

A black and white photograph of a Space Shuttle Columbia launching from the Kennedy Space Center. The shuttle is ascending vertically, leaving a massive, billowing plume of white smoke and fire behind it. The launch pad structure is visible on the left, and the surrounding landscape is flat with some industrial buildings in the foreground.

Fast Forward Advisors

Your partners for
Innovation & Growth

Tech and Innovation Ecosystems in Europe

21st International Workshop on Business Incubation

25th October, 2018

Shanghai Caohejing Hi-tech Park Innovation Center



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ADVISORS**

WHAT WILL WE TALK ABOUT TODAY?

1. Introducing FFA
2. European Tech and Innovation Development
3. Factors for Developments
4. 20 Impactful Startup Ecosystems



Introducing:

FAST FORWARD ADVISORS “FFA”



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ADVISORS



Fast Forward Advisors is a boutique consulting firm founded in 2011 with HQs and offices in Europe, Asia and associate office in North America. Mainly focused on solving problems / enabling opportunities in innovation, growth and fundraising, FFA has worked with over 50+ startups and 20+ accelerators/incubators in 25+ countries worldwide.

● Introducing Fast Forward Advisors

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FFA operates in 3 continents, 30+ countries and wide range of industries:
automotive, energy, financial services (fintech), biotech, medtech, healthcare, advertising (adtech), marketing (martech),
e-commerce, education (edtech), travel

● Introducing Fast Forward Advisors

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MANAGEMENT BOARD



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Managing Partner Asia

Experience:

IT Manager, Piaggio Asia
Consultant, KPMG Advisory

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Msc Computer Science
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(Wroclaw University of Technology)
B.eng, Biomedical / Medical
Engineering – Electronics

Advisory Board:



Gianfranco Pizzuto

Co-Founder Fisker Karma

US\$ 2 bn valuation, raised up to
Series D from top-tier investors in
Silicon Valley (e.g. Sequoia, KPCB)



Tom Strodbeck

Former Director NBIA

Worked with 40 incubators worldwide
and had over 500 keynote speeches /
workshops in the world's most
renowned top conferences

**We provide Innovation and Growth consulting services
for leaders who aim to design and create the future**



● **Introducing Fast Forward Advisors**

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We have been working with 25+ accelerators, incubators and innovation centers in Europe, helping them and their entrepreneurs in a wide range of topics.

We successfully supported 1000+ startups in these programs with on-site activities (mentoring, workshops) as well as online (remote 1-1 mentoring)



● Introducing Fast Forward Advisors

Overview: European Tech & Innovation Development

Funding

M&A

IPOs



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Steady increase in equity funding

Equity funding is €25B in 2017

- Almost 500% increase from a mere €4.3B raised in 2012.

If tech startup funding keeps increasing at this rate, in another five years funding levels will reach almost €150B



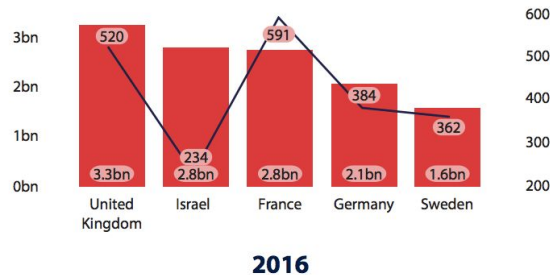
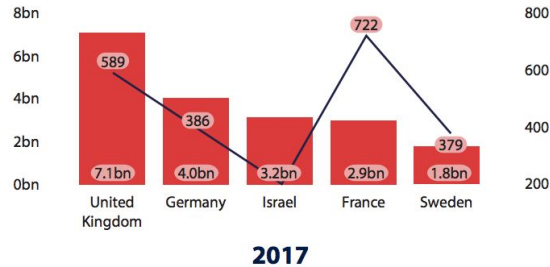


Deal size is on the rise

Investment volume drastically increased, while the number of deals fell by 1.7% to 3398 (2016), so 2017 saw larger deals:

- 26 deals worth €100M or more, a 108% increase over 2016, which had only 13 such deals.
- 51.6% increase in the number of deals between €20M- €100M
- 30% increase in deals between €5M - €20M, and a 7% increase in deals worth €1M - €5M.

Most significant growth: UK, Germany, France & Sweden



2017: UK & Germany led the way in tech funding volumes:

- UK: nearly €4B increase in funding over 2016, despite Brexit
- Germany: tech funding volume reached €4B.

Two major rounds for Delivery Hero amounted to almost €1.1B



Drop in overall number of M&A transactions & exit volume

Compared to previous years, M&A activity was slow in 2017

- Number of exit transactions fell to 610, down from 657 in 2016 and 717 in 2015
- Overall transaction value took a greater dip - mainly due to the fact that few large deals were disclosed
- The number of VC-backed exits decreased by 27% from 296 to 218



However, it is not something of concern because:

A lot of deals are disclosed (disclosure rate: 26%)

There are a lot of big acquisitions in 2016 compared to 2017:

- Acquisition of the UK's ARM Group by SoftBank in 2016 for €28.8B accounted for 25% of total exit volume that year.
- Largest deal for 2017 was Intel's acquisition of Mobileye for €13.4B, followed by Delivery Hero's IPO for €4.5B.

Sweden & Germany lead in the number of exits

Sweden showed the most exit activity in 2017 with 120 deals - up from just 55 in 2016.

Germany came in second for number of exits with 112, up from 108 in 2016, with 45 VC-backed deals.

- Greatest exit volume with the acquisition of telecom company Drillisch, and major IPOs for Delivery Hero and HelloFresh.



A record year for IPOs

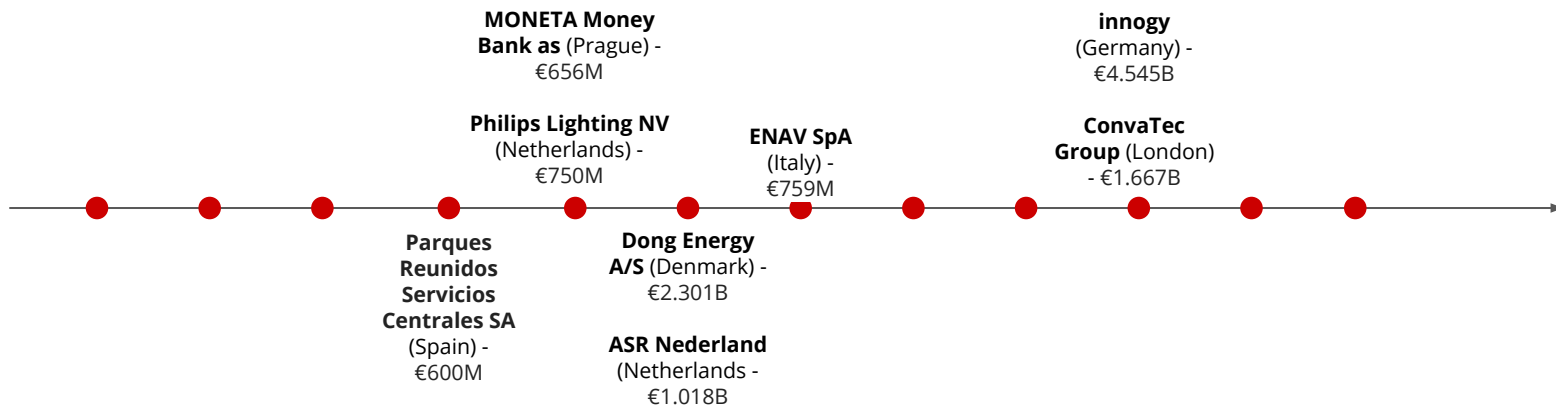
There were 36 IPOs in 2017, up from 26 in 2016 and 32 in 2015

IPOs comprised over €8 billion of total exit volume in 2017

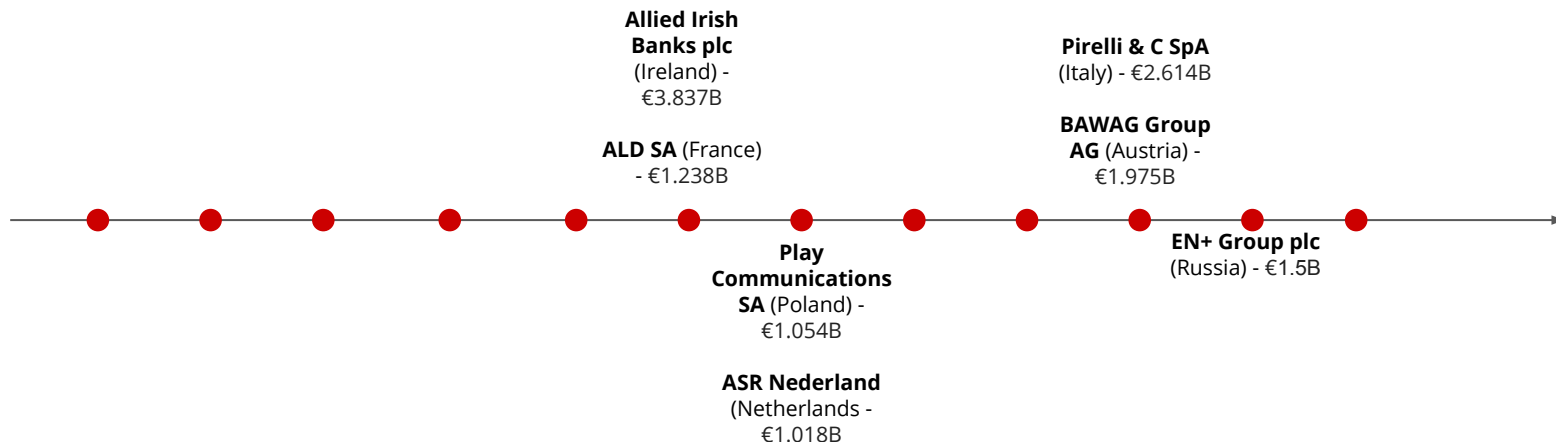
The US remains top acquirer

- US-based companies continued to be the main acquirers of their overseas counterparts, accounting for 28.23% of the region's total acquisitions.
- However, in most countries, the majority of acquisitions are by other companies within the same country
- The US may lose ground to Asian firms as they continue to invest heavily in European tech startups.

2016



2017



● Timeline: Europe's top IPOs

Factors for Development

Government
Talent
Community



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Startup-friendly regulations & initiatives

(Europe) Fintech: Payment Services Directive

(PSD2):

- Forces European banks to give access to raw account data through APIs and allows third-party vendors to initiate payments for customers

(UK) £2.5B Patient Capital Fund & Startup Visa



Take more advantages of levers

Competition for talent has driven up costs $\Rightarrow$ Many founders decide to stay locally or build distributed teams

Therefore, city authorities continue to take advantage of their levers:

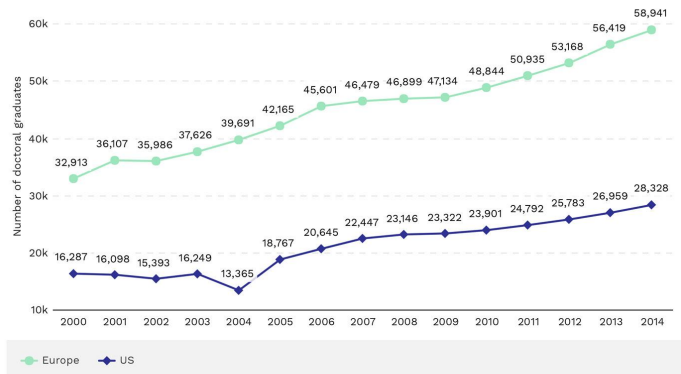
- Denmark: calibrates its tax legislation, linked to its green energy policies
- London: Startup Visa
- Paris: makes their city accessible and feasible to tech development



Selected investment rounds raised by European deep tech companies in 2017

Company	Round size	Lead investor(s)	Round date
Graphcore	\$50M	Sequoia Capital	Nov 2017
Ada Health	\$47M	Access Industries	Oct 2017
MessageBird	\$60M	Accel, Atomico	Oct 2017
Shift Technology	\$28M	Accel	Oct 2017
FiveAI	\$35M	Lakestar	Sep 2017
Lilium	\$90M	Tencent	Sep 2017
Sophia Genetics	\$30M	Balderton	Sep 2017
Improbable	\$500M	Softbank Vision Fund	Jun 2017
Unity	\$400M	Silver Lake	May 2017
Babylon Health	\$60M	Kinnevik	Apr 2017

Talent - Number of doctoral graduates in STEM fields per year by region



Strong pipeline of world-class talent

Home to ½ of top 10 computer science institutions in the world

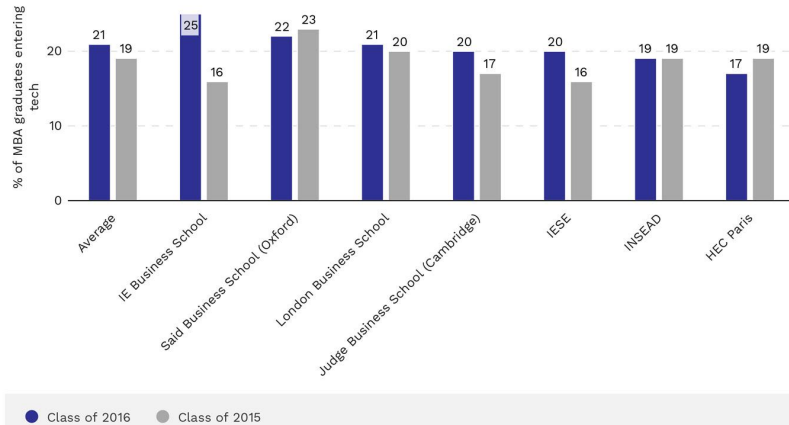
A leading source of doctoral-level technical talent:

- Number of PhDs in STEM-subject graduates from European universities = 2x those from the USA

Big pool of commercial-minded talent

1 in 5 graduates of MBA programmes from Europe's leading business schools are entering tech industry

% of MBA graduates entering tech industry from selected leading European business schools



Source: Business School MBA Graduate Employment Reports



Growing and highly-engaged tech communities

Europe's tech community enjoys access to plenty of events:

- 172 tech-related events daily on Meetup's platform
- These communities are highly active



20 Impactful European Tech ecosystems



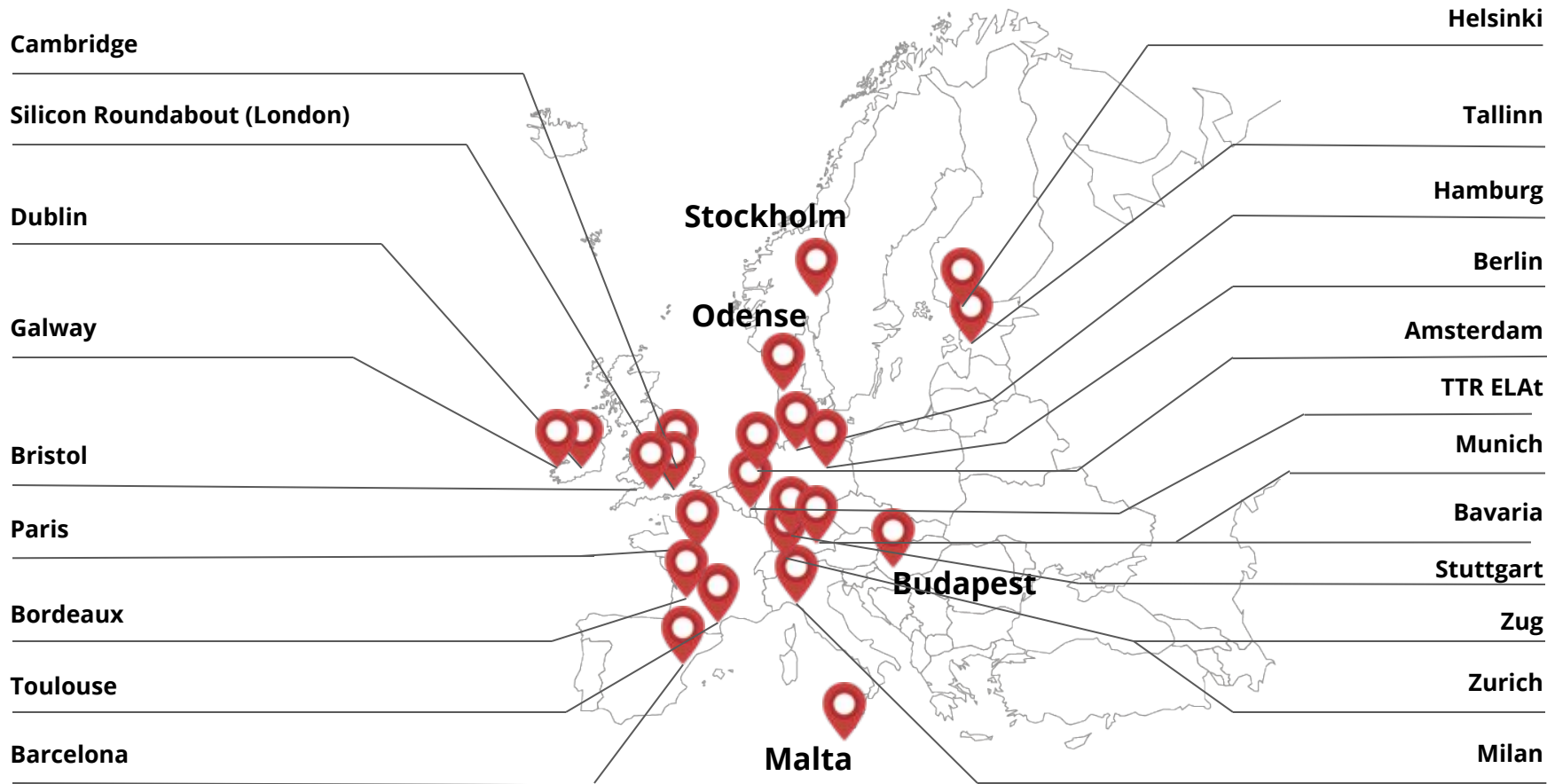
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European Tech Ecosystem Rankings used:

- European Digital City Index 2016: describes how well different European cities support digital entrepreneurship.
- Startup Blink: ranks more than 125 countries and 950 cities according to their startup ecosystem strength

List of 25 most impactful European ecosystems:

1. Crypto Valley	6. Silicon Fen	11. Stuttgart	16. Galway	21. Malta
2. Silicon Roundabout	7. Bristol	12. Paris	17. Odense	22. Barcelona Tech City
3. Helsinki	8. Hamburg	13. French Tech Bordeaux	18. StartupDelta	23. Budapest
4. Silicon Allee	9. Insurtech Hub	14. IoT Valley	19. Zurich	24. Stockholm
5. TTR ELAt	10. Bavaria	15. Silicon Docks	20. Milan	25. Tallinn



● European ecosystem map

Overview

1. Every major city has its own startup ecosystem (1000 ecosystems in Europe)
2. Common market gives tech and innovation businesses the ease of labour and founding companies everywhere within the EU
3. Small ecosystems tend to focus on a small amount of sectors, while big and established ecosystems have a variety of sectors within it
4. All of them develop as a community, and receive support from various stakeholders
5. Distinctive features of each city/country gives each ecosystem its own strengths but also poses some challenges
6. Deep tech continues to thrive in many ecosystems

Deep tech

Total venture capital investments hit \$127B last year, with 50% related to software development

Steep increase in Deep Tech investment from €0.4 billion to €2.3 billion between 2012 and 2016

Reasons: Europe has all the elements to foster Deep Tech success:

- Academic institutions and universities
- Availability of scientific facilities, resources and services
- Direct access to a large market
- Existence of industries in which the products and services can be deployed

Crypto Valley

Location: Zug, Switzerland

Specialization: Crypto/Blockchain



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Overview

History & Milestones:

2016	Zug became the first city on the world to accept bitcoin payments for tax purposes
2017	Crypto Valley announced it is launching a decentralized ethereum-based digital ID system
2018	Zug successfully completed its first test of a local blockchain-based voting system

● 5 Picks from Us: Crypto Valley

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Infrastructure & Projects

Crypto Valley Conference on Blockchain Technology 2018:

- Purpose: Bring together leading researchers, entrepreneurs, startups and established companies - share & discuss developments in the Blockchain Technology ecosystem
- 650 attendees, 40 business speakers, 30,000 blockchain challenges and 20 satellite events

Blockchain Summit 2017:

- Small talk and panel discussion related to blockchain
- 800 attendees all over the world, 60 speakers on the main stage and 30 startups presented their projects in the Startup Hall

Successful Startups/Scaleups

Ethereum:

- A blockchain-based platform supporting self-executing contracts
- Reached market capitalisation of around \$1B after pre-sale
- During its 42 days of ICO, Ethereum raised \$18M - the most funded ICO at the time



Advanon:

- Online platform allowing SMEs to finance their open invoices directly through investors (average 5 minutes)
- Wide investor base (450 investors)
- Prizes: VentureKick I, II & III, Working Capital Award (Swiss Bank Postfinance) and top 4 Fintech Startups in Switzerland



Stakeholders

Education Bodies	Institutions	Accelerators/Incubators
Lucerne University of Applied Sciences and Arts • The Department of Computer Science cooperates with many Blockchain companies and organizations • Researchers support companies in R&D process by Blockchain	Crypto Valley Association: • Purpose: Build the world's leading ecosystem for blockchain and cryptography • <i>Work:</i> - Support startups and established businesses - Host industry events - Connect Crypto Valley with other international centers of blockchain innovation	Blockchain Valley Ventures: • An accelerator & venture capital firm offering investment, financing and advisory services for blockchain-enabled businesses Waves Lab: • A blockchain tech incubator, providing support for pre-ICO projects

Silicon Roundabout

Location: London, UK

Specialization: Fintech



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Overview

Ranking:

- #3 worldwide and #1 in Europe in Startup Ecosystem Rankings by Startup Blink
- #1 in European Digital City Index 2016

History & Milestones:

- 11/2010: Former PM David Cameron planned to help accelerate the growth of the cluster in speech given in East London

Infrastructure & Projects

Campus London: • Google's free space for London's startup community • Campus Residency	IdeaLondon Campus London: • Post-accelerator center for startups & entrepreneurs	London Tech Week: • 5 days, 40,000 attendees from 70 countries • Learn & showcase every imaginable tech
Wework Old Street: • Home to entrepreneurs working on early-stage ideas & established businesses to expand	Second Home Spitalfields: • Connected community from: charities, corporates, creative businesses and innovators	Hardware Pioneers • Hosts free monthly meetups featuring guest speakers in IoT & gives feedbacks for startups

Successful Startups/Scaleups

 TransferWise		
• Specializes on money transfer service • Valued at \$1B after 4-year launching • Has attracted investment from Silicon	• Digital banking alternative, including pre-paid debit card, currency exchange and peer-to-peer payments • 2M customers in Europe • Has just raised a Series C investment round of \$250M and is now valued at \$1.7B	• A P2P lending marketplace • Raised \$413.2M from investors (Accel, Rocket Internet, Index Ventures, Baillie Gifford) • 2018: Raised \$395.85M in a London IPO and is valued at \$2.64B

● 5 Picks from Us: Silicon Roundabout

Stakeholders: Education



Science and Enterprise Park

*Loughborough University &
University College London*

- Home to 75 organisations (2,000 people) from high-tech startups to R&D division of global companies



Accelerator London

London Metropolitan University

- Provides support, advice, networks and resources for startups
- **Programs:** Launchpad, The Big Idea Challenge, 1-2-1 Business Advice

Stakeholders: Education



Imperial White City Incubator

Imperial College London

- Hub for innovation & entrepreneurship, providing office, lab space & support for early-stage company



The Hatchery

University College London

- Free space for startups & new enterprises
- Business support & mentoring from business advisors
- Access to programs & events

Stakeholders: Institutions

Innovation Warehouse

City of London Corporation

- Founded in 2010 as a community for digital high-growth startups in London
- Everyday, 200 entrepreneurs, angels and mentors work together in the coworking space

The logo for Innovation Warehouse, featuring the word "INNOVATION" in a large, bold, sans-serif font, with the word "WAREHOUSE" in a smaller, spaced-out, sans-serif font directly below it.

Tech City Investment Organisation

- Attracts inward investment, and support companies in the cluster to expand into international markets

The logo for Tech City, featuring the words "TECH" and "CITY" in a bold, sans-serif font. A stylized location pin icon is positioned between the two words, with the letters "UK" inside the pin's head.

● 5 Picks from Us: Silicon Roundabout

Stakeholders: Accelerators / Incubators / Investors

Seedcamp (SC): • Early-stage & micro-seed funding to 650 entrepreneurs from 150 startups • Since 8/2017: SC-backed companies raised \$900M	RocketSpace: • Supports scaleups with industry-focused expertise and partnership opportunities	Entrepreneur First: • Pre-team stage incubator • Invests in creative & ambitious IT graduates • 6-month programme
Startupbootcamp: • 3-month accelerated development program to early-stage insurance & financial startups • Since 2010, invested in 450 startups (€240m)	Techstars: • Supported 1,024 companies (raised \$3.8B) • Global network of mentors & corporate partners, 3 months of office space & 400 other perks	JLAB: • Platform for startups (retail, healthcare, IoT & supply chain) • 12-week program - then access to capital investment of John Lewis Partnership

● 5 Picks from Us: Silicon Roundabout

Helsinki

Location: Finland

Specialization: Gaming, AI, Health & Life Sciences



Overview

Ranking: #62 worldwide and #18 in Europe in Startup Ecosystem Rankings by Startup Blink

Satellite area: Turku

- 30 game companies, 3 higher education institutions (programming-focused degree in game development) and Turku Arts Academy (#2 in the world)
- Active game developers' community by Turku Science Park, Turku Game Lab and SparkUp accelerator



● 5 Picks from Us: Helsinki

Infrastructure & Projects



- **2017:** 2,600 startups, 1,600 investors and 600 journalists from 130 countries
- **Past 7 years:** Has grown from 300-person gathering to a global community organizing 75 events with 40,000 attendees
- Global community events in Helsinki, Tokyo, Shanghai and Singapore, and expanding more



- A part of the biggest hackathon in Europe
- **Impressive numbers:** 6,000 community members, 1,800 selected participants, 50 challenges, 200 solutions, 100 industry partners, 200 mentors, 50 volunteers and 20 organizers

● 5 Picks from Us: Helsinki

Infrastructure & Projects



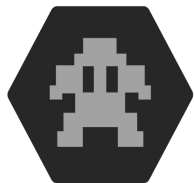
Microsoft Flux:

- Finnish startup community
- Gives startups access to free network, high tech devices, coaches and networking events



Turku Game Lab (*University of Turku x Turku University of Applied Sciences*):

- Joint working environment, providing services in game education & development, using latest technical advancements



Oulu Game LAB

Oulu Game Lab (*university of Applied Sciences*):

- Unique Training & Development Program tailored to the gaming industry
- Supports development of Game prototypes/products and startups

● 5 Picks from Us: Helsinki

Successful Startups/Scaleups



A mobile gaming company

2010: Received \$5.8M investment from Tekes

2016: acquired by Tencent (total value: \$9.26B)

Blueprint
Genetics



A genetic diagnostics company

2017: Received \$16.28M - 4 investor groups

Work with 450 hospitals - 40 countries

Stakeholders: Education

Aalto Startup Center (*Aalto University*):

- Runs a 1-2-year Business Generator Program for startup in Espoo, Finland
- Provides early-stage startups with advice, coaching, communal workspaces and networking and fundraising opportunities

Hanken Business Lab (*Hanken School of Economics*):

- A new form of incubator to help startups, scale-ups and NPOs & individuals to achieve significant growth

StartUp School (*Haaga-Helia University of Applied Sciences*):

- Offers courses for students interested in entrepreneurship & supports students who already have businesses

Stakeholders: Institutions

EIT's Knowledge and Innovation Communities:

- Partnerships between businesses, research centers and universities
- Focuses on climate change, healthy living & active ageing

Helsinki Business Hub:

- Enables foreign companies to establish their businesses & innovation-driven companies to grow Helsinki region
- Designs growth opportunities free of charge and based on full confidentiality

Finnvera:

- Provides funding for startups and supports in growth, internationalization and protection against export risks

Business Finland:

- Enables companies to grow internationally

NewCo Helsinki:

- Supports entrepreneurs in the beginning of their businesses & when they are seeking growth

● 5 Picks from Us: Helsinki



Stakeholders: Accelerators / Incubators / Investors

Vendep Startup Accelerator: provides funding, refine business models and help startups acquire customers

NewCo Helsinki Accelerator: Growth support - 1-to-1 business advisory program

Startup Journey: 10-week program for teams - offers coaching

● 5 Picks from Us: Helsinki



Stakeholders: Accelerators / Incubators / Investors

Vertical Accelerator: the first Nordic digital health & wellness startup accelerator (4-month program x 2/year) - access to 200 world class mentors

Kaira Accelerator: Founded by Avanto Ventures. Connects startups with top experts in the field & helps embrace AI by building actual business cases & by developing startups' competence

● 5 Picks from Us: Helsinki

Silicon Allee

Location: Berlin, Germany

Specialization: Fintech, IoT, Health & Life Sciences



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Overview

History & Milestones:

- Began in 2011 as a monthly meetup for startups to connect and share ideas
- 2016: Joined Factory to build a space in central Berlin for the city's startup community to work, live, connect and grow
- Mission: to be the best place to experience Berlin tech scene & to provide Berlin startups with the resources and networks to gain meaningful international exposure



Infrastructure & Projects



Silicon Allee Campus:

7,500m² complex with S-XL offices, apartments, cafe, craft beer bar, event spaces and other hidden gems

Factory Berlin Görlitzer Park:

- Home to a thriving community
- 14,000m², 5 floors and can accommodate 1,000 members



● 5 Picks from Us: Silicon Allee

Successful Startups/Scaleups

N26:

- A mobile bank
- Grew from 500,000 to 1M customers in Europe in 9 months
- Generates \$1.17B in transaction volume every month
- Plans to have 5M users by 2020

N26

Relayr:

- Rapidly-growing IoT company, providing enterprise middleware & IoT solutions for digital transformation of industries
- Completed 3 series funding rounds, raising £50M

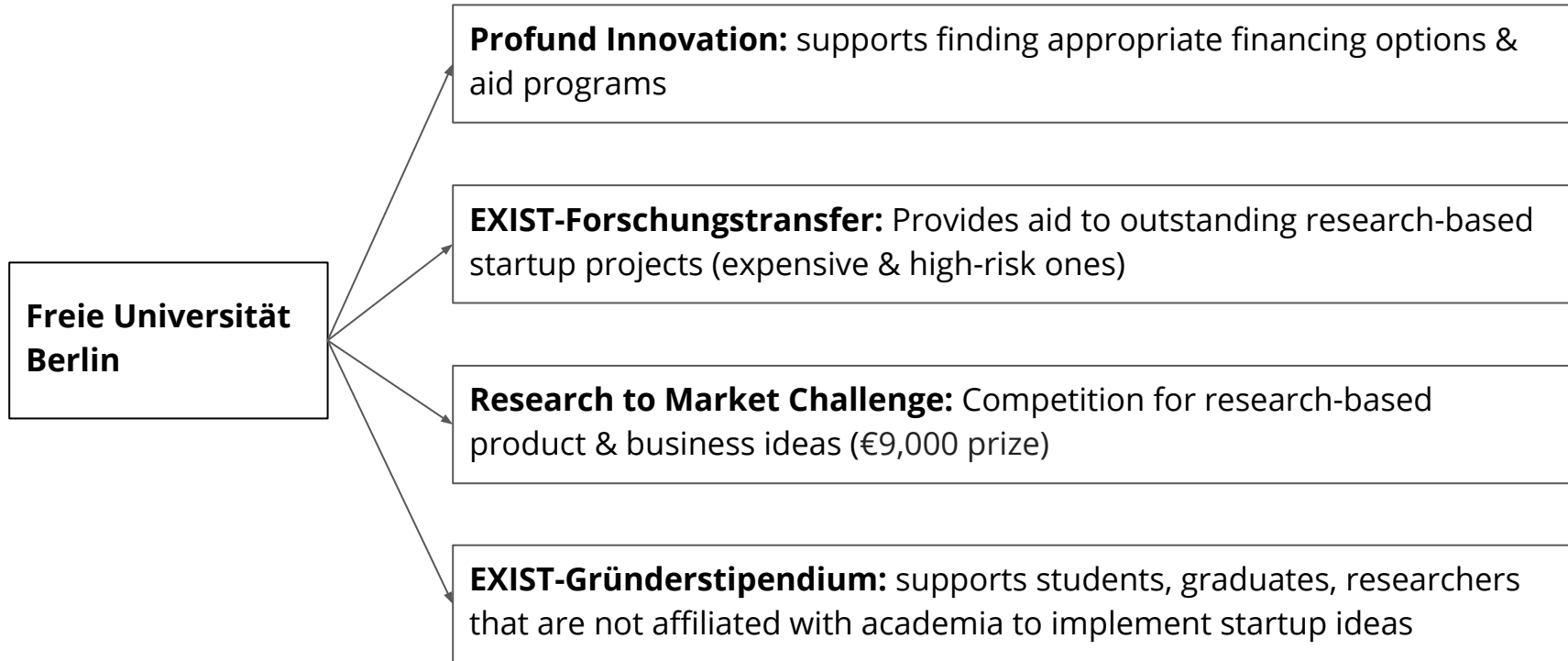
relayr.

Stakeholders: Education



● 5 Most Impactful Ecosystems: Silicon Allee

Stakeholders: Education



● 5 Most Impactful Ecosystems: Silicon Allee

Stakeholders: Institutions



German Startups Association:

- Builds bridges between global startup hubs, nations and continents
- Undertake research and foster international exchange (startup tours to New York, Tel Aviv and Silicon Valley)



Humboldt-Innovation GmbH:

- Wholly-owned subsidiary, and knowledge and technology transfer office of Humboldt-Universität zu Berlin
- Acts as a liaison between university and industries

● 5 Most Impactful Ecosystems: Silicon Allee

Stakeholders: Accelerators / Incubators / Investors

Berlin Startup Academy:

- 120 of Berlin's most experienced CEOs & investors
- Helps to turn an idea to a startup & brings entrepreneurial drive to the enterprise

Rocket Internet:

- Leverage proprietary processes to build market-leading companies from scratch
- Incubates 100 companies on 6 continents - total valuation: \$34,88B

Plug and Play Tech Center:

- A network startup accelerator & corporate innovation platform
- Runs 2 programs/year in each industry & location
- 220 corporate partners & 200 VCs

hubraum:

- Tech incubator of Deutsche Telekom
- Brings early-stage startups and leading European telco together
- Since 2012: Connects with its digital ecosystem in Krakow and Tel Aviv

● **5 Most Impactful Ecosystems: Silicon Allee**

TTR ELAt

Location: Eindhoven-Leuven-Aachen (NL-BE-DE)

Specialization: High Tech Systems, Health & Life Sciences



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Overview

Ranking:

- Leuven: 1 of the 12 most innovative European cities (nominated by European Commission)
- Eindhoven: Highest density of patent applications in the world (Forbes)

History & Milestones:

- The area in which TTR-ELAt is located: long history of cross-border policy efforts (since 1970s)
- 2009: The TTR-ELAt was launched as the merger of 2 initiatives - TTR and ELAt
 - 2004: TTR was established in recognition of the role of SE Netherlands for technology-led growth, and subsequently enlarged through collaboration with neighbouring countries
 - 2004: ELAt was an initiative of mayors from 3 cities. Soon joined by local & regional actors

● 5 Most Impactful Ecosystems: TTR ELAt

Infrastructure & Projects

Top Technology Cluster

- A joint cross-border initiative to support technology-oriented companies, especially SMEs, in finding the right partners & establishing sustainable cooperation between companies across borders

Cross-border Cluster Stimulation

- Grants for cross-border R&D projects involving SMEs (\$5,46M innovation fund)
- \$116,000 - \$290,000/project
- Result: 3 calls for proposals with 22 cross-border R&D projects selected (\$15.33M invested)

Aachener Innovations Platform

- An open networking conference (RWTH Technology & Innovation Management Institute)
- Discuss upcoming ideas & trends in innovation, R&D & new technologies in established companies

• 5 Most Impactful Ecosystems: TTR ELAt

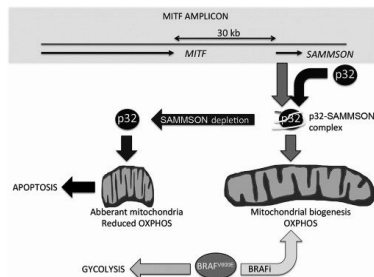
Successful Startups/Scaleups

TIGENIX

- Leuven-based biomedical company - innovative local treatments for damaged & osteoarthritic joints
- Valued \$192M at IPO and later acquired by Takeda Pharmaceutical for €520M

Liquavista

- Display manufacturing company, developing electro-wetting displays in the Netherlands
- Raised a total of \$45M in funding (4 rounds) & acquired by Amazon in 2013



- VIB scientists Leuven & researchers from UGent - revealed a non-coding RNA gene called SAMMSON
- Paved the way for improved diagnostic tools & skin cancer treatment

● 5 Most Impactful Ecosystems: TTR ELAt

Stakeholders: Education



KU Leuven:

- Europe's most innovative university (Reuters)
- Annual research spending: \$422.36M



KU Leuven R&D Transfer cell:

- Facilitates collaborative & contract research & develops science parks and incubators
- Creates 100 high-tech companies (3,000 people employed)



Eindhoven University of Technology:

- Incubates 30 knowledge-intensive startups every year
- 11 knowledge institutes & 54 research facilities



RWTH Aachen:

- Annual RWTH Aachen Innovation Award
- Industry 4.0 Executive Education - Disruptive Innovation and Intrapreneurship program
- RWTH Start-Up

Stakeholders: Institutions

Interuniversity Microelectronics Centre (Leuven):

- Europe's largest independent research centre in microelectronics
- Is becoming increasingly active in nano-electronics & bio-silicon
- Helps attract talents & creates collaboration opportunities in the region

Netherlands Organisation for Applied Scientific Research:

- Offers startups a free day of consulting & 50 hours of subsidized research
- Knowledge transfer programme: especially for SMEs

AGIT:

- AC² Innovation Award Aachen: Appreciation for special social or entrepreneurial achievements.
- AC² Startup Competition: participants are given useful tips from experts & former entrepreneurs on how to start a business

● 5 Most Impactful Ecosystems: TTR ELAt



Stakeholders: Accelerators / Incubators / Investors

	The KU Leuven Innovation and Incubation Centre	• Provides shared facilities, equipment & services to new research-oriented, innovative businesses to enable them to concentrate exclusively on their core activity
	The Leuven Bio-Incubator	• Provides innovative dynamic and stimulating environment in which entrepreneurs and companies in biotechnology can develop their ideas and technologies
	The High Tech Campus in Eindhoven	• The smartest km² in The Netherlands (160 companies and institutes & 11,000 researchers, developers and entrepreneurs) • Helps startups accelerate by offering easy access to high-tech facilities and international networks.

• 5 Most Impactful Ecosystems: TTR ELAt



Silicon Fen (Cambridge, UK)

#1 in Global innovation ecosystem

1500 technology and life science companies with annual revenue of \$18.4 million

16 unicorns

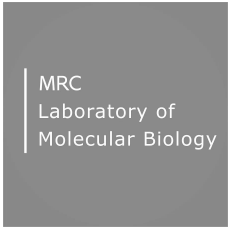
350 patent applications per 100,000 residents

Specialization:

- Software
- Biotech

● 20 Other Ecosystems: Silicon Fen

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Institutions	Startup	
 Pioneered techniques: DNA sequencing, methods for determining 3D structure of proteins & development of monoclonal antibodies	 In 2013, raised \$4M in equity funding and \$17.5M in a series B investment round	 Raised a total of \$220M from well-known names like the Wellcome Trust, the Gates Foundation, and Woodford



- An event that inspires and supports young leaders to ensure sustainability and growth of the biotechnology industry.
- Flagship event - GapSummit: attracts 100 future bio-leaders and world leaders from the biotech and pharmaceutical industry

• 20 Other Ecosystems: Silicon Fen

Bristol (UK)

#13 in European Digital City Index 2016

#1 in UK Smart Cities Index 2017

UK's first ever European Green Capital in 2015

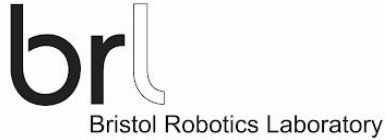
UK's fastest growing tech region with 65% growth
in new digital companies between 2010-2013

Specialization:

- Robotics



● 20 Other Ecosystems: Bristol



- The most comprehensive academic centre for multi-disciplinary robotics research in the UK.
- Home to over 200 academics, researchers and industry practitioners



- Creates affordable 3D-printed bionic hands for amputees and researchers
- In 2018, raised \$2,9M, including a \$571,000 seed round.



- In 2017, closed a \$7,5M Series A investment
- Entered into a retail agreement with Apple

Towards Autonomous Robotic Systems event

- The largest robotics conference in UK, bringing together the latest research and applications in autonomous robotics.
- 4 keynote speakers are from Bristol Robotics Laboratory

20 Other Ecosystems: Bristol



Hamburg (Germany)

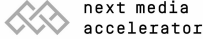
#20 in European Digital City Index 2016

500 innovative digital startups in 2014

IT industry generates about \$4.5 billion every year

Specialization:

- Gaming
- Adtech
- E-commerce

 • A six months acceleration programme for start-ups active in areas related to media, such as content for media, advertising or services. • Intensive training and counselling, support by mentors and investors (of the accelerator). • Investment of up to \$57,700	 • A six month programme for startups to work with mentors on scalable business models in the field of e-commerce, e.g. Software Services, Marketplaces and Platforms. • Investment of up to \$57,700
 • One of the biggest developers and publishers of browser games globally. • Has almost 50M registered users across 3 successful game titles: Tribal Wars, The West, and Grepolis. • In 2017, raised a total of \$104M in funding over 2 round and was acquired by Modern Times Group	 • One of the fastest growing eCommerce companies in Europe. • Raised a total of \$300M in funding over 2 round Won several awards

● 20 Other Ecosystems: Hamburg

Insurtech Hub (Munich, Germany)

18 accelerators/incubators

50 venture and private equity companies

24 universities

16 R&D institutes

Specialization: Insurtech



● 20 Other Ecosystems: Insurtech Hub



German Insurance Academy

- Develops joint training courses for employees of the insurance industry
- Offers "Innovation in Insurance" university certificate series, which consists of five two-day face-to-face seminars and two online courses serving digital innovation in the insurance industry



W1 Forward Accelerator Program

- Access to up to 60 mentors, 13 insurance partners and further InsurTech Hub supporters
- The total funding value per start-up is \$57,700



FinanzChef24

- Online comparison site offering insurance solutions to small and medium enterprises as well as business owners



Digital Insurance Agenda

- The world's largest conference for digital start-ups in the InsurTech sector

● 20 Other Ecosystems: Insurtech Hub



Bavaria (Germany)

350 companies in the field of life science

15% of German biotechnology firms

30% of the nation's biotechnological
development of drugs

Specialization:

- Biotech and life science
- Automation



- Manages a broad range of training sessions, events and network meetings
- Supported more than 200 start-up companies in 20 years.

BMW Startup

GARAGE

- Focus on automotive technology and urban mobility.
- Provides office space and supports in manufacturing of a prototype, and access to skills through BMW's innovation centres.



- One of the world's top ten biotech hubs.
- Offer both space and an extensive network to startups with a focus on medical biotechnology.



- Saves laboratories up to 80 hours per week and reduces the error rate by 70%
- Won the 2018 Munich Startup Award and was granted \$5,700



- Supported by the European Space Agency (ESA),
- More than 35 world-class engineers, designers and pioneers
- Raised a total of \$101.4M in funding over 2 rounds

● 20 Other Ecosystems: Bavaria

Stuttgart (Germany)

Score 51.9/60 in Urban Mobility Index (global average is 43.9)

#12 of 84 worldwide in Urban Mobility Index

Top 2 global best car sharing performance

Specialization

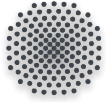
- Mobility and automation



● 20 Other Ecosystems: Stuttgart

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Stakeholders



University of Stuttgart
Germany

The Institute of Human Factors and Technology Management IAT:

- + Built a visualization platform that emphasizes mobility processes and convenience in Stuttgart, thereby supporting mobility experiments in the reality lab.
- + Designed smartphone app for collecting mobility data.



M.TECH
ACCELERATOR

- + Industry Focus: engineering and mobility.
- + Offers co-working spaces and a holistic support program, which includes individualised consulting components, personal mentoring through a Mobility Board of professionals and industry experts from Stuttgart region companies.



moovel

Moovel - An urban mobility startup

Used by 5 million people – an increase of 71%, adding 2 million users from 2017 to 2018



Blickshift provides solutions and products for the analysis of car drivers' behavior



Paris (France)

#10 worldwide and #3 in Europe in Startup Ecosystem Rankings by Startup Blink

#5 in European Digital City Index 2016

Named European Capital of Innovation in 2017

#16 in the Global Innovation Index 2018

#2 in CRBE's European Tech Cities Report in 2016

Specialization:

- Fintech
- Edtech
- Healthtech

● 20 Other Ecosystems: Paris

Institutions

PARIS&CO

An economic development agency in charge of economic attractiveness, incubation & experimentation



CentraleSupélec

Created the Incubator and opened La Fabrique - a FabLab - dedicated to technological innovation

Projects

STATION F

The world's largest startup campus with 35,000-square-meter

The campus includes 3000 desks in the startup zone and 26 international startup programs

Incubators/Accelerators



A 3-month program aims at helping startups build their products and strengthen their businesses



Startup Garage Paris
from facebook

A six-month-long programme for data-driven startups

Startups/Scaleups



An online marketplace for business loans, enabling investors to lend money directly to SMEs



CONTENT
SQUARE

Uses AI to find patterns in billions of computer mouse movements, helping businesses understand customers behavior

● 20 Other Ecosystems: Paris



**FAST FORWARD
ADVISORS**

French Tech Bordeaux (France)

#43 in European Digital City Index 2016

A record company creation rate at 16.9% for the last few years (number of companies created/number of companies) while the French average peaked at 12.5% in 2015

Specialization:

- Mobile Application
- Healthcare
- 3D Technology



● 20 Other Ecosystems: French Tech Bordeaux

Institutions



An agency promoting inward investment to Bordeaux and the Gironde, commissioned by the main public partners



Supports the creation and development of growth companies in the Bordeaux region

Projects

**SEMAINE DIGITALE
BORDEAUX**



The Digital Week is the opportunity to mobilize, value and network with the actors who make live digital in Bordeaux, in France and beyond. Consists of many all-public and professional events

Incubators/Accelerators



Offers to startups: mentoring, funding up to € 25,000 and an office.



Provides mentoring, networks, co-working space, education, and capital to startups

Startups/Scaleups



News Republic

Mobiles Republic specializes in the development of mobile applications based on content aggregation.



Microbiome therapies for metabolic diseases

Developing gut microbiota directed drugs to target obesity and associated cardiometabolic diseases

● 20 Other Ecosystems: French Tech Bordeaux

Ranks #31 in
European Digital
City Index

3,000 IT
workers

38,000 tech
workers

Since 2014:
Toulouse: €229M
funding - 83
startups

IoT Valley: 37
startups, 18
partners over
13,000m²



Specialization: IoT

History & Milestones:

- Created in 2009 by 4 Toulouse entrepreneurs
- Since 3/2015: Developed an ecosystem dedicated to IoT

● 20 Other Ecosystems: IoT Valley

83/109

Sigfox:

- World's leading provider of connectivity for IoT & device-to-cloud communications
- Raised €277M in funding

Startups/Scaleups

Innovation Day:

- A day to get inspired, experiment IoT solutions and network in IoT B2B ecosystem

French Tech Toulouse:

- Aim: Federate the collective to the benefits of startups

Projects

University of Toulouse:

- Pépite-ECRIN: accompanies students in their business projects

Airbus Bizlab:

- Global aerospace business accelerator - 6-month acceleration program

Stakeholders

• 20 Other Ecosystems: IoT Valley

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Silicon Docks (Dublin, Ireland)

#41 worldwide & #8 Europe in Startup Ecosystem Rankings by Startup Blink

#8 in European Digital City Index 2016

Specialization:

- Traveltech
- Fintech

History:

- 2011: The name “Silicon Docks” first appeared as the area came back after 2008 economic crisis



Future Finance:

- 2013: launched to fund €50B annual education finance gap
- Lent £65M to students - 105,000 applications

Startups/Scaleups**Flender:**

- Peer-to-peer lending startup
- 2018: Raised \$58B in debt financing round to fund its expansion

Dublin Tech Summit:

- Europe's fastest growing tech conference
- 10,000 attendees & 200 speakers from 70 countries

Projects**Tech Connect Live:**

- Ireland's largest annual business & tech exhibition for Micro, SME and Enterprise companies

University College Dublin:

- 167,177m2 of science, engineering & innovation-related facilities
- NovaUCD

Stakeholders**National Digital Research Centre**

- A government sponsored accelerator for digital startups

● 20 Other Ecosystems: Silicon Docks

Galway (Ireland)

#2 largest exporter of Medtech products in Europe

1 of top 7 most important Medtech clusters in Europe

Home to a closely knit cluster of 300 Medtech companies

Specialization:

- Medtech



● 20 Other Ecosystems: Galway

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Startups/Scaleups



Develops CapBuster - a device that treats CTO
2015: Raised \$2.56M in funding from AIB Seed Capital Fund

Stakeholders



Remedi Regenerative Medicine

Establishes the BioInnovate Fellowship - a key research hub in the region, reflecting the innovative nature of Galway's Medtech culture

Projects



Brings together world's leading business leaders & experts on delivering better health outcomes & new tech
N500 medtech professionals network



Provides innovators with the resources to explore & implement tech solutions to healthcare issues

● 20 Other Ecosystems: Galway

Odense (Denmark)

#2 largest exporter of Medtech products in Europe

1 of top 7 most important Medtech clusters in Europe

Home to a closely knit cluster of 300 Medtech companies

Specialization:

- Medtech



Startups/Scaleups

Blue Ocean Robotics:

- Mission: Bridge academic-based research to business (focus: robotics)
- Raised \$8.4M in funding (2 rounds)
- Awarded Gazelle 2017 by the Danish newspaper Børsen

KUBO Robot:

- Empowers kids to explore robotics & programming through tangible play
- Raised \$1.5M in funding (3 rounds)

Projects

Odense Investor Summit:

- Annual event gathering capital-seeking companies & investors in 1 of Europe's biggest robotic clusters
- 2018: 130 investors - \$46.5M funding

Syddansk Forskerparker:

- A business fund aimed at running innovation & research park, and supporting entrepreneurship & knowledge-based industries (e/g: robotics, welfare and design)

● 20 Other Ecosystems: Odense



StartupDelta (Amsterdam, Netherlands)

#18 worldwide & #7 in Europe in Startup Ecosystem

Rankings by Startup Blink

#3 in European Digital City Index 2016

Scores well in terms of ecosystem value - 2,900

startups - \$14B (Genome)

Specialization:

- Fintech
- Health & Life Sciences
- Agtech

Adyen:

- Founded in 2006: Offers a platform that enables retailers to accept payments from Visa, Mastercard and Amex and some alternatives (Apple, Google and Paypal)
- 2018: IPO - €240/share - valuation: \$8.3B

Startups/Scaleups

StartupDelta Summit:

- Aim: equip startup ecosystem with access to knowledge and network, so that Dutch startups can start, expand and internationalise faster

Projects

Rockstart:

- 1 of Europe's first multi-vertical accelerators
- Focus: Digital Health, Smart Energy and AI
- Invested in more than 100 startups (raised \$52.32M)

Stakeholders

● 20 Other Ecosystems: StartupDelta

Zurich (Switzerland)

#46 worldwide & #12 in Europe in Startup
Ecosystem Rankings by Startup Blink

Specialization:

- Crypto/Blockchain
- Genomics
- Quantum Computing



● 20 Other Ecosystems: Zurich

Startups/Scaleups



- Creates cutting-edge augmented reality tech for automotive industry
- Raised \$108M in funding (3 rounds) - Revenue: \$3.5M

Projects



- 1 of the largest & most prestigious hackathons in Europe
- 550 international participants selected from 4,800 applications

Institutions



- Non-profit, scientifically backed initiative
- Mission: generate quantitative data and insights on development of Swiss startup scene

Projects

FINANCE 2.0

- Annual conference about Cryptofinance, WealthTech and InsurTech

• 20 Other Ecosystems: Zurich

Milan (Italy)

#48 worldwide & #14 in Europe in Startup Ecosystem Rankings by Startup Blink

Hosts more than 20 incubators and accelerator, more than 30 coworking spaces, and over 1000 innovative enterprises

Specialization:

- Agtech/Foodtech
- Artificial Intelligence
- Fintech
- Tourism 2.0



● 20 Other Ecosystems: Milan

Startups/Scaleups



- Online agricultural delivery marketplace
- Plans to link food e-commerce & mobile commerce
- Annual revenue: \$2.31M



- A smart payment platform (Services: pay in affiliated stores, exchange money with friends and saving)
- Raised \$50.8M in funding (6 rounds)

Projects



- Global Food Innovation Summit
- Since 2015: Has brought brightest minds in food & adtech to Milan for annual gatherings

Incubators



- The Business Incubator of Digital startups, listed on the Italian Stock Exchange

● 20 Other Ecosystems: Milan



Malta

#22 globally in both market reach and talent for Gaming

#1 in Europe for experienced software engineers

Over 300 gaming companies

Specialization:

- Gaming
- Adtech

● 20 Other Ecosystems: Malta

Startups/Scaleups	Projects	Stakeholders
 World's first online casino adventure (players collect things, points and trophies in every round)	 Online gaming event, bringing 3 pillars in Gaming industry 12,500 attendees	 Founded in 2013 at University of Malta, delivering postgraduate education in games
 Online casino operator Received IGA Online Casino Operator of the Year for 4 years	 2018: 80 participants across 13 teams	 Malta's first tech business incubator at University of Malta

● 20 Other Ecosystems: Malta

Barcelona Tech City (Spain)

#17 worldwide & #6 in Europe in Startup
Ecosystem Rankings by Startup Blink
#9 in European Digital City Index 2016

Specialization:

- Gaming
- Health & Life Sciences
- Smart City



Startups/Scaleups



- Machine learning computer vision company, specializing in visual recognition for Real Estate
- Top 5 hottest AI startups (Nvidia)



Helps solve urban mobility problem: make underused parking spaces accessible & reducing time drivers looking for a parking lot
2017: Raised \$1,74M



Projects

11,000m2 facility, providing space for 1,000 sector employees from 100 startups & companies
Holds 15-20 events every month

- Aims to empower cities & collectivize urban innovation across the globe
- Brings together 700 cities worldwide, 400 speakers & 20,000 attendees

• 20 Other Ecosystems: Barcelona Tech City



Budapest (Hungary)

Hungary ranks #51 in Global Cybersecurity Commitment Index

Budapest ranks #33 in European Digital City Index

Specialization:

- Cybersecurity

History:

- In 2013, the National Cyber Security Strategy of Hungary was adopted

Education/Institutions/Infrastructure & Project



NATIONAL
UNIVERSITY OF
PUBLIC SERVICE

- Various lectures in 4 faculties of NKE are related to cyber security
- Set up an academy of cyber security

- Established by Deloitte
- Link with more than 20 global centers in Europe, the Middle East, Africa, Asia-Pacific and the Americas with 1,200 cybersecurity professionals in the EMEA region

- Hosts Cyber Security Month Campaign
- Discusses topics of the most interest from government and market players about cybersecurity

CYBER INTELLIGENCE
centre

Trusted Business Intelligence



Startups/Scaleups



- Serves more than 300 merchants, reviewed 25 million transactions and estimated to have saved businesses around \$11,58 million.
- Raised \$695,000 in investment.



- Adopted by more than 10,000 organisations in 193 countries.
- Raised \$4.7 million from Euroventures and private investors.

● 20 Other Ecosystems: Budapest

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Stockholm (Sweden)

#2 in Europe Digital City Index

#15 in Global Startup Ecosystem

\$4.5B investment in new companies

\$1.4B investment in Stockholm-based tech companies

Specialization:

- Fintech
- Gaming
- Cleantech



● 20 Other Ecosystems: Stockholm

Klarna®

- In 2010, increased revenues by over 80% to \$54M
- In 2018, has more than 60M users
- In 2016, company valuation is more than \$2B

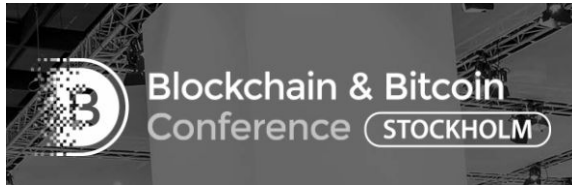


RESOLUTION

- More than 2M downloads
- Possesses Wonderglade, one of the highest rated games on Daydream.
- The first investment in Europe by Google Ventures.

CLIMEON

- Operates on 7 different markets
- In 2016, was honoured by the World Wildlife Fund (WWF) as Climate Solver



- Bring together the world's leading crypto experts
- 180 Globally renowned crypto experts & 400 Companies from 19 Countries

• 20 Other Ecosystems: Stockholm

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Tallinn (Estonia)

#7 in blockchain cities

#12 in Global Innovation Index 2018

#18 in European Digital City Index 2016

#50 worldwide and #15 in Europe in Startup Ecosystem

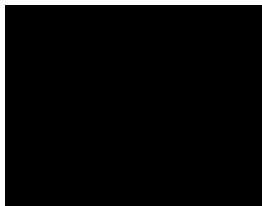
Specialization:

- Blockchain

● 20 Other Ecosystems: Tallinn

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Education



Tallinn University of Technology:

- Workshop on Blockchains for Inter-Organizational Collaboration
- Innovation and business centre Mektory: 4450m2 of space

Institutions

- Collaborates with Swedbank to accelerate fintech startups
- Up to \$34,500 investment, premium access to Swedbank APIs



Startups/Scaleups



- Processed more than \$460M of loans applications from borrowers
- In 2016, raised \$5M from the US-based investment firm Valinor Management

Projects

- North Europe's largest cryptocurrency and blockchain conference
- 1000+ attendees and 50 speakers, including IBM, Microsoft, Bitcoin Foundation...



• 20 Other Ecosystems: Tallinn

THANK YOU! 谢谢.

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