DIGITAL ENTREPENEURSHIP INDEX FOR THE EUROPEAN CITIES

CITIES & ECONOMY FORUM
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EVOLUTION OF THE URBAN LANDSCAPE
Why are cities important in Europe?

INCREASING ROLE OF CITIES

1990

2030

IT STILL MATTERS IN EUROPE!

1990

2030

City population: ● 10 mill or more ● 5 to 10 mill ○ 1 to 5 mill ● 500000 to 1 mill
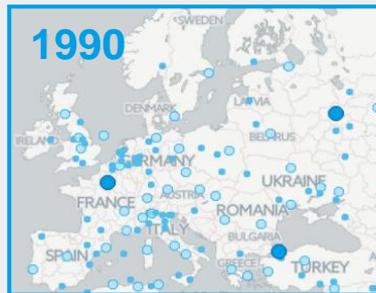
LEVEL OF URBANIZATION AND GDP PER CAPITA IN EUROPE IN 2015

● Advanced Europe   ● Developing Europe
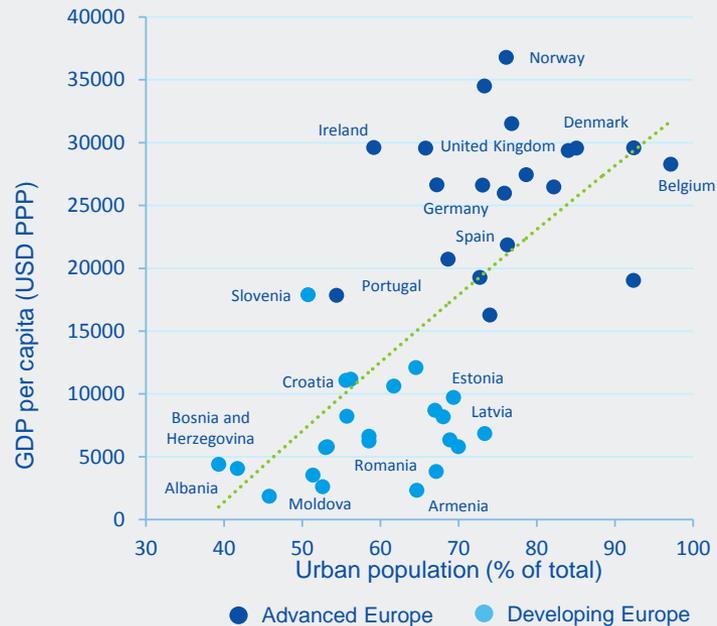
Why?   **What next?**

IN THE SEARCH OF AN INDEX

Entrepreneurship & capital

WHAT IS IT ALREADY AVAILABLE?

- Qualitative indexes
- More focused on countries
- Small role of digital
- Lack of data driven analysis
- Focused on surveys

WHAT DO WE THINK WE NEED?

- Quantitative index
- At city level
- Strong digital block
- Data driven analysis
- Alternative sources (including Big Data)

The evolution of digital technologies has transformed the business landscape. There are new key drivers to promote economic growth and development

BBVA Research Digital Entrepreneurship Index for European cities

COMPONENTS OF THE INDEX

Entrepreneurial culture and attitudes

Digitalization

Financing

Skills and business environment

Life quality and infraestructures

INCLUDED CITIES IN THE ANALYSIS
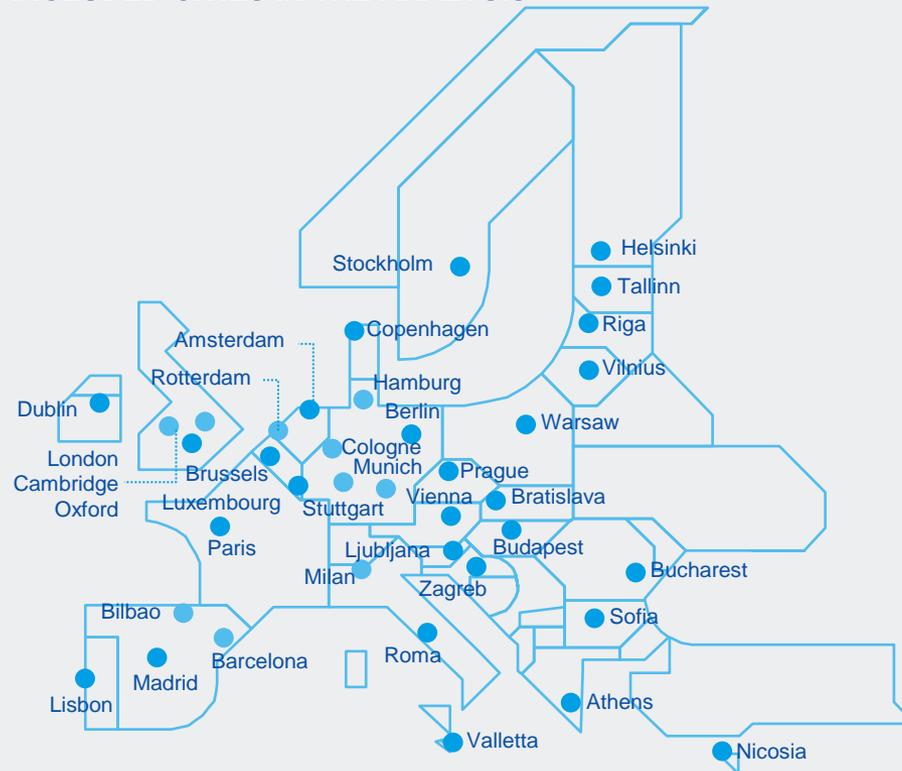
BBVA Research Digital Entrepreneurship Index for European cities: Results

ENTREPRENEURSHIP DIGITAL INDEX RANKING AND GDP PER CAPITA IN EUROPEAN CITIES, 2015
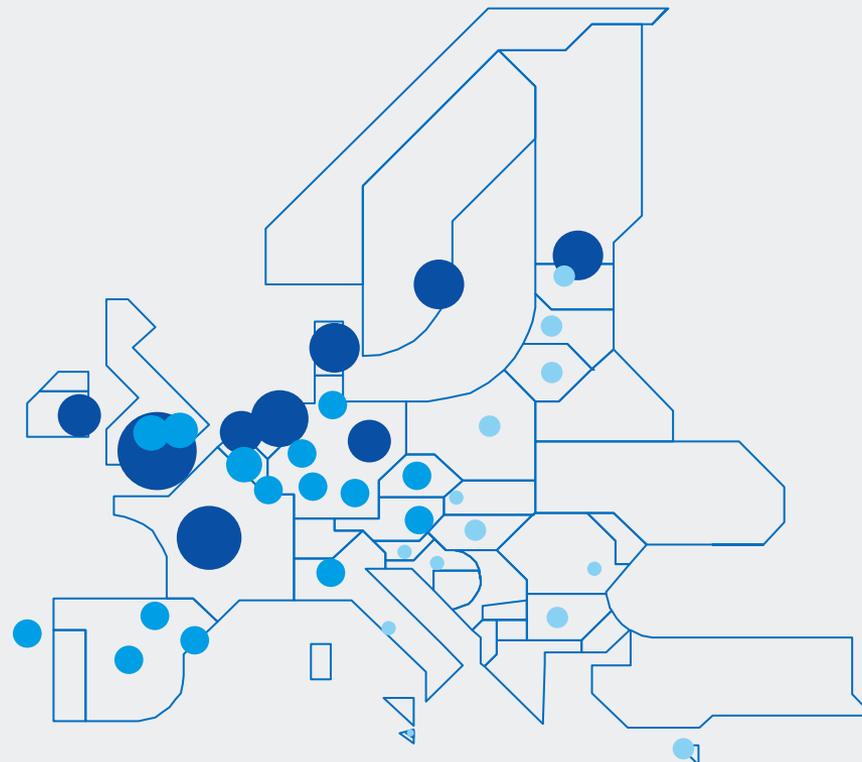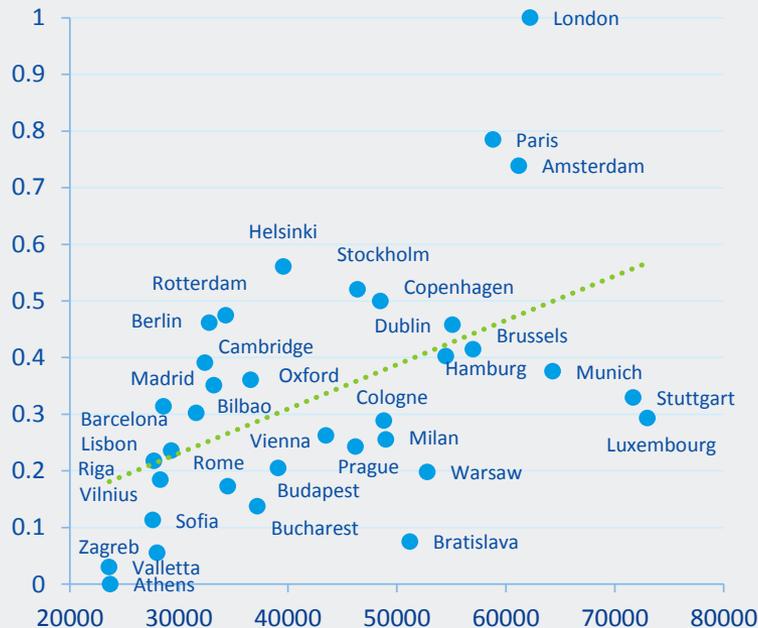
BBVA Research Digital Entrepreneurship Index for European cities: Components

#	Digital Entrepeneurship Index	Entrepeneurial culture and attitudes	Digital	Financing	Skills and business environment	Life quality and infrastructures
1	London	London	London	London	London	London
2	Paris	Paris	Helsinki	Paris	Copenhagen	Amsterdam
3	Amsterdam	Copenhagen	Amsterdam	Copenhagen	Stockholm	Stockholm
4	Helsinki	Amsterdam	Paris	Berlin	Helsinki	Helsinki
5	Stockholm	Helsinki	Stockholm	Hamburg	Amsterdam	Paris
6	Copenhagen	Stockholm	Copenhagen	Munich	Paris	Berlin
7	Rotterdam	Berlin	Rotterdam	Stockholm	Luxembourg	Copenhagen
8	Berlin	Oxford	Brussels	Helsinki	Stuttgart	Dublin
9	Dublin	Brussels	Oxford	Amsterdam	Cambridge	Rotterdam
10	Brussels	Dublin	Cambridge	Dublin	Berlin	Hamburg
11	Hamburg	Madrid	Munich	Rotterdam	Munich	Luxembourg
12	Cambridge	Cambridge	Berlin	Brussels	Dublin	Cambridge
13	Munich	Barcelona	Dublin	Oxford	Rotterdam	Stuttgart
14	Oxford	Bilbao	Cologne	Cambridge	Brussels	Oxford
15	Madrid	Luxembourg	Hamburg	Madrid	Hamburg	Munich
16	Stuttgart	Rotterdam	Luxembourg	Luxembourg	Madrid	Brussels
17	Barcelona	Munich	Vienna	Barcelona	Oxford	Cologne
18	Bilbao	Hamburg	Madrid	Cologne	Barcelona	Vienna
19	Luxembourg	Stuttgart	Barcelona	Stuttgart	Milan	Lisbon
20	Cologne	Nicosia	Bilbao	Bilbao	Bilbao	Madrid
21	Vienna	Prague	Stuttgart	Vienna	Cologne	Nicosia
22	Milan	Cologne	Nicosia	Lisbon	Prague	Barcelona
23	Prague	Milan	Milan	Warsaw	Vienna	Bilbao
24	Lisbon	Vienna	Riga	Budapest	Nicosia	Rome
25	Nicosia	Riga	Tallinn	Milan	Warsaw	Warsaw
26	Riga	Tallinn	Prague	Prague	Bucharest	Prague
27	Budapest	Budapest	Bratislava	Nicosia	Tallinn	Riga
28	Warsaw	Sofia	Ljubljana	Bratislava	Budapest	Milan
29	Tallinn	Rome	Vilnius	Rome	Ljubljana	Tallinn
30	Vilnius	Warsaw	Lisbon	Valletta	Vilnius	Budapest
31	Rome	Lisbon	Budapest	Ljubljana	Lisbon	Zagreb
32	Bucharest	Bucharest	Zagreb	Vilnius	Rome	Sofia
33	Sofia	Vilnius	Warsaw	Tallinn	Valletta	Bucharest
34	Ljubljana	Zagreb	Valletta	Athens	Bratislava	Vilnius
35	Bratislava	Bratislava	Bucharest	Riga	Athens	Bratislava
36	Zagreb	Ljubljana	Sofia	Bucharest	Riga	Ljubljana
37	Valletta	Athens	Rome	Zagreb	Sofia	Athens
38	Athens	Valletta	Athens	Sofia	Zagreb	Valletta
Weights in the index		25.21	25.19	24.63	17.78	7.19

BBVA Research Digital Entrepreneurship Index for European cities: Policy making

DIGITAL ENTREPRENEURSHIP INDEX AND POLICY INITIATIVES TO FOSTER ENTREPRENEURSHIP IN THE EUROPEAN CITIES IN 2015
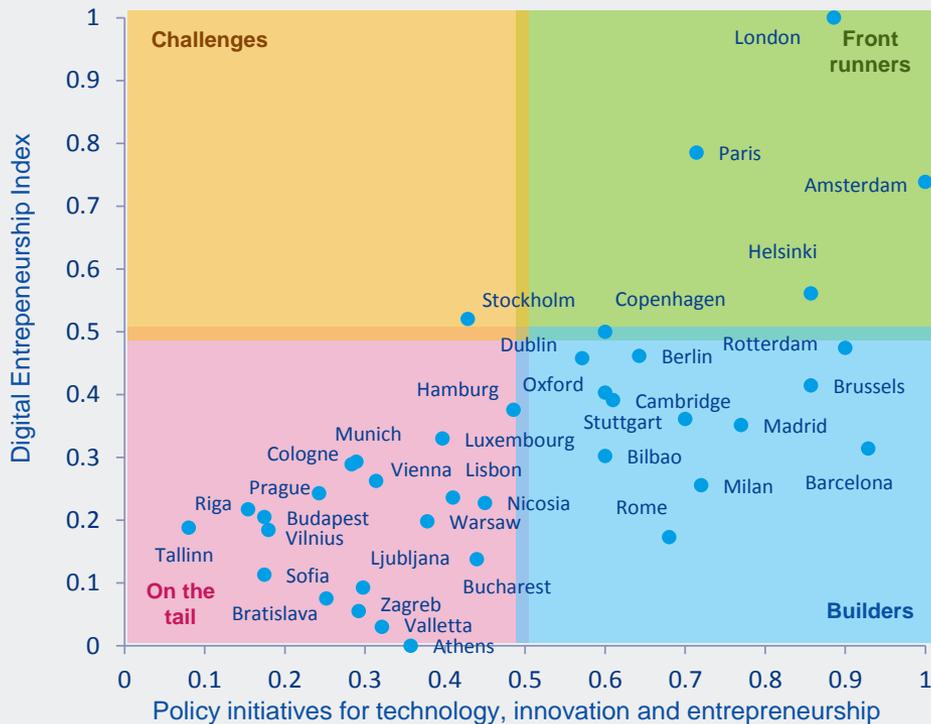
- There has been an **increasing awareness by policymakers** of the importance of **innovation and entrepreneurship** over the last years

- Already leading cities continue pushing forward

- Barcelona, Rotterdam and Brussels are doing more than others to catch up

ANNEX

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ANNEX
Composition: indicators and weights

25.21	**25.19**	**24.63**	**17.78**	**7.19**
Entrepreneurial culture and attitudes	**Digitalization**	**Financing**	**Skills and business environment**	**Life quality and infraestructures**

Entrepreneurial culture and attitudes
- Risk acceptance
- New-business density
- Perception of entrepreneurship
- Engagement with digital startup ecosystem
- Networking and mentoring events
- Trust score

Digitalization
- Cost of broadband
- Number of fibre-to-the-home/building Internet subscriptions
- e-commerce use
- Internet frequency access
- Social networks
- Internet banking
- e-Government
- Digital index tone

Financing
- Early-stage funding as % GDP
- Later-stage funding as % GDP
- Average funding
- Funding innovation media tone
- Availability of crowdfunding

Skills and business environment
- Tertiary Education
- % ICT employees
- % Finance/Insurance employees
- English language skills
- Ease of doing business
- Number of shared working spaces
- Public sector information score

Life quality and infraestructures
- Quality of life index score
- Cost of living score
- Quality of public transport
- Infrastructure Satisfaction

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ANNEX
Data description: Entrepreneurial culture and attitudes

Variable	Description	Source	Coverage	Year
Risk acceptance	Percentage of people who tend to disagree or totally disagree with the following statement: One should not start a business if there is a risk it might fail.	Eurobarometer Entrepreneurship in the EU and beyond	NUTS2 level	2014
New-business density	New firms registrations per 1,000 people ages 15-64	World Bank	National level	2014
Perception of entrepreneurship	Media perception of entrepreneurship themes included in the World Bank taxonomy	GDELT	City level	2015
Engagement with digital startup ecosystem	Media coverage of entrepreneurship themes included in the World Bank taxonomy/ Number of tweets with hashtag entrepreneurship	GDELT/ FollowtheHashtag	City level	2015
Networking and mentoring events	Media coverage of mentoring included in the World Bank taxonomy/Number of networking events per month	GDELT/ meetup	City level	2015
Trust score	Median response to the question: Generally speaking, would you say that most people can be trusted, or that you could not be too careful in dealing with people?	Eurobarometer	NUTS2 level	2014

ANNEX
Data description: Digitalization

Variable	Description	Source	Coverage	Year
Cost of broadband	Fixed broadband subscription cost	ITU	National level	2015
Number of fibre to the home/building Internet subscriptions	Availability of fibre with respect to the total building internet subscriptions	ITU	National level	2015
e-Commerce use	Percentage of individuals who ordered goods or services over the Internet	Eurostat	NUTS2 level	2015
Internet daily frequency access	Percentage of individuals who use internet every day	Eurostat	NUTS2 level	2015
Social networks use	Percentage of individuals participating in social networks (creating user profile, posting messages or other contributions to facebook, twitter, etc.)	Eurostat	NUTS2 level	2015
Internet banking use	Percentage of individuals who used the internet banking	Eurostat	NUTS2 level	2015
e-Government	Percentage of individuals who used the internet for interaction with public authorities	Eurostat	NUTS2 level	2015
Digital index tone	Media perception of themes related with digital economy, fintech and digital regulation	GDELT	City level	2015

ANNEX

Data description: Financing

Variable	Description	Source	Coverage	Year
Early-stage funding	Amount of seed and startup funding raised as % GDP	European Private Equity and Venture Capital Association	City level	2013
Later-stage funding	Amount of later-stage funding raised as % GDP	European Private Equity and Venture Capital Association	City level	2012
Average funding	Average funding raised as % GDP	European Private Equity and Venture Capital Association	City level	2015
Funding innovation media tone	Media coverage of funding innovation included in the World Bank taxonomy	GDELT	City level	2015
Availability of crowdfunding	Financed projects by Kickstarter	Kickstarter	City level	2015

ANNEX
Data description: Skills and business environment

Variable	Description	Source	Coverage	Year
Tertiary Education	Percentage of population with tertiary education	Eurostat	NUTS2 level	2015
% ICT employees	Percentage of employees in ICT sector	Eurostat	NUTS2 level	2015
% Finance/Insurance employees	Percentage of employees in Finance/Insurance sector	Eurostat	NUTS2 level	2015
English language skills	Percentage of population who can speak English	Eurostat	NUTS2 level	2014
Ease of doing business	Ease of doing business ranking	World Bank	National level	2015
Number of shared working spaces	Number of co-working spaces in the city	GoodCoworking	City level	2015
Public sector information score	Public Sector Information scoreboard and the status of Open Data	European Comission	National level	2014

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ANNEX
Data description: Life quality and infraestructures

Variable	Description	Source	Coverage	Year
Quality of life score	Overall quality of life	Eurostat	City level	2015
Cost of living score	Indicator of consumer goods price including groceries, restaurants, transportation and utilities	Numbeo	City level	2012
Quality of public transport	'Percentage of people who answered "very satified" or "rather satisfied" to the question: "Generally speaking, please tell me if you are very satisfied, rather satisfied, rather unsatisfied or not at all satisfied Public transport, for example the bus, tram or metro"	Eurostat	City level	2014
Infrastructure Satisfaction	Overall satisfaction with infrastructure in cities	Eurostat	City level	2015

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