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Career challenges for smart cities

Short keynote for the online DevOps conference

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*Based on: Curşeu, Semeijn, & Nikolova (2021): Sustainable Careers in Smart Cities, a sociotechnical perspective, *Human Relations*, 74(5), 656–677.*



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**What can be done towards a
*sustainable career
ecosystem* in smart cities?**



Why should cities become smarter?

- (1) **Demographic changes and challenges** (increased urbanization – by 2050 an estimated 68% of the world population is expected to live in cities)
- (2) **Fast technological developments** – they permeate urban development (as well)
- (3) **Scarce natural resources** (including water and land)
- (4) **Urban environmental challenges** (water, material and waste management, pollution and environmental impact; natural hazards; personal mobility and transport)



What do we consider smart cities?

DevOps site: “Smart cities are complex ecosystems that use information and communication technologies for helping their citizens and organizations deal with the challenges of urbanization, safety, resilience, and sustainability”.

Which is in line with features as mentioned by Holland (2008):

1. rely heavily on new technologies in networked infrastructures,
2. have a strong entrepreneurial and business focus and
3. have a strong concern for social and environmental sustainability

...and by Harrison et al. (2010): Instrumented, Interconnected, Intelligent

Sources:

Harrison C, Eckman B, Hamilton R, Hartswick P, Kalagnanam J, Paraszczak J and Williams P (2010). Foundations for smarter cities. *IBM Journal of Research and Development*, 54(4): 1-16.

Hollands RG (2008). Will the real smart city please stand up? Intelligent, progressive or entrepreneurial? *City* 12(3): 303-320.

Some examples:

Ranking	City	Performance	CIMI
1	London - United Kingdom	A	100.00
2	New York - USA	A	95.73
3	Paris - France	RA	85.50
4	Tokyo - Japan	RA	81.95
5	Reykjavík - Iceland	RA	80.47
6	Copenhagen - Denmark	RA	78.51
7	Berlin - Germany	RA	77.46
8	Amsterdam - Netherlands	RA	77.31
9	Singapore - Singapore	RA	76.71
10	Hong Kong - China	RA	76.04

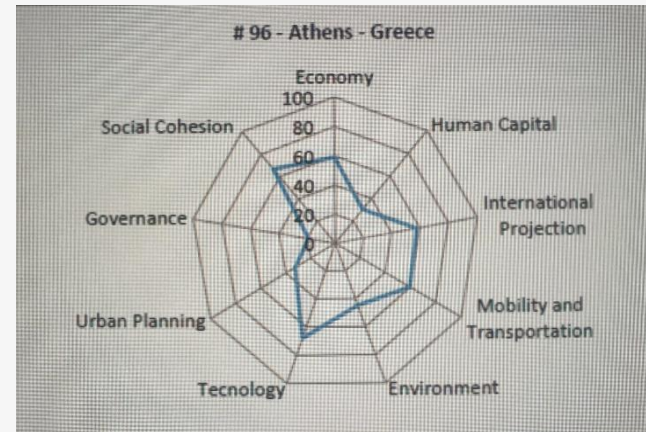
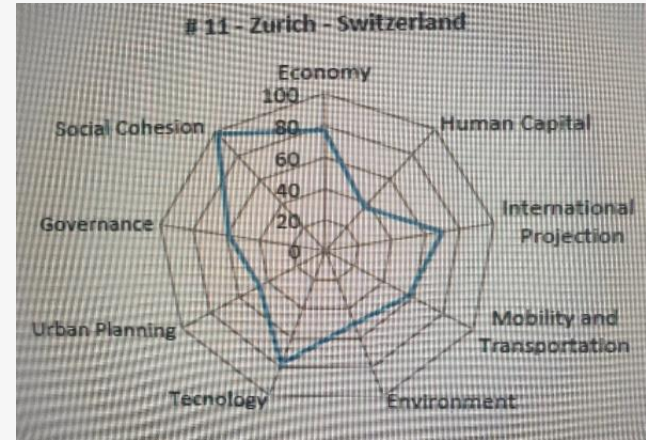
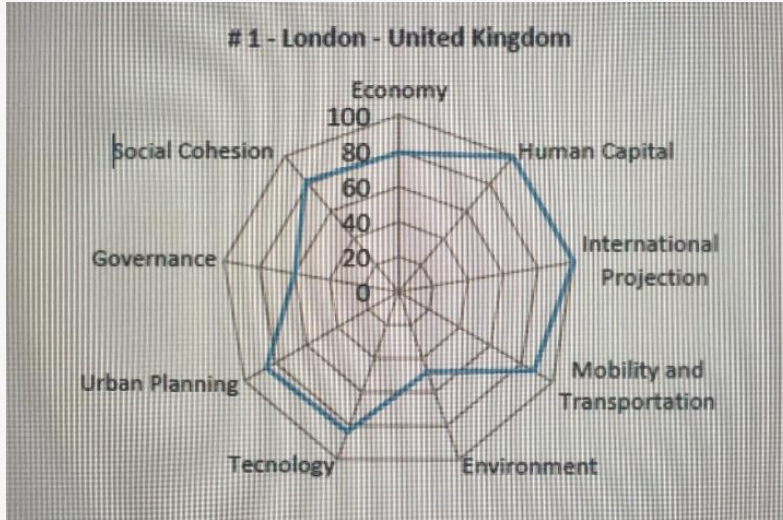
Based on 9 dimensions:

- the economy
- human capital
- social cohesion
- public management, governance
- the environment
- mobility and transportation
- urban planning
- international outreach, and
- technology

Source:

Barrone , P. & Ricart, J. E. (2020) Cities in motion Index. IESE Business School, University of Navarra

Differences by dimensions:



Source:

Barrone , P. & Ricart, J. E. (2020) Cities in motion Index. IESE Business School, University of Navarra



Development in career theories over time:

From Boundaryless, Protean and 'Intelligent' careers towards **Sustainable careers:**

*'sequences of career experiences reflected through a **variety of patterns of continuity over time**, thereby **crossing several social spaces**, characterized by **individual agency**, herewith **providing meaning to the individual**' (De Vos and Van der Heijden, 2015, p.7)*

Source: De Vos, A., & Van der Heijden, B.I.J.M. (2015). *Handbook of Sustainable Careers*. Edward Elgar Publishing, United Kingdom.

Why are sustainable careers important?

In the longer term, people need to work longer, and therefore need to remain **healthy, happy, and productive** (Van der Heijden, 2005)

For smart cities, sustainable careers should therefore be

- **mutually beneficial** for the person and the organisations in the smart city and
- should reflect a **systemic and developmental, long term perspective**





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**The (future) fit
between sustainable
careers and smart
cities... challenges!**



Why is it challenging? How well do they fit?

Sustainable careers are achieved when under conditions of good person-environment fit - individuals achieve ideal performance, wellbeing and adaptation in environments that are **congruent** with their personalities, skills, knowledge and abilities (Edwards, 2008)

Dimensions of person & smart city fit:

Resilience

Intelligence

Employability

Source: Edwards, J.R. (2008). Person-environment fit in organizations: An assessment of theoretical progress. *The Academy of Management Annals* 2:167-230



Systemic challenges

Challenge 1: *the person-smart city fit is **unbalanced**, that is, it disadvantages the less ICT literate and lower educated individuals, and it favors the ICT literate, highly educated citizens that work in knowledge intensive organizations*

Challenge 2: *the person-smart city fit is **volatile** as technology and organizations are continuously changing the career context in smart cities*



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When a smart city
also wants to
become wise...?

**Solutions towards a
sustainable careers ecosystem
in smart cities**



Sustainable careers in smart cities:

Emphasis on:

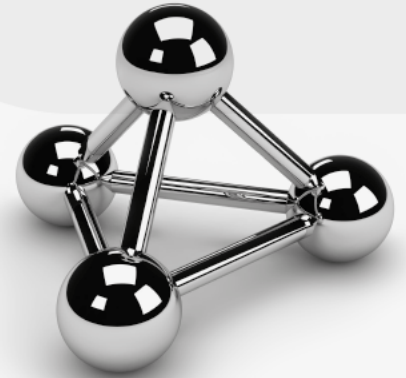
1. Continuous development and learning (resilience)
2. Connectivity (intelligence)
3. Flexibility & adaptability (employability)



Solution 1: Centrality of skills and talents

- Continuous & smart education
- ICT literacy programs
- Focus on continuous updating of skills and expertise

Life long development in its broadest (humanistic) sense

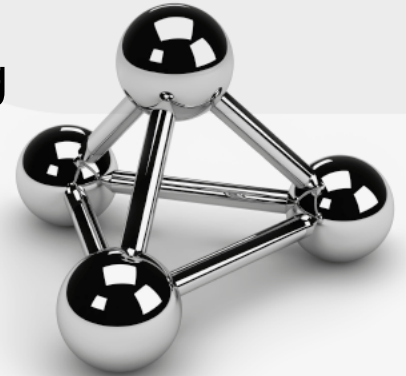




Solution 2: Career communities

- Citizen participation in urban governance
- Entrepreneurial orientation – people have to take ownership of the process of finding and/or generating career support
- Self-organized social support structures

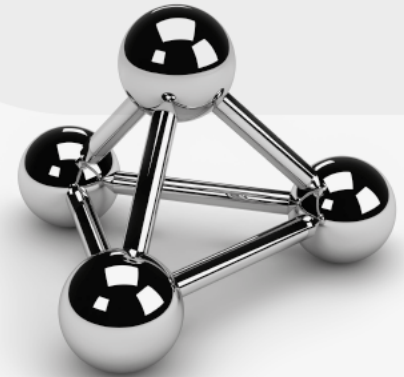
Facilitation by city policies, e.g. external coaching



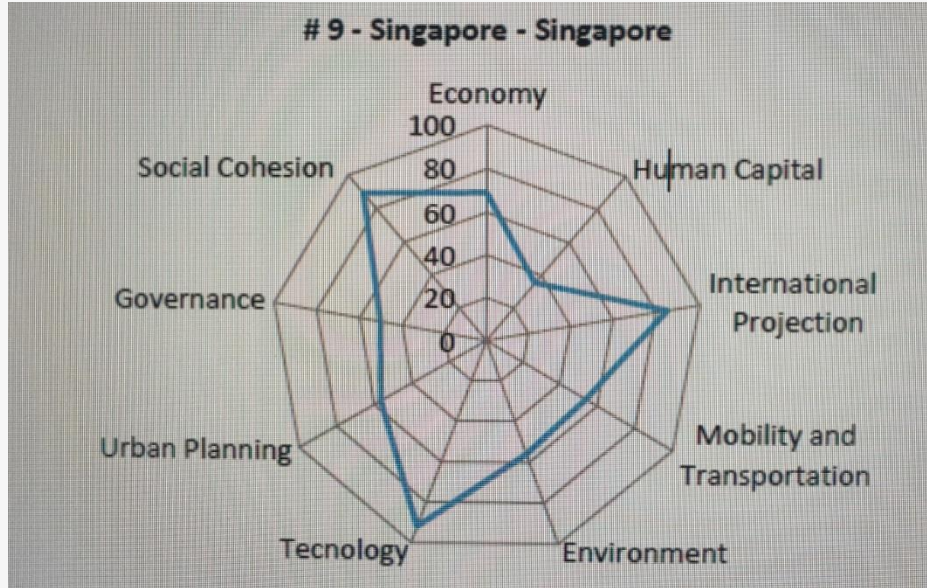
Solution 3: Network-centric organisation

- Wide participation of relevant stakeholders (organizations, local authorities, representatives of career communities, citizens) **for e.g. innovation**
- Public – private collaboration & trust
- Network leadership – collaborative leadership

The One-North cluster in **Singapore** >> brings together high-tech, bio-medical and media companies with educational institutes and communities to create a knowledge-intensive and innovative urban ecosystem (Kennedy & Chan, 2020)



Dimensions for Singapore:



Source:

Barrone , P. & Ricart, J. E. (2020) Cities in motion Index. IESE Business School, University of Navarra



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- **What do the solutions mean for competencies for Smart City professionals?**
- **Do we need a separate type of Smart City Profession to take responsibility?**



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**Thank you for your
attention!**

...Questions?



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