INNOVATION DISTRICTS

DOE LABORATORIES OF THE FUTURE WORKSHOP SERIES
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THE GLOBAL INSTITUTE
ON INNOVATION
DISTRICTS

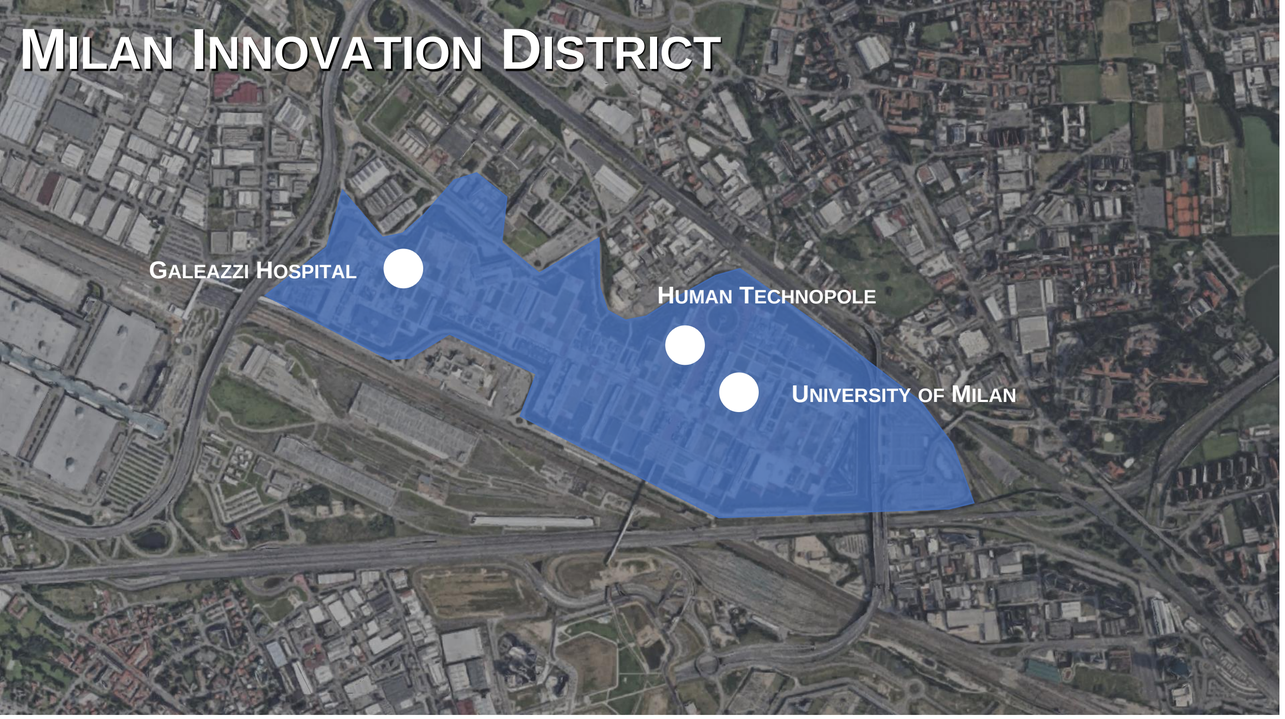
What are Innovation Districts and What are their Unique Characteristics?

Innovation District

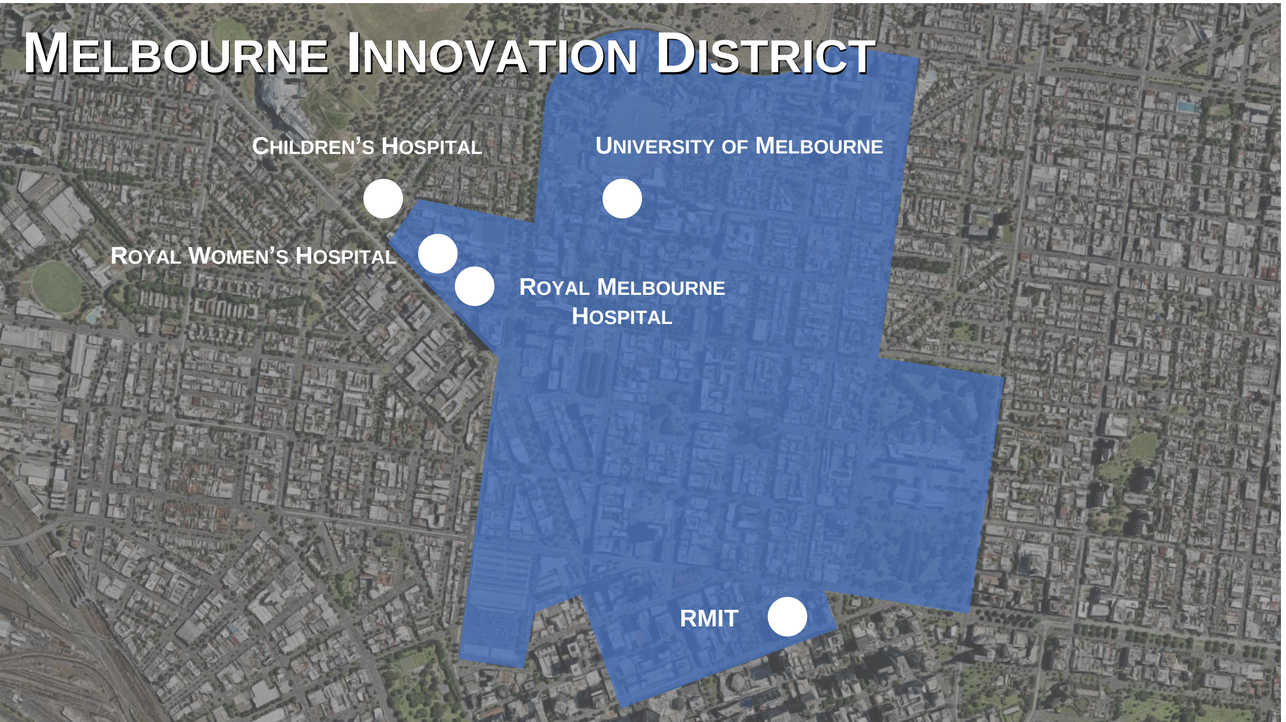
Geographic area where anchor institutions and companies cluster and connect with small firms, start-ups, and business incubators.

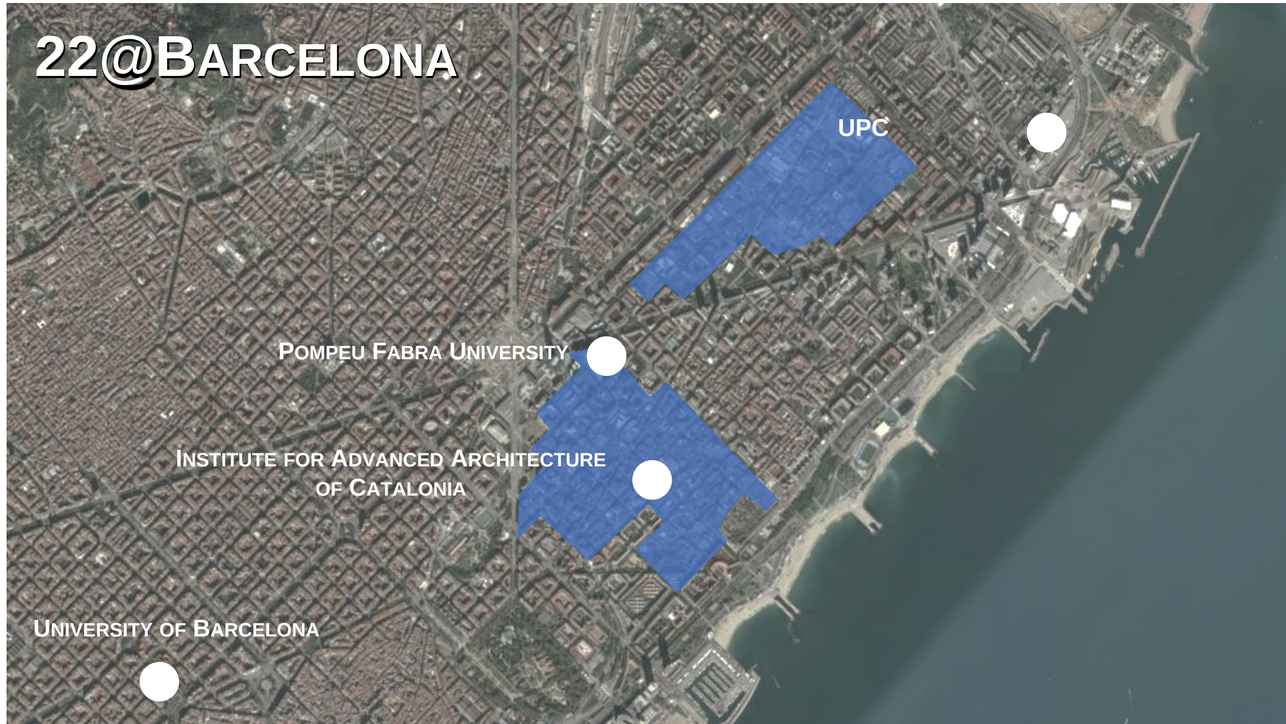
Physically compact, transit-accessible, and technically wired, they offer mixed-use housing, office and retail.

Bruce Katz and Julie Wagner
“The Rise of Innovation Districts”

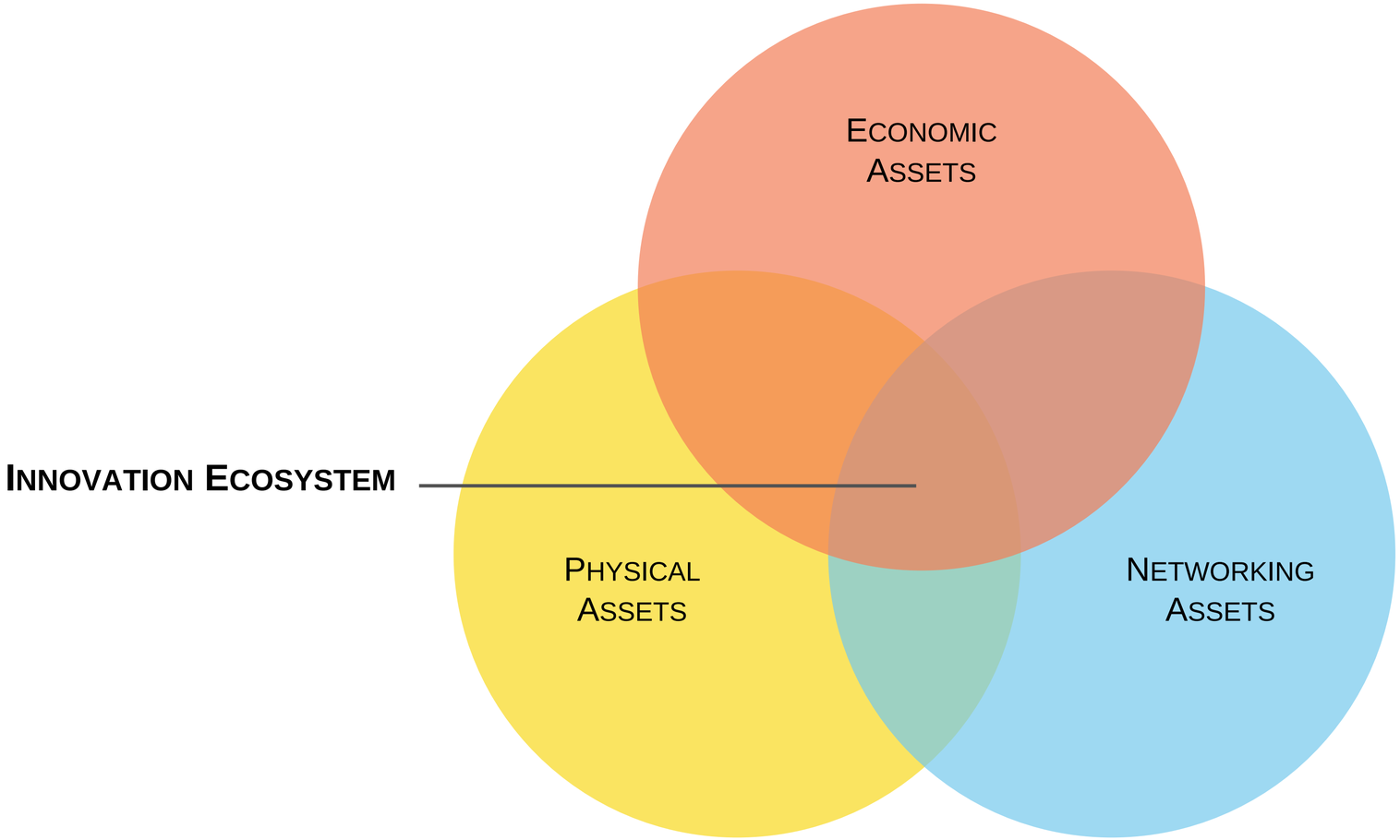

Milan Innovation District
Galeazzi Hospital
Human Technopole
University of Milan

Cortex Innovation Community
Washington University
St. Louis University
BJC Healthcare


Melbourne Innovation District
Children's Hospital
University of Melbourne
Royal Women's Hospital
Royal Melbourne Hospital
RMIT


22@Barcelona
UPC
Pompeu Fabra University
Institute for Advanced Architecture of Catalonia
University of Barcelona

A Combination of Assets



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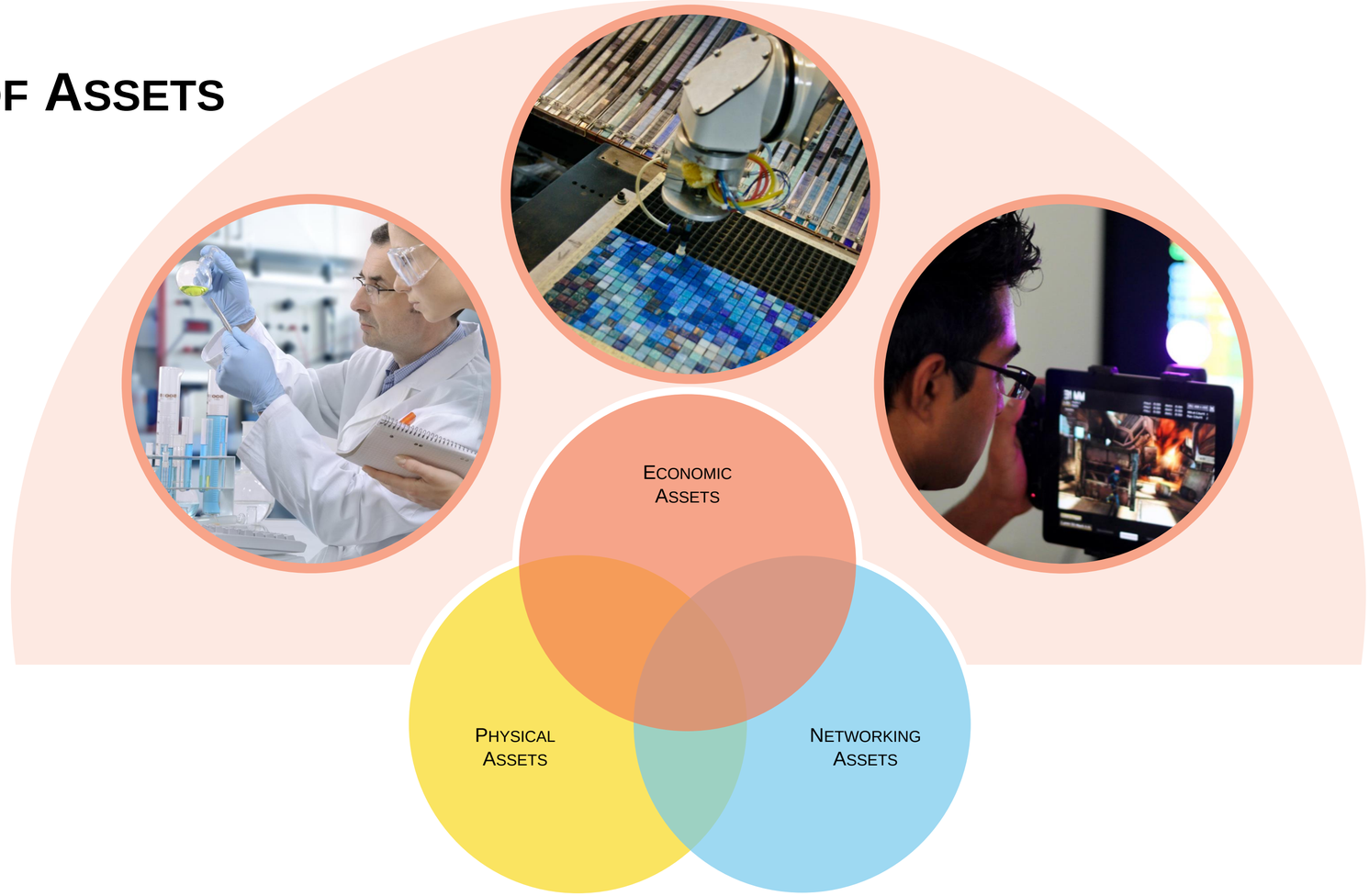

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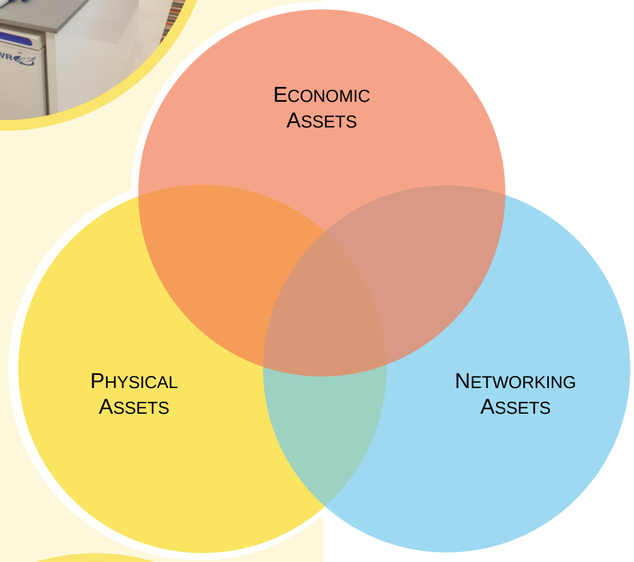

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A Combination of Assets

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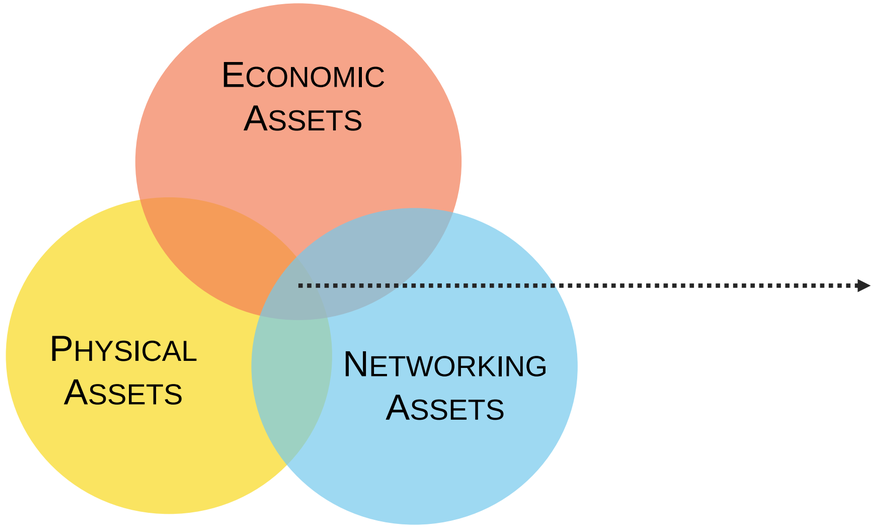
To Advance an Innovation District Means Building on local and regional advantages and Seeking New Opportunities



Strengthen Unique Specializations: Specific R&D strengths that punch above regional, if not national, strengths

Build Critical Mass: R&D actors, talent, technologies, intermediaries that re-enforce R&D strengths

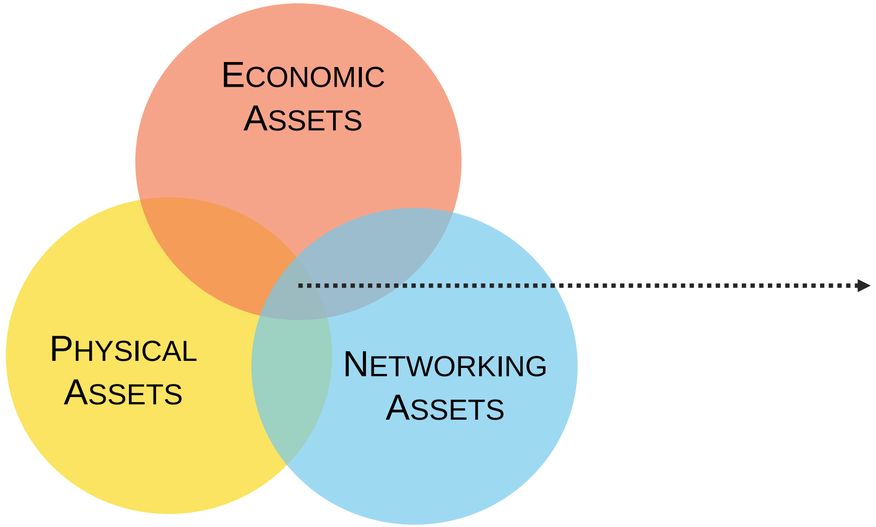
Facilitate Convergence: Blending of different sectors to drive new innovative growth

Create Quality, Connected Places: Draw firms and talent, strengthen connections, increase vibracy

Buzzing, connected community: A set of shared systems, orchestrated networks

Organize for Success: Organized leadership, sequenced financing, orchestrated programming, collective decisions on how to grow

To Advance an Innovation District Means Building on local and regional advantages and Seeking New Opportunities



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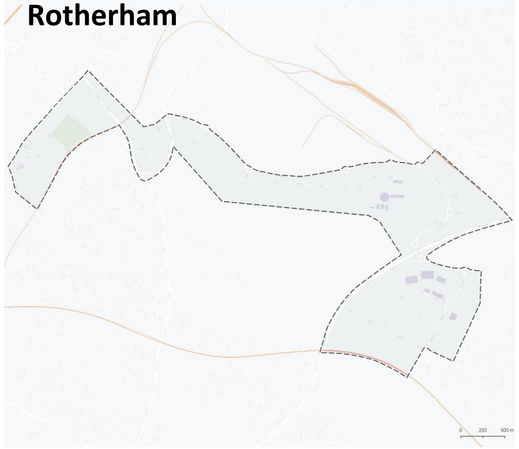
GIID Analysis of Nine Innovation Districts

Advanced Manufacturing Innovation District in Sheffield/ Rotherham

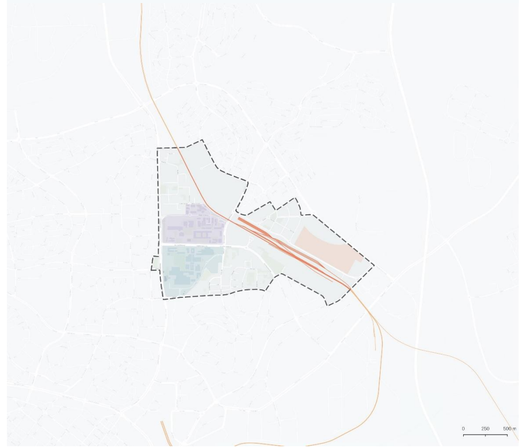


- **Location:** Sheffield, Rotherham, United Kingdom
- **Year district was established:** 2015
- **Boundary size:** 573 acres or 232 hectares
- **Identified unique specializations:** Advanced materials and manufacturing processes; energy generation, storage, management and security; healthcare technology
- **Observation on land:** They aspire to become the manufacturing district model, looking to redevelop parking lots, increase connectivity, and develop a system of cross-cutting programs
- **Governance model:** Collaborative partnership across multi-stakeholders; no formal organization

Knowledge District Zuidas in Amsterdam

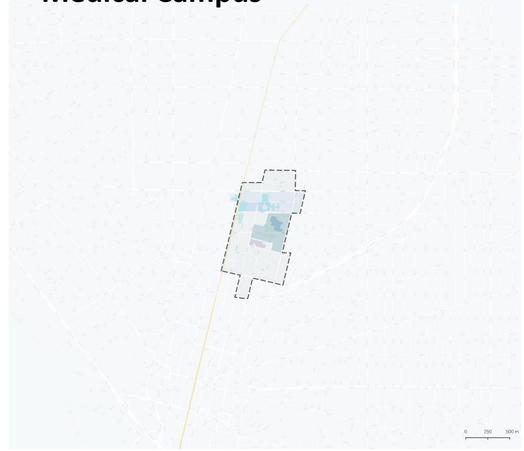
- **Location:** Amsterdam, The Netherlands
- **Year district was established:** 2017
- **Boundary size:** 116 acres or 47 hectares
- **Identified unique specializations:** Human health & life sciences; neuroscience; oncology; imaging; information science
- **Observation on land:** Their aim is to re-imagine key pockets of university-owned land, co-locating start-ups and companies when collaboration opportunities are strong
- **Governance model:** Collaborative partnership across multi-stakeholders; no governance model currently exists

Be'er Sheva Innovation District



- **Location:** Be'er Sheva, Israel
- **Year district was established:** 2019
- **Boundary size:** 642 acres or 260 hectares
- **Identified unique specializations:** Digital health; desert-tech; cybersecurity
- **Observation on land:** Advancing the prosperity of adjacent neighborhoods led to their inclusion in the boundary
- **Governance model:** No governance model currently exists

Buffalo Niagara Medical Campus



- **Location:** Buffalo, NY, United States
- **Year district was established:** 2002
- **Boundary size:** 143 acres or 58 hectares
- **Identified unique specializations:** Next-gen technologies in vascular medicine; biotech; genomics, Big Data and the microbiome; cleantech; social innovation; AI & machine learning
- **Observation on land:** Their boundary intentionally includes neighborhoods as an avenue to include them into the story of shared prosperity
- **Governance model:** BNMC, a 501(c)3 not for profit organization

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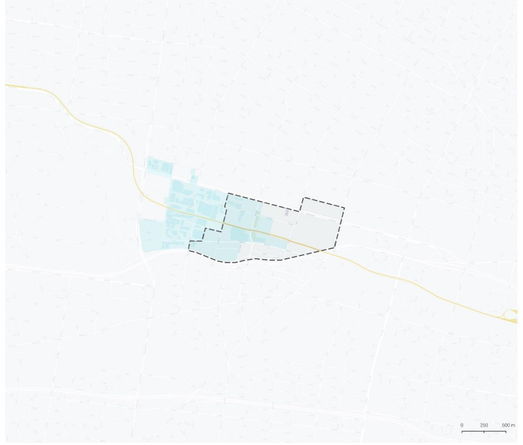
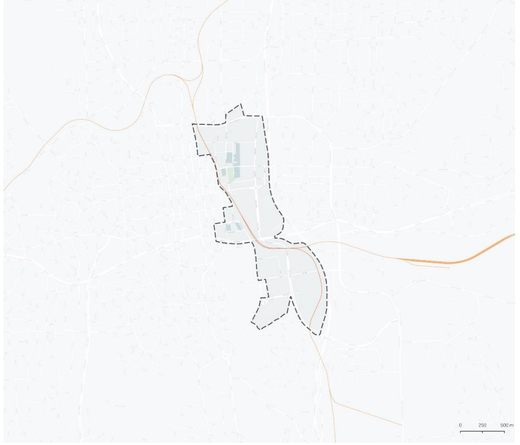
GIID Analysis of Nine Innovation Districts

Cortex Innovation Community in St. Louis



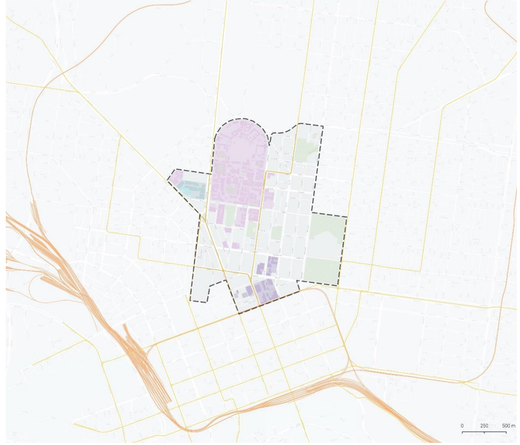
- **Location:** St. Louis, MO, United States
- **Year district was established:** 2002
- **Boundary size:** 200 acres or 76 hectares
- **Identified unique specializations:** Neuroscience; aerospace; genomics; ag-tech; IT/cyber; advanced imaging
- **Observation on land:** Leaders say it could take 10 years to reach full build out; there is also an effort under way to identify areas for future expansion
- **Governance model:** Multi-stakeholder governance model, a not for profit 501(c)3

Innovation Quarter in Winston-Salem



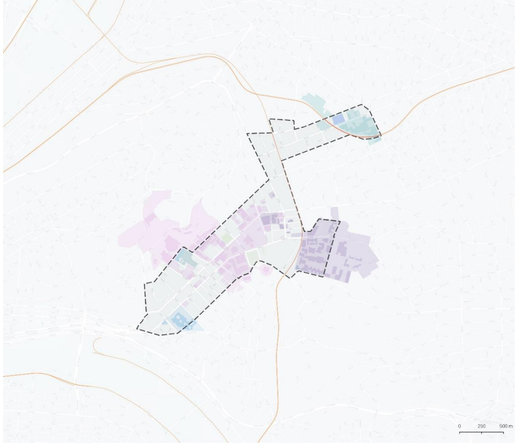
- **Location:** Winston-Salem, NC, United States
- **Year district was established:** 2001
- **Boundary size:** 348 acres or 141 hectares
- **Identified unique specializations:** Value & health transformation; healthy aging; virtual health; personalized care and precision medicine; learning systems
- **Observation on land:** With 3 to 3.5 million square feet of future development ahead, “we are land rich”
- **Governance model:** North District Owners Association; established by Wake Forest Innovation Quarter Management Co. a not for profit 501(c)3

Melbourne Innovation District



- **Location:** Melbourne, Australia
- **Year district was established:** 2016
- **Boundary size:** 620 acres or 251 hectares
- **Identified unique specializations:** Biomedicine, digital, health-tech, social innovation, advanced manufacturing
- **Observation on land:** Only a few available development parcels in the district, shifting focus to redevelopment and replacement as well as the exploration of other areas for large-scale development
- **Governance model:** Currently an informal tri-party partnership model; goal to shift to a Secretariat approach in 2020 if funding allows

Pittsburgh Innovation District



- **Location:** Pittsburgh, PA, United States
- **Year district was established:** 2017
- **Boundary size:** 395 acres or 160 hectares
- **Identified specializations:** Life sciences & digital health; AI & robotics; advanced manufacturing; fintech; cyber security; business services
- **Observation on land:** Only a few available development parcels in the district, shifting focus to redevelopment and replacement as the pathway for district growth
- **Governance model:** Organization managing the district; also coordinates collaboration efforts between tech-based economic development leaders

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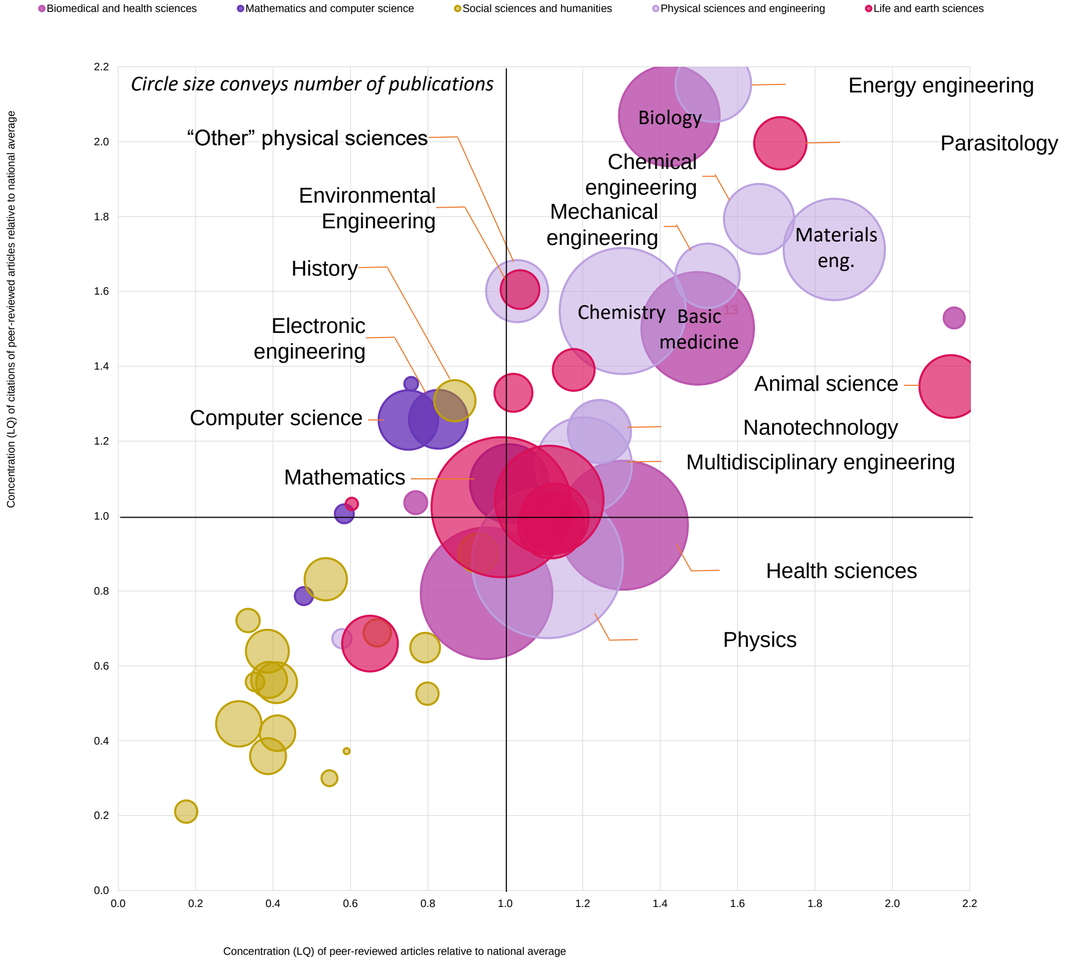
UNIQUE SPECIALIZATIONS

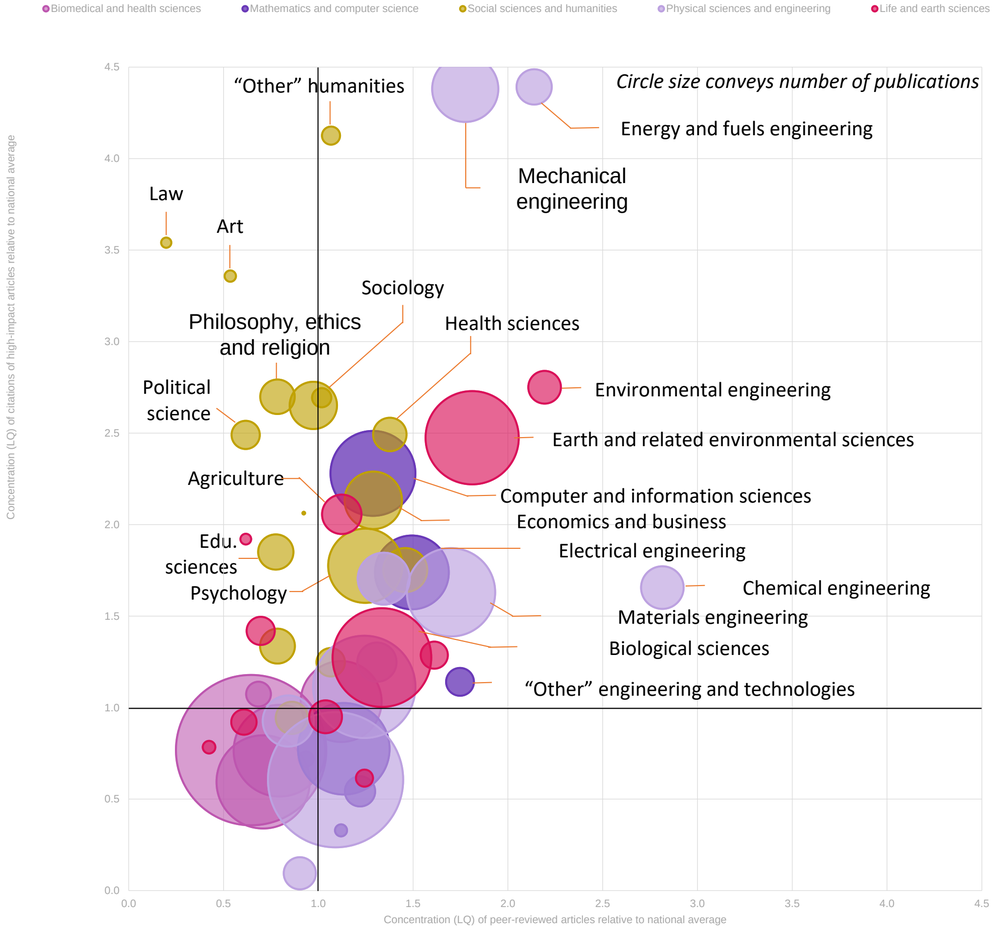
Scholarly Productivity and Impact by Scientific Subfield

Among Peer-reviewed Articles Published from 2001 to 2020

Medellín Innovation District



Be'er Sheva Innovation District



Source: GIID analysis of Web Of Science data, accessed 2020

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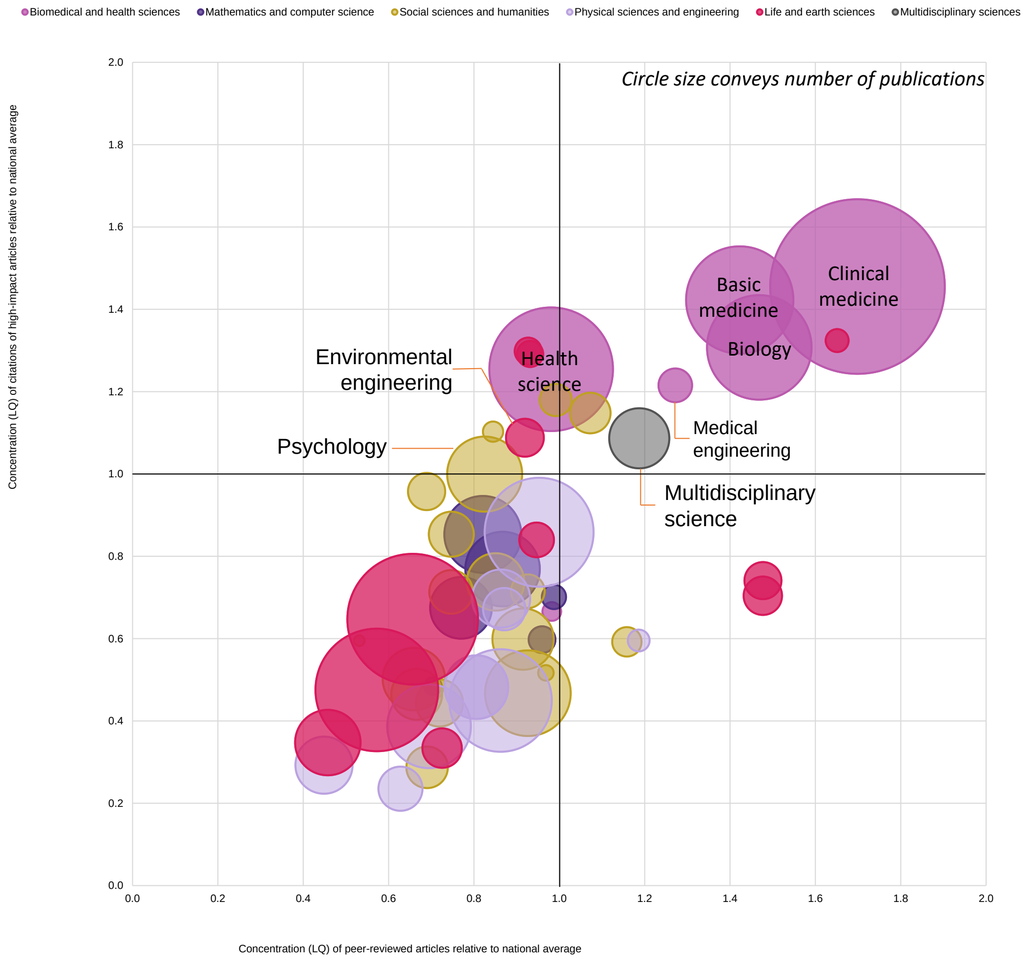
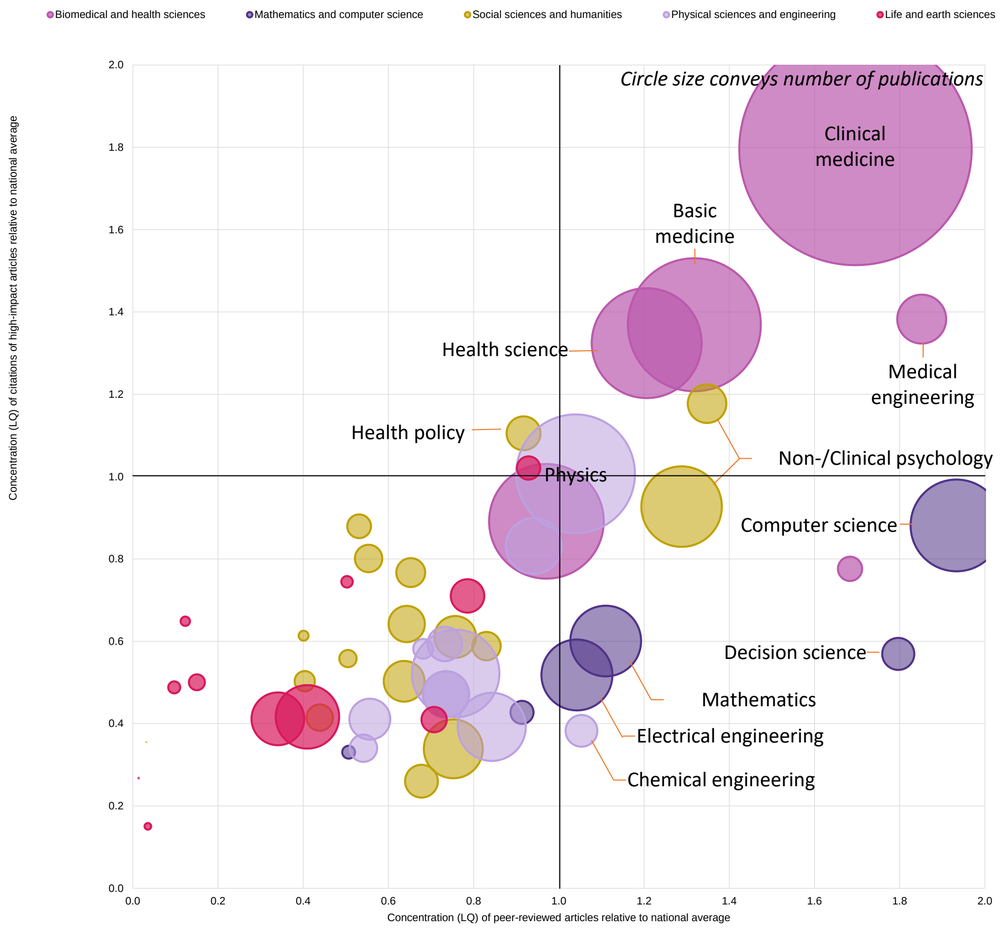


Pittsburgh Innovation District



Source: GIID analysis of Web Of Science data, accessed 2020

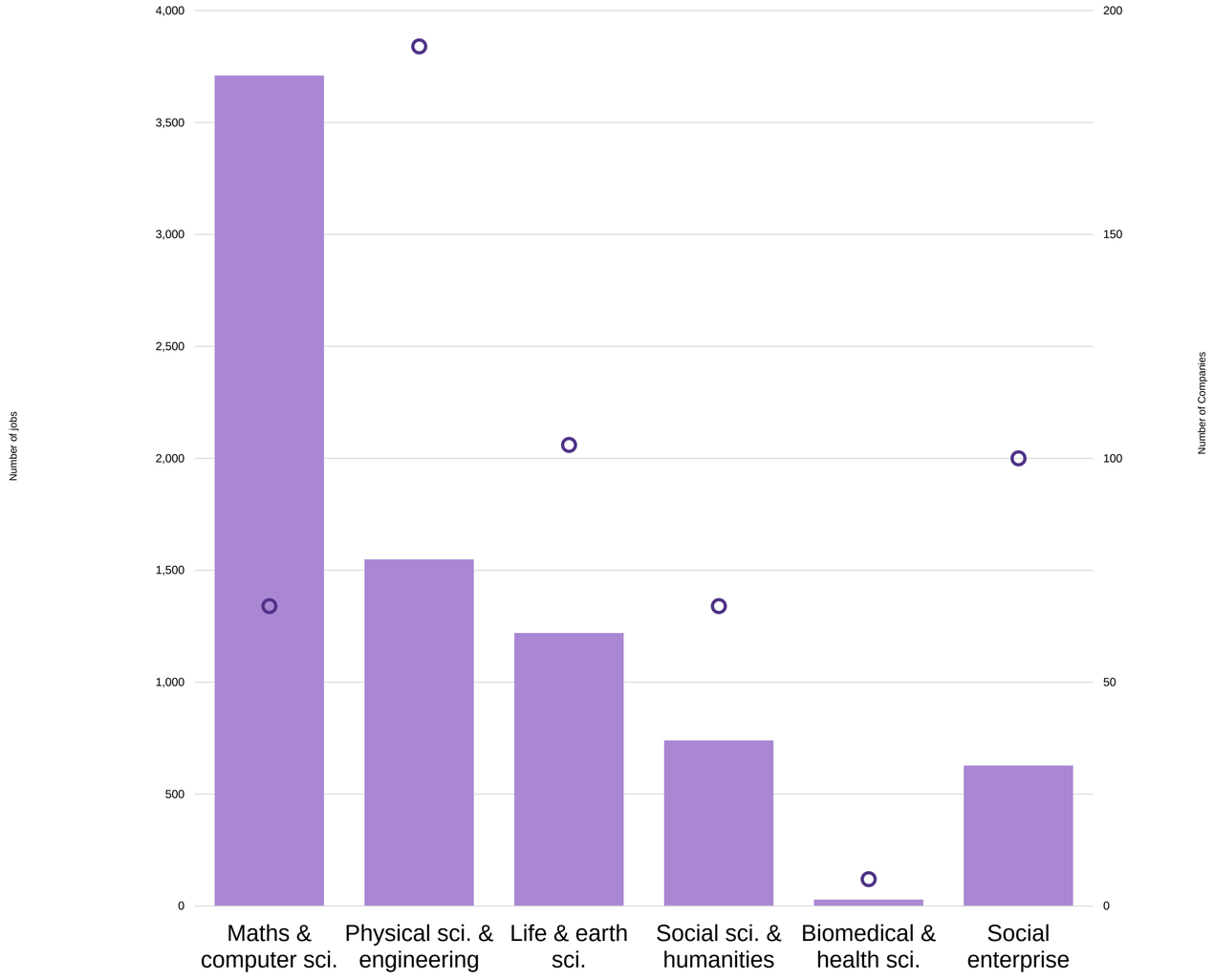
THE GLOBAL INSTITUTE ON INNOVATION DISTRICTS

UNIQUE SPECIALIZATIONS: CONCENTRATION OF KNOWLEDGE-INTENSIVE INDUSTRIES

Well over one-quarter of the Medellín ID's jobs base is concentrated in knowledge-intensive industries that drive private-sector R&D.

- **Most of Medellín ID's jobs at knowledge-intensive jobs are found in the field of mathematics and computer science.**
- **The field of physical sciences and engineering contains the district's largest cluster of knowledge-intensive companies.**
- **The district is also home to 176 companies and about 1,990 workers that perform R&D in other natural sciences**

Knowledge-Intensive Enterprises by Field of Science, 2019



Sources: GIID analysis of Dun and Bradstreet Hoovers, European Commission Community Research and Development Information Service, and Interactive Terminology for Europe data, accessed in 2020

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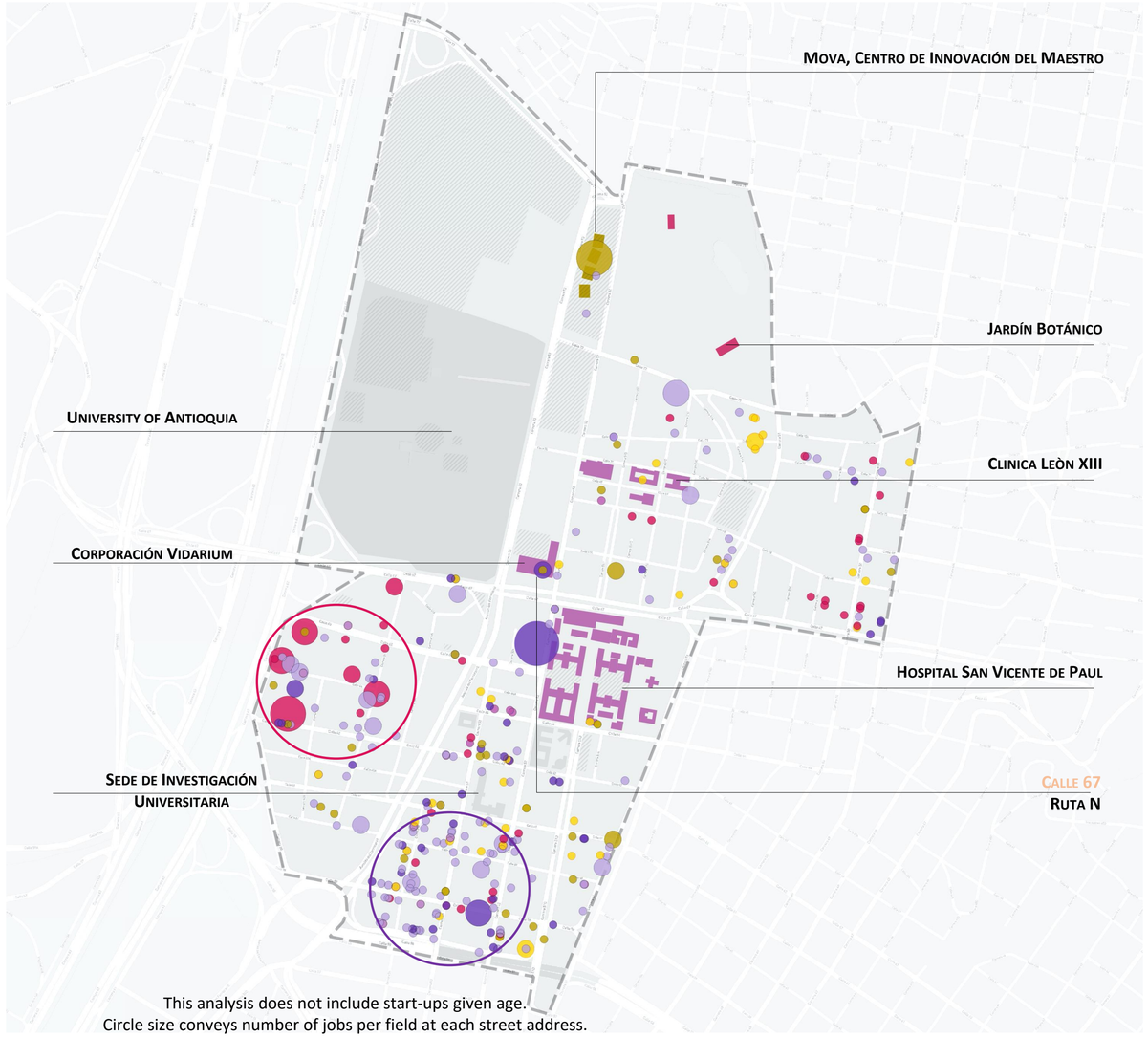
Unique Specializations: Medellin and St. Louis



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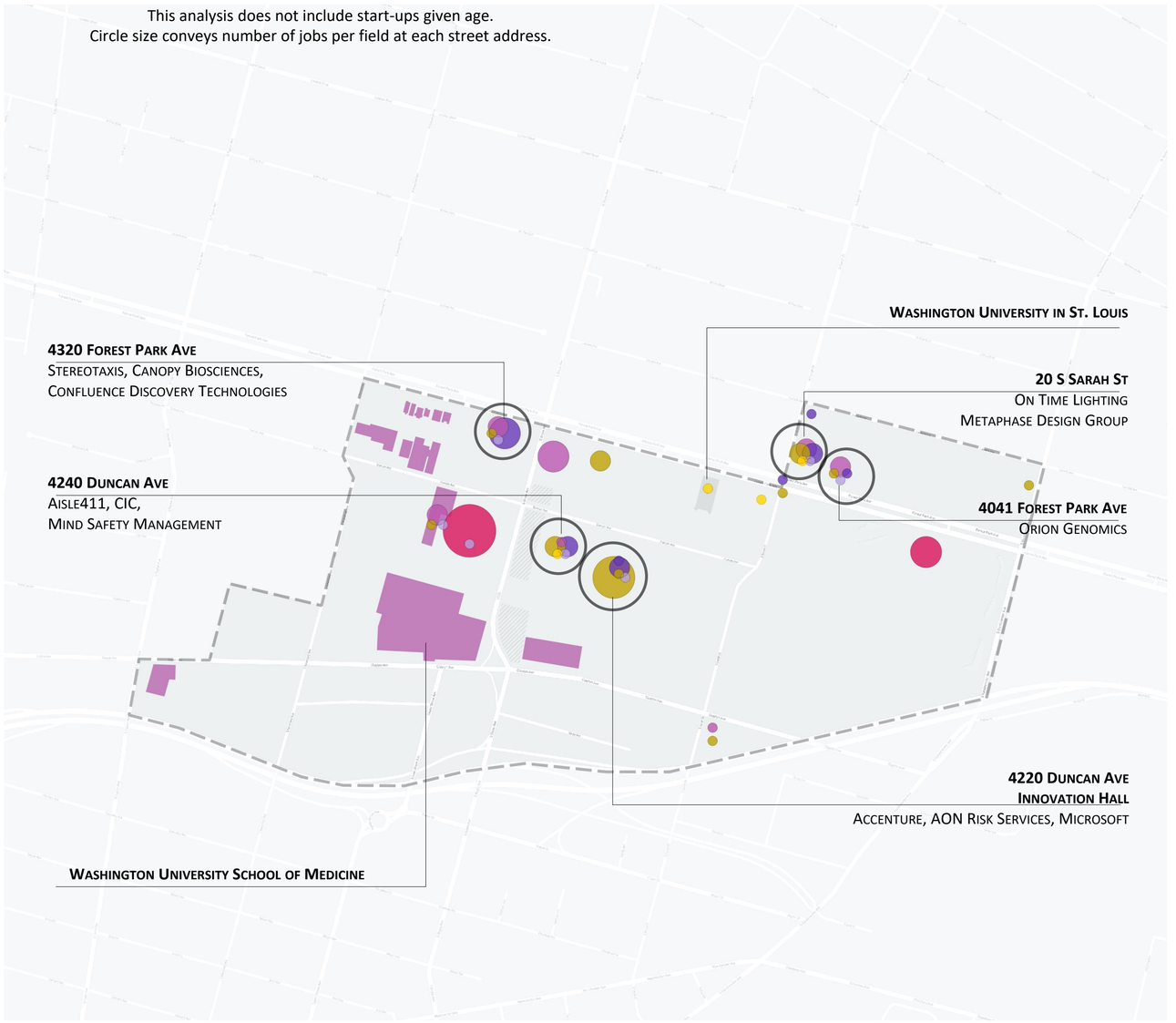

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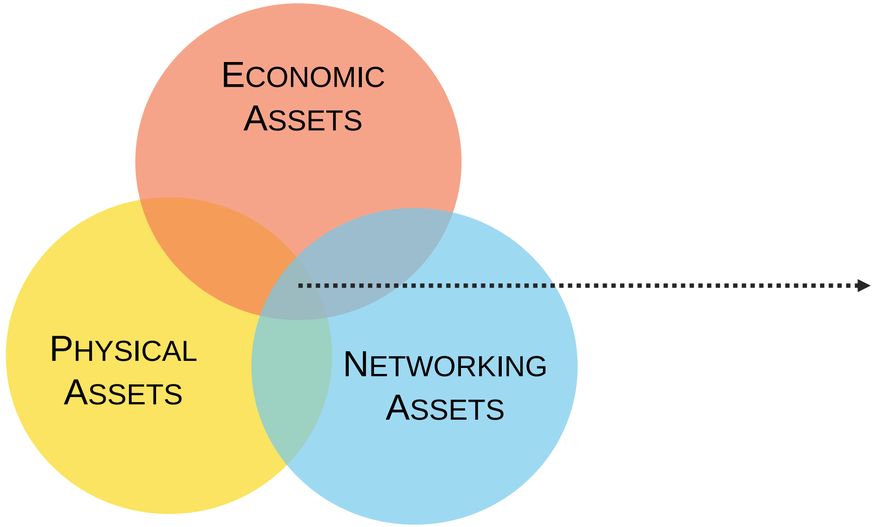

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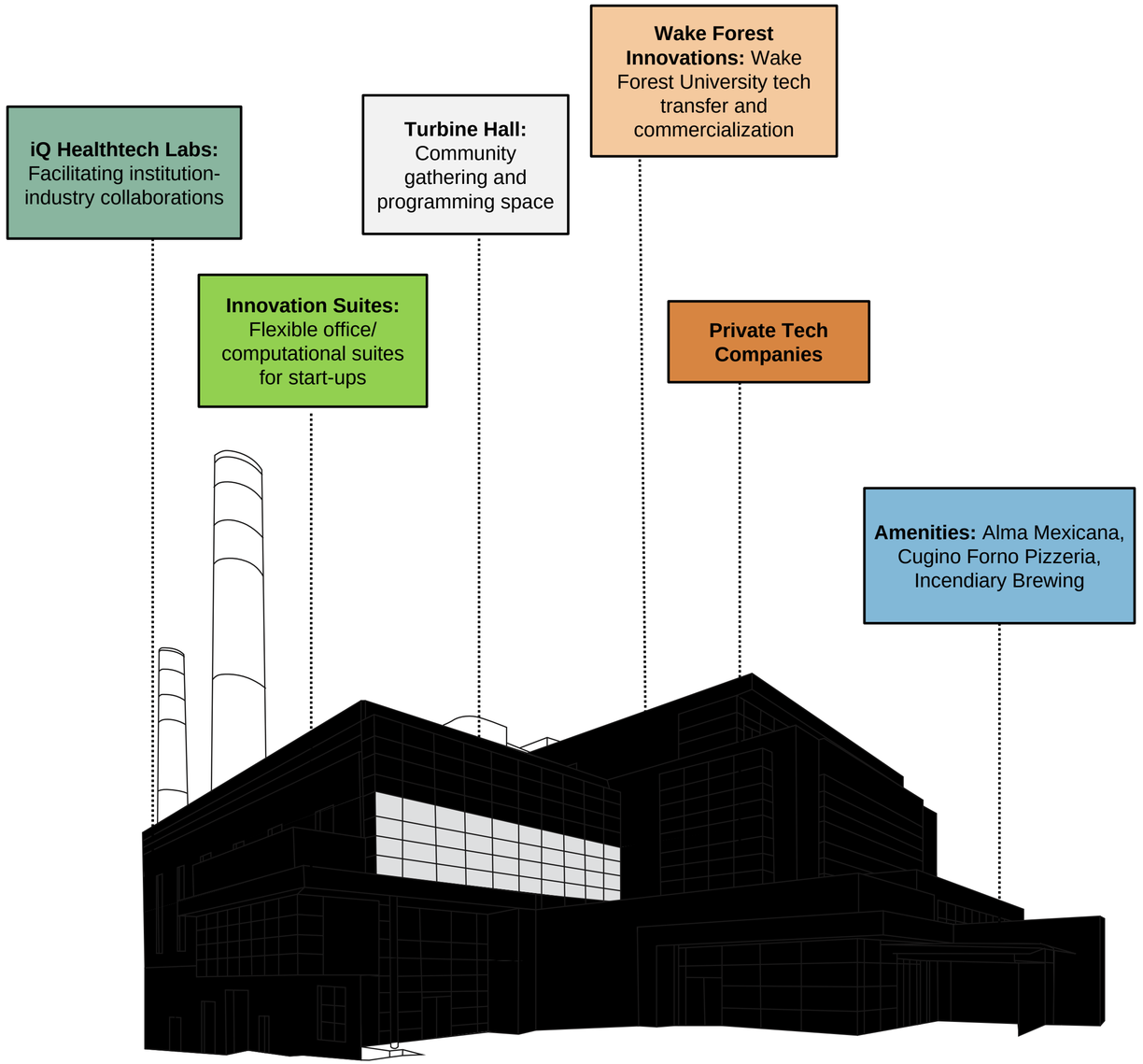
Quality of Place: Integrated Places

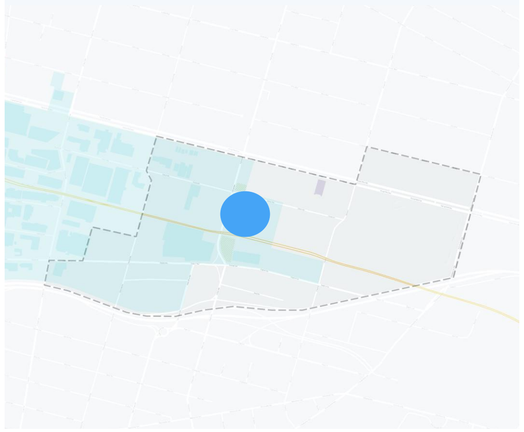
Creating Integrated Spaces: Bailey Power Plant in Innovation Quarter

The Bailey Power Plant is iconic, historic and exceptionally cool. It would have been fairly easy to find a single company to lease the entire 111,479 square foot building. But doing so, would have isolated this signature building, rather than transforming the power plant—along with Bailey Park—into the district's center of gravity.



QUALITY OF PLACE: CENTERS OF GRAVITY

Cortex Innovation Community in St. Louis



Source: GIID analysis of interviews, 2020

Cortex has several spaces that together create a *district node*:

- *The Cortex Commons:* A park that is heavily programmed with events
- *Venture Café:* Provides Thursday Gatherings-a successful weekly event that pulls people together.
- *Innovation Hall:* A collection of event spaces, a restaurant, and a Civic Lounge that offers free drop-in workspace.

Pre-COVID, these three programmed spaces drew approximately 30,000 people into the district annually.

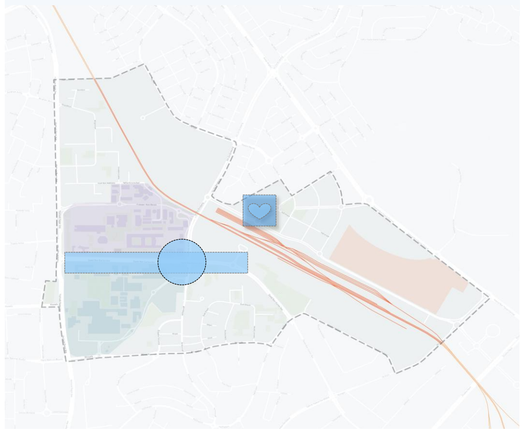
Knowledge District Zuidas in Amsterdam

Source: GIID analysis of interviews, 2020

Amsterdam could very well be in the process of developing one if not two *district hearts*:

- *The planned Innovation Center:* The future home of life science start-ups, scale-ups, and intermediaries.
- *Start Up@VU:* A semi-permanent space in the heart of the district that will house early-stage start-ups. Note that this is a unique solution for creating affordable spaces for start-ups.

Be'er Sheva Innovation District

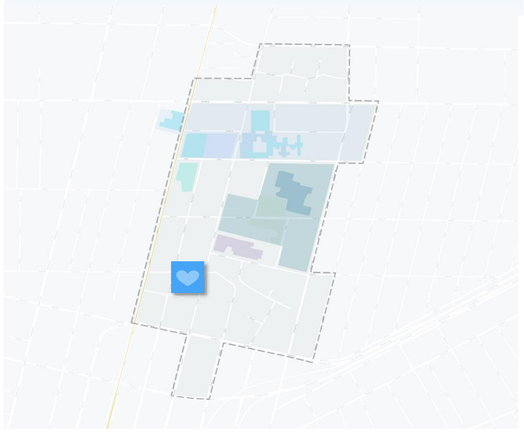


Source: GIID analysis of interviews, 2020

Be'er Sheva is in the early stages of their district but their plan identifies the following strategies:

- *A district spine* running through the center of the district aims to stimulate new mixed uses and activities along its edges.
- *A district node* in the heart of the district, intends to create a variety of spaces for residents as much as for researchers.
- *A district heart* similar to District Hall in Boston is envisioned for the Advanced Technologies Park.

Buffalo Niagara Medical Campus

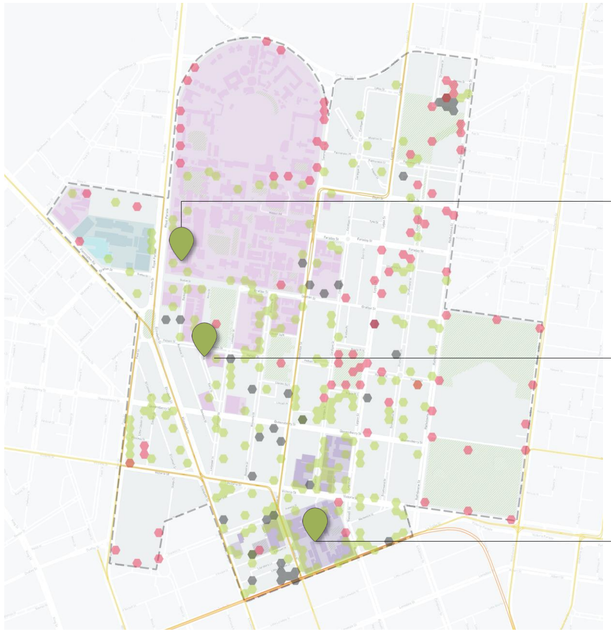


Source: GIID analysis of interviews, 2020

BNMC has a clear *district heart*—their Innovation Center—given that:

- It provides a mix of programs, co-working spaces, and private office spaces.
- Is home to start-ups and companies of different sizes
- Is adjacent to other district-based intermediaries, creating a density of entrepreneurial support not found elsewhere in the district.

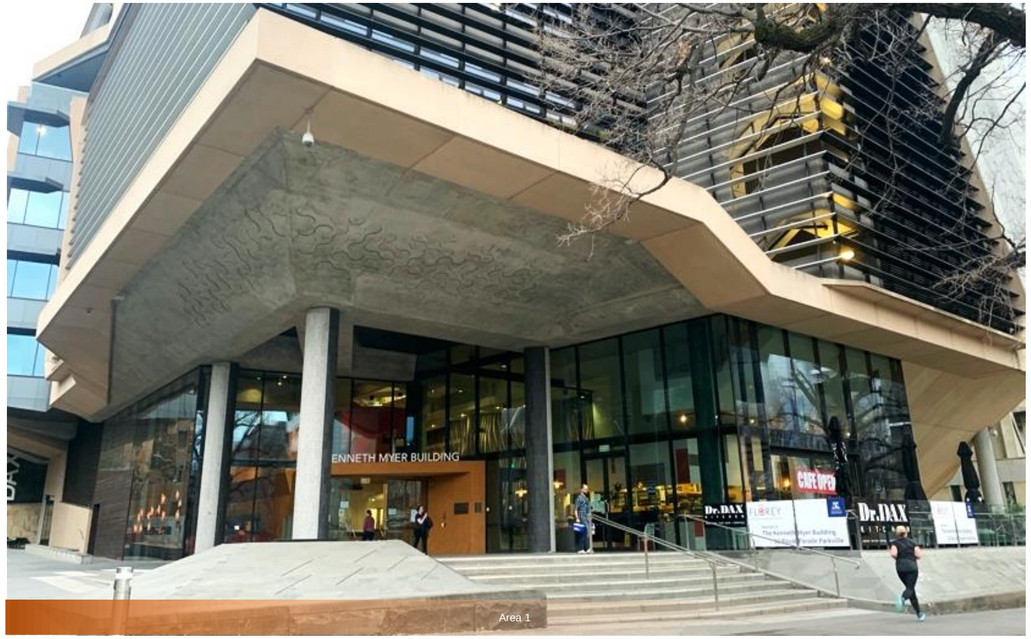
QUALITY OF PLACE: POROSITY



Area 1
Kenneth Myer Building, University of Melbourne Building 144, 30 Royal Parade

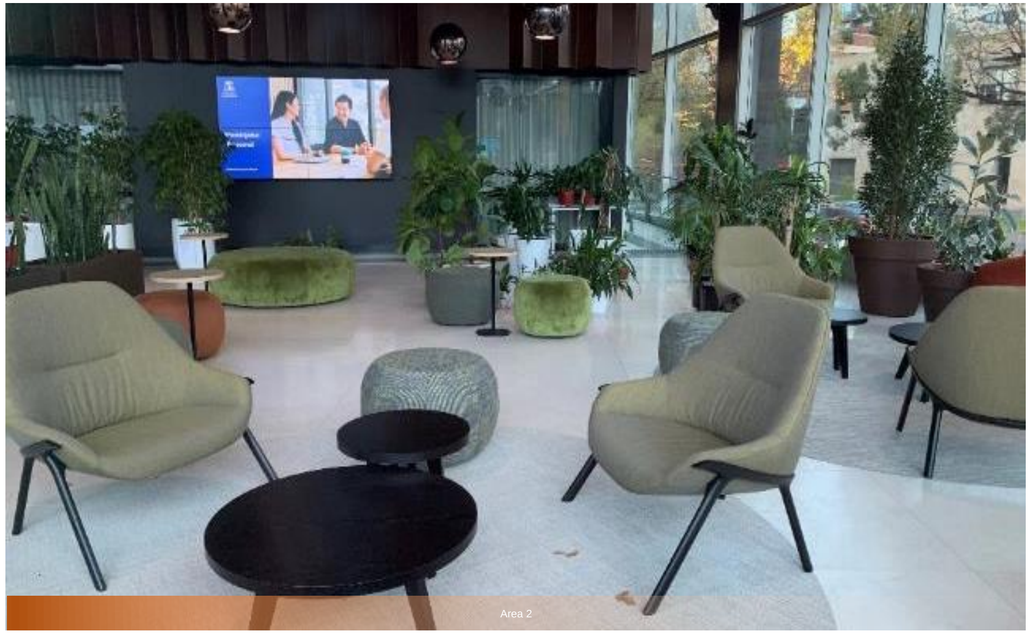
Area 2
University of Melbourne Building 106–185 Pelham St.

Area 3
RMIT Bowens Street Precinct



Area 1

Area 3


Area 2

How are Innovation districts Evolving?

How Innovation districts are Evolving

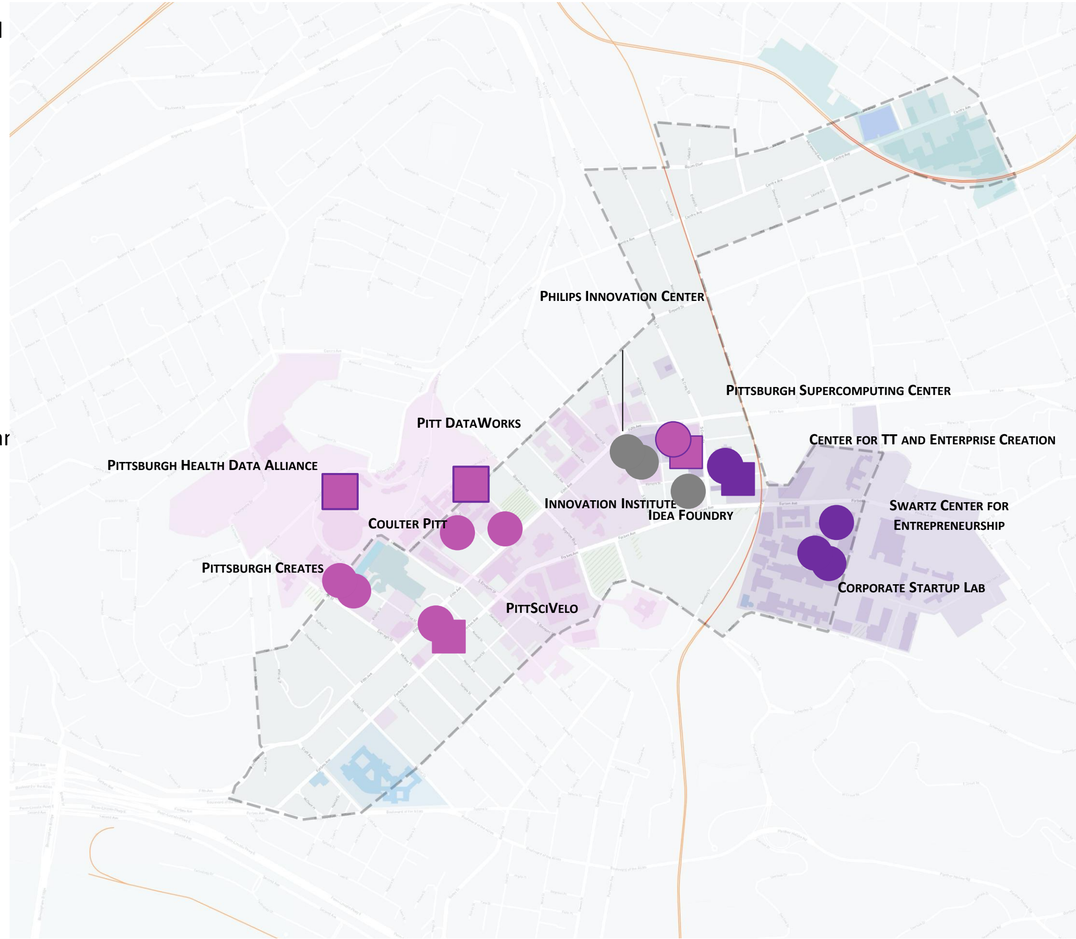
Cortex Innovation Community in St. Louis

Sources: GIID analysis of intermediary interviews and OpenStreetMap data, accessed in 2020

Primary function

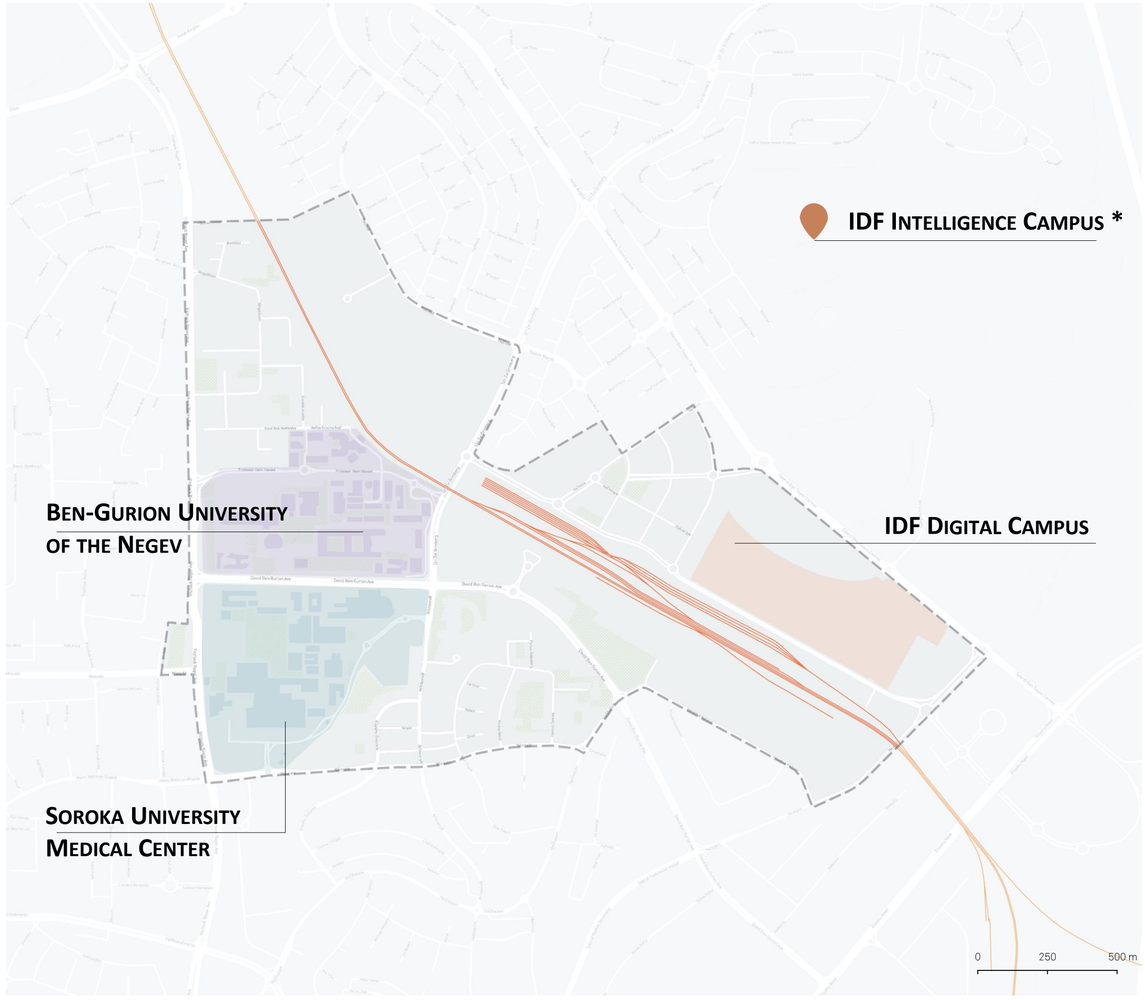
- Strengthen translational and collaborative research efforts across actors
- Advance commercialization and entrepreneurialism
- Provide training for neighborhood residents and disadvantage groups and/or spaces to gain access to information
- Strengthen translational research capabilities & Advar entrepreneurialism
- Strengthen relationship between institutions and industry and/or Advance corporate innovation

Pittsburgh Innovation District



Sources: GIID analysis of intermediary interviews and OpenStreetMap data, accessed in 2020

How Innovation districts are Evolving



Sources: GIID analysis based on interviews, Be'er Sheva ID reports, and OpenStreetMap data, accessed in 2020

Research-Intensive University
Ben-Gurion University of the Negev

Research-Intensive Medical Institution
Soroka University Medical Center

Government-led Research Institution
IDF Digital Campus (under construction)

Key Transit Lines
Rail

* IDF Intelligence Campus

1 **The integration of government facilities with R&D activities**

2 **The development of intermediaries to facilitate joint R&D efforts between government, universities, industry:**

- Can include how to grow start-ups through this collaboration

3 **The development of shared spaces outside of secured areas:**

- Spaces for a mixed workforce
- Intermediaries
- Spaces for start-ups

How Innovation districts are Evolving

Mission-Focused Organizations Dedicated to Lead District Efforts

Dominant Player Model

Winston-Salem

North District Owners Association (NDOA) of Innovation Quarter is a declaration of legal covenants and other conditions entered into by Wake Forest Innovation Quarter Management Co., a 501(c)3. The NDOA was established to manage, maintain, secure and program common areas.

The anchor institution (WFBMC) dominates land ownership use in the IQ, facilitating a streamlined approach to governance.

The Innovation Quarter has 11 employees; six of which are dedicated full time; three contribute in a dual role within Wake Forest Baptist Medical Center. FT personnel are Wake Forest Baptist Medical Center employees.

Multi-stakeholder Model

Buffalo

Not for profit, 501(c)3 organization.

Multi-stakeholder board, which includes district institutions, two neighborhood reps, and a neutral chair.

Four Board Committees: Operations and Coordination, Finance and Personnel, Governance and Audit/Compliance.

Nine Work Councils, such as: planning, inclusive procurement, public safety.

Revenues generated through a portfolio of structured parking facilities, and owner of five parcels.

28 positions including President and CEO. All financed by income generated through the 501(c)3.

Multi-stakeholder Model

St. Louis

Not for profit, 501(c)3 organization, The Cortex Innovation Community.

22 voting members of this multi-stakeholder board, which includes it's four founding members, additional voting members and ex-officio directors.

Diversity of board (women, minorities, companies and start-ups) viewed as fundamental.

Supplemented by seven committees, which include audit, executive, finance, governance, inclusion, program, and real estate and planning.

14 full-time positions including President and CEO. All financed by income generated through the 501(c)3.

Alliance or Partnership where District is Part of a Broader Portfolio

Government-Led Alliance

Medellín

The district is led by an alliance among three local agencies that focus on district planning and implementation:

1. Urban development company: Manages the land & infrastructure.

2. Ruta N: The Innovation Agency of Medellín, focuses on strengthening the district's innovation ecosystem. The district is a Ruta N project.

3. Mayor's Office: Developing public policies to guide the district.

Rely on Strategic Steering Committee structure and includes members of alliance universities, business, and social-focused organizations.

10 part-time positions as they have other projects.

Public-Private Partnership

Pittsburgh

Not for profit, 501(c)3 organization, InnovatePGH.

Orchestrates a collaborative partnership between the mayor, university presidents, foundations, and business and community representatives.

A working/governance board exists to provide fiscal and operational oversight.

5.5 positions including an Executive Director plus one additional staff working full-time on a fiscally-sponsored program separate from InnovatePGH's core mission.

Hybrid: Dedicated Effort Through a Partnership

Secretariat Model

Melbourne

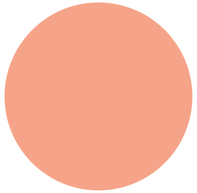
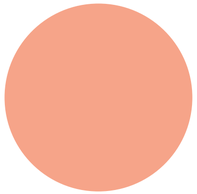
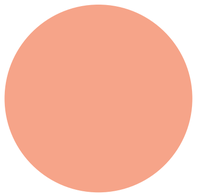
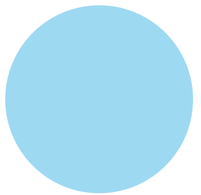
MID-partners are now considering a Secretariat model of governance, which creates a light “backbone” organization for a minimum of two years.

The organization would report to the MID Board.

New secretariat model would include three fixed-term roles: general manager, project manager, and communications/events manager.

This governance model is now under consideration.

How Innovation districts are Evolving

	Economic Assets	Physical Assets	Networking Assets
1. Unique Specializations		• **Specialized tech** • **Opened up labs**	• **Specialized trainings** • **Grow talent**
2. Critical Mass			
3. Convergence			
4. Quality of Place			
5. “Buzzing” connected community			

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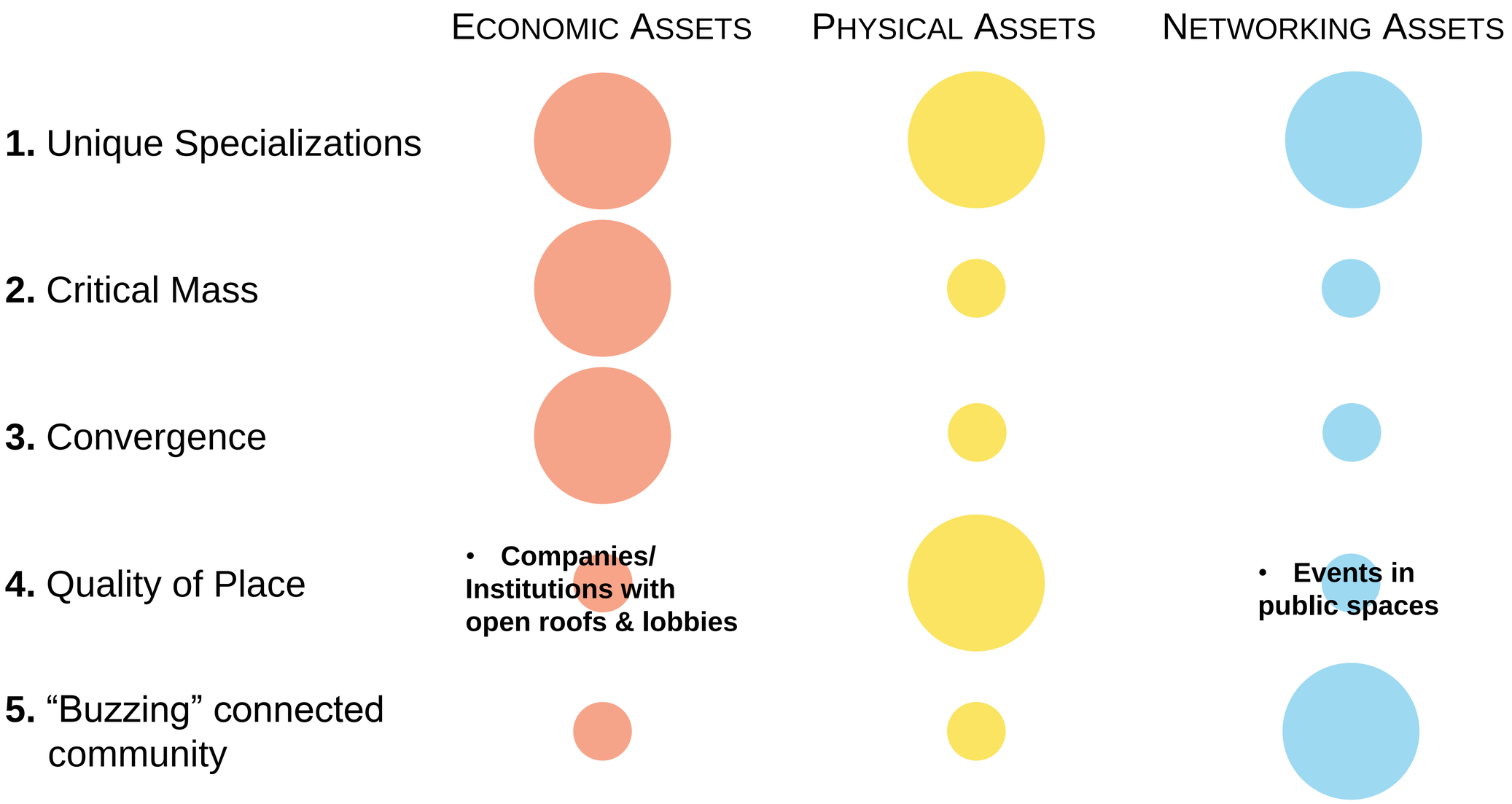
How Innovation districts are Evolving



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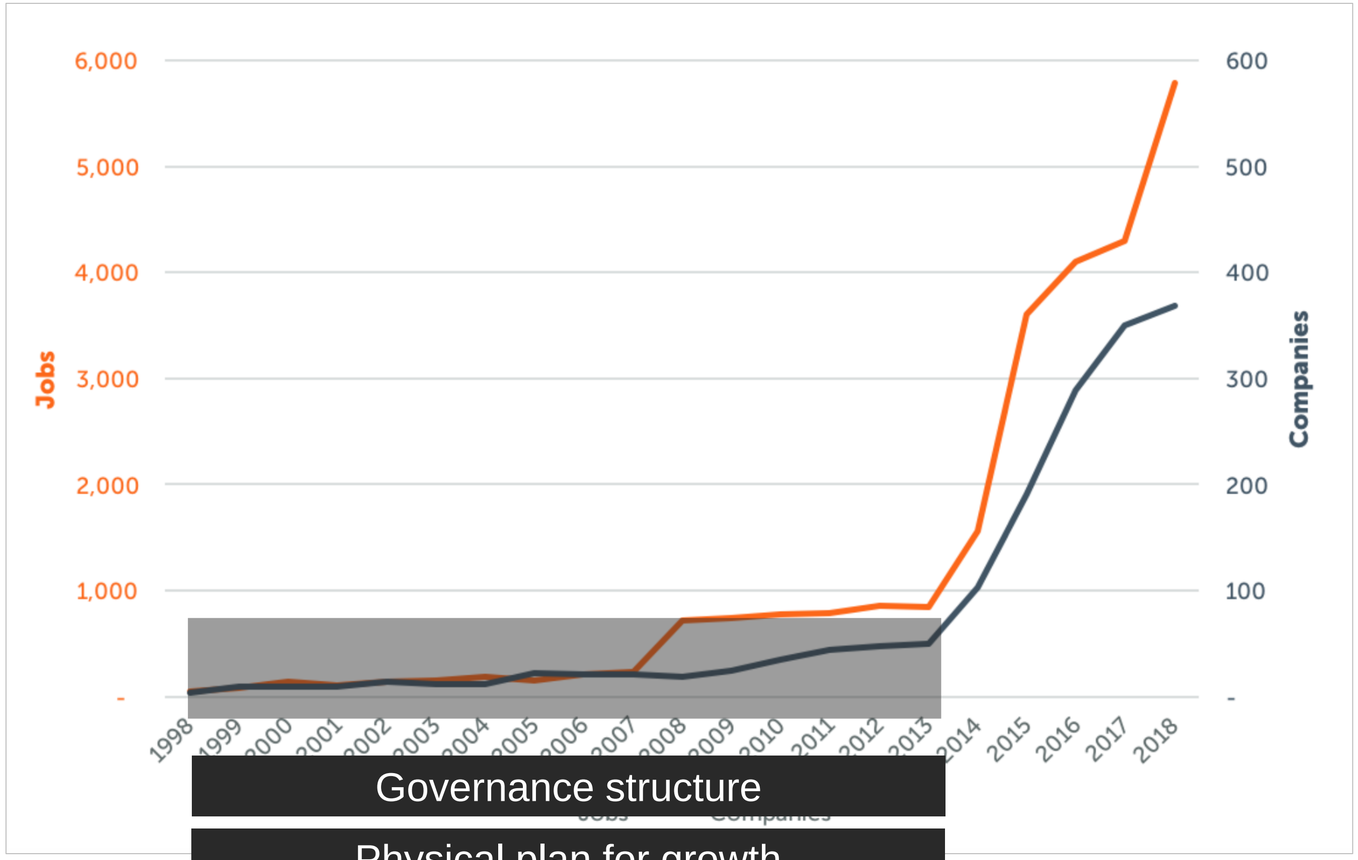
CORTEX INNOVATION COMMUNITY: ORGANIZE FOR SUCCESS



Source: TEConomy Pa

Intentional efforts to drive and accelerate growth

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INNOVATION DISTRICTS

DOE LABORATORIES OF THE FUTURE WORKSHOP SERIES
NOVEMBER 10, 2020

JULIE WAGNER

PRESIDENT, THE GLOBAL INSTITUTE ON INNOVATION DISTRICTS
NONRESIDENT SENIOR FELLOW, THE BROOKINGS INSTITUTION

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