

Urban Place or Suburban Campus ?

Knowledge Region Munich: Universities and the "Quality of Place"

1. Munich region: hub of the European knowledge network

Munich with its 1.3 million inhabitants in the city and 2.6 million in the agglomeration is the third city in Germany behind Berlin and Hamburg. With almost 90.000 students in three universities, two universities for applied sciences, almost a dozen of colleges and academies for philosophy, music, theatre, cinema and fine arts - and with nearly 50.000 researchers in companies and institutes – the capital of the Free State of Bavaria (one of Germany's 16 "Laender") is a real hub of the European knowledge network. The national and the European Patent Organisations with together almost 6.000 employees, the headquarters of research-associations (Max-Planck-, Fraunhofer-Society, GSF etc.) and many transfer- and technology-centres or -agencies are important elements of the transfer between research and industry. Media and IT-business, consultants and services complete the picture of a very successful knowledge region. The "Deutsches Museum", Germany's leading technical and science museum, is a successful bridge between science and the public.

Big industrial research- and development-centres are driven by Siemens, Infineon, BMW, General Electric, MAN, MTU, Rohde&Schwarz, Kayser-Threde and Knorr. They represent Munich's main manufacturing branches like automotive, aircraft- and space-industry, medical technologies, nanotechnology and optical technology.

If you look to the *Greater Munich Area* (i.e. South Bavaria) including cities like Augsburg, Ingolstadt, Eichstätt, Landshut and Rosenheim, you will find another two universities and four universities for applied sciences (Fachhochschulen).

The two big state universities in Munich, the Technical University (TUM) and the Ludwig-Maximilians-University (LMU), are always on top of rankings in Germany and among the best universities in Europe and worldwide.

The high quality of the knowledge economy in the city and the region of Munich has its historical roots in the foundation and development of universities by the dukes and later the kings of Bavaria some hundred years ago, starting in Ingolstadt and Landshut – and since 1826 relocated and centralised in Munich, the capital of Bavaria. Over the 19th century, the kings took the opportunity to develop their residence town with representative new buildings for the two universities and the Royal Academy of Fine Arts. These institutes were located mainly in the new northwestern enlargements of the city of Munich, after the medieval walls had been demolished: the *Maxvorstadt* quarter.

This quarter in the following decades became a very lively and economically dynamic part of the city with exclusive and middle class housing, little shops and manufacturing businesses, museums and other cultural institutions. It developed towards a very colourful and vital, socially integrated "*urban campus*", where every days life of the citizens mixed with the representative and serious world of fine arts, science and philosophy.

The second important source for the success of Munich as a place of the high-tech- and knowledge-economy was the late industrialisation, which reached the residence of the Bavarian kings not before 1870. Due to that fact, rather modern industries have been located in Munich – compared with the earlier traditional heavy industries like in Nürnberg or in the north-western Ruhr District.

The third aspect that should be mentioned is the extreme high quality of life in Munich and the entire upper Bavarian region: urban and architectural qualities, a nice mountain landscape for hiking and skiing, a broad offer of cultural attractions (theatres, opera houses, museums etc.), attractive parks and public open spaces with cafes, clubs, restaurants and the world famous beer gardens (Biergärten) make Munich a very lively and attractive place, especially for high skilled knowledge workers, for students and scientists. There are two slogans, which (despite of being clichés) characterize the special qualities of Munich quite well: "*Laptop and Lederhosen*" and "*The most northern town of Italy*". These are important pull-

factors for young talents from all over the world to come to Munich for studies, research or work.

2. From urban integration to suburban campus: decentralisation of the universities

The universities from the beginning had been integrated into the urban fabric and into the social and cultural life of the city - as the traditional universities in continental Europe mostly do. The type of "campus-university", most familiar in Great Britain and the United States of America, did not reach Germany before the 1960s, when for instance in Bochum, Konstanz, Bremen, Essen, Dortmund and many other German towns a big wave of founding new universities started. In Munich, the decentralisation of the traditional inner city universities started also in these years with the decision to locate the new centre for nuclear research of the Technical University for security reasons not within the inner city area of TUM, but some 15 kilometres northeast in the little town of *Garching* – today halfway between the city and the new international airport, which since 1992 operates in *Erding*, north-east of Munich. In the 1970s, the pressure of the growing Technical University on the inner city housing areas was so strong, that the City of Munich politically supported the strategy of the State of Bavaria, to relocate the faculties of physics, chemistry, biology, machine-building and mathematics/informatics to that new developed campus in Garching. Some smaller faculties like agriculture, forestry, brewery, ecology and landscape planning ("green life sciences") were relocated in *Freising-Weihenstephan*, some 30 kilometres northeast of Munich, near the new airport. Weihenstephan has a great tradition as the place of a state - run model brewery and dairy for research and teaching.

A third decentralised campus was developed since 1973 – starting with a huge university hospital - at the south-western edge of the city, partly within the city-boundaries. Here in *Grosshadern/Martinsried* also the Max-Planck-Society erected the institutes for biochemistry and neurobiology, later the Ludwig-Maximilians-University relocated their faculties of medicine, chemistry, pharmacy and biology there. Since 1995, the Innovation- and Founder Centre for Biotechnology is also located in Martinsried. Not at last the University of the German Armed Forces was founded 1973 on the area of a military air base in the little village of *Neubiberg*, south of Munich.

Today, almost 50% of the Technical University's 20.000 students study in the *Garching*-campus and 40% of the 6.650 employees of the TUM work there. Still today, the public transport connection of the inner city university areas with the campus sites is rather poor. Only the university hospital in *Grosshadern* is connected by underground (U-Bahn) with the city. *Garching* will be connected by underground from autumn 2006 on. Plans to connect *Martinsried* by a prolongation of the Grosshadern underground-line are in question by means of financial problems; *Weihenstephan* is connected by Bus with the railway station (S-Bahn) in Freising. So the journey between the central university sites and the campuses needs between 30 and 50 minutes by public transport. That is a big problem not only for the integration of the sites of the respective university, but also for the realisation of the important concept of integrated and inter- disciplinary research and studies.

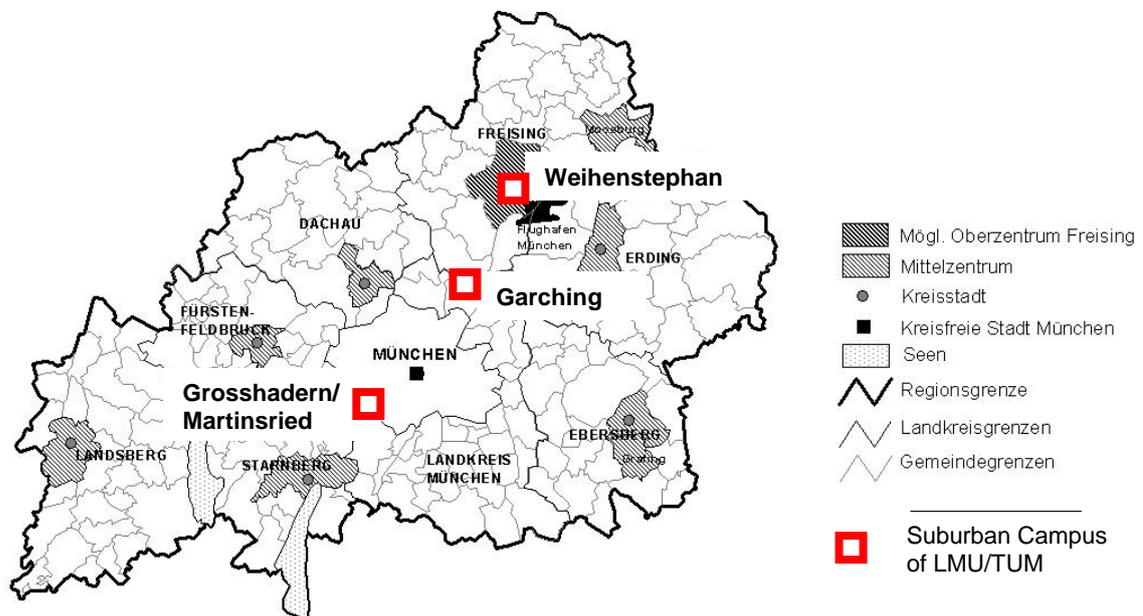


Figure 1:
Munich Region: City of Munich and eight Counties with 184 Local Authorities, Suburban University Campuses: Grosshadern/Martinsried, Freising-Weihenstephan, Garching.

City of Munich, Development Planning Department

Nevertheless, the total number of students within the city-boundaries increased from 48.000 in the year 1972 to 70.000 in 2005; 50.000 of them study in the traditional inner city university quarter *Maxvorstadt*. This is not only important in cultural terms, but also in economic respect: In the year 2000, every student in Germany had monthly expenses of € 660,- (in Munich € 766,-), of which € 290,- are needed for housing and € 150,- for food. Due to the decentralisation, on the one hand the pressure of the growing universities on people living in the inner city quarters of *Maxvorstadt* and *Schwabing* was reduced – very important in a city with high rents and house prices and a big tension in the housing market. But on the other hand, the decentralisation of the universities took the consumption power of students and employees partly outside the inner city to *Garching* or *Martinsried*. Especially bookshops, paper shops and cheap restaurants disappeared from the *Maxvorstadt*-and have been partly relocated in the decentralised campuses. That effect was not so severe in the past, since the students housing was still mostly within the inner city. But in the last years, some new students homes have been built either on their northern or southern edge of the city or within the campus-sites outside the city of Munich. So for the future the process of decentralisation will more and more reach the every days life of the students. Parallel, the negative impact on the traditional university quarters of the inner city will increase.

Former central university sites in the *Maxvorstadt* had been reused for very different purposes:

- On the so called “north area”, near the “Alte und Neue Pinakothek”, which was designated for enlargements of the Technical University, the “Pinakothek der Moderne”, a museum for contemporary art, design and architecture was opened in 2003
- On the so called “south-eastern area”, after demolition of some buildings from the 19sixties, used by the TUM faculty of mathematics and informatics, the *Academy for Television and Cinema* (now located in an outer district of Munich) and the *Museum of Egyptian Art* will be located there in new buildings.
- On the area of the now demolished former *institutes for chemistry and pharmacy*, which had been relocated to the *Grosshadern/Martinsried-campus* of the LMU, a private investor builds until 2006/07 a very dense complex with a luxury hotel, office space, gastronomy, retail and luxury housing. The State Ministry of Finance sold the cleared land – located near Munich’s main railway station – for a rather high price that gave only very little space for the quality of urban design and architecture. The state needed the money to finance the new institutes in *Grosshadern /Martinsried*.

3. Knowledge economy and physical environment: the “quality of place”

Following the international debate on the knowledge economy it seems, that the soft factors of “urbanity”, “diversity” and “density” play a more and more crucial role for creativity and innovation. Beginning with CAMAGNI’S research about the conditions of *Creative Milieus*, up to HALL, CASTELLS and FLORIDA, creativity and knowledge are identified as the main resources of developed economies - and their interdependence with identifiable “place” is without no doubt. *Clusters* and *networks* of creative institutes and people are not merely *virtual*, but in fact connected with the *physical* reality of an urban quarter, of houses, streets, public parks and pubs.

Up to 30% of the workforce in European countries are part of the “creative class”, which produce innovation in products and services. Creativity needs a certain density not only of the urban fabric, but also of social face-to-face contacts to develop idea and marketable products. The “non-explicit, tacit knowledge”, which cannot be written down completely in books and manuals, consists of a highly complex amount of personal skills, experiences and social interaction. Creative work with often long work days and unusual working hours also needs a lot of material support by services and infrastructure for every day’s life: shopping, cleaning, delivery, health care, food etc. This fact introduces the question of inequality into the debate about the knowledge economy – and proves, that creative clusters can only emerge, were enough people of different skills are together to guarantee the necessary services.

FLORIDA concludes his research about the conditions of growth in the “3Ts”: *technology, talent, and tolerance*. He argues, “...that place is the key economic and social organizing unit of our time”. *Place really matters* – or in other words: the classical qualities of “urbanity” like density (physical and social), identity, complexity, freedom and tolerance together with a certain huge number of people living and working within a relatively small territory, are indeed necessary physical and social preconditions for the development of successful places of the knowledge economy. Beside this classical urban qualities, new categories become more important, such as “lifestyle quality”, “vitality”, “openness, “authenticity” and “diversity”. Some of these qualities are materialised in what OLDENBURG calls “third places”, i.e. places between home and work like bookstores, cafes, restaurants, bars, cinemas or the public open space.

Following the empirical results of FLORIDA’S research, all these factors may be summed up in the term: “quality of place”. This specific quality consists of the build and natural environment, the people and their interacting, the vibrancy of street life and outdoor activities.

It seems to be quite obvious, that urbanity in this wider sense is a very important condition for the success of a city or region in the knowledge economy. Urbanity is important for students and researchers as the opportunity for networking and developing skills and creativity beyond the rules of their respective discipline. Vice-versa, the presence of researchers, teachers and students is important for the vitality and vibrancy of a city. Authenticity, social and cultural diversity, networking and identity are typically for the inner city university quarters,

the classical European “*urban campus*” like *Maxvorstadt*, *Schwabing* or the nearby *Glockenbach quarter*, where theatres, stylish restaurants, bars and clubs are located and where the gay and lesbian scene of the city concentrates. It is hardly anything of these qualities of place to be found in *Garching*, *Weihenstephan* or *Grosshadern/Martinsried*, which are artificial and mono-functional locations for university-institutes in a suburban or partly rural context (ROMERO et al.).

The ongoing decentralisation policy of the state universities in Munich seems to bear great risks for the comparative position of Munich as an important place of the knowledge economy in the future. According to a recent comparative research project of VAN DEN BERG et al. with the Euricur Institute, Rotterdam, the main location factors for the knowledge economy are *knowledge base*, *economic base*, *quality of life*, *accessibility*, *urban diversity*, *urban scale and social equity*. For Munich, almost all criteria showed good or very good ranks, especially the “*economic and knowledge base*”. As a main risk-factor was defined “*urban diversity*” together with “*affordability*” - for instance student’s and researcher’s housing problems due to the high rents, the difficulties to find cheap locations for founders and artists, for creative experimentalists, off-theatres, clubs and so on.

Since 2002, the office market in Munich collapsed with a ratio of empty office space of almost 11% in 2005. Rents for office and manufacturing space are going down since then, so that opportunities for founders and experimentalists got better than at the beginning of the millennium. Nevertheless, compared with Berlin or Leipzig the costs for housing and working rooms are much higher in Munich.

4. Strategic options and guidelines: city- and regional level

The CITY OF MUNICH and the REGIONAL PLANNING ASSOCIATION (RPV) are not the main actors in questions of university-development. The full universities, universities of applied sciences and the academies for film, dance, theatre and fine arts are run by the state (or by Federal Government as in the case of *Neubiberg*). Local and regional bodies are responsible for development and spatial planning, building regulations and parts of the infrastructure like local streets, the underground- and tram-system and for parks and public spaces.

Munich has on the local level a very elaborated integrated development concept, the “*PERSPECTIVE MUNICH*” which follows the principles of “*sustainability and urbanity*”.

Economic prosperity, regional cooperation, social balance and peace, inner development of the city instead of sprawl, and a sustainable mobility for all citizens are some of its guidelines. For the spatial development of the city the guideline is “*compact, urban, green*”.

On the regional level, there is a very rough Regional Plan, which defines regional green belts and areas preferred for settlement alongside the rail system (S-Bahn). Principles and objectives are formulated in the text of the Regional Plan for settlement, green, economy/ retail and traffic infrastructure. On both levels there is a consensus, that the decentralisation of the universities cannot be revised, but that there should be a limit for the future and a better infrastructure to connect the campus sites with the inner city “*hearts*” of the university. There is also a consensus, that housing for students, especially for students from foreign countries, as for visiting researchers and professors from abroad, had to be increased. Also the infrastructure for social activities, gastronomy etc. within the campuses has to be developed. Almost all partners in the region agree, that the identity of the knowledge region has its focus in the unique qualities of the inner city university- and cultural sites, which had grown over centuries. Identity and quality of place in the above discussed sense cannot be “*produced*” within a few decades in *Garching*, *Martinsried* or elsewhere. This quality may only be secured, as long as the heart of the universities and of other creative and knowledge activities remains in the inner city. The peripheral campuses have to be defined and made intelligible as parts of this place, which enlarges and not reduces its quality. The peripheral sites by themselves and isolated from one other cannot reach a critical mass, which is necessary to be a “*place*” in the sense of R. FLORIDA (see also ROMERO et al.).

In the last years, the ongoing process of decentralisation of the universities has lead to intensive discussions and even conflicts between state and city officials. The strategy of the

State Minister of Finance is to re-finance the building of new university institutes on peripheral sites with the profit of selling the central land for very dense retail-, office- or hotel-use. Critics say not without reason, that this destroys the "*cultural complexity*" (REICHENBACH-KLINKE) of the inner city. That is one of the reasons, why politicians in the City Hall are more and more in opposition to the decentralisation-policy of the state. Recently the Department for Development Planning presented in the assembly an analysis and strategic paper, which includes the following guidelines:

- Science and knowledge are important factors for the development of Munich. Its good position in this respect should be secured and developed. "*Learning city in a learning region*" is the motto for the future.
- Science and society should come to a *closer interaction*. Knowledge and creativity as foundations of future economic prosperity should be more present within the city and the local society.
- The knowledge base has to be strengthened; children should be reached earlier and more intensive, especially by *better cooperation* of the science institutions with schools, libraries and museums.
- All sites within the traditional university-quarters, which today are designated for that use, should be used conform to the land use plan. There will *not be further changes into office- or hotel-use*. Possible are – if relocations of university institutes are inevitable – a use for *culture, education, housing for students and guest-professors* or researchers.
- Building of *student-homes* (which is a duty of the state) within the city boundaries will be further supported by the city (selling of public land, planning permission, etc.).
- The City of Munich supports the peripheral communities with a university campus in getting *better public transport connection* with the city, especially by underground. The financial responsibility is with the state and the rural counties.
- All partners have to cooperate in strengthening the *attraction* of Munich for international high-class researchers and students, for instance by International Schools, housing, infrastructure, cultural events and marketing activities. *Social balance and peace* are important preconditions for the attraction of talents.
- In cooperation with the universities the City of Munich will support the *location of founder- and transfer-centres* within the city, even as *interim-uses* for empty office-buildings.
- The City of Munich will help the universities to *increase the practical relevance* of their teaching and research, for instance by hosting students as practitioners or by giving relevant problems to the universities for developing concepts and solutions in *applied research projects*.

These guidelines and the future development of the universities in Munich and the entire region will next time be discussed in a workshop with representatives of all relevant institutions and actors.

5. The "*Three Science Belts*": a spatial concept for a growing knowledge region

A possible regional spatial strategy for the future could be the "*Three Science Belts*" or clusters with different character - first the *inner city belt* ("*Science Quarter/Urban Campus*"), where the "old" universities, Max-Planck-headquarter, Siemens-Forum and the European Patent Organisation are located. Second the *middle belt* ("*Science Boulevard/Urban Satellites*"), where Fraunhofer, BMW, and others are located and where the new Munich Technology Centre is under construction. Third the *outer belt* of suburban satellites ("*Science Campus/Suburban Cluster*"), following as well the *Munich Green Belt* as the motorway ring, with Siemens Research centre in *Neuperlach*, Infineon headquarter in *Neubiberg*, the campus sites in *Freising*, *Garching* and – partly inside the city boundaries – *Grosshadern/Martinsried*. To the outer belt also belongs the new development of a cluster of biotechnology and IT-business in *Freiham*, at the western edge of the city. While the inner belt has its own tradi-

tional urban identity, the *middle belt area* is being developed by many initiatives of city planning and urban renewal to become a chain of identifiable, modern places as *gateway from the suburban to the urban sphere*. The *suburban belt* has the most deficits of identity, urbanity, character and quality of place – and of infrastructure (housing, leisure, *third places*) for researchers and students.

These “*three belts*” are interconnected physically by underground or S-Bahn, by ring/radial roads, motorways and bicycle-lanes. Virtually these places of different quality are connected by high-speed data-highways. But that is not enough to form a symbolic network between the places of creativity in the region, to present them as parts of a bigger entity. There is the opportunity to create a visible “*urban landscape of knowledge and creativity*” by urbanistic interventions (public open space, landmarks), landscaping (*Regional Parks*) and infrastructure-networks. For this strategy, the operative body on the regional level still has to be created. The Regional Planning Association alone has not the operative power. It would be necessary to create a special and operative *regional agency* for economic, cultural, social and scientific development, to take action in this respect and to secure the *social and spatial balance* within the entire region. Such an advanced body is still not in sight; even the debate about its relevance has not really been started. Local self-governance and voluntary, informal cooperation - for instance in a marketing network “Greater Munich Area” - are today the only existing forms (see: REISS-SCHMIDT).

6. Conclusion: lessons learned, open questions

The case study has given a workshop report about risks and opportunities, strategies and projects to secure and develop Munich as an important *European knowledge - region*.

There are some main results: *First* the crucial role of urbanity, of the “*qualities of place*”, for creativity and production of knowledge. *Second* the *risks of the decentralisation strategy* for the universities as well as for the city. The identity, power and future of the universities lies in their central “heart”, not in the new campus sites in the periphery. But *third*: since time could not be driven backwards, action has to be focussed on some opportunities to bring these different peripheral locations into a *better spatial connection and social interaction*. Traffic infrastructure, regional landscape parks and a concentrated “*urbanisation*” and creation of attractive and *lively public spaces* may help to create mental and physical links between the central and the peripheral sites.

Fourth it is not possible to isolate the public responsibility for the universities and their urban context from the *private research activities* and the location trends of the private companies. Private research sites have to be integrated into the strategy of the “*Three Science Belts*”. They may fill the gaps between the scattered university sites and can help to create a denser context of vital “*knowledge-areas*” in the region. After the office market collapsed – with partly more than 40% empty office space in some of the peripheral locations outside the city - private companies more and more tend to inner city locations and not to the empty and cheaper edge cities.

For the future there are some open questions for Munich and other city regions, which try to develop their “*quality of place*” for the future knowledge economy:

1. How can the relevant public and private actors *better organize joined capacities* to for the “quality of place”?
2. Is a *total revision* of former decisions to decentralize universities and research institutes possible – and will there be the *structural and spatial capacities* to relocate them in a more central location - for instance on former railway-, harbour- or industrial sites?
3. Will or can a *peripheral campus* play an important role for the quality of suburban places, even as a chance to “*urbanize*” them? Or will they remain an isolated implant into the “*suburban deserts*”?
4. What “*critical mass*” and what mix of different uses has a new and peripheral place for the knowledge economy to provide - as a precondition of its own quality and identity?

5. What new functions could be given to central (former) university-sites concerning *life long learning* of a society, which gets older and where people will have to change their professions several times during a longer working-biography?

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Graphics, photos, maps etc. that may be relevant to understand the case study will be presented in the workshop. Due to capacity restrictions it was not possible to include them into this full paper.