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## Innovation Goes Downtown

From Barcelona to Seoul, urban science parks are being built to lure the best minds and the industries of tomorrow

By [Pete Engardio](#)

In its heyday decades ago, Olivetti employed nearly 3,000 workers in a hardscrabble section of Barcelona making typewriters. Drop into the former factory today, and you'll likely find young professionals perched on comfy foam couches talking business in a mix of languages amid brightly painted walls and exposed wooden beams. Glass-enclosed conference rooms are filled with students taking seminars on how to write business plans or develop marketing campaigns. Tacked to a bulletin board next to the canteen are news reports about the latest venture to snag investors.

Reopened three years ago as a high-tech business incubator, the four-story concrete-and-glass structure now hosts 55 startups creating everything from bike helmets with built-in air bags to an online audio-search service that some analysts think might be "the Google ([GOOG](#)) of music." The converted factory also houses the home office of 22@Barcelona, which oversees a sprawling science park of university campuses, research institutes, and corporate labs that boosters hope will turn the Mediterranean city into one of the world's great creative hubs.

Say "science park" to most Americans and they probably will think of beautifully landscaped campuses of low-rise buildings on the outskirts of a city, where researchers commute to their cubicles each morning and fight the evening traffic to return home. For 50 years the prototype was Research Triangle Park—an 11-sq.-mile district snuggled into the piney hills outside of Durham, N.C., with such multinational tenants as IBM ([IBM](#)) and GlaxoSmithKline ([GSK](#)).

No longer. Today's high-tech meccas are being constructed deep inside major cities. Michael Joroff, an urban-planning guru at Massachusetts Institute of Technology, dubs them "new century cities." Their goal, says Joroff, an adviser to projects in South Korea, Britain, Sweden, and Abu Dhabi, is to "kick-start high-priority industries with new spaces where companies and universities can work together and develop the next generation of workers."

Planners also hope to tap into the "new urbanism" movement by offering plenty of amenities where scientists, entrepreneurs, and creative types from an array of industries can intermingle and, with a bit of serendipity, cross-pollinate ventures. "To be a neurocenter of the knowledge economy, fiber and telecom are not enough," says Josep Miquel Piqué, 22@Barcelona's chief executive. "You also need things like good food, wine, and aesthetics."

The scale of some of these urban schemes is jaw-dropping. Spain's 22@Barcelona (the name comes from an industrial zoning designation) involves transforming 115 blocks of the city to house more than 1,000 international media, IT, and medical technology companies that are expected to employ 150,000 in 15 years. Singapore is spending some \$10 billion on futurist architecture for a megadevelopment called One North, which integrates new research and development complexes and "living laboratories" for biotech, advanced materials, and medical services. Seoul hopes Digital Media City, which is rising near an old railroad depot and dump, will have 120,000 workers and 2,000 companies by 2015.

Some older U.S. tech clusters are trying to adapt. Industrial parks set up in the 1960s outside San Jose to cater to the then-nascent electronics industry are adding amenities including housing, shops, and bike and hiking trails to turn them into fuller communities. Research Triangle Park is dolling itself up, too. "This is about making this place consistently more attractive to the brightest minds in the world," says Rick L. Weddle, CEO of the Research Triangle Foundation, which owns the park.

Midsize industrial cities see downtown parks as redevelopment tools. Winston-Salem, N.C., hit hard by the decline of the tobacco, textile, and furniture industries, has converted a building once owned by R.J. Reynolds into the headquarters of a research park specializing in biomedicine. Meantime, Sheffield, England, a cradle of the Industrial Revolution, is launching an ambitious redevelopment to position itself as a hub for advanced manufacturing, design, and new media.

Skeptics warn the trend is getting overdone and that some science parks will flop. "Every city and state with a university wants to jump on this bandwagon," says Peter B. Calkins, who heads the science and technology business of Cleveland-based developer Forest City Enterprises ([FLEA](#)). "Not all are well-conceived." Forest City built and manages University Park in Cambridge, Mass., which is filled with biotechnology companies, and is building a major complex near Johns Hopkins University in Baltimore. The payback for such projects can be long, Calkins notes. Despite its proximity to Massachusetts Institute of Technology, University Park needed more than a decade to gain traction with corporate tenants.

Many new parks going up in China, the Persian Gulf, and parts of the U.S. are "just big real estate developments, rather than investments in people and innovation," says Anthony Townsend, who tracks science parks for the Institute for the Future, a think tank based in Palo Alto, Calif. Often, he says, inventors just need cheap space in a stimulating environment.

Other analysts question whether grand projects are really needed in an era when creative types increasingly collaborate over the Internet. The splashy projects also seem to fly in the face of another development. Cheaper telecom and advances in videoconferencing and Web 2.0 tools are making it ever easier for inventors to work together across time zones and continents. IBM ([IBM](#)) has said some 40% of its employees don't work in their offices on any given day. Companies also are outsourcing more design and engineering work to places such as Russia and India.

But even proponents of the virtual workplace agree there are big advantages to having dense concentrations of creative minds in the same place. "The innovation bandwidth in a cafeteria is significantly greater than the bandwidth for innovation over the Internet," says business strategist Don Tapscott, coauthor of *Wikinomics: How Mass Collaboration Changes Everything*.

That is the idea behind Singapore's One North project. One section is called Biopolis, an R&D complex for life sciences. Its first two phases of buildings already are filled with 1,000 scientists working in seven public research institutes and the labs of such big pharmaceutical companies as Novartis ([NVS](#)) and Eli Lilly ([LLY](#)). By the time Phase III is finished in 2010, Biopolis could encompass 4.5 million square feet and employ up to 5,000 researchers. Five minutes away is Fusionopolis, a soaring 24-story structure designed by Japanese architect Kisho Kurokawa, co-founder of an avant-garde movement called Metabolism. The tower is a home for media, communications, and information technology companies. Office clusters for health and wellness services, data storage, and high-performance computing are going up, too.

To draw creative talent, Fusionopolis has trendy restaurants, athletic facilities, and apartments equipped with networked appliances that residents can try out. "We want a location for people to live, work, and play," says Yeoh Keat Chuan, biomedical sciences executive director of Singapore's Economic Development Board. "We want to be a window on what an Asian city of the future will look like."

Seoul's Digital Media City is one of the most grandiose efforts at nurturing a creative community. Today the new district along the Han River doesn't yet look much like other Asian boomtowns. It consists of only a few dozen modern offices housing 230 companies and apartment towers lining broad avenues. Over time, Seoul officials envision Digital Media City swelling into a Hollywood of sorts for everything from cultural programming to electronic games and interactive workplace software. Already, for instance, creators of experimental video can project their digital images onto four huge screens on building exteriors.

Four broadcast companies and LG Telecom have opened big operations there, while seven newspapers are building towers. Offices also are filling up with small and midsize companies. Roughly 40 design firms, including Italian design house Be-On Creative, have moved in. Some were drawn by free rent, part of the city's strategy to

promote the industry. But Daniele Testa, Be-On's Seoul director, says location was key. "I would not have based myself in a science park far removed from urban life even if I were given a rent-free office," Testa says. "We designers must be connected with what's going on in big cities."

*With Moon Ihlwan in Seoul and Andy Reinhardt in Barcelona*

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