

The Rise of INNOVATION DISTRICTS

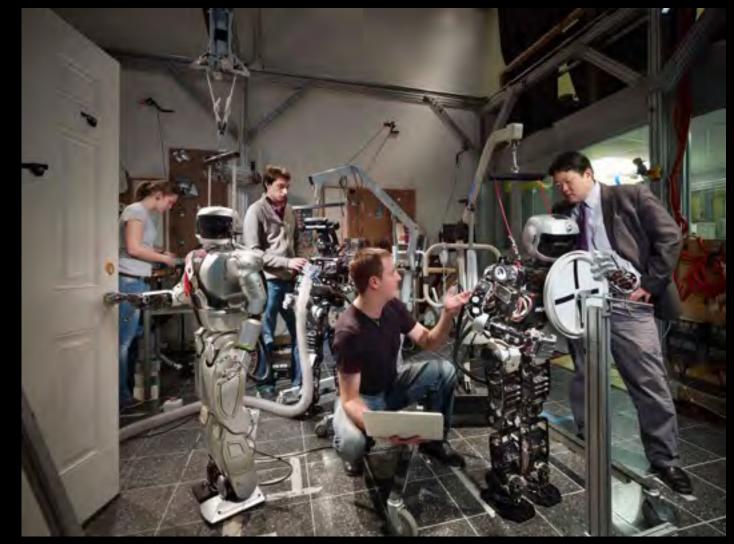
Politecnico di Milano Innovation as an Engine for Urban Growth January 25th, 2017





The global economy is rapidly changing and increasingly powered by innovation.





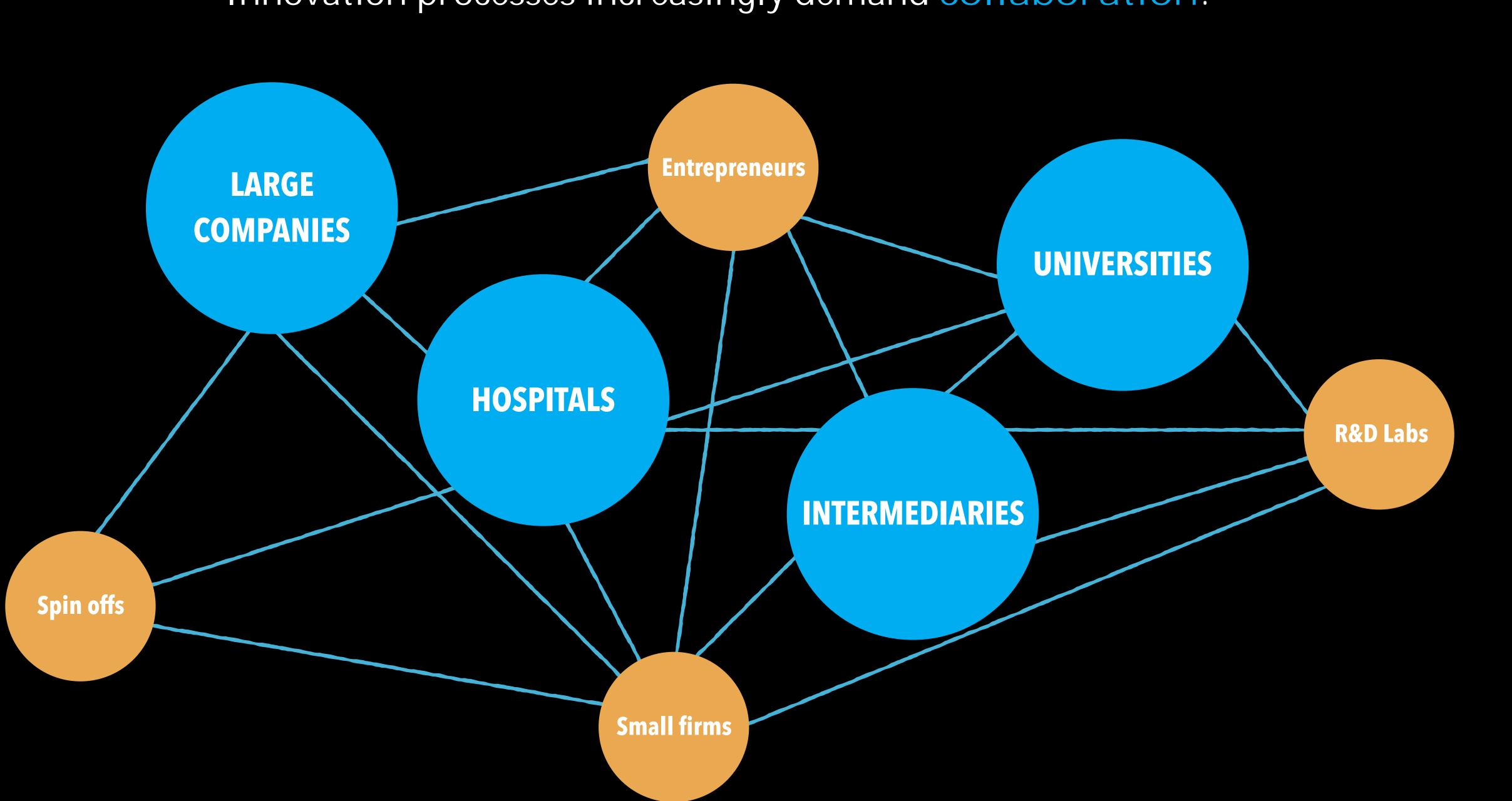
Unprecedented global competition.

Increased technological complexity within and across industries.



Blurring distinction between manufacturing and services.

Innovation processes increasingly demand collaboration.





Companies are moving to be near other firms and talented people.



Fairfield Connecticut

Boston Seaport

source: Bob Child/Associated Press and Sotheby's International Reality





And people are demanding great places to live, work, and play.

This is changing the scale of how we think about place and the economy.

Knowledge Sharing Neighborhood/Hyper-local (>1 Mile) Labor Pooling Metropolitan Area (<40 Miles) Supplier Network Regional Area (<100 Miles)



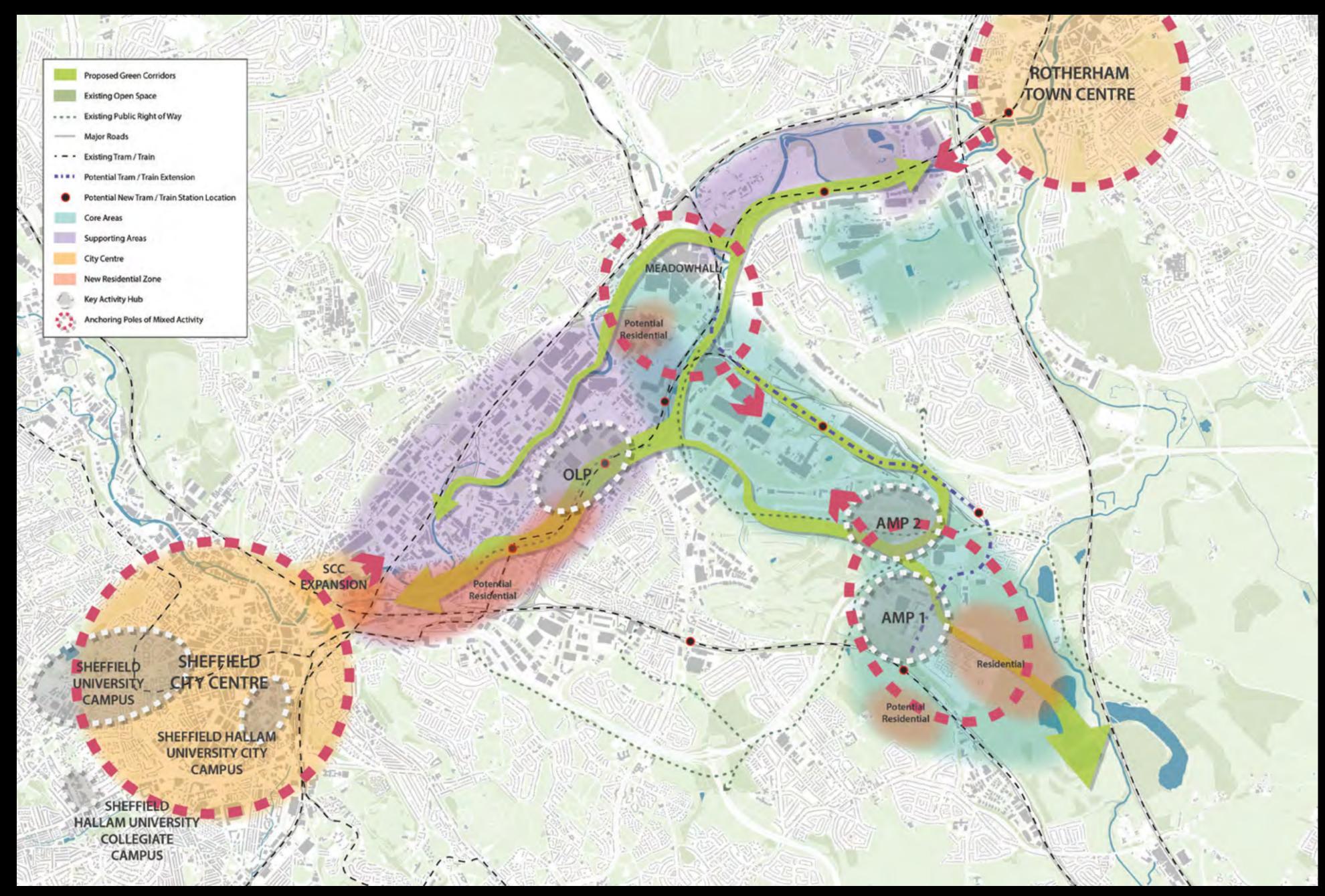
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Ad Agencies & R&D Labs Five-Minute Walk (>1/4 Mile)

Software Industry Ten-Minute Walk (>1/2 Mile) Knowledge Sharing Neighborhood (>1 Mile)



Sheffield at the metropolitan scale.



Sheffield at the hyper-local scale.

AMRC Training Center

AMRC Design Center

AMRC Knowledge Transfer Center

The Welding Institute

Nuclear AMRC

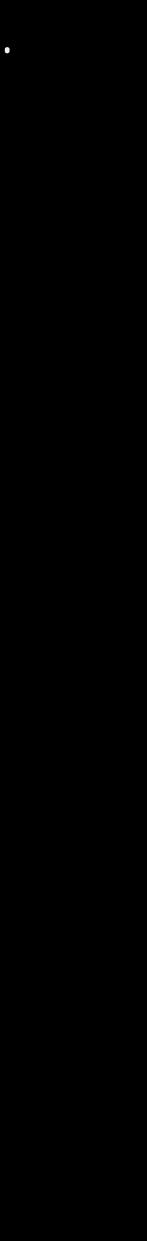
AMP Technology Center

Rolls Royce Turbine Blades

> Castings Technology International

Sheffield's ambition: to leverage broader trends and become an innovation district.





Philadelphia at the metropolitan scale.



2.7 million jobs

- Bio/pharmaceuticals, medical devices, and hardware
- Financial services
- Postsecondary education
- Chemical processing

Philadelphia at the hyper-local scale.

Drexel University Vanguard **University City Science Center**

Penn Presbyterian University of Pennsylvania

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University of the Sciences

12m

Comcast (\bigcirc)

Independence Blue Cross

• PECO

FMC O

Hospital of the University of Pennsylvania

CHOP Wistar Institute

VA Medical Center

Gray Buildings © 2008 Sanborn

Google earth

Philly's ambition: to leverage broader trends and become an innovation district.



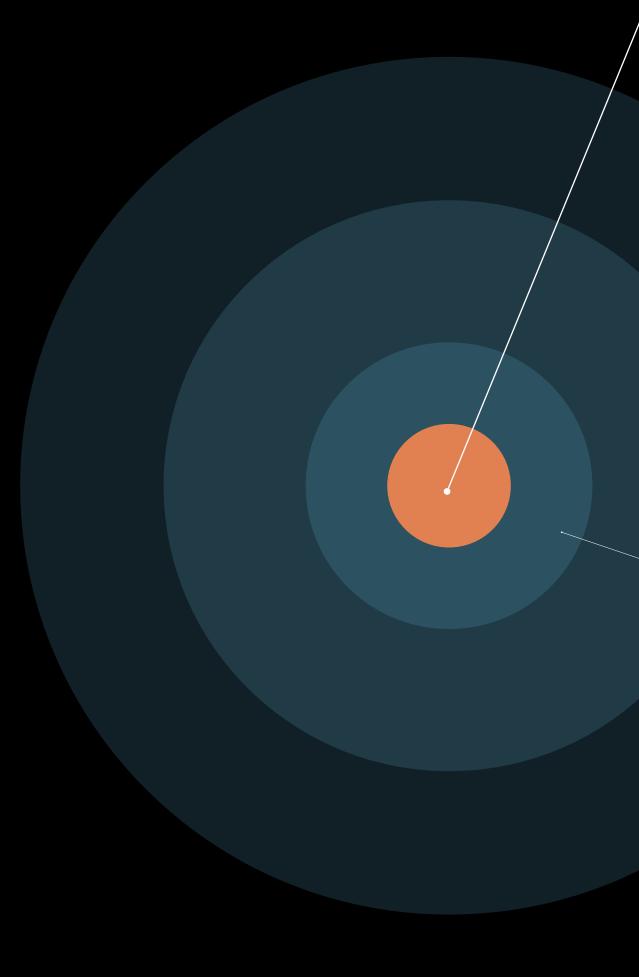
nnovation District

In•no•va•tion Dis•trict

Geographic area where anchor institutions and companies cluster and connect with small firms, start-ups, business incubators and accelerators.

Physically compact, transit-and broadband-accessible, they offer mixed-use housing, office and retail.





Innovation districts can be impactful at the global, regional, city, and/or neighborhood scale

Innovation Districts



Attract global firms and investment



Drive productivity and job growth in other regional Industries

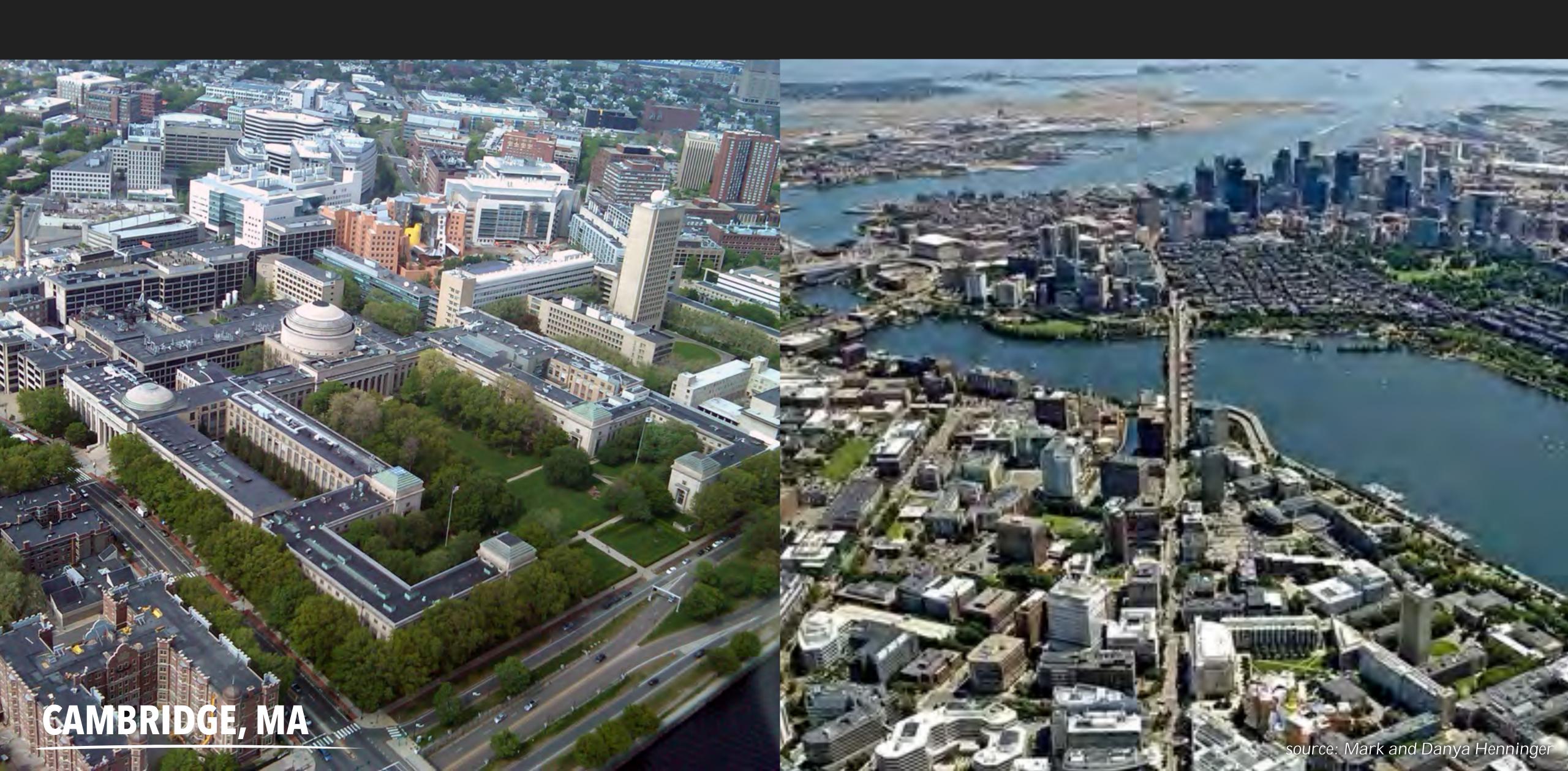
Stimulate local economies and connect residents to opportunity



This is manifesting in numerous ways... corporate research centers relocating near a top engineering school,



a dense concentration of anchor assets located very close to downtown,



an entrepreneurial district spearheaded by a public utility,



Physical Assets

Economic Assets

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Innovation Ecosystem

Networking Assets

Economic Assets



Economic Assets

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High-value, research-oriented firms

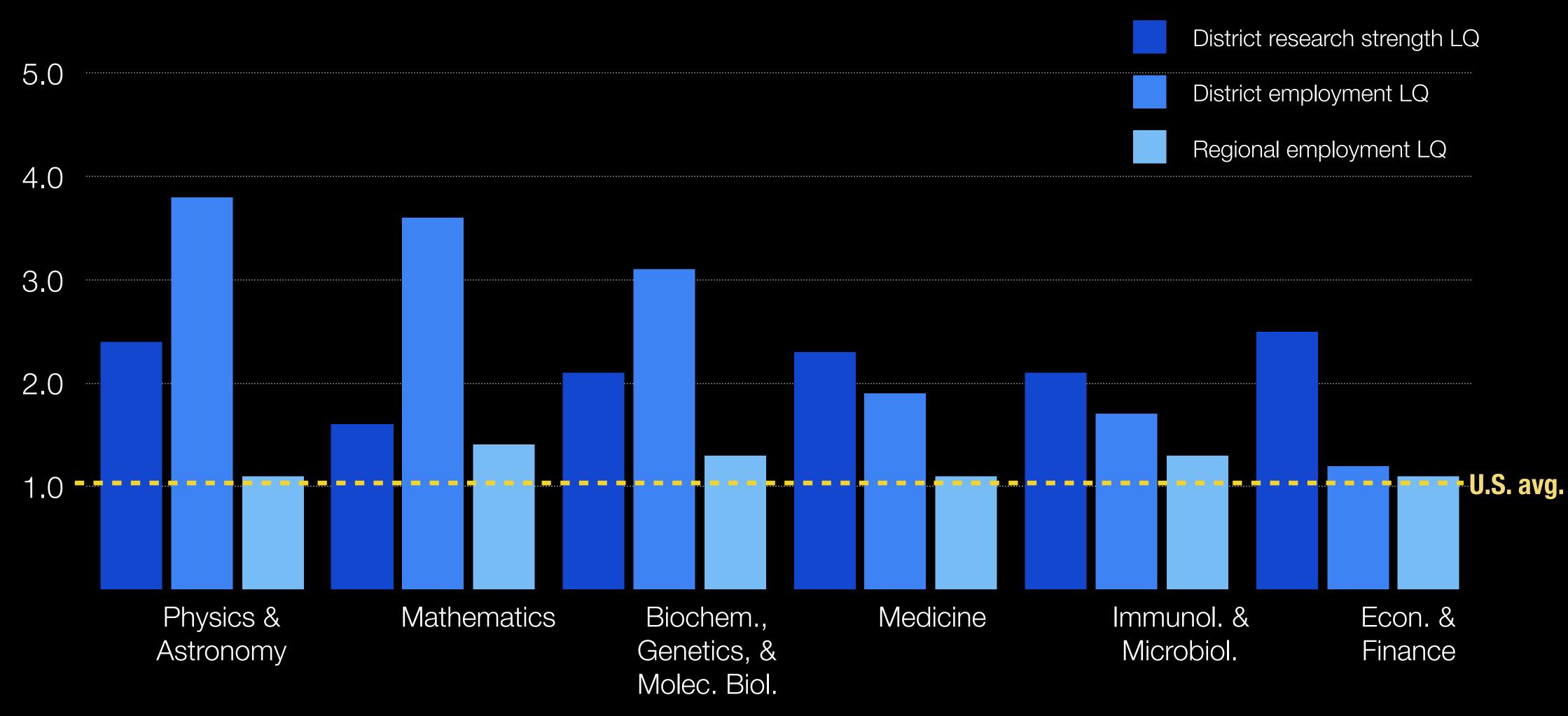
Highly creative fields

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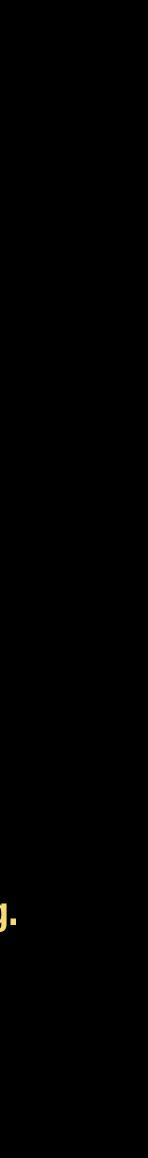
Small-batch manufacturing



Philly's district research strengths and their relationship to the region.

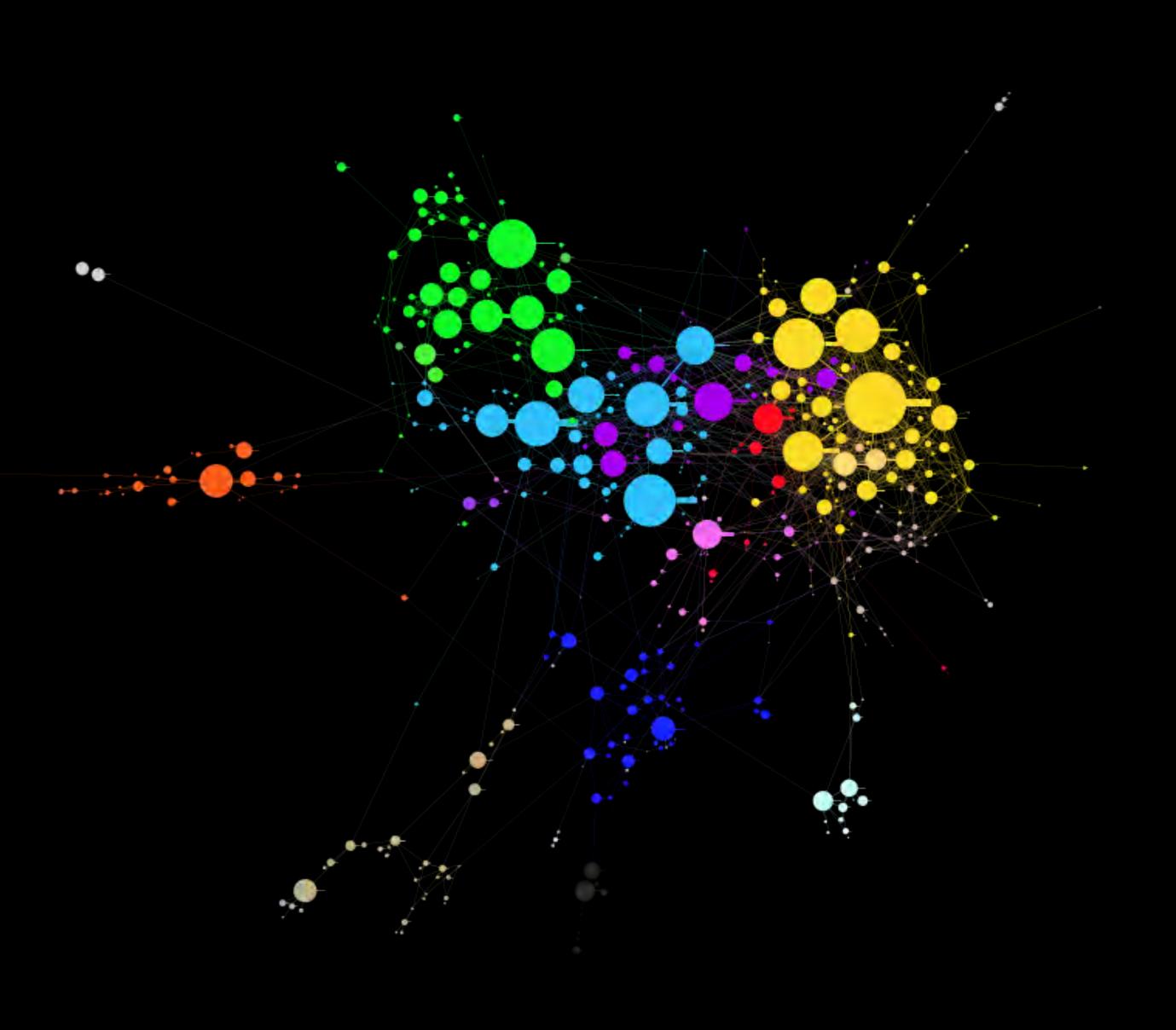


source: Mass Economics analysis, QWI (2004-2014), BLS ZCBP (2004, 2013), NETS (2004, 2013), IPEDS



Pittsburgh and their growing convergence in joint publications and citations

Source: Pittsburgh Innovation District Evaluation conducted by Techtonic, 2016



Physical Assets

Economic Assets

Networking Assets





Source: Gustav Hoiland

Stockholm Life 2010

Physical Assets

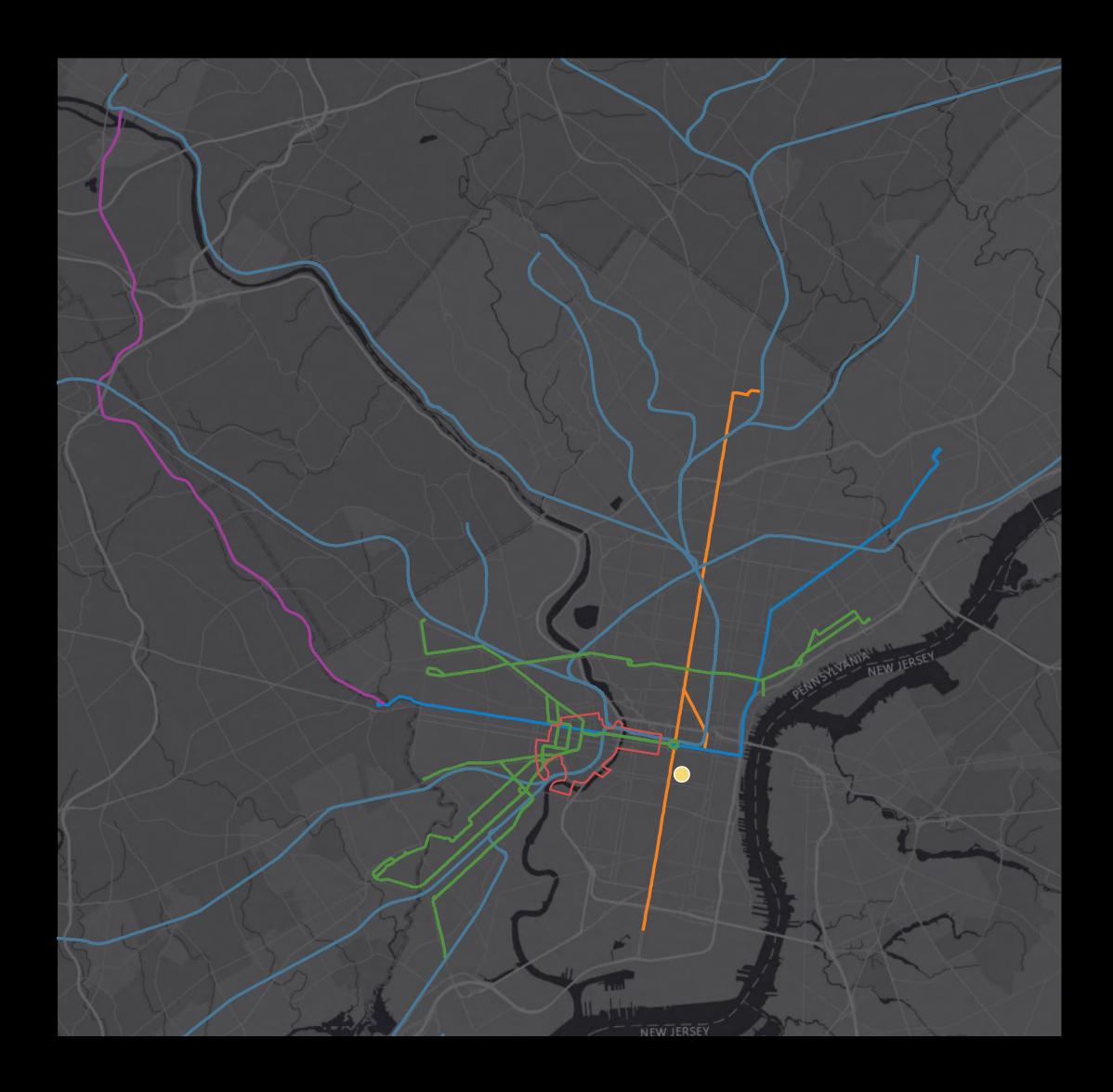
Source: mot öste

Stockholm Life 2025

Source: WSP



Philadelphia's district is connected with local-serving transit and regional trains...



AMTRAK ACELA TRAVEL TIMES: Baltimore: 1 hour & 1 minute NYC: 1 hour & 8 minutes DC: 1 hour & 27 minutes Boston: 5 hours & 7 minutes

... is mostly walkable



source: Walk Score (2016), SEPTA (2016)



...and offers a diversity of spaces

Physical Assets

Economic Assets

Networking Assets

Networking Assets

Strong ties: Tech Regulars at Eindhoven



Networking Assets

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Weak ties: Networking breakfasts at 22@Barcelona



This is changing the scale of how we think about place and the economy.

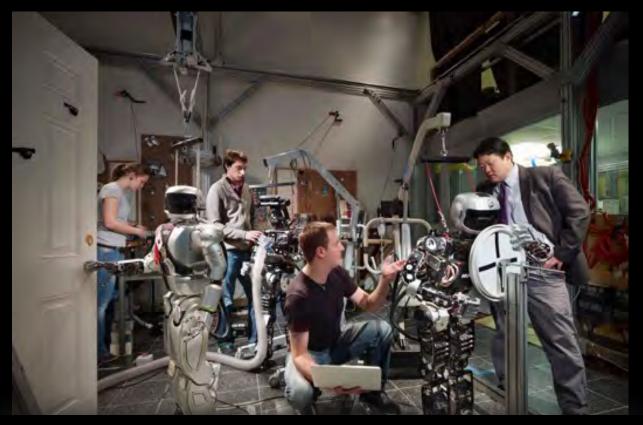


Knowledge Sharing Neighborhood/Hyper-local (>1 Mile)

Labor Pooling Metropolitan Area (<40 Miles)

Supplier Network **Regional Area** (<100 Miles)





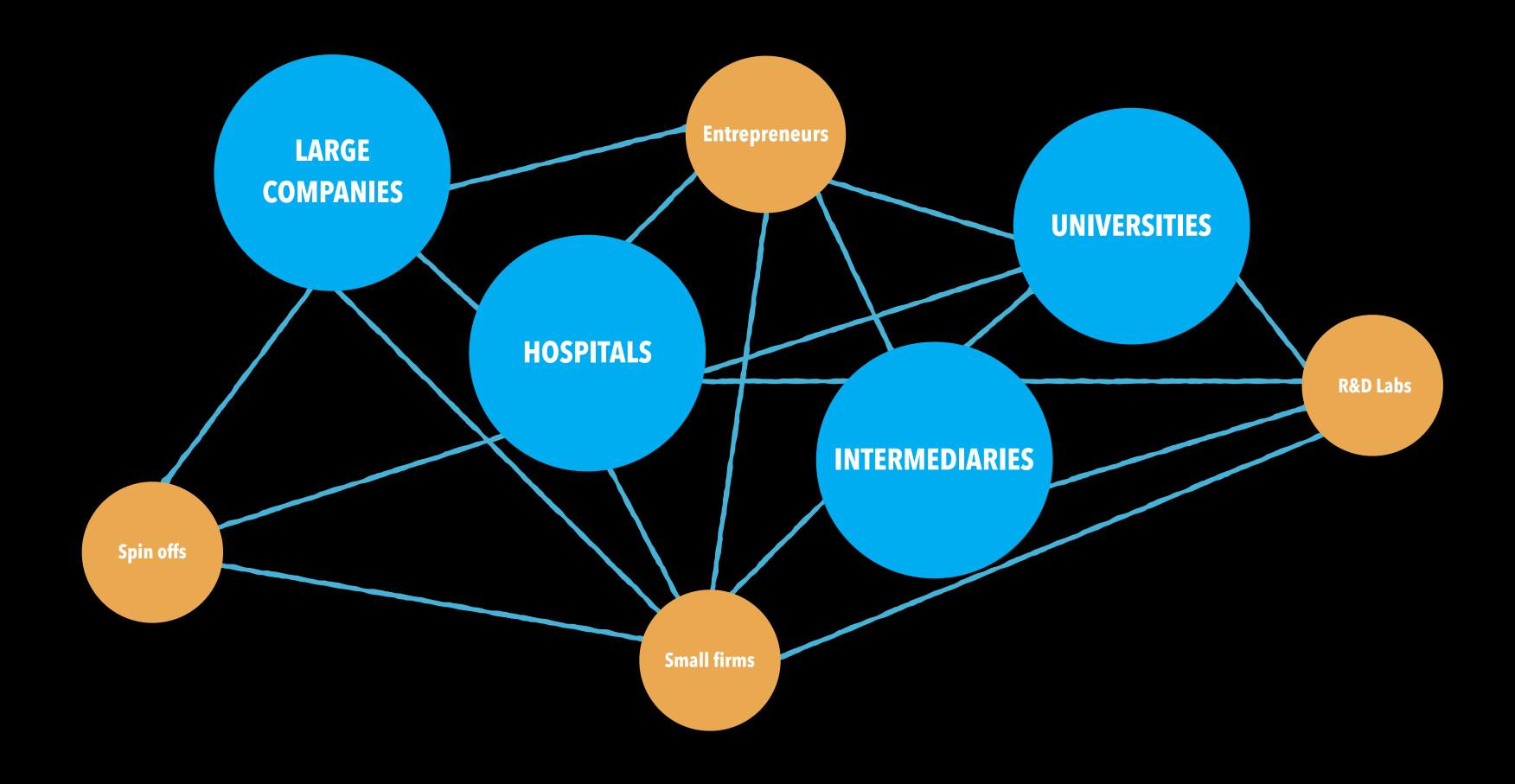
Technological complexity



Blurring of sectors

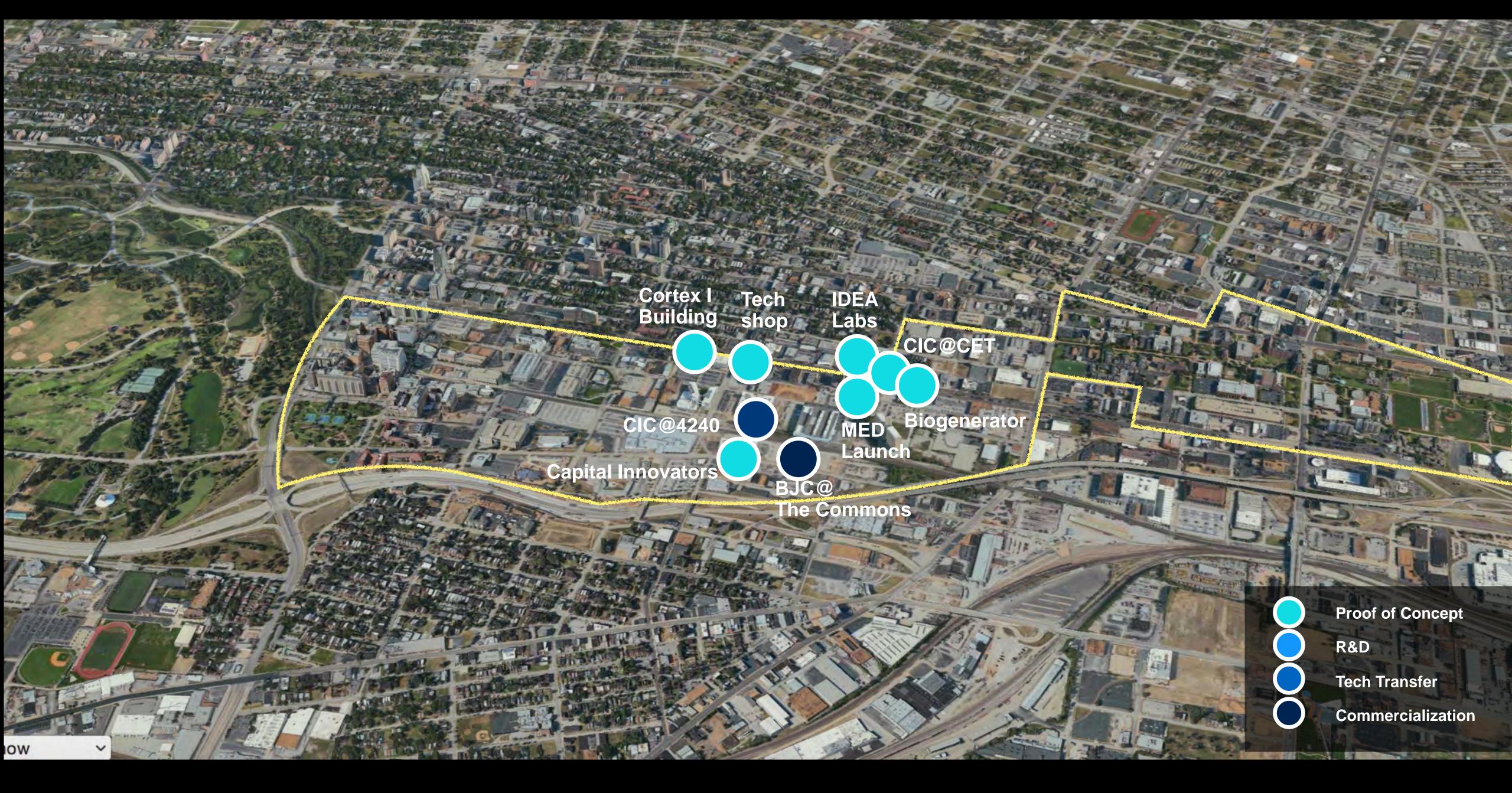


Work, live, play preferences



Innovation processes increasingly demand collaboration

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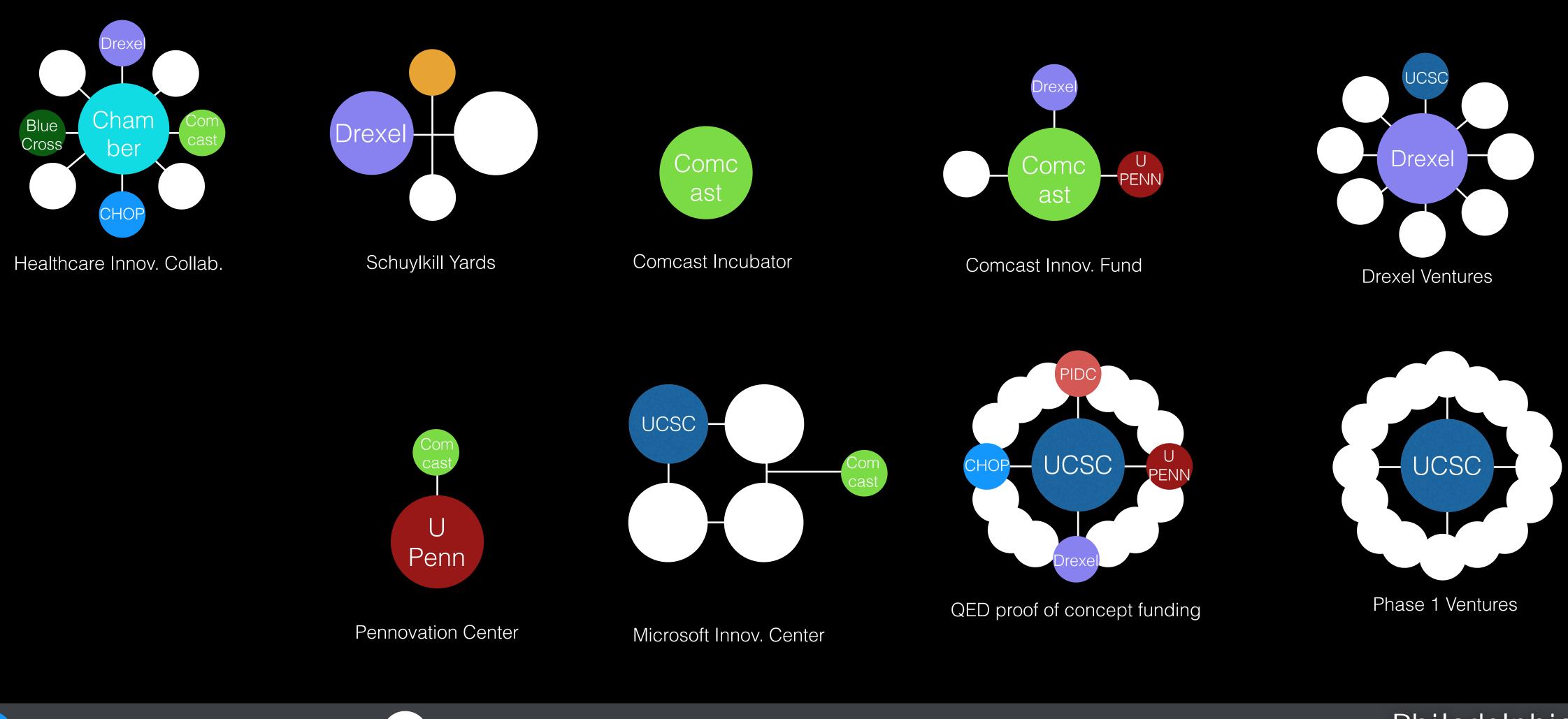


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actor not surveyed or actor outside the district

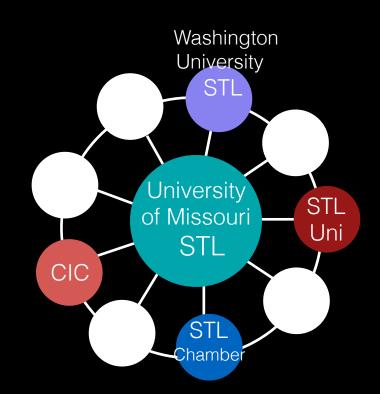
Supercharging Innovation. Processes under this category include idea generation, R&D activities, prototyping and testing, tech transfer efforts, and commercialization efforts.

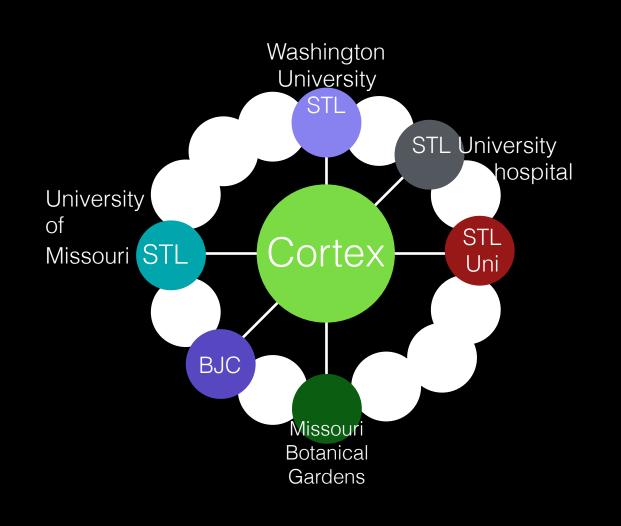
> relationship on advancing the initiative.

Philadelphia Innovation District



Supercharging Innovation. Processes under this category include idea generation, R&D activities, prototyping and testing, tech transfer efforts, and commercialization efforts.





CET Center for Emerging Technology

- SQ1
- CIC@CET
- Core Labs Program

• Core Labs Program (Cortex lead, partnered with St Louis University, University of Missouri St Louis and Washington University St Louis - access to 18 Laboratories) • @4240 (Cortex lead, partnered with Wexford, CIC and Venture

- Cafe)
- **BJC@The Commons** (Cortex lead with BJC)
- Labs)
- and TechShop
- **CET** (2010 Cortex is a major driver)

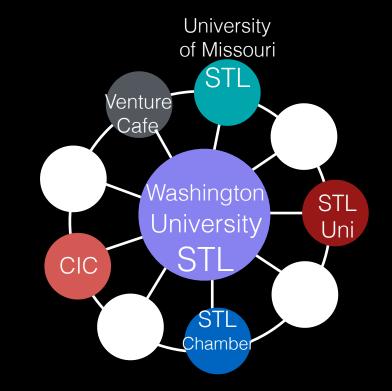


other actor / outside the district

Cortex

• **Cortex 1 Building** (Cortex lead, partnered with Washington University St Louis and BJC - housing BAL Biogenerator Accelerator

• **Cortex Commons** (Cortex lead collaborating with Venture Cafe) • **TechShop** (Cortex lead, working closely with Washington University



BioGenerator

relationship on advancing the initiative.

Cortex, St Louis Innovation District



