



Innovation CENTERS OF EXCELLENCE

Boston and Cambridge, Mass, are becoming hot areas for pharma and biotechnology research.

Research parks began to grow in the 1950s as part of a wave of collaborations with universities, private developers, and governments that created labs and research space for industry and academia. Now, a new wave of innovation districts are popping up in major cities: innovation hubs within city limits that aim to take advantage of access to local universities and potential employees. The growth of innovation districts is reflective of the forces that are altering the requirements and preferences of people and

firms that are engaged in technology-driven activities, according to a 2014 Brookings Institution report.

The American Institute of Architects released a report in September 2013 on Innovation Districts, describing them as “creative, energy-laden ecosystems” that are emerging worldwide. Innovation districts have been created in cities such as Boston, St. Louis, New York, Pittsburgh, and San Francisco. Today, about 20% of all U.S. jobs are in science, technology, engineering, or math (STEM) related occupations, according to a 2013 paper by the Brookings Institution.

Additionally, the rise of smaller, entrepreneurial companies focused on open innovation and more collaborative processes has led to the need for incubators and innovation hubs close to academic centers and partners.

Boston and Cambridge, in particular, are exploding as innovation hubs for the life-sciences industry.

According to a report in Biospace last year, industry experts predict that in the next few years, Massachusetts could become the next Silicon Valley of biotechnology and biopharmaceuticals.

According to the Massachusetts

Biotechnology Council, 1,198 life-sciences companies were operating in New England and employing 103,006 workers, as of 2012. More than half of these firms are located in Massachusetts, home to about 514 medical device companies, 232 drug development firms, 147 contract research and manufacturing enterprises, and 146 companies producing research products and instrumentation for the life sciences. Recently, GE Healthcare Life Sciences, a division of GE Healthcare based in Piscataway, N.J., chose Forest Park in Marlborough, Mass., as the new headquarters for its U.S. operations. The Massachusetts Life Sciences Center has provided \$535 million in loans, grants, and other spending to the center.

Sanofi, Pfizer, Biogen, Novartis — all major pharmaceutical companies with large research centers just outside Boston — employ more than 10,000 people alone.

The Novartis Institutes for BioMedical Research, for example, has headquarters in Cambridge. Novartis took over the Necco candy factory building, which moved out of the space in 2004. The Novartis conversion of the factory was a \$175 million project and a water tower was redesigned with a double helix.

The site is the headquarters for the Novartis global drug discovery network. NIBR comprises more than 6,000 scientists, physicians, and business professionals working together across campuses in Europe, Asia, and the United States. For Novartis, Cambridge is home to research in oncology, immuno-oncology, ophthalmology, diabetes, musculoskeletal disorders, neuroscience, and cardiovascular conditions. Other focus areas include discovery chemistry, biologics, pathway biology, and translational medicine.

“Since establishing our research operations there 13 years ago with just a small team, we have grown to become the largest corporate



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JOE JIMENEZ
Novartis

Innovation Districts are Key Part of New Wave of Economic Development

- ▶ Innovation districts further the ability of cities and metropolitan areas to grow jobs in ways that both align with disruptive forces in the economy and leverage their distinct economic position.
- ▶ Innovation districts can specifically empower entrepreneurs as a key vehicle for economic growth and job creation.
- ▶ Innovation districts can grow better and more accessible jobs at a time of rising poverty and social inequity.
- ▶ Innovation districts can reduce carbon emissions and drive denser residential and employment patterns at a time of growing concerns with environmentally unsustainable development.
- ▶ Innovation districts can help cities and metropolitan areas raise revenue and repair their balance sheets at a time when federal resources are diminishing and many state governments are adrift.

Source: Brookings Institution

employer in Cambridge and the fourth-largest employer in the city,” says Joe Jimenez, CEO, Novartis. “Over this time, innovation at the Novartis Institutes for BioMedical Research has been driven by the thriving talent base in Cambridge, leading to many exciting discoveries for patients. As we look to the future, Cambridge will continue to be a keystone of our strategy.”

Sanofi opened a cancer research hub in Cambridge in 2013, where 250 investigators and support staffers focus on research in oncology and other areas. The facility expanded to about 5,000 employees — including some 1,700 researchers — the combined greater Boston workforce of Sanofi and its Genzyme biotech subsidiary, which is also based in Cambridge.

Pfizer opened a facility in 2014 in Cambridge, bringing together about 1,000 employees who were previously spread out across three area locations. The 280,000 square-foot, state-of-the-art R&D hub is located in the heart of Kendall Square.

The site’s new laboratory facilities are leased from the Massachusetts Institute of

We believe that the combination of our dedicated capital pool and extensive industry expertise will give Boston Pharmaceuticals a significant competitive advantage in this space.

CHRIS VIEHBACHER
Boston Pharmaceuticals



Technology (MIT), continuing Pfizer’s tradition of working with MIT and other leading academic institutions to advance science, research and education.

Pfizer Cambridge researchers are focused on translating scientific knowledge into potential medical breakthroughs across areas of unmet need such as lupus, inflammatory bowel disease, kidney disease, type 2 diabetes, muscular dystrophy, and Parkinson’s disease.

The most recent company to seek out the Boston area is Bristol-Myers Squibb. In March, the company announced it has teamed up with LabCentral, a shared laboratory space designed as a launch pad for life-sciences and biotech startups. As part of the agreement, Bristol-Myers Squibb can nominate up to two innovative life-sciences and biotech startup companies per year to take up residence in LabCentral’s Kendall Square facilities.

The 2016 nomination process for Bristol-Myers Squibb-sponsored Golden Tickets will launch by the end of the first quarter.

Carl Decicco, Ph.D., head of discovery at Bristol-Myers Squibb, says this sponsorship also builds on the company’s growing commitment to the Cambridge community.

In June 2015, Bristol-Myers Squibb announced that it will open a new state-of-the-art research site in Cambridge, Mass. The new facility will be located at 100 Binney St. in Kendall Square and is expected to open in early 2018.

The Cambridge area is also attracting research laboratories. One such lab is The Jackson Laboratory, which opened in October 2014. It’s home to revolutionary scien-

tific research into highly personalized treatments for cancer, diabetes, immunology, neurodegenerative disorders, microbiology, and more. It is hoped that this work will reveal how an individual’s genome reacts to specific treatments, allowing greatly improved medical outcomes.

The building was designed to facilitate the development of personalized medicine based on individual genetics. For example, dry labs and wet labs were designed next to one another.

The Boston/Cambridge area isn’t just attracting brand pharma names; it’s also the home court for Chris Viehbacher, former CEO of Sanofi. He is now managing partner of Gurnet Point Capital, a healthcare investment fund started in 2013 by Ernesto Bertarelli. Mr. Viehbacher, who is chairman of the Boston-based startup, along with Mr. Bertarelli created Boston Pharmaceuticals, a fully integrated drug development company that will offer an innovative alternative model for drug development and commercialization. Also joining the team is Dr. Robert Armstrong, the former head of external R&D at Chorus (Eli Lilly), as its CEO.

Boston Pharmaceuticals is partnering with academic, biotechnology, and biopharmaceutical groups to acquire clinical assets at various stages of their development. The company is composed of a small team of clinical development experts operating with the efficiency of a small company and building a substantial portfolio of clinical and commercial assets.

Tech partners, such as Google, Microsoft, IBM, and Nokia also have footprints in Cambridge and the surrounding area. **PV**