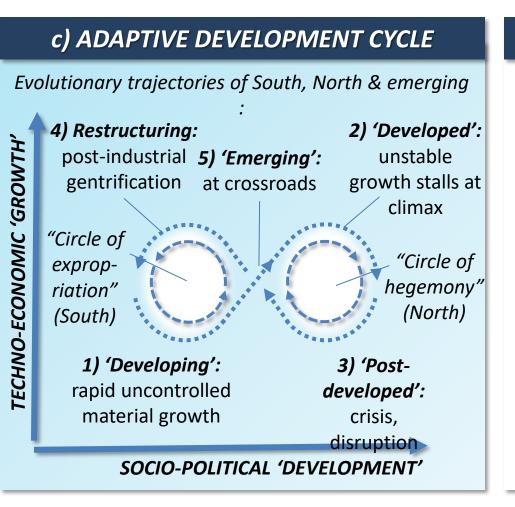
# c) Mapping the inter-dependencies

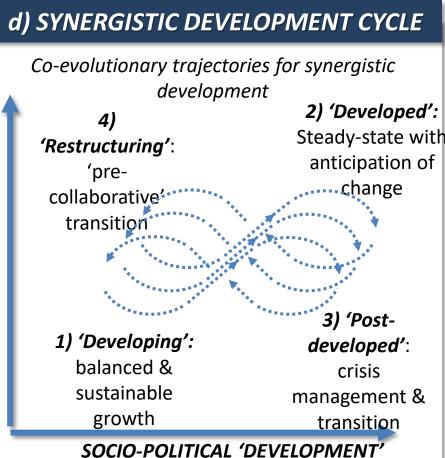


# **CO-EVOLUTION SUMMARY & SELF-EVALUATION**

	Linear Growth (Mode-I)	Evolutionary (Mode-II)	Co-evolutionary (Mode-III)
	'CLEVER': (complex)	'SMART': (emergent complexity)	'WISE': (deeper complexity)
CLEAN-RESILIENT			
Resource economy	Take-make-dump model	Smart manufacturing	Integrated circul- onomics
Eco-resilience	Mono-functional	Multi-functional	Integrated learning
INCLUSION- EQUALITY			
Public services	Industrial provision	Competition & markets	Intelligent co- production
Inequality-corruption	Fixed hierarchies	Extractive incentives	Recirculatory exchanges
ECONOMIC GROWTH			
Local economy	City as machine	City as jungle	Collaborative value chains
Prosperity model	Material growth	Innovation, competition	Wider & deeper prosperities

# INDUSTRIAL TRANSITIONS & COMPLEX SYSTEMS





## SYNERGY SCANNING

Self-assessment indicators for six cityregions



## 5) JOHANNESBURG:

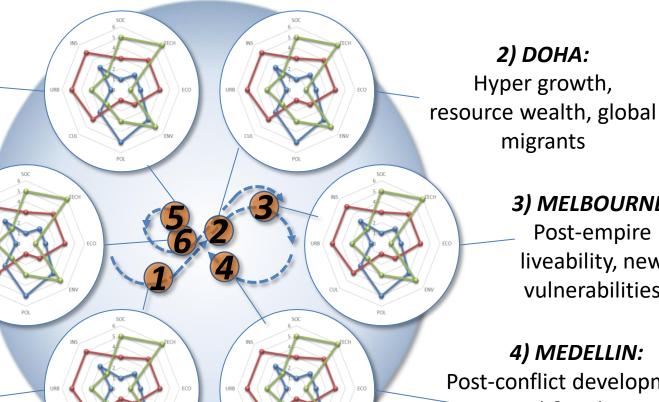
Post-apartheid legacies, rapid growth, new divisions

#### *6)* **MANCHESTER:**

Post-industrial 2<sup>nd</sup> wave, austerity, social innovation

#### 1) CHENNAI:

Post-colonial growth, urban transition, informality, climate vulnerability



# migrants

2) DOHA:

Hyper growth,

3) MELBOURNE:

Post-empire liveability, new vulnerabilities

#### 4) MEDELLIN:

Post-conflict developmen social & industrial innovation

# SYNERGY SCANNING

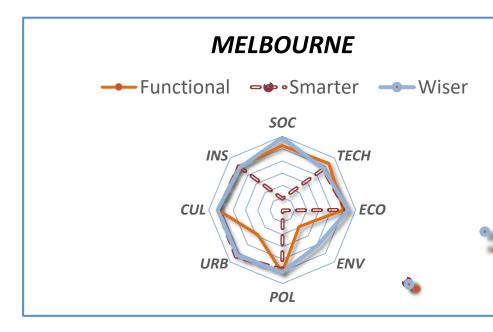
CO-EVOLU-	Mode-I	Mode-II	Mode-III
TIONARY>>	Linear	Evolutionary	Co-evolutionary
	'CLEVER':	'SMART':	'WISE':
	complex	emergent complexity	Deeper complexity
Social axis - 🕲	Material social needs	Social identity needs	Societal intelligence
	Life exp / edu / GNI	Equality (Gini <sup>-1</sup> )	Well being index
source	HDI	WB	Gallop / HPI
Technology axis - 🛠	Functional value	Innovation value	Infrastructure intel
	Energy / water / sanit	Modern infrastructure	Social resource policy
Source	WCR	SPI	BTI
Economic axis - \$	Direct trading value	Entrepreneurial value	Economic intelligence
	GDP / cap	Competitiveness	Welfare / fiscal regime
Source	GUO	GCI	SPI / WB
Environ axis - 🕢	Ecological function value	Eco-systemic value	Ecological intelligence
	CO2 per cap	Eco-footprint / cap	Sustainability policy
Source	UNEP	НРІ	BTI
Political axis - 🄁	Policy-functional value	Political-competition value	Political intelligence
	Democratic voice	<b>Control of Corruption</b>	Gov effectiveness
Source	WGI	СРІ	WGI
Cultural axis - 🕊	Cultural space	Cultural empowerment	Cultural intelligence
	-		

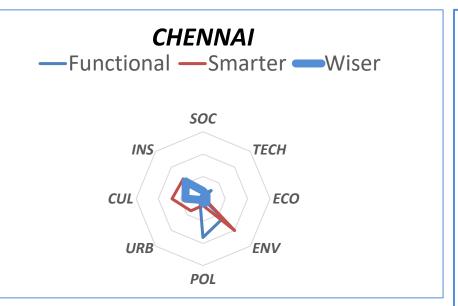
**Culture index** 

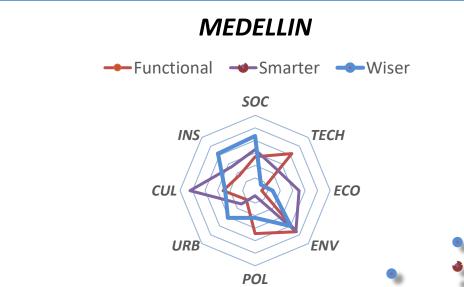
**Freedom life choices** 

**Tolerance of minorities** 

## SYNERGY SCANNING







## Innovation Cities™ Index 2021 (Covid19)

Source: 2thinknow Innovation Cities™ Index (Please Include Link)

Recent Movement

UP Post-Covid (2021)

DOWN Pre-Covid (2019) 1 Year

Long Term Movement

Want a longer time frame? See Column N & O https://innovation-cities.com/indexes

Journalists please email media@2thinknow. Original & Crafted by 2THINKNOW

162 Indicators

\*Changed Class. Bands

Copyright © 2021 @2THINK A Deeper View

#### LONG TERM

CHANGE AGAINST 5 YEAR AVERAGE 2015-2019

2021							Current City	Current	Pre-Covid 5 Year Average	Post-COVID 5
Ranking -	✓ City ✓	✓ GEOGRAPHY ✓	▼ STATE/PROVINCE	▼ REGION	<b>▼</b> BLOC	City ID	Classification 🔻	Score 🕶	Ranking 🔻	year Resu 🔻
10	Paris	France	Île-de-France	EUROPE	EUROPE	1002	NEXUS	51	8	- 2
11	London	United Kingdom		EUROPE	EUROPE	737	NEXUS	51	2	- 9
12	San Francisco - San Jose	United States	California	AMERICAS	USA	1557	NEXUS	51	5	- 7
13	Atlanta	United States	Georgia	AMERICAS	USA	79	NEXUS	51	30	+ 17
14	Seattle	United States	Washington	AMERICAS	USA	1215	NEXUS	51	16	+2
15	Shanghai	China	Shanghai	ASIA	CHINA	1227	NEXUS	51	30	+ 15
16	Stockholm	Sweden		EUROPE	EUROPE	1279	NEXUS	50	27	+ 11
17	Miami	United States	Florida	AMERICAS	USA	822	NEXUS	50	30	+ 13
18	Washington DC	United States	District of Columbia	AMERICAS	USA	1471	NEXUS	50	25	+ 7
19	Beijing	China	Beijing	ASIA	CHINA	125	NEXUS	50	33	+ 14
20	Los Angeles	United States	California	AMERICAS	USA	740	NEXUS	50	9	- 11
21	Austin	United States	Texas	AMERICAS	USA	87	NEXUS	49	37	+ 16
22	Vienna	Austria	Vienna	EUROPE	EUROPE	1439	NEXUS	49	14	- 8
23	Taipei	Taiwan	Taiwan	ASIA	CHINA	1313	NEXUS	49	57	+ 34
24	Amsterdam	Netherlands		EUROPE	EUROPE	43	NEXUS	49	17	- 7
25	Oslo	Norway		EUROPE	EUROPE	978	NEXUS	49	36	+ 11
26	Shenzhen	China	Guangdong	ASIA	CHINA	1230	NEXUS	49	63	+ 37
27	Las Vegas	United States	Nevada	AMERICAS	USA	713	NEXUS	49	67	+ 40
28	Denver	United States	Colorado	AMERICAS	USA	334	NEXUS	49	44	+ 16
29	Dubai	United Arab Emirates		EMERGING	MID-EAST	353	NEXUS	48	29	-
30	Osaka	Japan	Osaka	ASIA	JAPAN	2112	NEXUS	48	44	+ 14
31	Berlin	Germany		EUROPE	EUROPE	142	NEXUS	48	14	- 17
32	Istanbul	Turkey		EUROPE	MID-EAST	564	NEXUS	48	68	+ 36
33	Melbourne	Australia	VIC	ASIA	ANZ	811	NEXUS	48	21	- 12
34	Moscow	Russia	Moscow	EUROPE	RUSSIA	858	NEXUS	48	44	+ 10
35	Philadelphia	United States	Pennsylvania	AMERICAS	USA	1027	NEXUS	48	32	- 3
4										

# d) From University to Multi-versity – emerging models

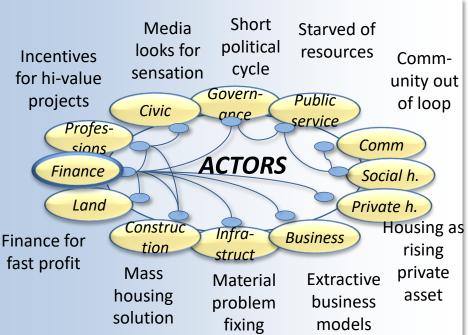


# SMART-WISE INNOVATION CO-DESIGN

#### **LOCAL PLANNING - POWER & PROFIT**

Structures of power, extraction & dependency

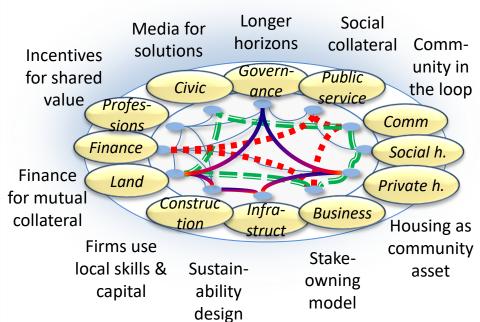




#### **LOCAL CO-DESIGN - COMMUNITIES**

Emerging synergies & win-win value loops

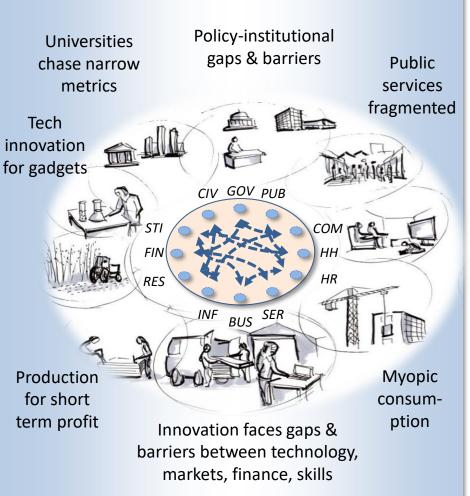




# **SMART-WISE INNOVATION PATHWAYS**

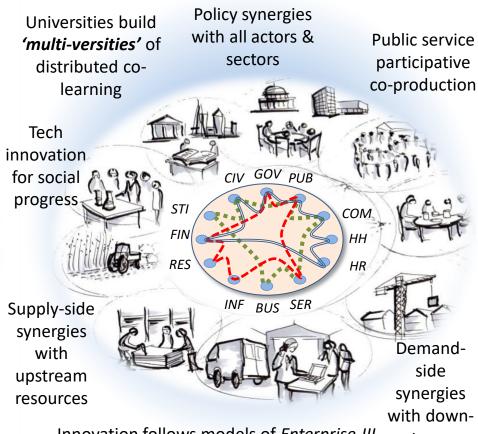
#### DYSFUNCTIONAL ECOSYSTEMS

Low Carb innovation system - disconnected & dysfunctional



#### TRANSFORMATIVE INNOVATION

Innovation system with mutual learning & dynamic synergies



Innovation follows models of Enterprise-III, Finance-III, Public-Service-III, Circulonomics-III, Organization-III, etc

stream clients

# THINK-ONOMICS - III

Overview of 'pathways from smart to wise', in cities, economies, environments, technologies, governance

Our city's problems are deeply complex -

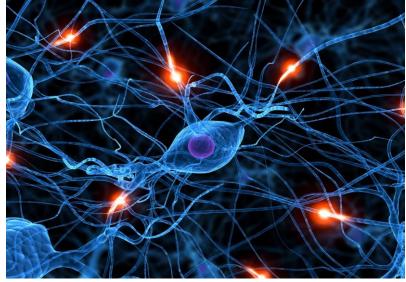
... our policy is 'clever' but simple,

...business is 'smart' but myopic

We need a 'wiser'
kind of collective
intelligence, where
everyone can learn
& think with
everyone

So first we map the pathways 'from smart to wise'





# **PANDEMONICS & TRANSFORMATION**

# a) LINEAR SYSTEMS-I

# CRISIS / PANDEMICS

simple cause / / effect / 'problem fixing' response



#### **ECONOMICS**

'take-makedump' industrial system thinking



# TECHNOLOGY & COMMUNICATIONS

functional single-loop learning





# b) EVOLUTIONARY-II

Recovery – markets / incentives (inequality, exploitation)



...speculative take-makedump



#### ...smarter double-loops



Governance by & for elites



## c) CO-EVOLUTIONARY-III

Transformation: inclusion equality, human scale (can be challenging)



...collaborative & recirculatory



...wiser multiloop learning & thinking



Co-governance by & for community



# PANDEMONICS 3.0 – PUBLIC HEALTH AGENDA

	'CLEVER': - 1.0	'SMART': 2.0	'WISE': 3.0
Hands	Enforced sanitizing:	Sanitizing incentives,	Integration of sanitizing into
	contact-less & hands-free	games, activities	workplaces, communities etc
Face	Regulation of mask use	Mask incentives, fashions,	Integration workplaces, social
		brands etc	communities etc
Space &	Surface level observation	Adaptive design &	Rethinking collective space use
distance	of rules	behaviour interactions	for new normal
Track & Trace	Digital solutions lacking	Partial social acceptance,	T&T is new normal with built in
	social linkages	take-up & responses	civil liberties
(PROBLEMS)	Digital divide, top down	Partial success with many	
	system, low takeup	side-effects	
Test	Basic service provision in	Data access, analysis,	Integration of results to social &
	right time & place	interpretation, feedback	economic life
Isolation /	Basic rules for isolation	Adaptive behaviour with	Full social, economic, material
shielding		gaps & barriers	support
Support	Minimum functional	Active connections with	Integrated mutual aid groups &
	support	family, friends	networks
(PROBLEMS)	fragmentation, distrust,	Many gaps barriers & side-	
	avoidance, low takeup	impacts	
Treat	Bio-medical treatment	Lifestyle feedback &	Integrated well-health in the
		incentives	community

# Collaboratorium for 'collective foresight intelligence'

Outline of collaborative learning, knowledge, insight, innovation & co-production

This concept model of a FS-3.0 is based on the synergistic concepts of collective intelligence:

- Structure: a

  'synergistic framework'

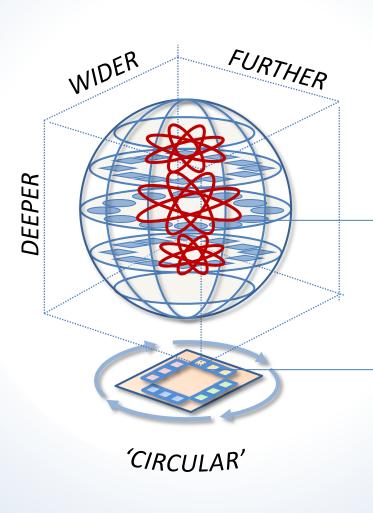
  to explore deeper &

  wider challenges with

  co-evolutionary

  systems;
- Process: a 'synergistic cycle' for collective learning, thinking, visioning & action.

A connected series of such *Collaboratoriums* may form a *Multi-versity* (where everyone learns from & with everyone)



SYNERGISTIC FRAMEWORK:

*Wider* synergies between actors:

**Further** synergies between factors:

**Deeper** synergies of layers / domains

**Co-evolutionary** collective intelligence

SYNERGISTIC PROCESS & CYCLE:

Co-learning (systems)

Co-knowledge (scenarios)

Co-creation: (synergies)

Co-production: (strategies)

# Foresight 3.0 – the story so far...

#### A) FORESIGHT AS PROCESS:

 Agenda: 'Foresight 3.0' as processes for emancipation, empowerment, societal transformation.

#### **B) FORESIGHT AS COMMUNITY:**

 Agenda: 'Foresight 3.0' as community building (networks, mesh-works, pioneers, hubs, forums etc), in order to enable & mobilize the processes above....

#### C) FORESIGHT AS LEARNING

- Agenda: much organizational learning is narrow & focused on productivity / efficiency etc: - so we have to be clear about the alternative '3.0' type model, of open agenda learning, deeper & wider boundaries etc.
- D) FORESIGHT AS TRANSFORMATION
- AGENDA RETHINKING STRUCTURES OF POWER, PRODUCTION, COMMUNITY, LIVELIHOOD ETC

#### Next steps -

- Demonstration of the Foresight 3.0 approach for a general 'Pandemic-3.0' response / recovery (local / national / international levels are possible);
- Demonstration of this 'Foresight
   Pandemic 3.0' applied to different
   sectors: e.g. public health, urban
   development, local communities,
   digital governance etc;
- development of methods (e.g. 'game-changers'): training modules / capacity building programs etc (online).
- Funding e.g. application in progress for a \$10m major grant from west coast foundation

# CHAI - LABORATORY

#### **MULTI-VERSITY CONCEPT**

#### THINKING SPACES

#### KNOWLEDGE FLOWS

Deeper-minds, widerviews, further insights, looking beyond

Architecture for opening minds, moving hearts, lifting souls

WHY:

WHERE:

#### **ACTIVITY FLOWS**

- Round tables & resource hubs
- Trends, prospects, outlooks
- Visioning, mind-labs
- Local pathways, strategy, capacity

#### **HUMAN FLOWS**

Shared leadership, co-governance, mutual learning, skeptical enquiry

#### **INNOVATION SPACES**

Co-creation & design: physical space, financial space, knowledge space, technology space

**EXPERIMENTAL SPACES** 

Living-labs, fab-labs, futurelabs, GO-labs, policy-labs, citylabs, deeper-mind-labs

WHITHER?

#### Insights:-

**KEY-STONES** 

Deeper minds E/valuation Resilience Foresight

#### **MILE-STONES**

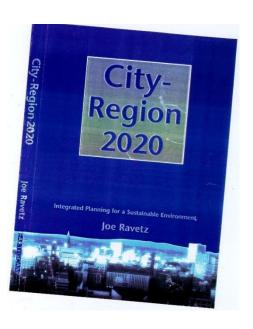
Benchmarks & roadmaps for society, technology, economics, ecology, policy, culture

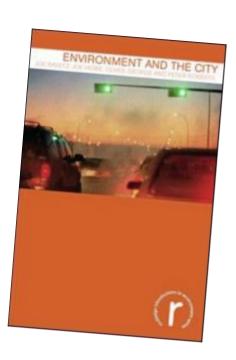
#### STEPPING STONES

Boundary objects, trading zones, horizon scans

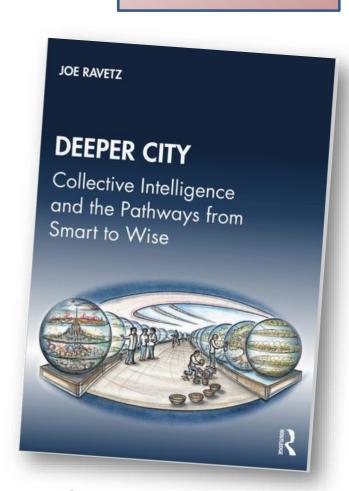
# Introductions ...

www.urban3.net www.manchester.ac.uk /synergistics





"World's largest feasibility study" – linking spatial, economy, environment, society, governance. "Environment and the City" - critical perspectives on the urban environment around the world



Collective intelligence for the pathways from *smart* cities / economies/ ecologies / technologies / politics, to *wise*...

#### **POWER DYNAMICS & DISCOURSES**

(CIVIL ELITE) -We're experts so trust us & we can all make progress together

#### **GLOBAL COMMUNITY**

big government of planning, regulation, redistribution

<<Tension>>
Global
structures vs
local identity

LOCAL COMMUNITY:

self-organizing mutual aid

We've been left behind by corrupt politicians!! (GRASSROOTS ANTI-POLITICAL)

