GEN-Y CITY

Developing, attracting & retaining Gen-Y 'creative-tech' talent in European cities

Final Report

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1.0 Introduction

About the GEN-Y CITY Network

The Gen-Y City Network is an Urbact III project that has been co-financed by ERDF, that is exploring how cities can develop, attract and retain GEN-Y 'Creative-Tech' Talent.

Generation Y (also sometimes referred to as Millennials) are the demographic group following Generation X (those typically with birth years ranging from the early-to-mid 1960s to the early 1980s). There are no precise dates for when Generation-Y starts or ends; demographers and researchers typically use the early 1980s as starting birth years and the mid-1990s to early 2000s as ending birth years.

The project is led by the City of Poznan (Poland), and partners include Bologna (Italy), Genoa (Italy), Sabadell (Spain), Granada (Spain), Coimbra (Portugal), Nantes (France), Wolverhampton (UK), Kristiansand (Norway), Klaipeda (Lithuania), Daugavpils (Latvia) and Torun (Poland).

More information can be found at http://urbact.eu/gen-y-city

About the activities of the Network

During the implementation of the network, the partners have participated in nine transnational networking events, which have resulted in the production of twelve different transnational exchange reports;

- **Kick Off Meeting** (Torun, 22-24th June 2016)
- **Making the case for investment in 'creative-tech' talent** (Wolverhampton, 27-28th Sept 2016);
- **How to make best use of Labour Market Information** (Wolverhampton, 27-28th Sept 2016);
- **The role of culture and creativity** (Genoa, 7– 8th November 2016)
- **Smart Specialisation, Tech Hubs and Civic Tech Initiatives** (Coimbra, 30-31st March 2017);
- **Creative-Tech Talent Ecosystem Frameworks** (Bologna, 11-12th July 2017);
- **Practical Considerations when Building Creative-Tech Ecosystems** (Bologna, 11-12th July 2017);
- **Inclusive Creative Tech Initiatives** (Nantes, 21-22nd September 2017);
- **Marketing a creative-tech city globally** (Nantes, 21-22nd September 2017);
- **Public-Private Partnerships in Talent Retention & Attraction** (Kristiansand, 9 – 10th November 2017);
- **Talent Retention/Attraction Systems** (Kristiansand, 9 – 10th November 2017);

- **The Urban Development Forum** (Poznan, 6th & 7th December 2017)

In addition, the network has produced a **Book of Case Studies**; **Book of Best Practices**; **eleven Peer Review Reports**; and **eleven Integrated Action Plans**.

This Final Report seeks to summarise the overall findings of the Network.

Why the Focus on Millennials?

Whilst the narrative above describes the characteristics of GEN-Y, or Millennials, it doesn't set out why they are so important to cities.

Over the last 20 years, younger people have increasingly chosen to live in urban areas, whilst the share of older residents in cities has generally fallen.

However, the impact of wage levels and different unemployment rates across Europe has also had an impact – with migration patterns showing that many young people were migrating to larger cities or the parts of Europe that could offer them a better quality of life.

The evidence largely suggests there are two main typologies of cities which age faster than others;

- **The first is made up of those which have struggled economically in recent years.** These probably age quicker as young people move away in search of job opportunities.
- **The second is those that expanded heavily in the post war 'baby boom'**. Many of these cities attracted a large contingent of young people during their expansion and now, their residents are simply getting older as time passes.

Having a younger population can help to attract businesses, as the larger pool of working age residents is generally more attractive to business investors.

However, cities need to provide opportunities for young people to start and build careers, as well as cultural amenities, schools and affordable housing, if they are to retain them. Cities which have large shares of high-skilled, high-paying jobs, and all offer good access to quality schools, strong cultural amenities rarely struggle to attract young people. But for many of these cities, the cost of housing is an issue, as demand outstrips supply and affordability becomes a significant issue for many.

What are the characteristics of GEN-Y?

Whilst people have written whole books and studies on the characteristics of Millennials, we shall try to provide a simple overview of the issues that necessitate city managers thinking differently about them.

Perhaps one of the most 'state-of-the art' examples of fore-sighting for Generation-Y Friendly cities is probably provided by the MIT Mobile Experience Lab and their work on the Millennials Lifestyle Observatory.

This International Project, which reported on its findings in 2015 in this video and report identified the main trends in Millennials lifestyles which are shaping their relationship with the cities in which they live were;

- Flexibility;
- Connectivity;
- Flat hierarchies;
- Mobility;
- Access over ownership; and
- Empowerment.

In simple terms, these issues suggest cities that are adaptable, and accessible, that have good transport and mobile infrastructures and that engage with young people and empower them to succeed are more likely to succeed than those that don't.

Why the Focus on 'Creative-Tech' Talent?

With the increasing shortage of 'Creative-Tech' talent across Europe successfully developing, retaining and attracting 'creative-tech' talent will be important for the future prosperity of cities.

Having a strong 'creative-tech' workforce will help cities attract businesses that operate in higher-value adding sectors and pay better salaries.

However, the rise of automation and the digitization of services is also forecast to have a significant impact on the availability of jobs and skills in cities, with forecasts suggesting that the hardest hit sectors will likely be the lower-skill sectors.

'Creative-tech' jobs are generally more resilient to the rise of automation, than lower skilled workers. This is another reason why many cities are interested in exploring how they can stimulate the creation of more 'creative-tech' jobs.

The Policy context

When the Network started, a number of the partner cities were suffering from considerable out-migration of young people, caused largely by the pull of larger cities and North West Europe as more attractive locations.

At that time, the Commission had not yet adopted the Communication: A New Skills Agenda for Europe and the 10 actions set out within the communication to make the right training, skills and support available to people in the EU.

Similarly, the Urban Agenda for the EU[1] had not yet published its orientation paper of the Partnership on 'Jobs and skills in the local economy'.

However, if we analyse the scope of these two policies, it's clear there are some shared areas of interest with the scope of the GEN-Y CITY Network, including;

- Upskilling Pathways for Adults;
- Digital Skills and Jobs;
- Sectoral Cooperation on Skills;
- Vocational education and training;
- Analysing and sharing of best practice on brain flows;
- Valorisation of R&D;
- Developing business parks and office locations;
- Enabling the transition of cities and regions with a strong industrial and often fossil fuel base into a next economy based on knowledge, sustainable energy, digital platforms and more localised and circular forms of production; and

Both policies are focussed on ensuring the labour force is skilled in 21st century job skills, aiming at a highly qualified workforce, experts and capacities, so as to foster higher productivity, creativity and innovation, and ensuring inclusive labour markets.

History matters

Whilst several individuals have commented as the Network has progressed how wide the topic area of 'creative-tech' talent development, retention and attraction is, it has largely needed to be, in order to accommodate the different cities involved in the project and their different starting points.

However, this isn't just about the cities involved in the GEN-Y CITY Network. It's also true for cities across Europe.

For example, a post-industrial city that is suffering from a declining industrial base, and which possesses an urban centre that has lacked significant investment in recent years, will need to tackle the issue in a very differently from a city that

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[1] https://ec.europa.eu/futurium/en/content/jobs-and-skills-local-economy-orientation-paper.

has a strong historical heritage that is heavily reliant on the seasonal tourism trade.

A framework tackling creative-tech talent development, retention and attraction

In light of the above situation the GEN-Y CITY Network has identified a number of building blocks which cities can use to help them develop, retain and attract 'creative-tech' talent.

The diagram below represents an illustration of some of the key processes, steps and activities cities in the GEN-Y City Network have examined and tackled, in their attempt to make their cities more appealing to Generation-Y.

The cross-cutting capabilities are the key processes that GEN-Y Cities need to excel at if they are to develop as a GEN-Y CITY. Whilst a number of them might appear as generic capabilities, we will describe how we see them relating to young people in the next chapter of this report.

Beyond these processes, we have found four core building blocks that cities need to invest in if they are to enhance their ability to retain, attract and develop 'creative tech talent. These are;

- Placemaking;
- Talent Retention;
- Talent Development; and
- Talent Attraction.

These four components of a talent programme break down into a further sixteen areas of focus that a city needs to look at if it is serious about managing its talent system.

The subsequent chapters will go on to look at each of these 4 quadrants and the sixteen areas of strategic focus.
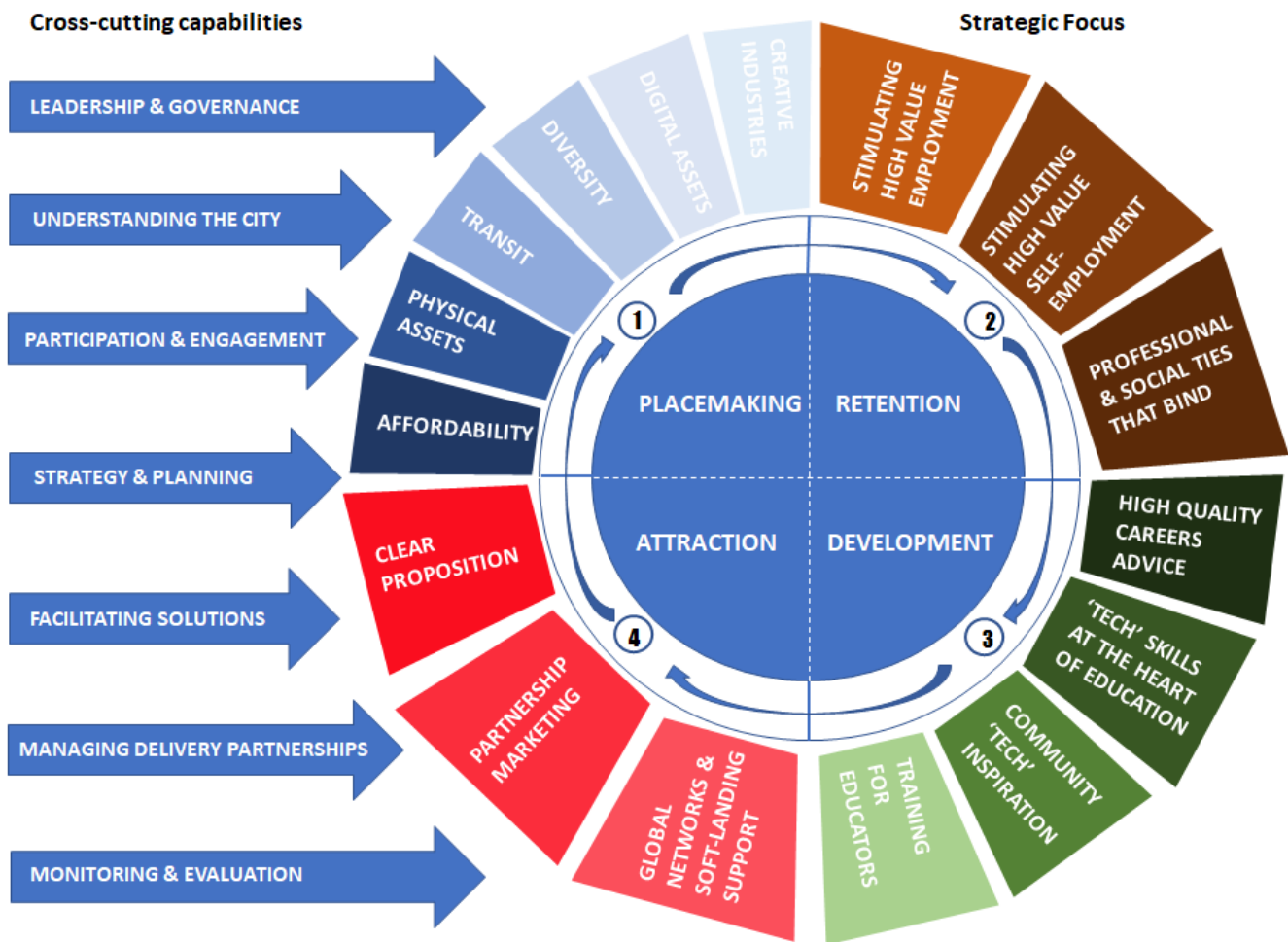

Fig.1: Diagram of the cross-cutting capabilities and strategic foci of cities that prioritise 'creative-tech' talent development, retention and attraction

2.0 Important cross cutting capabilities for GEN-Y 'creative-tech' cities

From our work in the GEN-Y CITY Network it is clear that cities need to be particularly good at a number of key capabilities and processes if they are to develop successful 'creative-tech' talent development, retention and attraction strategies. These are;

Leadership & Governance

If a city is keen to develop as a millennial 'creative-tech' hub, then the city needs to establish strong **collaborative leadership and governance structures,** which bring partners together (from the public, private, voluntary and community sectors) to collaborate on the establishment of more proactive policies to develop, retain and attract millennial talent.

Whilst it's possible that every Urban Development initiative might possibly say the same, the reason it is particularly important for cities looking to strengthen their millennial 'creative-tech' talent offer is because;

- Europe is forecast to experience a significant talent shortage over the next economic cycle and cities need to distinguish themselves if they are to stand out and appeal to this increasingly essential element of the workforce;
- Cities across Europe are generally suffering from structural market failures in 'creative tech' labour markets, with market weaknesses evident on the supply-side, the demand-side and at the interface between supply and demand. Invariably this means cities need 'whole-system' or 'whole place' solutions, where they can draw on the support of a range of partners to deliver programmes to address these issues; and
- Solutions generally require collaboration across shared (horizontal) cross-cutting themes (like creativity, design, digital skills) and involve specialised (vertical) sectors (like life-sciences, creative and cultural industries, manufacturing etc.)

In light of these issues, in addition to requiring **cross-sectoral governance models**, cities also need to be led by who are capable of developing a shared vision for a 'creative-tech' city which is capable of positioning itself as such, in an increasingly competitive market place. Invariably, this requires people with national and international experience.

"Young people are the core of a nation's future, yet this significant stakeholder is rarely involved in poverty reduction strategies, environmental planning, and sustainable urban development. Despite the momentum in the rhetoric on

youth activism for positive social change, little regard is given to the views, opinions, needs, and perspectives of young people"- UN-HABITAT 2011[2]

But what about the involvement of millennials in the urban governance process? Well, at present, there is little evidence to suggests that many cities have been particularly successful at improving the involvement of young people at the heart of the urban governance process.

That said, we have found numerous examples of good practice on the professional development of young leaders; participatory processes for involving young people in helping to shape urban policies; or examples of cities that are using technology to improve their engagement with young people.

At the heart of the youth governance challenge is the issue of young people's declining interest in traditional 'high-level' political processes and their increasing interest in 'causes' and making a more immediate difference. This is a subject we shall return to later in this report.

Understanding the cities starting point

Cities that want to strengthen and build their positions as global 'creative-tech' hubs need to understand deeply the foundations on which their economy is built, in order to develop strategies for its future development, which go with the grain of the basic characteristics and the strategic assets of their city. No one size fits all.

For example;

- Cities with a strong post-industrial economy may need to look at taking a long-term approach to improving their physical environment to strengthen the attractiveness of their city; invest in the promotion of digital, design and entrepreneurship skills at the base of their educational pyramid; and build creative communities by helping them to present and sell their work;
- Cities that have more specialised 'industrial' structures (for example, with a stronger 'heritage' feel, a stronger base in high-value services or with a strong tourism proposition) may not need to invest so much in the physical attributes of their city but will need to develop a clear understanding of how the industrial specialisms on which their economy is built can be further enhanced.

This approach – which follows the principle of Smart Specialisation – requires a good **Strategic Analysis** of the 'creative-tech' assets of a city and the future potential

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[2] ICT, Urban Governance and Youth – UN Habitat, 2012

opportunities for development. Generally, any analysis needs to look at four discrete areas, at a minimum;

- **Quality of Life Monitoring** (including economic conditions, perceptions of place, physical, cultural, social assets etc.);
- **Demand Side Skills Analysis** (what skills are being demanded by employers, particularly those the skills system is not supplying);
- **Supply Side Skills Analysis** (what courses and occupations young people want to pursue); and
- **GAP Analysis** (Identifying potential skills shortages, gaps, vacancies, emerging needs etc.)

Whilst there are other areas of research a city might look at when developing a GEN-Y 'creative-tech' talent management strategy, these are the primary areas that most of the GEN-Y CITY Partners have focused on.

The type of data a city might need to utilize (and the relative emphasis they place on the four areas of research set out above) may also depend on its level of 'tech' maturity and its industrial structure. For example;

- Cities that do not have such a well-developed 'tech' economy will probably benefit more from understanding the basic economic/quality of life characteristics of their cities. Because their focus is likely going to be on trying to grow a new, higher-value industrial base, their skills assessments are <u>less likely</u> to be based on trying to identify current 'market failures' between labour supply and employer demand for skills, but more on trying to grow more 'new economy' skills in their resident population and converting these skills into local jobs.
- Those cities that are have more specialised industrial structures (i.e. with a strong innovative industrial base) will probably want to adopt a much stronger focus on mapping labour market failures, trying to incrementally improve the supply side skills offering to deliver on the needs of business (and using fore-sighting to predict how the needs of business might change in the future).

Quality of Life Monitoring

As far as understanding the main challenge that cities are looking to address, to make themselves more attractive to Generation-Y, most partners in the GEN-Y CITY Network have tended to use fairly broad 'Quality of Life' indicators to define the main challenge they are facing, or to benchmark how well orientated their city is towards attracting Millennials.

These indicators' have generally covered measures like economic performance, creative and cultural assets, housing statistics, out-migration etc.

There is a sense however, that this approach runs the risk of being a little too 'rigid'.

As far as thinking about the development of their global 'creative-tech' offer is concerned some of the cities involved have also sought to use their regions Smart Specialisation Strategies to consider how to build on their existing 'creative-tech' strategic assets. The Smart Specialisation process actively encourages cities and regions to avoid relying too much on a rigid a data collection process, or just employing consultants, recommending instead that cities go through 'an entrepreneurial journey of discovery' to better understand their 'industrial' specialisms.

This process, which can be described as a process of exploration and engagement (with key university, business and community partners) can throw up the add hypothesis about what the impact future technological, social, economic, environmental etc. changes might have on the industrial structure of a city.

This issue will be picked up in more detail in the participation section of this report, but our evidence indicates direct engagement with key stakeholders in the city can certainly be very useful in helping to understand more about the key strategic assets the city has to build on. This kind of intelligence can provide a valuable source of information about emergent business capabilities and relationships between different organisations and individuals that can feed the development process.

In addition to looking at the state of play of the current economic/quality of life conditions in a city, it's also worth cities considering how the changing attitudes of society might potentially require a city to change its approach.

If we take these three elements together, a possible data framework for benchmarking the attractiveness of the city to Millennials and identifying the core challenge the city is facing might comprise those measures shown in Figure.1, overleaf.

These are not all of the datasets a city can use, they do give an indication of some of the metrics cities are using to assess what key characteristics in the city (physical, cultural, social and economic) might need further improvement if they are to successfully develop, retain and attract 'creative-tech' talent.

Demand Side Skills Analysis

As far as Demand Side Skills Analysis is concerned, this aspect of the analysis phase of the strategy development process is largely focused on trying to understand the current and future skills needs of the city and the businesses in the city (and forms half of the dataset needed to identify if there are mismatches between the demand and supply for certain skills).

Good practice in this regard utilises a range of primary and secondary data to help to develop an understanding of the current and future skills needs of the city.

Indicator	To Measure
Regional GDP / GVA per head	Prosperity
GVA per head per sector	Primary High Value Sectors
Sector Growth Forecasts	Future growth sectors
% Foreign Owned Firms (FOC) & % of Trade related to Exports	International nature of the Economy
Number of Cultural Assets (indoor and outdoor)	Culture
Population Change	Decline/Growth/Out Migration
Population change by age group	Decline/Growth/Out Migration by age
Population change by Occupational Group/skill level	Decline/Growth/Out Migration by occupation/skill level
Change in youth attitudes to returning to a city	Out-migrants perception of the city
Unemployment	Availability of Labour Locally
Youth Unemployment	Availability of opportunity for young people
Industrial Structure/Business Population by Sector	Industrial Structure
Occupation Structure	Labour Diversity
Occupation Structure by Age	Sectors that are attractive to young people
Wage Levels (in the area in comparison to other countries)	Prosperity of the area compared to others
Structure of the Creative and Cultural Industries	Cultural Specialisms
% employment in creative and cultural industries	Strength of the employment base in CCIs

Indicator	To Measure
% employment in Science and R&D	Strength of the employment in STEM
Property Occupancy Rates and Rental Levels	Availability/Demand for Premises
Number of start-ups / closures	Business stock
Number of Innovative Start-ups	Innovative Capacity of Firms
Number of Innovative Youth Start-ups	Innovative Capacity of Young Entrepreneurs
Capital invested in regeneration	Scale of development/regeneration
Graduate Population	Number of higher level students
Final Destination of Graduates	Out migration of graduates
Broadband Coverage	% High speed broadband penetration & speed
Networked	Number of Business / Virtual Networks etc.
Number of contracts publicly issued by the city / other public bodies; number of participative activities (hackathons/ community projects etc.)	Openness of city procurement systems / collaborative culture of the city
Diversity of the city; number of hate crimes etc.	Tolerance of the city.
Number of café's, incubators, co-working spaces, maker spaces etc.	Number of third spaces for millennials to meet
Strength of the Gig Economy	Number of active shared economy service providers
Quality/depth of public transport systems	Multi-modality & quality of transport system.
No of public exercise options (park runs, 5k's, 10k's, cycling groups etc)	Social, healthy pursuits.
Utilising a range of direct engagement tactics to develop an understanding of potential areas of focus	Companies looking to invest, entrepreneurs willing to collaborate, funds willing to invest. etc.

Fig 1: Potential Data Framework for understanding how attractive a city is to millennials

Some of the challenges around the area of assessing unmet employer demand for skills are;

- **Timeliness of Data:** All too often, cities rely on *published sources of data* to define their skills needs. More often than not, the data used can be one, two or more years out of date. This can cause problems, insofar that such an analysis (whilst collected through a process that is very statistically valid) can provide too much of a backward-looking view of the economy. One way to address this is to

try and use *real time* data, or *fore-sighting* to assess the current and future needs of the economy;

- **Validity of the data:** In addition, data on skills issues can sometimes not help you to answer the key challenge, as it is overly focussed on 'proxy' measures for skills like qualifications and grades or Standard Industrial Classifications (SICs) and Standard Occupational Classifications (SOCs), both of which are fairly 'backward-looking' measures of industry/occupational structure.

- **Changing nature of needs:** Skills mismatches fluctuate weekly, sometimes daily. Sometimes, all it needs is one popular TV series and suddenly there is an over-supply of a particular skill (witness how CSI increased the number of students wanting to study Pathology). In addition, replacement demand, vacancies, skills shortages, skills gaps all fluctuate over time, creating a fairly dynamic picture;

- **How well businesses understand their skills needs:** Experience suggests that one of the key problems many small businesses have is actually understanding and defining their skills needs, so sometimes asking them can be a little challenging.

- **Imperfect Market:** Can we really hope to tweak the entire skills system to constantly meet the skills needs of business? Surely, there will always be vacancies, gaps etc, because the market is so dynamic

Given this situation, our perception is that cities that excel in truly understanding the key labour market challenges they are trying to address are those that triangulate sources of data; that try to utilise a variety of data-sets from different time-frames (recent past, real-time and future) and those that have a strong direct relationship with the business community in their city.

Given that companies like DELL[3] suggest that 85% of the jobs that exist today won't exist by 2030, it's clear that there is limited value in using data which is a couple of years out of date to try and forecast what the needs of business are in the 'creative-tech' domain.

If this prediction is true, it's even a little questionable using 'real-time' or 'big data' to assess what the needs of the economy are. That said;

- Some organisations have established regular skills barometers, to try and understand what the current skills needs are of business. This assumes they find it easy to articulate these things;

Indicator	Purpose
Job Vacancies	Job Opportunities
Hard to Fill Vacancies	Areas of unfulfilled skills demand
Skills Gaps	Skills people need
Skills Shortages	Skills that are hard to find in the area
Replacement Demand	Skills needed to fill due to leavers
Graduates in Science and Technology Sectors	Sectors less attractive to skilled young people
Industrial Structure (Number of businesses in different sectors, employment by creative-tech sector)	Future growth sectors
Productivity by Sector (Who are the major contributors to the economy). GVA per Capita.	High Value sectors
Forecast Growth in key segments	Future skill needs of key sectors
Research and Development spend by business, government, academia etc.	Research intensity of the triple helix players
Level of Innovation in Industry (Patents, Grant Awards etc.)	Industry innovation
Primary Data	
Establishing a partnership with a Business Support Organisations to establish a regular barometer	Skills gaps, vacancies, needs etc.
Fore-sighting Emerging Skills by establishing Sector Panels	Emergent opportunities (i.e. technology road mapping)
Using Real Time Data on Job Adverts	Advertised Vacancies (i.e. Burning Glass)

Fig. 2: Data framework for understanding the skills needs of business.

- There are some really powerful and clever job advert web-scaping tools in the market at present, which can tell you what the most advertised jobs are in a particular locality, in virtual real time. These are quite useful for understanding what vacancies businesses collectively have available at the moment, to potentially influence curriculum design;

- In addition to these techniques, road-mapping or skills fore-sighting are particularly useful approaches to take in understanding emerging/future skills needs.

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[3] The next era of human machine partnerships, Emerging Technologies Impact on Society and Work, IFTF and Dell,2017

Understanding current and future skills needs is only part of the challenge. For many cities and member states, delivering solutions to plug future/emerging skills needs is a real challenge – because both the supply and demand sides of the equation demonstrate 'market failure', meaning it simply isn't commercially viable for providers to deliver them ahead of market need (as young people don't yet want to learn the skills and employers don't yet need the skills).

That said, the benefits for economies finding a way of delivering emerging and future skills can be significant (as an individual's education in some specialist disciplines can normally last 4-5 years).

Supply Side Skills Analysis

In addition to trying to understand the needs of the business community, it's also useful to try and assess what skills people coming out of the education system have. In some senses, this should give a city a clearer understanding about how well 'aligned' the skills system is for preparing people for the needs of the economy.

Indicator	Purpose
Qualification profile	Population skills level
Migration Flows (by Age, Skill Level, Career Aspiration etc.)	Age and skill levels of those people in/out migrating
Unemployment Levels (buy age, skills level etc.)	Available Labour Pool
Qualification Structure	Qualification Profile of the area (elementary, middle, higher etc.)
'Creative-Tech' Qualification Mapping (School/HE/FE Graduate/Post-graduate subject areas)	Profile of STEM students at various stages in the education system
University Innovation by Subject (Subject specialisms, Citations by subject, Spin Outs, Patents, R&D Applications etc)	Particular research and higher-level skills specialisms in the area, to identify the nature of 'deep tech' skills
Attitudes of Young People towards STEM	Barriers towards STEM
Study Areas for Students	Curriculum Offer at various levels

Fig. 3: Data framework for understanding the output of the local labour pool

However, one needs to be a little careful to ensure that the measures used for assessing the quality of the supply side (which are often based on qualifications and grades) are comparable with the metrics for measuring demand side shortages (which are often based on 'technical' skills, soft or core skills found in industry).

That said, the list below provides a list of potential metrics that might be used to try and assess the output of the education system;

GAP Analysis

Once all this data has been collated, cities should have the core information they need to start to form some judgements about where to focus. Again, different cities may require different strategies;

- For cities that have quite a low skills base, traditional industrial structure and need regeneration, the obvious strategy to adopt is to start to address the physical environment and development pipeline (through placemaking and intervention in the skills system).
- For cities with stronger industrial bases, an attractive environment and a high-quality education system, they are freer to look at retention and attraction issues.

If a city is particularly good at producing people with strong 'creative-tech' skills, but the industrial base is weak in these skills, the focus of that cities policies might be on trying to strengthen the local industrial base, to strengthen their ability to retain their good people.

If a city has a weak skills system and a weak business base, there is an argument to say they might want to focus on trying to improve the educational outcomes (which may well subsequently help in attracting firms to locate in the city), although they need to make sure the two don't quite get out of step (as this will result in more people out migrating, as they are over qualified for the needs of the local businesses).

If a city has a weak skills system, but a strong industrial base, they are likely to need to attract talent from other parts of the globe. If a city has a strong talent system and a strong industrial base, they are likely to be trying to reach for incremental improvements to the system.

Only by understanding the subtle differences between these various starting points and the particular situation in a city will city managers be able to select the right strategy to address GEN-Y 'creative-tech' talent development, retention and attraction issues in their city.

Strategy & Plan Development

Having developed a good understanding of the character and the labour market of the city, the next stage in developing an effective system for developing, retaining and attracting 'creative-tech' people is to develop a coherent **Strategy and Plan**.

It is not our intention to go into a lot of detail about the Strategy/Plan Making process here, other than to say that the evidence from the GEN-Y CITY network supports the principle that cities that are successful at developing skills, talent and innovation strategies, generally need to be good at;

Warsaw City Development Strategy (2017)

Warsaw's previous Development strategy was designed specifically to keep the young in the town centre. Under this Strategy, the 19th Century Norblin factory, located in the centre of Warsaw, was to become the ArtN project - a revitalised, mixed-use destination, where start-ups and corporations could cooperate with each other.

Warsaw's Spatial Plan advocated "No out-of-town campuses for Warsaw's universities, no 1960s-style technology parks built on the city's edge", but emphasised start-up spaces at the heart of a thriving city, in regenerated mixed used developments rather than "sterile buildings in a distant business park"

The ArtN project sought to take advantage of the cities first-class public transport links – tram, suburban train, metro, cycle paths to develop a co-creation movement, offering dedicated coworking and private office space for start-ups, regular networking events for all tenants in the building, pop-up shops and a tech down zone for start-ups to get feedback on their products.

- Building evidence-based systems for analysing the city context/potential;
- Creating strong, cross-sectoral governance structures, with high-quality leadership, that is willing to support all forms of innovation, encourage experimentation and can secure private sector investment;

- Creating a strong outward looking culture which involves a full range of external stakeholders in the strategy making process;
- Establishing a clear, shared vision for the future;
- Selecting the right mix of policy priorities to address the challenge/opportunity the city faces;
- Aligning policy support and investments to support key priorities, challenges and the needs for the development of knowledge-based jobs
- Establishing robust monitoring and evaluation arrangements, to track the impact of the strategy

As far as the GEN-Y CITY partners are concerned, the evidence points towards the fact that millennials want to be involved in all of these processes, to help to shape their city, and that they (in common with many other stakeholder groups) can add significant value to the process.

Participation and Engagement

Another key process that cities in the GEN-Y CITY Network have found to be particularly important in helping them develop, retain and attract millennials to their city is successful **stakeholder engagement.**

Whilst it should be recognised that participatory planning is a key cross cutting theme for all Urbact Networks, it is a particularly important one for any network focussed on young people.

According to Youthful Cities only 17% of Millennials feel that their city governments are listening to them, although 55% of young people want to participate in meetings about the future of their city. This demonstrates millennials want to be engaged, they recognise the economic importance of living in a youthful city and they want to help create it.

Generally speaking, all the evidence points to the fact that key partners in helping a city to develop an effective talent management strategy for 'creative-tech' millennials are;

- The business community;
- Skills and education providers (whether public, private, community etc);
- Young people;
- Innovation organisations;
- NGO's active in the field of youth;
- Creative and cultural organisations;
- Sector groups;
- Politicians;
- Other national and regional partners;
- Organisations responsible for city marketing & branding;

Given this situation - and recognising young people's waning interest in traditional political processes and their increasing interest in experiences and 'making a difference' - cities need to find ways of directly involving millennials in action orientated programmes that help shape the future of their cities, rather than utilising more traditional 'political' mechanisms, like Youth Parliaments.

The kind of experience-based programmes that are particularly useful in this regard are hackathons, service-jams, meet-ups, living laboratories, proto-hacks, city hacks, social enterprise development programmes etc. The advantage of these kinds of applied research, experience-based programmes is that they also help build the knowledge capital of the city and can help strengthen relationships between different partners and support the delivery of 'whole place' programmes.

The general take-away from the partners involved in the GEN-Y City Network is that cities need to be authentic, fast and efficient, adopt a listening approach and speak the language of millennials if they are to be taken seriously by this important audience.

One other key stakeholders that has proven to be vital in the establishment of strong 'creative-tech' cities are the business community. The evidence from the GEN-Y CITY Network is that cities that have been able to successfully mobilise their businesses into supporting initiatives to intervene in education are generally more successful at inspiring young people into 'creative-tech' careers.

Indeed, a number of the cities in the GEN-Y CITY Network have managed to develop a deep engagement with the business community – and encourage local, home-grown entrepreneurs to reinvest back in young people in their cities.

Facilitating New Solutions

During the course of the GEN-Y CITY Network, a number of cities have also facilitated the development of new (market-based) programmes and activities to plug identified service gaps in their cities own 'creative-tech' talent eco-systems.

In some cities, this has necessitated bringing smaller groups of public, private, academic and voluntary sector partners together to collaborate on the delivery of a particular new and/or enhanced service (whether a particular creative cluster, or an incubator etc.).

Other cities have established whole programmes to support this market facilitation process (for example, in Bologna, where Incredibol! has been operating for a number of years,

stimulating the growth of a range of different businesses in the creative and cultural industry sector)

City Studio Vancouver

The City of **Vancouver** is often held up as a city which does much to welcome, encourage and support Young People. Their Civic Youth Strategy is particularly well orientated to involving young people in helping to shape the future of the city.

The Civic Youth Strategy is a coordinated long-term plan of action providing a framework to support the City's work with young people (9 to 24 years old) and to engage Vancouver's diverse youth communities in civic issues.

Also, see the Medium Article: In Vancouver, students help solve municipal issues and the Report Shareable City

A number of cities have also been particularly good at facilitating solutions which look like they had a good chance of being sustained long into the future, because of the shared interests of the partners that have been brought together to create them at the outset.

In adopting this facilitation approach, these partners have invariably understood that in order to create a dynamic 'creative-tech' talent eco-system, the city administration has to be particularly skilled in community-based economic development, to try and use the limited resources they have to 'spin-out' new solutions and create the range and diversity of provision that is needed to stimulate widespread behaviour change.

Those cities that generally view the process as being something that the public-sector is solely responsible for, tend

to have a lesser impact on stimulating the scale of market development than those with more collaborative models.

Managing Strong Delivery Partnerships

In some cities – particularly those that have quite buoyant 'creative-tech' inspiration ecosystems, another key skill in establishing successful millennial talent management eco-systems is the need to bring together partners in the city, to deliver high-quality integrated programmes that make best use of the range of actors and specialisms that exist in the city.

As we have seen from some of our earlier analysis, the systematic nature of failure in the labour market (i.e. with market failures on the supply-side, demand-side and at the interface) necessitates a 'multi-agency' 'whole system' approach to trying to address the problem.

If you are looking for the evidence of the importance of strong, multi-agency partnership working, you need look no further than Nantes, to see how they have managed to create a strong impression of their city as a digital city, by getting all the partners to adopt this theme as a central tenant of their work.

Whether focussed on helping young people acquire 'new economy' skills, establishing new cultural facilities, placemaking or stimulating the growth of higher-value businesses, there is compelling evidence to indicate that establishing strong delivery partnerships is key to delivering successful behaviour change.

Monitoring and Evaluation

In order to ensure resources are directed effectively at activities that have the desired impact, or initiatives are adapted to achieve the stated goals, it's also vital that cities measure the effectiveness of their 'creative-tech' talent programmes.

Ongoing monitoring of the datasets set out earlier in this chapter, and establishing systematic information systems, will help cities achieve the goal of ensuring their policy making is evidence-led

3.0 Talent Retention Initiatives

As far as retention is concerned, the GEN-Y CITY Network has highlighted four particular area of important practice that cities have focussed on to retain millennial 'creative-tech' talent. These are;

- **Placemaking:** Investing in the attributes of the City, whether physical, social or cultural;
- **Creating High Value Employment Opportunities:** Stimulating the growth of high-value firms;
- **Creating Opportunities for Self-Employment:** Stimulating the growth of high value start-ups; and
- **Creating the professional and social ties that bind:** creating the relationships between city and the individual

In thinking of the problem in this way, cities in the GEN-Y City Network are working on improving the conditions of their city to strengthen their ability to retain 'creative-tech' talent.

Placemaking

Placemaking is a multi-faceted approach to the planning, design and management of the urban environment. More than just designing spaces, Placemaking brings together diverse people (including professionals, elected officials, residents, and businesses) to improve a community's cultural, economic, social and ecological situation.

Placemaking capitalizes on a local community's assets, its inspiration and potential, to create an urban environment that promotes people's health, happiness, and well-being.

Placemaking is an important component of retaining millennial 'creative-tech' talent in a city because it is the basic process which creates the physical, social and cultural foundations of the city, which make it an attractive place to live, work and play.

Again, the work of Youthful Cities demonstrates how important millennials consider these core attributes of a city when choosing where to locate. If one looks at the top twenty attributes young people consider to be most important, the following list from their 2015 Urban Attitudes survey demonstrates the importance of placemaking;

1. Safety (8.79 out of 10)
2. Affordability (8.77)
3. Transit (8.70)
4. Health (8.69)
5. Travel (8.64)
6. Employment (8.52)
7. Environment (8.51)
8. Education (8.43)
9. Entrepreneurship (8.41)
10. Public Space (8.33)
11. Financial Services (8.81)
12. Diversity (8.11)
13. Digital Access (8.08)
14. Music (7.77)
15. Creative Arts (7.74)
16. Sports (7.62)
17. Film (7.59)
18. Civic Engagement (7.55)
19. Food & Nightlife (7.49)
20. Fashion (7.14)

Given this situation, any city looking to invest in 'creative-tech' talent development, retention and attraction would be well advised to look at the fundamental urban character of the city and decide whether their 'Quality of Life' offer is strong enough, before investing additional funds into targeted talent management programmes.

Any such analysis might identify that the very foundations on which the city is built requires improvement before the city can move forward. For example, particularly post-industrial cities, which possess an industrial base which has historically been strong in heavy manufacturing, has a (relatively) low wage economy; a poor tourism/cultural/creative offer and a degrading city centre may find that it needs to invest quite heavily in trying to strengthen some of these components of their offer if they want to be considered attractive by 'creative-tech' millennials.

This is not going to be something that is capable of being fixed quickly and will likely require a long-term programme of investment by the city before they can start to arrest some of the shrinkage they have probably been experiencing due to out-migration.

Even cities that have a higher quality of life, a wage structure dominated by high-value businesses, a more gentrified city centre and a stronger creative and cultural offer need to maintain a focus on placemaking to ensure their city remains attractive to current and potential millennial residents.

Affordability

Because many millennials have been living in a period of slow growth since the financial crises of 2007-2008, and the cost of rents and mortgages have generally grown at a rate above standard earnings, many young people are struggling to make ends meet.

This same issue has impacted on many larger metropolitan cities, with the demand for housing far exceeding supply – another factor pushing up rental levels.

In Berlin, they introduced rent caps, to try and address this issue. Other cities, like Poznan have put in place subsidised housing units for new graduates.

Transit

Young people are also turning off the car as the preferred mode of transport, with some motoring specialists[4] suggesting this is due to a number of factors, including improved public transport, the rising costs of car ownership and distractions like mobile phones and the internet.

These societal changes mean that cities need excellent transit systems if they are to be attractive to millennials.

According to the Arthur D. Little's Future Urban Mobility Index, Europe scores the highest of all continents across the globe with Stockholm, Amsterdam and Copenhagen heading the table – with Athens, Rome and Lisbon scoring the worst.

Physical Assets

As far as physical assets are concerned, research[5] has suggested that millennials want to live in compact, liveable communities, in less expensive areas of the city.

These can be in the suburbs, as long as they share a lot of the same characteristics as an urban centre and are well connected to public transit systems.

Much of the evidence suggests that successfully creating these "urban burbs" (as they have become known) is often dependent on cities being able to establish urban-like enclaves which have the qualities of downtowns (dense housing, good transit connections, walkability, good food, great bars—without the high prices of downtowns) that allow easy access to the city when they want it.

Diversity

For the Millennial generation of workers, a diverse workplace is neither a luxury nor an aspiration—it's an expectation.

Millennials are 38 percent more likely to feel engaged and 28 percent more likely to feel empowered when they are working in an organization that they believe fosters inclusivity.

An overwhelming majority of Millennials prefer not to work at organizations they see as unsupportive of innovation, and 40

percent of these same Millennials see a lack of gender and racial/ethnic diversity as a major barrier to innovation[6].

A 2014 Glassdoor survey found that 66 percent of those polled indicated that workplace diversity was a key factor when choosing among job offers. 57 percent of the respondents in the same survey expressed dissatisfaction with what their company was doing to increase diversity in its workforce[7]

Cities that promote and encourage diversity are more likely to attract millennial 'creative-tech' talent.

Digital Assets

Technology is touching every aspect of millennials lives. They are also sometimes referred to as Digital Natives.

Research by Experian[8] has shown;

- 87% of Millennials say their phone never leaves their side and 80% say the first thing they do when they wake is reach for their smartphone;
- 50% say they need constant internet access, even when they're on-the-go;
- 77% watch TV with a second device

In addition to placing a requirement on cities to ensure they maintain a robust and affordable digital infrastructure, this commitment to digital technology also provides a strong opportunity to engage millennials in helping to shape future 'smart city' concepts and applications.

Creative/Cultural Industries and Leisure

Numerous authors have recognised the vital role that the creative, cultural and leisure industries play in stimulating the 'creative milieu in a city. Several authors have also recognised the importance of encouraging small-scale independent retail outlets, next to pedestrian areas, to provide the 'routes to market' cultural practitioners need to sell their wares.

Different authors have also recognised the importance of 'third spaces' (cultural meeting places, pubs, coffee shops, parks etc.) in creating the places which enable people to come together to meet or share the same interests.

Research has also identified that third places work best when they are free or inexpensive, provide food and drink, are highly accessible, involve regulars and are welcoming and comfortable.

[4] Why young people are falling out of love with cars, by Simon Bradley in Geneva, www.swissinfo.ch, Mar 2017
[5] Gen Y and Housing, what they want and where they want it, M. Leanne Lachman and Deborah L. Brett, 2015

[6] Decoding Diversity: The Financial and Economic Returns to Diversity in Tech, Intel and Dahlberg
[7] Mind the Gaps: The 2015 Deloitte Millennial Survey, Deloitte. 2015.
[8] Rise of the Millennials: why business needs to understand these digital natives, Derek Garriock, May 2017

As far as the GEN-Y City partners are concerned, a number of the partners operate business support programmes that facilitate the development of creative and cultural industries in the city centre, to improve the quality of the arts & leisure offer.

Creating High-Value Employment Opportunities

Another key component of successfully retaining millennial 'creative-tech' talent in a city is to ensure there is a good supply of high quality, well paid jobs on offer to meet young people's career and salary aspirations.

High-levels of unemployment and/or a labour market with poorly matched supply-side and demand-side skills profiles will merely serve to feed young people's desire to move away to find employment opportunities elsewhere.

In cities with a strong innovation economy with significant skills gaps, there may not be as much of a need to stimulate more high-value employment opportunities. Indeed, cities with this kind of economic profile might choose to concentrate the majority of their effort on trying to improve the alignment of the education system, to better meet the needs of business.

However, in cities with a predominantly low-skill/elementary profile, that aspire to develop as a 'creative-tech' hub, they need to act to stimulate the creation of more high-value employment opportunities.

There are a variety of actions that cities can take to do this – by generating high-value employment from the existing business base, encouraging inward investment or strengthening the ties between residents and businesses in the city;

Strengthening business development capacity

Encouraging greater levels of innovation amongst businesses, government, academia and the not-for-profit sector in the city can stimulate the creation of new products, processes and services, which, in-turn, may help refresh and renew the industrial base of a city and create higher-value jobs.

In many European Cities and Regions, the development, adoption and implementation of Business Support, Digital, Skills, Innovation and Smart Specialisation Strategies are focussed on this very goal.

If cities do not yet possess any of these strategies for achieving additional, higher-value, 'new-economy' jobs this is one area they might focus on first.

Strengthening inward investment capacity

Similarly, another way to improve the quality of high-value jobs in a city – to meet the growing wage demands of an indigenous population – is to encourage higher levels of inward investment.

Securing additional investment into the city – whether in terms of mobile investment projects or corporate finance – can stimulate new high value jobs that may help retain more residents in the city.

Improving the linkages between business and education

In addition to these two major strands of work – which many cities will already have in place – another major way of retaining people in the city is to try and improve the linkages between the businesses in the city and the best talent that you risk losing.

The advantage of many of these types of programmes is that they can help 'manage' the retention process – and are often quite experience-based, something that is quite attractive to millennials.

Some typical examples of these kind of retention programmes are;

- **Graduate training programmes** – in some cities and regions, the larger 'corporate' public, private and academic organisations come together to establish place-based graduate training programmes, that offer recent graduates a structured programme of training and paid internships to make sure the best talent is retained in the area. Whilst a job is not always guaranteed at the end of the process, its often quite likely and the experience the young person gets with an organisation with a recognised 'brand' is often enough to persuade them to stay in the city. TRAINEE SOR is one such example in Kristiansand, where the regions larger employers come together to fund a shared development manager, web-platform and marketing programme to encourage the cities best talent to apply to join the programme;
- **Research and Innovation Placements -** in some cities, public authorities provide a small amount of support to businesses to undertake in-company research and innovation 'projects'. These can provide companies with a structured programme for helping a recently graduated student to gain valuable work experience and the participating company undertake a project of value, which has the potential to help them innovate. For example, in the UK, a Programme called Knowledge Transfer Partnerships (KTPs) helps companies recruit recent graduates to undertake valuable projects;
- **Internships & business projects –** On another variant of the same general theme, paid internships and business projects can be useful in retaining people in a city, if there

are sufficient projects of value or worth, to suit young people's career aspirations

- **Open innovation and collaboration platforms** – another potential opportunity for municipalities to encourage and support the growth of new, innovative, high-value jobs and link it to local business capabilities and skills is to establish open innovation/collaboration platforms which promote collaboration between local authorities, businesses and academia. These kind of projects and platforms can include 'smart city' initiatives, hackathons, service-jams, living-labs or bespoke research contracts. For example, the US have a programme called the Small Business Innovation Research (SBIR) programme and the UK the Small Business Research Initiative (SBRI) programme that encourages domestic small businesses to engage in Federal Research/Research and Development (R/R&D) contracts that have the potential for commercialization and can encourage innovation in the local business base.

Whilst these are not the only examples of programmes which can support the retention of skilled staff in the area, they are all good examples of programmes that have built stronger collaborations between public and private partners, and the education system, to strengthen pathways into employment at critical phases in periods of career transition.

Creating opportunities for Self-Employment

Whilst all of the above opportunities for strengthening the links between businesses and the education system can help millennials to secure employment in local jobs, it may be that the industrial structure of the city simply means that sufficient high-quality jobs are not available to attract them to stay.

In such situations, encouraging millennials to think about setting up their own businesses can be a useful way to encourage them to stay in the city.

Self-employment can be particularly useful tool for engaging millennials, because entrepreneurship is increasingly considered to be an attractive career option by many young people as it is perceived to provide the level of flexibility they aspire to.

According to the Wall Street Journal, half of all new college graduates now believe that self-employment is more secure than a full-time job[9] and over two-thirds of high school students say they intend to start their own companies. These figures are also consistent with the Global Entrepreneurship Monitor.

Examples of millennial retention programmes based on structured self-employment programmes include;

- **Graduate Start-up Programmes:** these can provide structured entrepreneurship and start-up programmes for aspiring millennial entrepreneurs. They can be run by local organisations, regional bodies, or be part of a national/international model (like TechStars Start-up Weekend, like this [one](one) in Poznan). In cities with a particularly elementary/low skill economic structure, these kinds of programmes can be useful for strengthening the economic structure of the city;

- **Social Innovation Start-up Programmes:** Place based Social Entrepreneurship programmes can also potentially provide millennials with opportunities to start their own businesses, helping to retain them in the city. The other advantage of these types of programme is that they can potentially help individuals set up in business with other like-minded individuals, thereby potentially minimising the personal risk;

- **Open innovation & Co-creation platforms:** Similarly, open innovation and co-creation platforms like Living-Labs, Civic-Tech initiatives, hackathons and service-jams can all provide millennials with experience-based pathways into self-employment, and persuade them to set down roots in the city;

- **Incubation, Innovation Centres & Coworking Spaces.** Lastly, incubation centres, innovation centres and co-working spaces are the most prominent physical embodiment of a cities commitment to promoting entrepreneurship and can help create communities of interest and strengthen the overall talent retention system.

Creating the professional & social ties that bind

In addition to these frequently used tools for improving the transition pathways for indigenous millennials into employment and self-employment in the city, some cities have also put in place a range of additional programmes to try and lock international talent into their cities. These can include;

- **Mentoring programmes for international students** – the overall purpose of these kinds of programmes is to offer international students better access to local employers to familiarise them with local working practices and potentially provide them with local employment opportunities;

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[9] Quoted in http://www.millennialmarketing.com/2009/04/gen-y-core-value-fight-for-what-you-believe-in/

- **Culture coaching** – can involve providing international students with language/culture training and/or local employers with awareness about the possibilities and benefits of recruiting international graduate students;
- **Alumni & Ambassador networks** – can involve establishing global networks of talents, to create a social and professional network that can maintain contacts with individuals from a particular city or location. We will return to these in more detail in the talent attraction chapter.

Whilst placemaking provides the basic foundations of a cities retention offer, the kind of programmes we have set out in the subsequent sections of this report can be useful in locking in talent into the city.

It would be complacent to only rely on the social, cultural or physical attributes of the city – and potentially ignore the value that employment, self-employment and professional and social networks also provide.

The future of Millennial 'creative-tech' communities

There is a significant amount of evidence that suggests 'creative-tech' millennials want affordable homes, close to their work; they want great eateries and bars; they like densely populated developments (where the activity at street level creates a vibrancy and excitement); they want walkability with good transit connections to other parts of the city.

Some authors have characterised these kind of mixed use neighbourhoods as "urban burbs", urban-like enclaves which possess the qualities of downtown areas of larger capital cities.

In a discourse about Boston's Innovation District[10], Daniel Isenberg a Professor of Entrepreneurship Practice at Babson Executive Education, answers a question he poses himself, "What are we learning about what cities can do to foster entrepreneurship and innovation?" by remarking;

"Develop an inclusive vision of high growth entrepreneurship. On the one hand, it is a reality that a small number of extraordinary entrepreneurial successes have a disproportionately stimulating effect on the environment for entrepreneurship in a city, such as the impact of Skype on Tallinn, Estonia. By definition, only a few can be extraordinarily successful, and city leaders need to communicate a coherent message to those "elites" about how important they are to your city's future, that you need them

there and will work to make it attractive. At the same time, the influx of ambitious, highly educated, opportunity-seeking entrepreneurs may risk creating social divisiveness. This can be countered with a strong message to entrepreneurs that they need to play a role in community building. With the encouragement of City Hall, entrepreneurs in Boston's Innovation District created Innovation District Entrepreneurs After work (IDEA) to organize community events.

In parallel, you need to tirelessly communicate a coherent message to all of the stakeholders and residents, highlighting the entrepreneurial benefits of dignified job creation, quality of the environment, and innovative capacity. Boston's Mayor Menino and his staff developed and have repeated hundreds of times the mantra of the Innovation District: "Live, work, play." An intense social media strategy, combined with direct outreach, has led to numerous joint activities between the naturally less-affluent, creative Fort Point artists' community and the Innovation District.

Use best processes, not best practices. As one of the leaders of the Innovation District put it to me, "We are a 'platform,' not a program." An ecosystem exists in nature when numerous species of flora and fauna interact in a dynamic, self-adjusting balancing act. Thus, in cities, you need to provide a broad platform to support the inclusive vision, encouraging restaurateurs, designers, neighbourhood groups, schools and universities, real estate developers, law firms and architects, chambers of commerce and other government agencies to interact with each other in innovative ways. Best processes are more important than best practices".

This quote – together with the evidence of what we know about what millennials look for in a city - points to the importance of creating dynamic, sustainable 'creative-innovation districts' within cities, characterised by a mix of live-work-play opportunities and backed by a strong entrepreneurial ecosystem if cities are to attract millennial 'creative-tech' talents.

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[10] Planting Entrepreneurial Innovation in Inner Cities, HBR, Daniel Isenberg, JUNE 05, 2012

4.0 Talent Development Initiatives

As far as developing 'creative-tech' talent is concerned, Europe is suffering from a particularly acute 'tech' skills shortage. Research indicates that;

- There are likely to be 7m 'tech' job openings by 2025, as many of the baby boomers retire; and
- It is possible for anyone who has studied Science Technology Engineering or Mathematics (STEM) subjects to fall out of pursuing a STEM career, at any point in their education.

Because of this latter point, it's vital that cities promote and encourage young people to pursue STEM, or STEAM careers (STEM with the addition of the Arts) throughout their time in education.

However, current practices across Europe also indicate that promoting STEM, or STEAM skills throughout the education system, may not be sufficient. A number of cities have been very active at promoting STEAM careers for a number of years, but still suffer from a shortage of 'tech talent'

The reasons for this are complex, but appear to be down to student perceptions of STEM careers as 'hard' or 'not for them', with many of the factors related to these concerns attributable to fairly 'systemic' causes, like belief systems, parental influence etc.

In order to try and address these issues, current 'good practice' suggests that cities need to tackle learner, parent, teacher and other stakeholder perceptions of technical careers at the same time and promote 'tech' careers as inclusive and 'open to all'.

In addition, to further avoid 'secular' perceptions of 'tech' careers impacting on recruitment in the sector, cities need to promote and encourage a number of important 'tech' skills from early years right the way through the education systems if Europe is to overcome the current skills shortages in the sector. These key 'tech' skills include;

- **STEM skills** – some of the deeper-tech skills that emerge from a solid Science, Technology, Engineering and Mathematics career pathway;
- **Digital skills** – in particular the effective use of digital technologies to solve business problems;

- **Design-Thinking** – including basic design thinking and problem-solving skills, through to user-interface (UI), user-experience (UX) and Service Design; and
- **Enterprise & Entrepreneurship** – promoting resilience and determination, as well as how to run a successful business;

Ideally, experience-based events to inspire young people into 'creative-tech' careers should demonstrate the potential for all these skills to thrive in the sector, rather than develop too much of an emphasis on deep-tech, programming or coding.

Because of this, the talent development best-practice framework we have identified in the GEN-Y CITY project focusses on the creation of a **vibrant Creative-Tech Ecosystem**, comprising;

- **High quality careers advice:** to provide people with the information they need to make effective decisions.
- **An adapted education system which prioritises the delivery of 'tech' skills:** to make it more aligned to the needs of business;
- **A diverse range of community 'tech' inspiration activities:** inspiring young people into high-value growth orientated businesses in the locality;
- **A structured programme of continuing professional development for educators:** to ensure they are equipped with the knowledge/experience they need to inspire young people;

Whilst there are doubtless other elements of the talent development process that could be the focus for partners in the GEN-Y CITY Network, these are the key areas of intervention we have identified in creative an effective 'creative-tech' talent development system.

High quality careers advice

The first component of an effective 'creative-tech' development eco-system that we have identified as being important in addressing the current 'tech' skills shortages is the provision of an effective careers information, advice and guidance (IAG) service.

Research studies have found that careers and enterprise programmes can make a difference to economic, social and educational outcomes[11][12]. Key findings about careers and enterprise programmes suggest that they can improve young people's ability to make career decisions and their optimism about the future; help young people to increase their

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[11] An International Review: Career Education. Education Endowment Fund. Hughes, Mann, Barnes, Baldauf and McKeown2016.

[12] Career Guidance and Public Policy: Bridging the Gap. Paris: OECD, 2004.

attainment and be more likely to enrol in post-secondary education; reduce young people's likelihood of becoming unemployed; and increase young people's earnings after they complete their schooling[13].

One way that cities can improve the quality of the Careers Information Advice and Guidance services is to improve the links between local businesses and the education system to provide young people with high quality encounters with businesses, with the aim of improving their knowledge of a range of careers.

As far as 'tech' careers are concerned, there is significant value to be gained from inspiring young people about the breadth of careers available in the 'tech' industry.

An adapted education system which prioritises the delivery of 'tech' skills

The main problem for many cities across Europe is that they don't actually control their mainstream education systems – they are controlled by national ministries and government departments.

Many member states are also driven by national curricula and a pressure to achieve solid scores in international educational league tables, like the PISA rankings[14].

In many ways, this makes tailoring the skills system in Cities across Europe - to better meet the needs of local employers - a little challenging. That said, some city authorities are responsible for employing and developing teachers in primary and secondary education. Others are responsible for maintaining the buildings.

Many authorities also have a role in helping to steer and guide the Tertiary Education sector, either through a formal role on their governance structures, or through joint projects.

However, the level of influence and control varies across different member states and different education systems.

That said, we have been able to identify some good practice activities that cities do deliver to adapt their early years, primary and secondary education systems to better meet the needs of employers. This includes;

- **Providing regular 'tech' experiences to inspire young people into the sector;**

- **Providing guidance for parents to influence their children's career choices;**
- **Promoting a dual education system to ensure technician careers are given equal importance;** and
- **Targeting particularly under-represented groups to encourage them into 'tech careers.**

Looking at these issues individually;

Providing regular 'tech' experiences to inspire young people into the sector

Research by European Schoolnet[15] has found that holistic activities within the curriculum to increase science and technology's popularity can be particularly effective in encouraging young people to consider 'tech' careers, when they cover the entire span of the education system. They note that public-private partnerships are an important feature of these all-encompassing approaches.

Evidence also suggests that appropriately structured and supported interactions – which are tailored to the locality and diversity of individuals concerned – can be particularly effective in encouraging young people into 'tech' careers.

The Aspires Project notes that "such approaches should emphasise the importance of going beyond a simplistic engagement with 'role models' or 'mentoring', to increase engagement between young people and the wider world of work – through ambassador schemes, work placements and wider engagement between education and employers"[16].

Providing guidance for parents to influence their children's career choices

Evidence also suggests that science is widely perceived by children and parents as 'hard' and scientists are associated with 'cleverness'[17]

A variety of research shows that from an early age children and parents perceive an art versus science divide, a concept which C.P. Snow famously termed the 'Two Cultures'[18].

Evidence shows that many parents and pupils do not necessarily see 'tech' subjects as particularly accessible or inclusive[19].

Even in cases where children may be interested in and good at science, family perceptions of them as 'arty' can potentially encourage these children not to see a career in 'tech' as particularly attractive.

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[13] What Works in Careers and Enterprise? The Careers & Enterprise Co., 2016,
[14] See http://www.oecd.org/pisa/
[15] Efforts to Increase Students' Interests in Pursuing STEM Studies and Careers: European Schoolnet's Member Countries'. Kearney, 2011
[16] The Case for Early Education about STEM Careers, Aspires Project

[17] Weird Science? The discursive othering of science careers among children and parents; Archer, DeWitt & Osborne.
[18] See https://en.wikipedia.org/wiki/The_Two_Cultures
[19] Gendered career choice: Is sex-stereotyping the cause or the consequence? Educational Studies, Lightbody & Durndell, 1996.

Promoting a dual education system to ensure technician careers are given equal importance

Data suggests that whilst STEM graduate numbers across Europe have remained fairly static in recent years, the number of technicians has declined considerably.

For this reason, it's important for cities to try and ensure they develop a dual education system, with a solid foundation of technical vocational education and training.

Bologna and a number of large metropolitan cities across the UK are trying to address this issue by re-establishing technical schools, or Institutes of Technology.

Targeting particularly under-represented groups to encourage them into 'tech careers

Research suggests that young people's aspirations are strongly influenced by their social backgrounds (including race, social class, ethnicity and gender) and family contexts.

For example, even highly able women, working-class and some minority ethnic learners can find it difficult to see themselves pursuing 'tech' careers, perceiving that their backgrounds do not necessarily 'fit' the standard workforce profile[20].

Consequently, more needs to be done to make 'tech' careers more accessible for a broader range of pupils.

A diverse range of community 'tech' inspiration activities

In addition to in school activities, there is considerable evidence to suggest out-of-school enrichment activities can also help inspire young people into high-value 'tech' careers.

Whilst there is little formal research on the range of out of school provision that exists across Europe, during the course of our work in the GEN-Y CITY Network, we found a number of examples of good practice in community based 'tech' inspiration, including;

- **Science Education Centres:** Many cities across Europe have established Science Education Centres, to ensure every young person has access to a range of specialised STEM enrichment activities throughout their early education. A number of these are built on American Philanthropic models, with local business people 'gifting' the centres an endowment to provide them with a means by which they can become sustainable. In addition, a

number of these centres also have contracts with the education authority for developing and upskilling teachers;

- **FAB-LABS:** Fab-Labs are a European movement of 'fabrication laboratories', places where people of all ages can go and access specialised equipment to design, fabricate, automate and make anything they want. The Fab-Lab movement is closely aligned with the DIY concept, with a strong emphasis on open source hardware and software and a strong sharing philosophy;
- **Coding Clubs:** Designed to teach young people Programming Skills, these types of clubs operate throughout European cities, quite often on an evening or weekend. Many of them are built around international models like Coderdojo or national programmes which are being rolled out centrally.
- **Makerspaces:** Similar to Fab-Labs, but less bound by the open source principle, Makerspaces are collaborative work spaces for making, learning, exploring and sharing. They provide hands on learning, help with critical thinking skills and even boost self-confidence. Some makerspaces are also fostering entrepreneurship and are being utilized as incubators and accelerators for business start-ups.
- **Service-Jams:** These experience-based events where people come together to brainstorm, prototype and test potential service design solutions to a particular problem. Service Jams are a wonderful way of testing out innovative approaches to designing digital and non-digital services. Designing for and with people – users and delivery staff. Jams are fun events and create a safe environment for experimentation, collaboration, testing, failing fast, iterating and developing service prototypes.
- **Open innovation activities:** In addition to the above activities, we also discovered a range of other experience-based open innovation events, which were particularly useful in involving young people in 'tech' experiences, including hackathons, code-a-thons, code sprints, hack days, hack fests, codefests, proto hack's, civic hack's, Datapalooza's etc.
- **Science & Technology Festivals:** Often created by encouraging a whole community of 'tech' interested people to organise a festival experience in the same week in a particular location.

With their close affinity to entrepreneurship all the above activities had a strong potential to inspire more millennials into 'tech' careers. The main reason these kinds of activities added weight to the work in school, is because they were

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[20] Assessing equity beyond knowledge- and skills-based outcomes: A comparative ethnography of two fourth-grade reform-based science classrooms. Journal of Research in Science Teaching, Carlone, Huan-Fank & Webb, 2011

often 'edgier', 'cooler' and created a whole Programme of activities to inspire and inform.

A structured programme of continuing professional development for educators

In addition to the above, there is significant research that has been undertaken which points to the importance of also training and developing teachers to be better at inspiring young people into 'tech'.

As an example of why this is important, some research has been undertaken which provided examples of teachers favouring boys and perceiving them to be 'better' (and more 'naturally able') at 'tech' than girls, even where attainment data indicates otherwise[21].

In light of this situation, a number of studies have placed significant importance on training or continuing professional development (CPD) of teachers, particularly activities delivered by employers.

This CPD can include teacher placements in industry; teacher-employer mentoring; and employer contributions to an overall programme of teacher CPD.

A particularly good example of a facility from within the GEN-Y CITY Network that has done some strong work in the training and development of teachers is the Opificio Golinelli Foundation in Bologna.

Creating a Strong Tech-Development Ecosystem

Collectively the four areas set out above (careers advice, an education system which prioritises the delivery of 'tech' skills; a diverse range of out-of-school inspiration; and a continuing professional development programme for educators), when stimulated sufficiently intensively and operating together, should create a strong eco-system for inspiring young people into 'creative tech' careers in the city.

All the evidence suggests that delivering effective behaviour change amongst any community requires a myriad of collective actors, actions and messages from a range of different sources.

The diagram below presents a schematic of a buoyant tech-development eco system, illustrating just some of the existing schemes, initiatives and programmes that operate in each of the four priority areas in different parts of Europe.
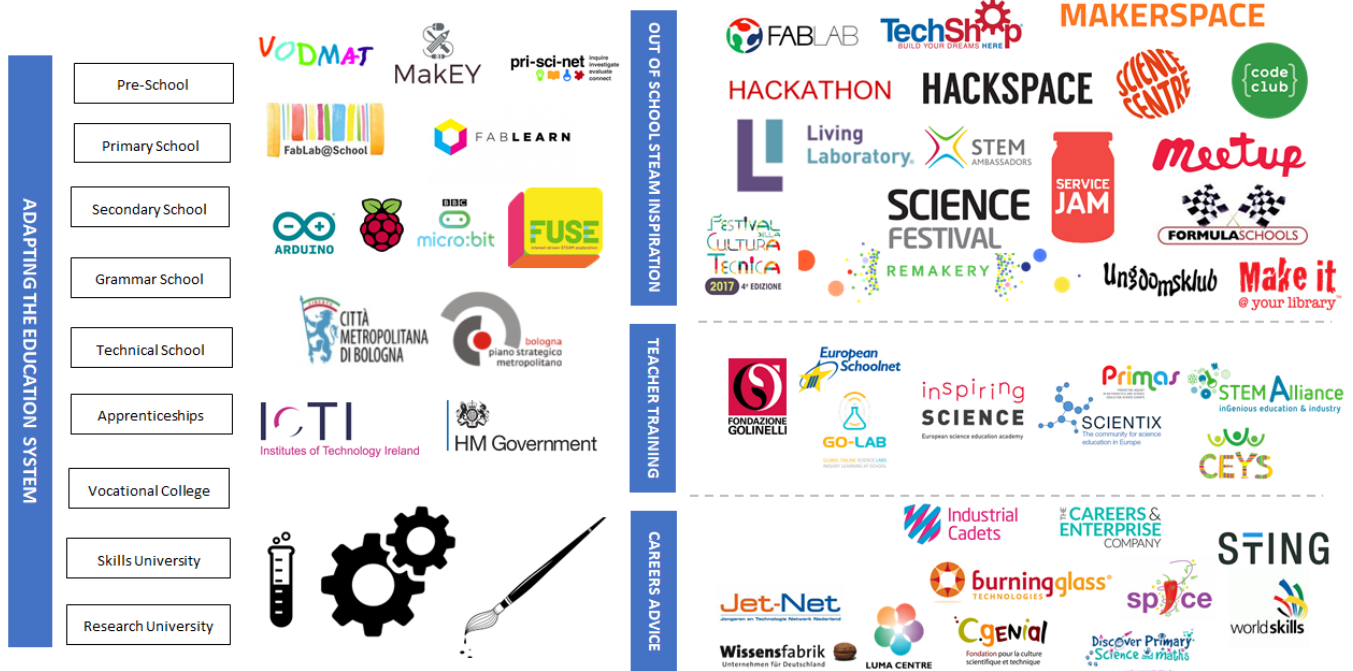

Fig 5: Schematic of a buoyant tech-development eco system, illustrating just some of the existing schemes that operate in each of the four priority areas

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[21] The cultural production of science in reform-based physics: Girls' access, participation, and resistance. Journal of Research in Science Teaching, Carlone, 2004.

5.0 Talent Attraction Initiatives

As far as talent attraction is concerned, quality of place, a clear compelling proposition and the visitor experience of the city are all important components of a city's talent attraction programme.

Given this scenario, experience gained in the GEN-Y CITY Network suggest three aspects of Talent Attraction are important;

- **Developing a clear, compelling international proposition:** Promoting the city on a global stage;
- **Securing partners' commitment to this proposition and delivering experiences that that are consistent with it** (that exceed expectations); and
- **Developing high quality global networks and 'soft landing' support:** Programmes to support migrant 'creative-tech' talent setting down roots in the country.

Collectively, these three issues help create a clear proposition for a city, help promote this message on a global scale and help generate positive 'word of mouth' about it.

Developing a clear, compelling international proposition

To distinguish a city from its global competitors, it's important for a city to develop a clear compelling proposition for itself.

This proposition needs to embody the real 'essence' of the city and needs to;

- **Describe the city 'offer'**;
- **Illustrate its value**; and
- **Provide a credit for the city**

A proposition extends well beyond a simple logo, moto, or slogan. It should capture the essence of the experience that visitors to the city will feel when they visit. It must also be understandable, believable and deliverable.

Some classic examples of good propositions, which allude to a benefit or some kind of uniqueness, include;

- New York, N.Y.: "The City That Never Sleeps"
- Austin, Texas: "Keep Austin Weird"
- Nashville, TN: "The Music City"

In most of the cases cited above, the propositions also provide a pathway for future specialization in the city, helping to build an offer which is genuinely distinctive.

Securing partners' commitment to this proposition and delivering experiences that that are consistent with it

A proposition is something that works best when a whole range of agencies 'buy-into' its use and adopt it for their own marketing purposes.

In today's social media world, dominated by 'below the line' marketing with such a heavy emphasis on 'network' and 'partnership' marketing models, good marketing communications is all about developing a clear proposition; aligning the behaviour of the key players in your city to that proposition; and delivering experiences that exceed customer expectation. This is what generates positive word of mouth.

Because of this need for partner buy-in, developing a proposition for a city is not something that can take place inside a darkened room. It needs to involve key players in the city, in a participative process. This is because a city that is effective at communicating its proposition to the wider world uses a range of stakeholders to carry that message out to the market. Because of this, it is important to try and secure the commitment of the city partners to get behind the proposition during its development.

One example of a city that has been successful at developing a clear proposition which partners buy-into and work actively to promote is Nantes, with its focus on creating a strong impression of the city as a Digital city.

When you look under the surface, this message permeates its tourism offer, its cultural offer, its events programme etc. It is a proposition that the city partners have fully bought into and they work tirelessly and collectively to promote across the globe.

High-quality global networks and 'soft landing' support

In addition to more traditional marketing activities, a key component of many leading cities talent attraction programmes are the delivery of strong global networks and the provision of high-quality 'soft landing' support.

Global talent networks, that reference back to a particular place can take many forms, including;

- **Ambassador Networks:** can be consumer or business focussed, but are all about building on individuals/companies' affinity with a particular city
- **Alumni-networks:** can help create links between former learners of particular institutions across the globe;
- **Professional & sectoral networks:** Can be focussed on a particular sector, for example life-sciences, encouraging global leaders to return to a city with a particular recognised strength in this domain;
- **Global entrepreneur programmes:** Seek to encourage mobile entrepreneurs to relocate to a city to start their

business, by supporting them with a bespoke programme of support

- **Recruitment Networks:** draw together companies from a particular locality and run targeted international recruitment programmes in overseas territories

In addition to these globally facing networks, many of which are designed to attract leading talent to a particular city, some of the more sophisticated cities also encourage the development of local networks, to provide international visitors with help to settle into a new city.

These so called 'soft landing' networks try to create strong bonds between expats from the same country, to provide an informal support network for anyone settling into a country for the first time. They can help with a range of support services, including:

- Immigration paperwork and institutional contacts;
- Housing and education advice;
- Language/cultural skills; and
- Careers advice

For example, International House Copenhagen, offers a range of 'soft-landing' services, such as help completing official paperwork, job-search, networking, relocation support and language training to support international visitors settle in the city.

The future focus of millennial 'creative-tech' talent attraction programmes

Work patterns are changing, and location is becoming increasingly less important for many 'tech' employees.

The rise of the freelancer and the growth of the 'on demand' economy is fundamentally changing the way people work. These changes have given rise to concepts like the 'digital nomad' and some cities will need to adapt their talent management programmes to better target these workers.

The traditional lines between Regeneration, Tourism Promotion and Inward Investment will blur, giving rise to more integrated live-work offers from cities looking to attract millennial 'creative-tech' talent to newly developed, well connected creative/innovation districts, or 'urban-burbs'.

Clearly, cities that are going to be successful in utilising this approach will need to have invested significantly in establishing the right kind of foundations to attract these 'creative-tech' workers.

This includes developing the right kind of communities to support this kind of live work offer, with their affordable rents, the right kind of 'third-spaces' the business community to support the workers, and the creative milieu to maintain their interests.

Automattic, the company behind WordPress.com, are a distributed company with over 700 employees (or Automatticians as they prefer to call them) in 63 countries worldwide, all of whom speak 80 different languages.

Rather than give their employees an office, they give them a $250-dollar stipend a month to spend on a workspace of their choice. Some use it to pay for a desk in a coffee bar, others use it for co-working spaces.

Whilst this may not be a vision that all smaller and more peripheral cities can buy-into as being achievable (fearing they will still continue to lose out to some of their larger counterparts, there is some evidence to suggest that some of the cities in the GEN-Y CITY Network have started to make inroads into creating these kind of communities and attracting a new breed of 'digital nomads', even if only in a small way.

6.0 Putting it all together

As we know, across the majority of the member states of Europe, interest and achievement levels in technical subjects is declining.

This, in turn, is leading to low levels of entry to Science, Technology, Engineering and Maths subjects in tertiary education and subsequent progression into technical careers.

By 2020, it's estimated that more than 800,000 technology posts will be unfilled due to the skills gap, and the number of lower level positions that will require increasing technical skills and abilities is increasing. This situation has the potential to impact adversely on the future global competitiveness of Europe.

In response to this issue, countries and cities across the whole of Europe are trying to re-establish a creative-technical culture in their city.

However, this cannot be done very easily by adopting a 'corporate' or 'organisational' outlook and thinking only about the services that a single organisation delivers.

In reality, the widespread re-establishment of a technical culture in a city, or within any locality, requires a 'whole place' or 'eco-system' based approach, with city administrations leading a range of organisations to come together to overcome this 'market failure' to create a stronger creative-tech 'ecosystem' in the city.

The need to adopt a 'Systems Thinking' approach

Because a cities talent management system is built on a complex set of inter-related components that make up the entire model (people, processes, structures, material flows etc.) and the relationship between the different components are complex (rather than being based on linear, cause & effect relationships) developing an effective understanding of the model requires something of a mindset shift, to embrace 'systems-thinking'.

The roots of 'systems-thinking' or the study of 'eco-systems' - the interdisciplinary study of complex systems in nature, society and science, and the interdependent components that make up such systems – generally emerged in the post war period through the work of the biologist Ludwig von Bertalanffy (1954)[22] and Ross Ashby (1956)[23].

In General Systems Theory (1968) von Bertalanffy argued against the prevailing tendency amongst many scientists at the time, to analyse complex systems by reducing them down

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to the most fundamental and basic components (sometimes referred to as 'reductionism', or 'atomism').

Von Bertalanffy basically emphasized that real, or living systems, are boundless and open, constantly able to grow, interact with and adapt to their environments, to continually evolve and acquire new properties. He basically argued that complex living systems don't generally grow (or create greater value) by seeking to control, or ingest the resources within the entire system, but tend to do so by absorbing aspects at the boundaries of the system.

Adapting a cities talent management system

Following this approach leads us to a conclusion that a cities talent management system is built around an 'eco-system' - a complex network or interconnected system of different organisations, groups, bodies and individuals that all work together for the pursuit of a common goal.

But can we influence 'eco-systems' and if so how? Can we create change within systems – especially those that are complex, highly entrenched and apparently resilient and resistant to change? How does change come about, and are there leverage points in a system which we can identify and work on? Where is the most effective place to intervene? Where are the tipping points?

A classic paper by Donella Meadows[24], titled 'Leverage points: places to intervene in a system' suggests, based on experience, that certain key actions or interventions are particularly effective at leveraging change in eco-systems.

Meadows' list, in increasing order of effectiveness, comprises;

9. Constants, parameters, numbers (subsidies, taxes, standards).
8. Regulating negative feedback loops.
7. Driving positive feedback loops.
6. Material flows and nodes of material intersection.

    Information flows.
4. The rules of the system (incentives, punishments, constraints).
3. The distribution of power over the rules of the system.
2. The goals of the system.
1. The mindset or paradigm out of which the system — its goals, power structure, rules, its culture — arises.

In simple terms, this research suggests that if cities want to affect a big shift in their talent management systems, they

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[22] von Bertalanffy, Ludwig: General Systems Theory (1968). The   [23] Ashby, Ross: Introduction to Cybernetics (1956)

[24] Meadows, D. (1999) Leverage Points: Places to intervene in a system. Hartland, VT: The Sustainability Institute

would do well to concentrate on the mindset of the current system, its goals, the distribution of power etc.

The GEN-Y CITY Integrated Action Plans

2. As far as the GEN-Y CITY Partners are concerned, the focus of their Integrated Action Plans (IAPs) vary considerably, depending on how developed their own talent management systems are and their city offer is. The table below summarises their respective focus/priorities.

3. The partners full Integrated Action Plans can be found on the GEN-Y CITY Urbact Website.

City	Placemaking	Retention	Development	Attraction	Comments
Poznan - Poland	X	X	X	X	**One Strategic Objective:** Stopping in the city and attracting to Poznan creative, talented persons from GEN-Y **Three aims:** Improving communication between Poznan City Hall and GEN-Y; Developing business competencies and entrepreneurial attitudes of GEN-Y; and Improving the attractiveness of public spaces and services for GEN-Y. **Sixteen Actions.**
Bologna - Italy		X	X	X	**Three Strategic Objectives:** To promote an international society in which different cultures contribute to the full development of the community; To raise and improve local (especially young) entrepreneurs' awareness and knowledge on the important opportunities related to the new emerging sectors of green and circular economy; and To raise and improve local (especially young) entrepreneurs' awareness and knowledge on the important opportunities related to the alternative form of financing that is crowdfunding **Two Aims:** Enhancing foreign students' skills, developing new and innovative training and work paths for this particular target group, also aiming at contrasting the stereotypes on young foreigners and extending and better qualifying-integrating the supply of support services for businesses and start-ups, developing innovative ideas and projects specifically addressed at young entrepreneurs and aspiring entrepreneurs. **Three actions.**
Genoa - Italy	X	X		X	**Three Strategic Objectives:** Empower the Generation Y; More vibrant and attractive city; and Revive the city centre **Five Aims:** Shared and participated governance with local stakeholders; Public support to the music industry (services and spaces); City branding; GEN-Y retention and attraction; and Research and Knowledge. **Eight Actions.**
Sabadell - Spain	X	X	X		**One Strategic Objective:** To attract and retain Gen-Y talent to the city which can feed Sabadell's smart specialization strategy, focused on design applied to industrial systems, thus promotion of advanced manufacture and 4.0 industry **Three Actions:** To study the young talent scene in Sabadell in order to undertake effective actions to make the city more attractive; to promote an attractive city for young entrepreneurs; and linking talent with RIS3 strategy in Sabadell area.
Granada - Spain		X	X		**One Strategic Objective:** To increase in the entrepreneurial initiative of young people and the improvement of the employability of those with low qualifications. **Three Specific Objectives**: Increase the rate of young people employed in the city. Increase the competitiveness of the companies in Granada and generate a consistent business ecosystem (Retention); Promote the qualification of young talent oriented to

				the interests of the company through practical training, which will encourage entrepreneurship through real experiences of success (Development); and Offer innovative, competitive and attractive solutions for young people in the field of entrepreneurship, which will help companies to create sustainable and quality employment (Entrepreneurship) **Fifteen Actions.**
Coimbra - Portugal	X	X	X	**One Strategic Objective:** To rehabilitate the city centre **Three sub-Objectives:** Development of the Cultural and Creative Industries; Promote entrepreneur skills in the educational community; and Promote an Ecosystem of Innovation **Five Actions**
Nantes - France	X	X	X	**One Strategic Objective:** To compile additional and easily understandable services available to young people in order to give each of them a chance to develop their talent and creativity through digital technology **Four sub-Objectives**: Stimulate opportunities for initiatives, creativity and opportunities; Promote the development of digital culture in schools; Promote the development of digital culture among youth and integration stakeholders; and facilitate interdisciplinary work to raise maximum awareness of all digital cultures **Fourteen Actions**
Wolverhampton - UK	X	X	X	**One Strategic Objective:** To enable the city to exploit its culture to drive creative industries and develop, retain and attract skills. **Four Action Lines:** Cultural Participation: creating the vibe that raises the profile of Wolverhampton and attracts visitors through programme of events; Cultural Learning: developing creative and tech skills of young people; Create an environment through developing our cultural assets; and Supporting our creative and digital economy
Kristiansand - Norway		X	X	**One Strategic Objective:** topic to develop, attract and retain young people with digital skills. **Five Actions:** Make a short film showing the different actors and appreciating digital skills in the Kristiansand region; Arrange a 24-hour hackathon for the students; Allow students to write relevant bachelor and master's theses and have practices in the region's businesses; Develop a STEM-strategy; and Develop a Strategy for Teacher CPD.
Klaipeda - Lithuania	X	X	X	**One Strategic Objective:** to improve conditions for young freelancers to develop their talents, to live and create in Klaipeda. **Three Sub-Objectives:** To increase the number of talents, who chooses Klaipeda as their work place; to improve entrepreneurship education services for talents and freelancers; and to increase the knowledge of attractive living and working spaces for freelancers existing in Klaipeda. **Seven Actions.**
Daugavpils - Latvia	X	X	X	**One Strategic Objective:** to develop creative entrepreneurship and to attract young generation to the city development processes. **Three Actions:** Creative entrepreneurship centre; Support young professionals; and events for retaining young talents
Torun - Poland	X	X	X	**One Strategic Objective:** Stop young, well-educated people who can build a creative class from emigrating to larger cities and abroad. **Four Sub-Objectives:** Animating the creative community in Torun; Involvement of young people in city life; Collaboration with private sector to prepare space for young entrepreneurs, starting business activity; and Profiling municipal competitions for creative industries and innovations. **Seven Actions.**

6.0 Conclusion

The tools that cities have in their armouries to develop, retain and attract talent are diverse and varied.

However, the increasing shortage of 'creative-tech' skills, combined with changing socio-demographic issues impacting on millennials in particular, may mean cities need to take a more proactive approach to developing, retaining and attracting millennial 'creative-tech' talent in the future if they aspire to maintain their prosperity.

For example, the increasingly ageing population, the cost of living in larger cities, the willingness of millennials to travel and security fears about the major global cities all present smaller and more peripheral cities with opportunities and threats.

Through the Urbact Programme, the cities in the GEN-Y CITY Network have been able to consider where they needed more investment, collaboration and focus to improve their talent development, retention and attraction system, to improve the quality of their offer to 'creative-tech' millennials.

The range of partners in the project come from very different cities, with very different 'industrial' pasts and very different strategic assets on which to build.

Through the GEN-Y CITY Network, we have been able to identify that **placemaking is the fundamental foundation of a good talent retention programme**. Millennials – in common with many other generations – want to live in a vibrant, tolerant, liveable, walkable city with good social and cultural amenities.

For many of the cities still emerging from a recent post-industrial past, this has been a significant area of focus in this Network and something they have had to prioritise before they moved on to more complex retention and attraction programmes.

Another critical element of a good talent retention strategy is ensuring there is a **growing supply of well-paid jobs available in the city**. This will help cities to deliver improvements in the quality of life, raise wage levels/living standards and encourage more people to stay.

It's clear that **'creative-tech' talent development needs to be a priority for all cities across Europe if they aspire to maintain their prosperity**.

However, there is an argument that says there is a danger that cities who prioritise this too heavily before they've improved the quality of life sufficiently in their own cities, merely risk investing funds in developing other cities labour forces.

The scale of global competition, combined with the ability which people have to work anywhere in the world these days serves to counter this argument.

Cities need to think of the talent development process as an eco-system, populated with numerous potential actors and influencers, all of whom the city needs to work with to try and encourage more people into 'tech' careers.

These eco-systems need to be built on strong place-based 'quadruple-helix' partnerships, where all the key players come together at the level of place to promote 'tech' careers and programmes.   Buoyant eco-systems are more likely to stimulate greater activity and greater behaviour change.

Cities also need to encourage the industry to think of 'tech' skills in a more diverse and holistic way, to avoid the risk of the industry being perceived as the preserve of white, middle-class geeks with programming skills. Digital, Design Thinking, Entrepreneurship and STEM programmes all need to be given equal prominence and need to be delivered in an integrated way.

Once a city has established itself as a reasonably attractive location and has started to look at its own 'tech' development pipeline, it can begin to focus on its attempts to attract talent to its city. Given the rise in freelancers and the growth of the 'on-demand' economy, we envisage there are benefits to be gained from integrating more closely visitor promotion and inward investment programmes.