MUNICH
STAYING AHEAD ON INNOVATION

POPULATION IN 2010: 3,389,659 • EMPLOYMENT IN 2010: 1,961,927
GROSS VALUE ADDED (GVA) PER PERSON IN 2007: $53,619

Munich is a leading German metropolitan region for high-tech activity, with a powerful innovation system. It is, arguably, Germany's Silicon Valley—with dominant positions in electronics and advanced manufacturing—and is famous for the "Munich Mix" of sectors and company sizes, including world-leading firms like BMW, Siemens, and MAN. Capital of the state of Bavaria, Munich today is one of the top performing cities in Germany, Europe's strongest economy and the fourth largest economy in the world.

The Challenge

By the mid 1990s, Munich's competitive position was under threat. The recession of 1993–1994 dealt a heavy blow to Munich's export-oriented industries and the end of the Cold War triggered a rapid drop in demand in the defense and aerospace industries. German reunification and globalization both threatened to shift growth away from Munich and Bavaria, towards Berlin and to other countries moving up the value chain. City leaders feared that Munich's era of growth might have ended.

Leadership and Intentionality

The Bavaria state government responded strongly to these threats, initiating new strategies to promote innovation and stimulate long-term growth. All state governments in Germany are leading actors in economic development, but the state of Bavaria's decision to sell government-owned shares worth €2.9 billion in order to finance its innovation initiatives made it particularly powerful and effective. City and state governments have provided political stability, enabling Bavaria's visionary leaders to invest in crucial metropolitan infrastructure and universities. A cadre of technically-educated personnel in public agencies ("geeks in government") has also helped to drive change.

The institutional strength of Munich and Bavaria more generally played an important part in the metro's successful recovery.

Institutional thickness to propel innovation. With over 55,000 R&D full time equivalent positions, 13 universities, and an abundance of government-financed research centers, Munich has become a model of "institutional thickness." The profound level of connections between the business, university, and research community is one of Munich's most valuable assets.

Strong service-manufacturing nexus. The region's economic strength and capacity to innovate has further been linked to a particularly strong "service-manufacturing nexus"—a key characteristic of Germany's economy which is centrally based on interacting knowledge-intense services with advanced, knowledge-intense industries.

Interventions

The Bavarian state government initiated a series of programs to stay ahead on innovation, beginning with the Offensive Zukunft Bayern (Future Bavaria Initiative) in 1994 which led into the High-Tech Initiative in 1999 and the Cluster Program in 2006.

The Future Bavaria Initiative. This program had three overlapping activities: investments in "knowledge" infrastructure, knowledge transfer, and a "public venture capital," and high-tech firm formation. Funded through the sale of government-owned shares in a range of enterprises, this €2.9 billion initiative included over 80 projects including the construction of eight new polytechnic colleges and helping over 450 innovative (but risky) start-ups through subsidies and low interest loans.

The High-Tech Initiative. This program concentrated its support on various key technologies, including life sciences, ICT, environmental technology and mechatronics. The HTI was also funded through the sale of government-owned shares, raising €1.35 billion, and built on four "pillars": the expansion of world-class high-tech centers, "technology concepts" for all regions, and a state-wide program of start-up promotion and technological infrastructure.

The Cluster Program. This program was initiated with limited funding but with a highly targeted approach of supporting maturing clusters. The program manages 19 specific clusters, such as biotechnology, energy, and environmental technologies, to support collaboration between firms, researchers, and venture capital.

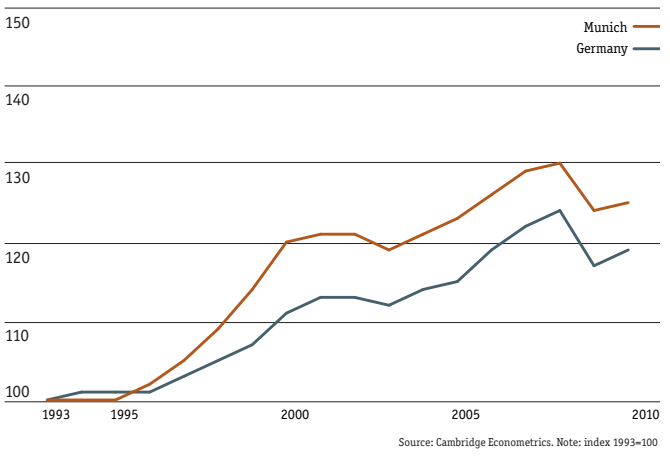
Results

The results culminating from these and other efforts have been impressive. Munich has strengthened its presence in science and advanced manufacturing, for example, with output related to transport equipment more than doubling since 1990. At the same time, Munich is diversifying into new activities, notably biotech and increasingly, "cleantech" activities such as green energy and low-carbon vehicles with a three-fold increase in patents related to climate change mitigation over the last 20 years.

Innovative activity in the metro rose markedly during the 1990s, especially in ICT, biotech, and green industries. Munich's share of patents in Germany has grown from 11 per cent in 1980 to 13 per cent 2007, the third largest in Germany. 2008 economic output per capita has doubled since 1991 (from €32,078 to now €64,625) and is now comfortably above regional and national averages.

In general terms, Munich's success story can be summarized by four key success factors. First, deep connections between public, private and third sector actors—"institutional thickness"—have produced a clear sense of common purpose, and long term, focused policy interventions. Second, consistent state-led policies have supported and advanced economic clusters and innovation. Third, Munich's economic diversity and some world-beating firms have provided economic resilience and helped to spark new ideas. Fourth, the state and the city of Munich invested in the assets that matter, notably in human capital (via public education) and infrastructure (such as the new airport).

Munich
GVA per person (income) 1993-2010, indexed against 1993 levels



Source: Cambridge Econometrics. Note: index 1993=100

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Munich has consistently outperformed the national average in income since the mid 1990s. It suffered a significant drop in income during the recession but is now recovering.