

# INNOVATION PRECINCTS

An aerial architectural rendering of the Skolkovo Innovation Center in Moscow. The image shows a large-scale development with numerous modern, multi-story buildings, some with blue roofs, interspersed with green spaces, parks, and water features. The development is situated in a valley, with a river or canal flowing through it. The surrounding area includes existing urban infrastructure and roads.

Affordable Living in Sustainable Cities

Katherine Exeter

April 2019

RAMBOLL

Skolkovo Innovation Center, Moscow



# INTRODUCTION

**Katherine Exeter**  
**Urban Planning**



# RAMBOLL IN BRIEF

- Independent engineering and design consultancy and provider of management consultancy
- Founded 1945 in Denmark
- 14,000 experts, close to 300 offices in 35 countries
- Owned by Rambøll Foundation (98%) – Commercial foundation with a long-term ownership perspective
- Strong presence in Asia Pacific

## Services across the markets:

- Buildings
- Transport
- Planning & Urban Design
- Water
- Environment & Health
- Energy
- Management Consulting






# GLOBAL MEGATRENDS

“The world as we have created it is a process of our thinking. It cannot be changed without changing our thinking”

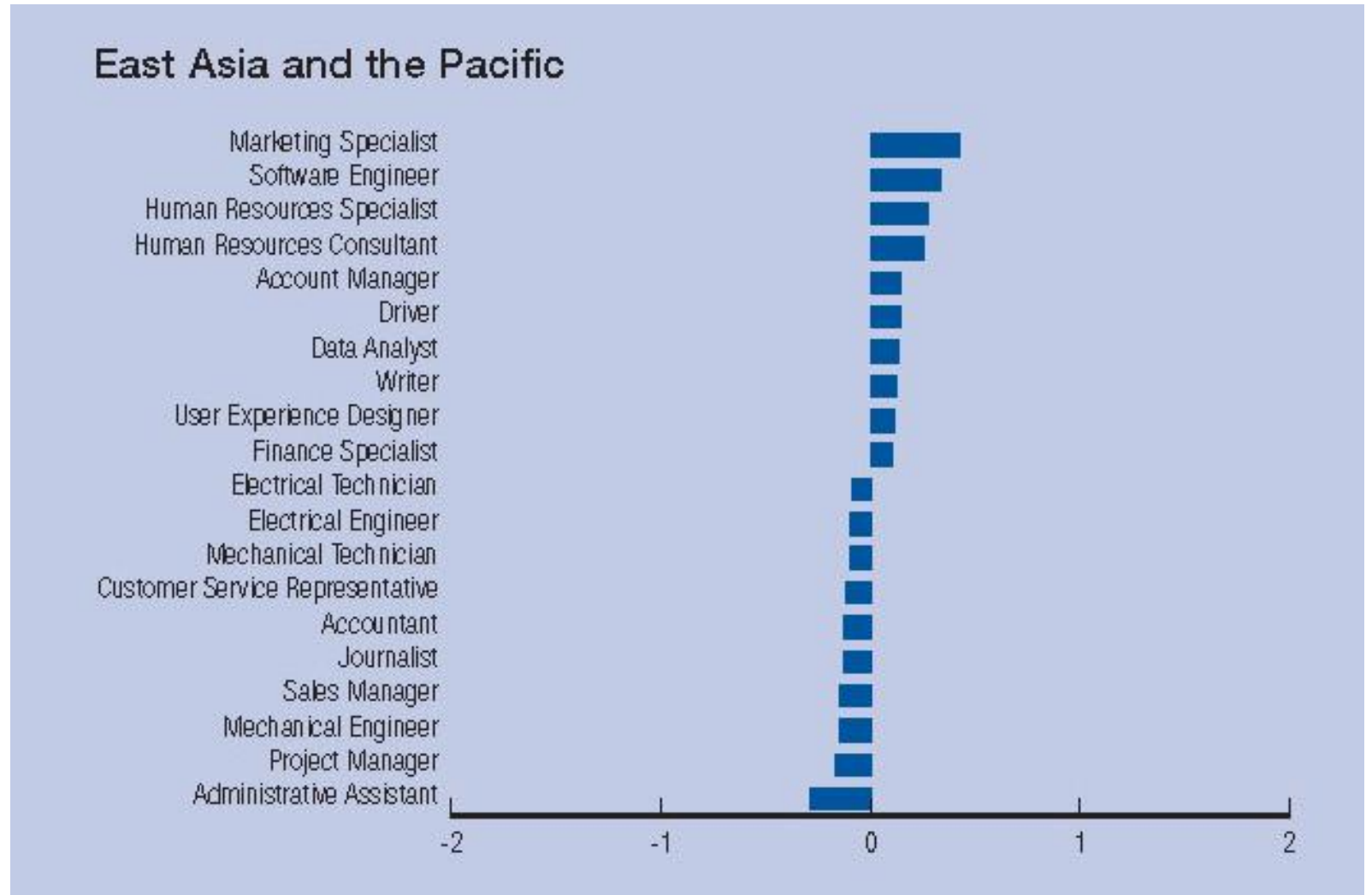
Albert Einstein

# THE WORLD IS FACING GLOBAL MEGATRENDS

DEMOGRAPHIC CHANGES	URBANISATION	CLIMATE CHANGE & ENVIRONMENTAL PROBLEMS	RESOURCE SCARCITY	GLOBALISATION	DIGITISATION
 <p>Overpopulation, ageing population, state of health, increasing education, growing middle class, smart cities, values shifts</p>	 <p>New infrastructure, increase in redevelopment, waste, water, pollution, mobility, unique city structures, migration</p>	 <p>Degradation of ecosystem, global warming conditions, climate adaptation</p>	 <p>Increasing global demand, economic austerity, energy from waste</p>	 <p>Global division of labour, goods, services, communication, mobility, transportation, connectivity</p>	 <p>Processes and society in general are increasingly digitalised, accessibility, future jobs</p>

# FUTURE OF JOBS 2018 – ASIA PACIFIC

Top ten most **emerging**  
**and declining** roles  
between 2013–2017 as  
observed in hiring trends,  
by region (rate of change)



# GLOBAL COMPETITIVENESS – NEW ZEALAND

The Global Competitiveness Index 2017-2018 edition

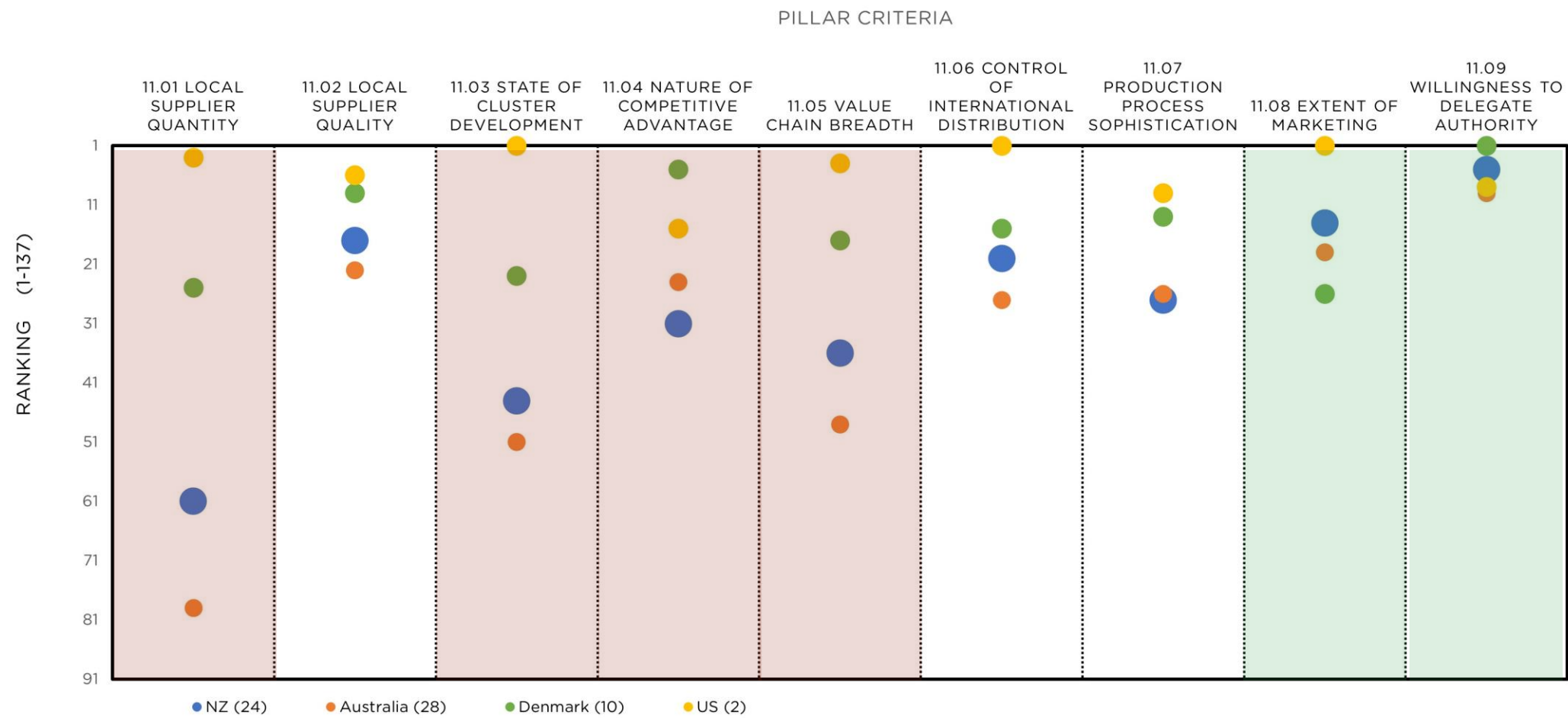
World Economic Fund

Index Component	Rank/137	Score (1-7)	Trend	Distance from best
<b>Global Competitiveness Index</b>	<b>13</b>	5.4		
Subindex A: Basic requirements	5	6.0		
 <b>1st pillar: Institutions</b>	3	6.1		
 <b>2nd pillar: Infrastructure</b>	23	5.5		
 <b>3rd pillar: Macroeconomic environment</b>	16	6.1		
 <b>4th pillar: Health and primary education</b>	6	6.6		
Subindex B: Efficiency enhancers	9	5.4		
 <b>5th pillar: Higher education and training</b>	7	6.0		
 <b>6th pillar: Goods market efficiency</b>	9	5.3		
 <b>7th pillar: Labor market efficiency</b>	5	5.5		
 <b>8th pillar: Financial market development</b>	1	5.8		
 <b>9th pillar: Technological readiness</b>	13	6.1		
 <b>10th pillar: Market size</b>	64	3.9		
Subindex C: Innovation and sophistication factors	25	4.8		
 <b>11th pillar: Business sophistication</b>	24	4.9		
 <b>12th pillar: Innovation</b>	20	4.7		

WEF, 2018

# GLOBAL COMPETITIVENESS – NEW ZEALAND

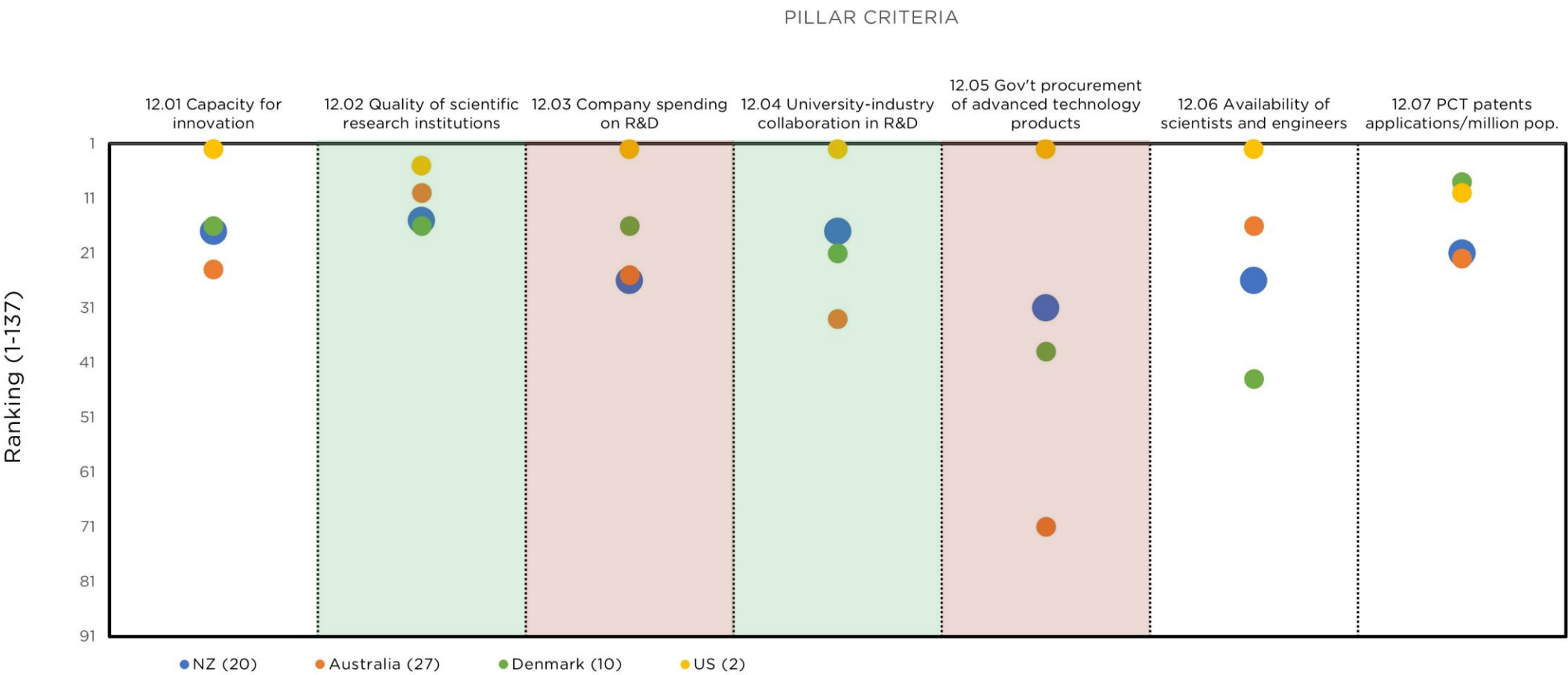
GLOBAL COMPETITIVENESS INDEX 2017-2018 (WEF)  
RANKING COMPARISON - BUSINESS SOPHISTICATION





# GLOBAL COMPETITIVENESS – NEW ZEALAND

GLOBAL COMPETITIVENESS INDEX 2017-2018 (WEF)  
RANKING COMPARISON - INNOVATION



# SUSTAINABLE DEVELOPMENT

"We need to address the  
societal well-being of our  
nation, not just the  
economic well-being"

Jacinda Ardern

WEF Annual Meeting, Davos



# SUSTAINABLE DEVELOPMENT GOALS



# SUSTAINABLE URBAN DEVELOPMENT

Sustainable Development

Liveable Cities | Smart Cities | Placemaking

Cultural

Social

Physical

Urban Strategy

Governance

Economy

Environmental  
Stewardship



# LIVEABILITY

the **physical, economic, social and cultural conditions that together define a community's quality of life and wellbeing.**

The alignment between desired and actual living environment, aiming at the betterment of the community as a whole<sup>1</sup>

Meaning of liveability is **unique** for every city

An **integrated and balanced approach** to these factors enables cities and inhabitants to prosper

# SUSTAINABLE INNOVATION PRECINCT

“We don’t have a capital problem ... We have an organizing problem”

Bruce Katz

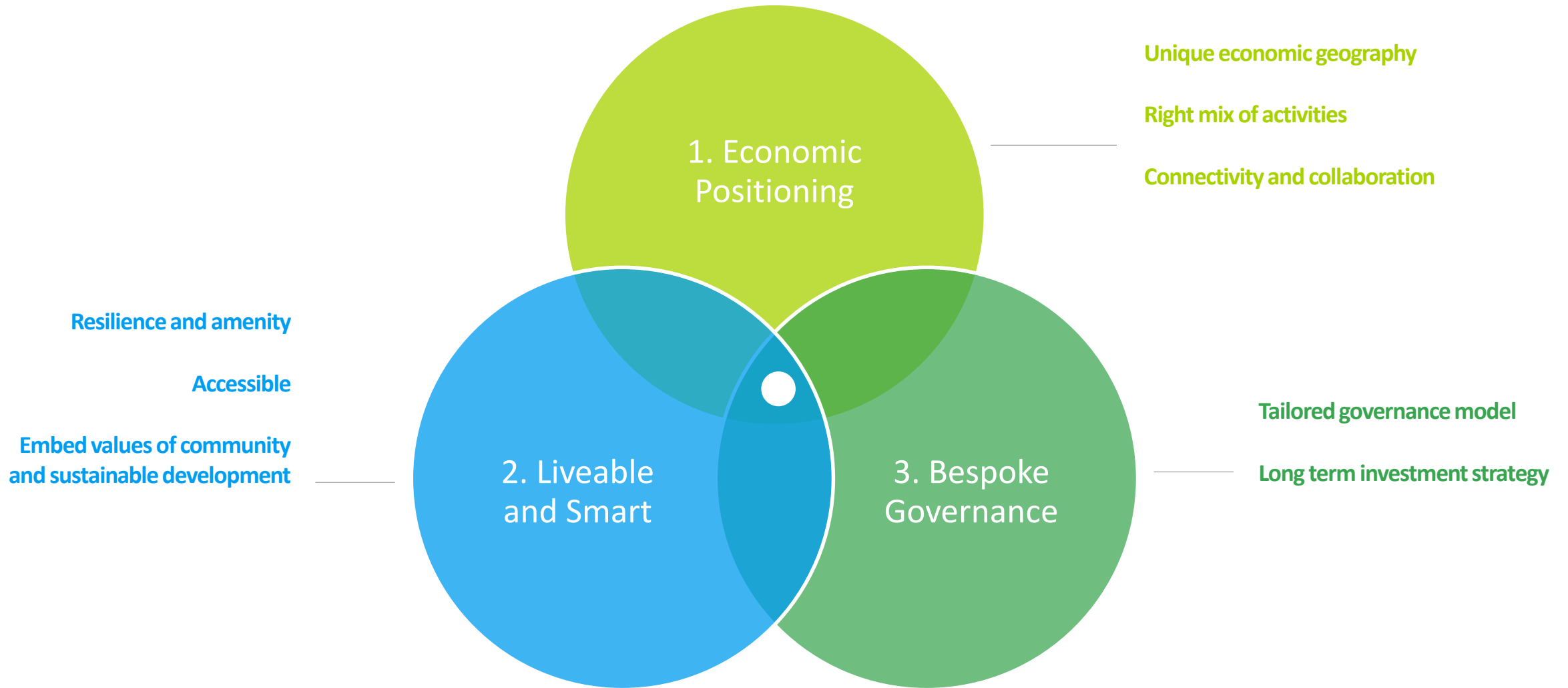


# WHAT IS AN INNOVATION PRECINCT?

“Geographic areas where leading-edge anchor institutions and companies cluster and connect with start-ups, business incubators and accelerators. They are also physically compact, transit-accessible, and technically-wired and offer mixed-use housing, office, and retail.”

Bruce Katz and Julie Wagner (2014), Brookings Institution

# THREE ELEMENTS OF A SUSTAINABLE INNOVATION PRECINCT



# Economic Positioning

# ECONOMIC POSITIONING

## UNIQUE ECONOMIC GEOGRAPHY

“we can prioritize those activities that leverage the things about our regions that are unique, distinctive, and meaningful. That leads to a smarter type of economic development than simply chasing the next big thing.”

Scott Stern (WEF, 2014)

<https://www.weforum.org/agenda/2014/12/how-industrial-clusters-boost-growth/>





# ECONOMIC POSITIONING

## UNIQUE ECONOMIC GEOGRAPHY

The Economic Positioning Strategy is the critical first step to developing a sustainable Innovation Precinct

### Principles

- Clustering of innovative sectors, technology and research strengths
- Reflect a core anchor/catalyst or focus of the locality (based strengths and competitive advantages)
- Cluster of complementary activities need to carefully plan for horizontal agglomeration and security
- Economic position determines highest and best land use within precinct, supporting infrastructure requirements and fundamental design principles for the Precinct

# ECONOMIC POSITIONING

## UNIQUE ECONOMIC GEOGRAPHY

### AGRO FOOD PARK, DENMARK

- international focus
- 3000 jobs in the scientific agriculture and food sector
- m<sup>3</sup> Strategy (professional, social and network activities):
  - coordinated events and networking
  - collective marketing
  - incubators and sharing knowledge



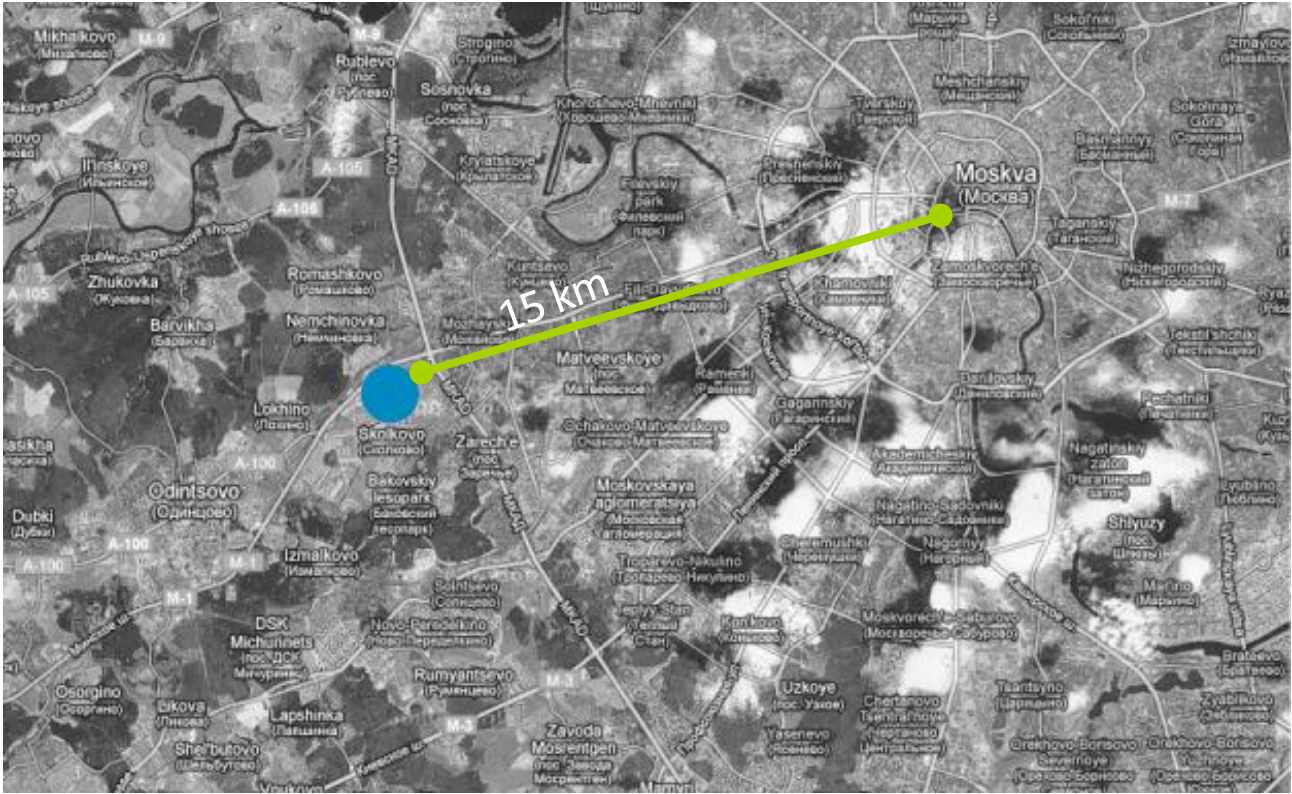
Ramboll and COBE

# ECONOMIC POSITIONING

## UNIQUE ECONOMIC GEOGRAPHY

### Skolkovo Innovation Center

Inhabitants	21 000
Employees	31 000
Development	2 500 000 m <sup>2</sup>
• University	162 000 m <sup>2</sup>
• Techno Park	45 000 m <sup>2</sup>
• Office (Majors & Start Up)	365 000 m <sup>2</sup>
• Residential	860 000 m <sup>2</sup>





# ECONOMIC POSITIONING

## RIGHT MIX OF ACTIVITIES

### Principles

- Horizontal agglomeration
- Need to maintain flexibility for a range of disciplines, institutions, companies, start-ups to promote cross-fertilisation and flexibility
- Small agile businesses combined with the robustness and resources of larger organisations, together with mix of public, private and academic institutions
- Establish a master plan that is flexible enough to cater for these uses and for change over time
- Diverse demographics, include affordable housing, reflect cultures and social infrastructure support

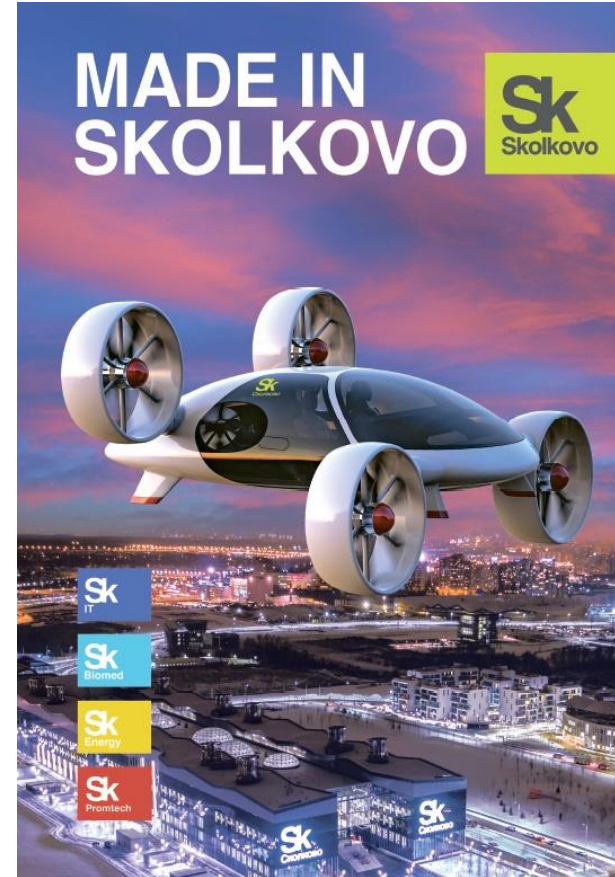




# ECONOMIC POSITIONING

## CONNECTIVITY AND COLLABORATION

- Establish and maintain networks of communication and information sharing
- Establishing locations for social interaction, and taking advantage of existing areas where people congregate and share – these may be fabricated or organic
- Engender opportunities to connect, grow skills, strengthen and build organisation networks
- Make innovation part of the landscape



<http://sk.ru>

# Liveable and Smart

# LIVEABLE AND SMART

## RESILIENCE AND AMENITY

- Create a place that attracts the innovators and the talent aligned with the vision
- Essential to create an environment that people want to live, work and visit and one that knits with the surrounding fabric
- Mitigating climate risks are critical component of liveability into the future
- Understand the view into the future – develop flexibly and adapt to changes
- Liveable city development must be the primary objective, while cutting carbon emissions and building resilience are prerequisites



Skolkovo Innovation Center – AREP, Setec, Ramboll



# LIVEABLE AND SMART

## RESILIENCE AND AMENITY

### Skolkovo Innovation Center

#### Vision

A full-fledged city, though it is a special city in which creativity is the rule rather than an exception; a prototype for the city of the future

#### Open

A city with an open code that aims to rebuild the surrounding world in accordance with its principles and facilitates communication

#### Sustainable

An energy efficient city with minimal or zero emissions of environmentally harmful substances



<https://www.skolcity.ru>



# LIVEABLE AND SMART RESILIENCE AND AMENITY

## Skolkovo Green Code

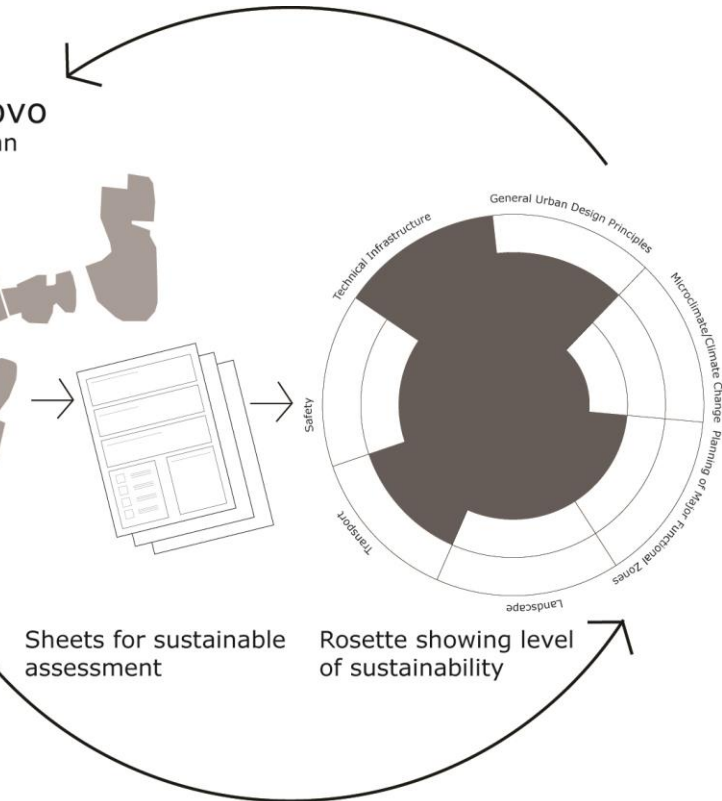
- Reflects the local imperatives and values and feasibility analysis of alternatives
- Standards are based on a combination of laws, standards, norms and best practices of OECD countries (LEED, BREEAM)



Skolkovo  
Green Code



Skolkovo  
Masterplan

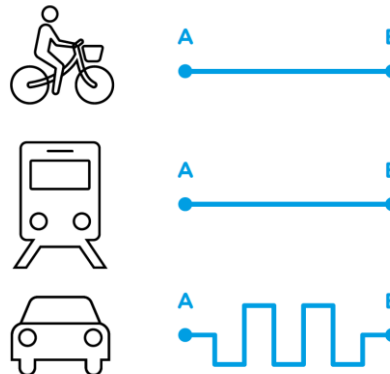


# LIVEABLE AND SMART

## ACCESSIBLE

### Provide high quality infrastructure for convenient movement of people

- Mobility through transport modes – smart and equitable
- Accessible (fast and convenient) to surrounding areas and other centres.
- Local area is walkable (with quality footpaths) and active transport (cycle paths), car sharing, public transport provided





# LIVEABLE AND SMART

## EMBED VALUES OF COMMUNITY AND SUSTAINABLE DEVELOPMENT

- Values of local community – need to establish these and reflect these in the design and vision for the Innovation Precinct.
- Encourage support for disadvantaged to participate in innovation and utilise the strength of the critical mass.
- Long term plan for mitigating cost increases associated with participating in the Innovation Precinct (as a resident, business, innovator or visitor).
- Embed diversity and inclusion

### DigiEcoCity Ltd

is working with leading IT/mobile and construction companies along with research institutes, universities and government organisations. We provide world class expertise in developing DigiEcoCities!

#### Contacts:

[www.digieco.city](http://www.digieco.city)  
[firstname.lastname@digieco.city](mailto:firstname.lastname@digieco.city)

FINLAND  
address: Kuusiniementie 5,  
00340 Helsinki, FINLAND  
phone: +358 9 4778 100

CHINA  
phone: +86 1390 1399848



### DigiEcoCity GongQing

DigiEcoCity is a model for an ideal city, combining the principles of sustainable development, the innovations of the digital revolution, and the necessary urban functions, for providing a framework of good daily life. DigiEcoCity combines living, public and private services, working and industry, culture and leisure within the walking distance. Its scale and details respond to local needs. DigiEcoCity is a humane and ecological alternative to the congested metropolises.



[DigiEcoCity.org](http://DigiEcoCity.org)

The joint venture company Gongqing DigiEcoCity Ltd has been established in Gongqing City, Jiangxi Province. Regulatory plan (city plan) of the site has been developed according to the DigiEcoCity principles.

The groundbreaking ceremony took place on the 3rd of May 2010 in Gongqingcheng (Jiangxi Province).

The detailed plans for implementation and construction are being worked on. When Gongqing city is built it will provide housing for 60 000 population.

# Bespoke Governance

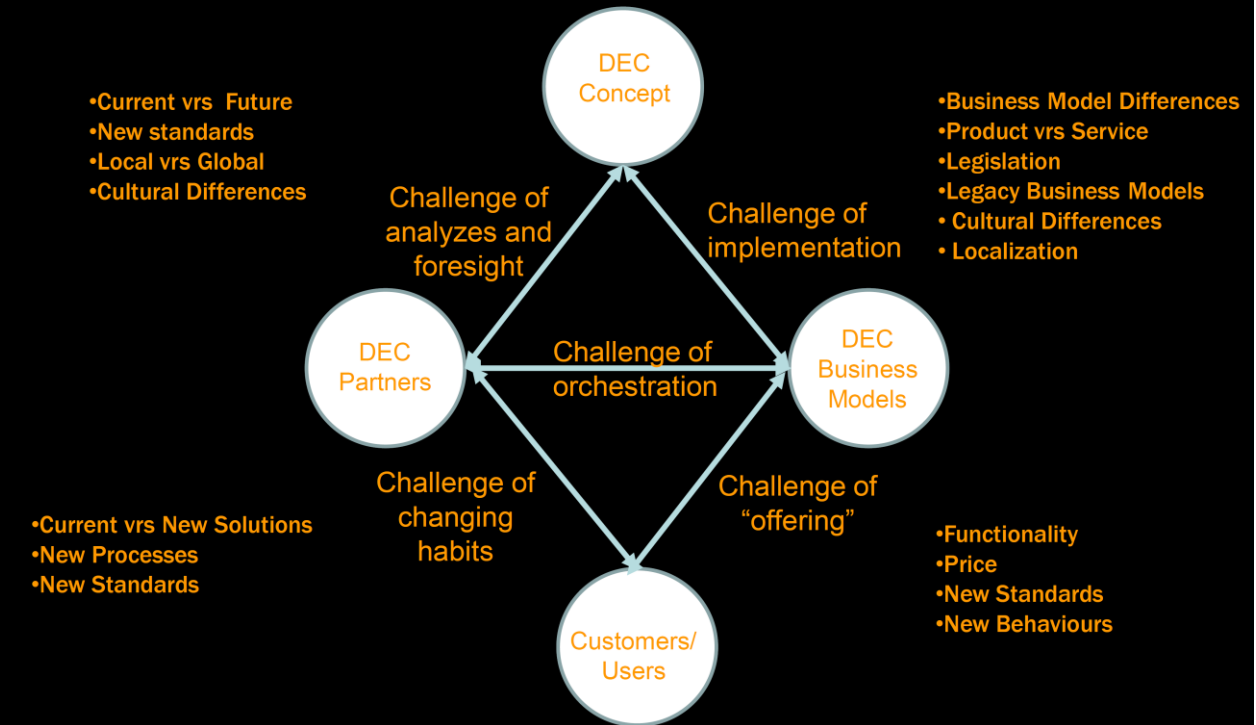


# BESPOKE GOVERNANCE

## TAILORED GOVERNANCE MODEL

- Governance structure / organising vehicle – collaborative governance structure, with long term mandate.
- Long term strategy for growth and investments
- Tailored to the local regulatory and cultural conditions
- Innovative finance model to feed funds into growing, improving and adapting the IP without limiting the resources available to invest back into business.
- Collaborative approach to governance – the governing vehicle needs independence and a bottom up horizontal governance model (Wagner et al, 2017)

### BUSINESS ENVIRONMENT



DigiEcoCity Ltd

# BESPOKE GOVERNANCE

## TAILORED GOVERNANCE MODEL

### Skolkovo – A Unique Governance Model

- New regulation area, designed to enable flexibility and innovation
- Part of a suite of new site-specific regulation, partly to attract investors through taxation benefits, but also to enable the implementation of green technologies in the district
- Focussed on liveability and 'next' practice to become model for Innovation Precincts and renewal



Skolkovo Innovation Center – AREP, Setec, Ramboll



# BESPOKE GOVERNANCE

## LONG TERM INVESTMENT STRATEGY



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### Map of investment projects

- Long term strategy for both large and small investment in infrastructure and growth
- Phasing of investments needs to be aligned with the phasing of physical growth and population within the Innovation Precinct



Invest objects

RAMBOLL

<https://www.skolcity.ru/en/map/investments/>



# KEY ELEMENTS

Innovation Precincts are showing the way globally, regarding how our cities can change to become more liveable and resilient.



# ELEMENTS OF A SUSTAINABLE INNOVATION DISTRICT

- Clear vision based on sound evidence and next practice
- Build upon local strengths (economic, social, cultural and environmental)
- Holistic solutions (district solutions for energy and resources use)
- Smart mobility and permeable (peripheralise cars)
- High amenity public, semi-public and private spaces
- Resilient (future technology, risks, phasing, mix of uses – start ups, anchor, residential, retail, child care, social)
- Networks of communication and knowledge sharing (formal and informal)
- Tailored and collaborative governance
- Long term investment strategy (major and minor investments)
- Design for people

# END

