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Active role of Science Parks to shape and implement regional innovation policy - The impact of Adlershof Science Park to the realisation of the Berlin innovation

Parallel Session 2:
Policies that drive Innovation

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Contribution of Adlershof Science Park to the realization of Berlin innovation strategy Experiences from the City of Science Technology, and Media Berlin Adlershof

Executive Summary

Compared to global metropolises, smaller and transitional cities are also capable of generating sustainable economic development: using dynamic strategies focused on innovative business growth. Science Parks have a significant role in these strategies.
Berlin Adlershof Science Park today is an international success story – recovering a former East German centralized economy and paradigm change towards a knowledge-based society, where high-growth innovative SME are key.

Actors from research, industry, administration and culture have been responsible for shaping Berlin's innovation strategy. The result is a thriving Science Park that is a powerful engine for job-growth in the Berlin Capital region- approx. 10% annual growth: Important success criteria for the Park are:

- Long-term development strategy, based on
- Strengthening regional competences in research and application,
- Developing networked innovation clusters in selected fields,
- Valuable business oriented services,
- Access to international markets and finance,
- A professional management structure and culture

Key words:

- Economic change and restructuring
- Change of economic paradigms
- Regional innovation strategies
- Networked competences and clusters
- Science park services
- Role of the park management

1. Brief History of Berlin Adlershof Science Park

The reunification of Berlin after the fall of the Wall was a historically crucial event and an important turning point not just for the city but for the world. Nevertheless, from an economic perspective it was more or less an economic catastrophe in both the East and Western halves of Berlin:

East Berlin lost its former economic partners in Central and Eastern Europe, incl. the former Soviet Union, due to the introduction of the D-Mark after becoming part of the Federal Republic of Germany. The formerly dislocated West Berlin also suffered from the elimination of lucrative industrial employment subsidies. In short, about 80 % of the industrial employment in the East part of Berlin was rapidly lost- At the same time, city administration – and a lot of other institutions, including the Zoo Park – saw their employment levels nearly doubled.

The history of Berlin Adlershof started at the beginning of the last century as Germany's cradle of motorized aviation. After the war, the site of about 420 ha, was a base of operations for a military Guard regiment, the East German TV, and last but not least, a large

concentration of institutes from the GDR's Academy of Science; approximately 5,500 scientists and technicians working within the departments of physics, chemistry, geo- ands cosmos research, mathematics and informatics and a large Centre of Engineering.

Research in the institutes of the East German Academia was fundamental, as well as applied and industry related. The structures did not respond to the established West German Research Landscape. The Unification Treaty stipulated the liquidation of the Academia, and the establishment of new research institutes according to Federal German structures.

According to the Unification Treaty, Adlershof saw all the three dominant institutions dissolved: the Military base was eliminated, the TV network was closed, and the Academia boarded up. The institutes themselves had been evaluated by the Scientific Council, new institutes had been founded; but only about 1.300 people were employed in these structures – all in all it was a time of complete change. And it was the beginning of a new era for new scientific carriers, for new entrepreneurs, new service companies and providers, but also for employment associations, and for dismissals.

2. New start - strategic decisions in the Early 1990s: develop the first East German Science and Technology Park in Berlin Adlershof

On March 12th 1991 at a Meeting of the Berlin Senate – the groundwork was laid for a new forward-looking perspective in the Adlershof area - combining science, economy and policy.
A 10 point program, discussed between the Berlin Senate (Government of the State of Berlin), the Berlin Chamber of Commerce and Industry, and the Berlin Economic Development Agency, formulated the strategy to create the Adlershof Science Park, an "Integrated Technology Landscape", starting with:

- A first "On Site Office" for project planning,
- Creation of a "Carrier organization" for the overall project
- Development of a Framework model and concept
- Integration of the key elements:
    - Location for non-university research institutes
    - University institutes and applied universities
    - Site for Big Research instruments (BESSY – Berlin Electron Synchrotron)
    - Incubator for new entrepreneurs
    - Space for spin-offs and technology oriented companies
    - Perfect infrastructure
- All measures carried out have to involve local initiatives and expertise
- A concept for capital investment has to be developed[1].

The founding document's recommendations began to be realized relatively quickly. Within a few months the decision was made to create the first park management company, the later WISTA-MANAGEMENT GmbH, as a State owned, privately organized non-profit company. Consequently the search for members of the future Supervisory Board was launched. Berlin Senate and leading scientists could convince top leaders from industry, research and policy.
To build and structure the park, a management company was installed, registered in November 1991, with the following main tasks:

- "Development of industrial and technological-scientific centers, in particular at the area of Berlin Adlershof-Johannisthal, their development and operation".

[1] Source: KAI-AdW, 10 Punkte Programm: Zukunft für Berlin Adlershof; 12.3.1991, internal material.

- In 1994 it was directly added the term of development of a "Research and Technology park" , and the obligation to develop a related "urban planning concept", "within the framework of an integrated Landscape of Economy and Science"
- To operate and to develop the park based on concepts for 40% scientific use and 60 % technology oriented industrial use
- to operate in close interaction with the key actors of the future park:
    - innovative, technology based companies
    - service providers
    - university institutes, public research institutes
    - incubators.
- The park management supports entrepreneurs in their founding phase and offers consultancy for innovative companies and may be partner for the development of joint projects. It assists networking between science and industry and supports national and international cooperation

No less important was the start of business life in the new assigned park area. One of the activities was to ensure an immediate start of the incubator (end 1991) and the related business services. 1,100 m^2 of office space was allocated in an old building. The need was urgent to support the first entrepreneurs and their innovative companies with appropriate space for favorable costs and services (copy, conference, fax, telecom and other services), business planning, coaching and advice. This decision did significantly help establish the first entrepreneurs. The incubator, today in new buildings with > 15,000 m^2 is extremely successful. Occupation rates of more than 90 % and insolvency rates of less than 3 % speak volumes in demonstrating the success of this project.

We have come a long way since the first wave of 50-60 companies spun-off from the formerly established academic institutions. And when the first applications came from outside and were evaluated one-by-one by the Supervisory board of Adlershof to verify the innovative character of the company and the relevance of the scope of operations. Today this first generation of entrepreneurs continues to significantly influence the "Adlershof entrepreneurial spirit" of "make it happen" and close contact with research institutes – often with their formers colleagues- and in this way engenders an open style of cooperation and "permanent innovation" within the park.

Restructuring of the research facilities was accelerated with strong support from the German Scientific council:

After describing options for sustainable structures, calls for founding directors were launched, new locations (first in old buildings) were reassigned, and new structures began building. At the same time, the first spin-offs were assisted, in the beginning even with the payment of salaries, rental of lab space and the handing over of IP for future products/services.
A new service company was created to ensure the day to day maintenance of buildings (heating, power, water, etc.) The chosen structure at first essentially contributed to the mere survival of the newly established park tenants, and then later helped to start infrastructural reconstructions (power, telecom, heat, etc.), later it continued with a comprehensive infrastructure reconstruction and the erection of new scientific and economic infrastructure (buildings, equipment, back bone…)

Another major political decision at this time was the founding of the Conference of German University Rectors (HRK), to transfer the natural sciences of Berlin's famous Humboldt University (the university home to Helmholtz, Nernst, Einstein, Planck, Schrödinger) to the Adlershof campus. Together with the reinvigoration of the scientific environment, this

decision was a key element to creating the necessary critical mass, to guarantee “renewable human resources” i Adlershof and to make the site attractive not just for science but also for innovative technologies, creative business and services.

3. Setting general structure and technology focus of the park: proximity and exchange between research and innovative business

According to the evaluation of the Scientific Council, the **scientific profile** of the institutes became more concentrated: Focus was on
Optics, Optoelectronics, Laser, Spectroscopy, Synchrotron radiation and lithography
Microstructures, Space research with camera systems and sensors;
Crystals, materials, surface research, Photovoltaic, selected semiconductors,
Selected organic synthesis, selected inorganic materials,
Analytics and environmental related analytics,
Information technologies, Software development, computer architecture, modeling/ imaging

In later stages and in accordance with a study about sustainable research fields, available human resources, skills and competencies, and longer term market perspectives, the **focus was set on 4 major fields of technology**, which should be characteristic for Adlershof:

- **Photonics and optical technologies**
- **Information and Media Technologies**
- **Materials and Microsystems Technologies**
- **Environmental, bio and energy technologies**

To create proximity between the research and technology business, and to foster synergies between the researchers and entrepreneurs, was of a high importance from the very beginning. Consequently the dedicated technology centers were built close to the research institute – to ensure **proximity and exchange between research and innovative business.** After the general incubator was established,

Specific innovation centers were started between 1994 and 1998:

- Photonics Centre
- Information Technology Center
- Innovation centre for environmental, bio and energy technologies later on:
- Centre for Materials and Microsystems Technologies.

To round the program, an international incubator was added for providing international companies the opportunity to start their business on the German and respective EU markets. In 1997 Adlershof saw the settlement of the **first institutes of the Humboldt University**, starting with the Institute of Mathematics, the Institute of computer Technology and then the newly built Institutes of Physics, Institute of Chemistry, Institute of Geography and the Institute of Psychology. The first phase of university transfer was finished with the newly built Library – a modern information and communication centre, open for students and scientists and, also for the Adlershof business community.

To strengthen the parks role within the framework of the Berlin regional innovation policy, a successful approach was to build a **dense campus for driving innovation within the science and business community.**
The political idea of establishing innovation centers close to related research facilities led to the decision to build the related innovation centre in close proximity to the related research

institutes. This gave the possibility for a later development of selected areas of competence or clusters in the mentioned fields. This **cluster idea** was additionally strengthened when the institutes of the Humboldt University relocated to the campus.

If you look at the map of Adlershof, you can see the Technology field of Information and Media Technologies are an excellent example of this cluster idea:

- The Humboldt University Institute of Mathematics, the Humboldt University Institute for Computer Science
- The Fraunhofer applied research institute for software design and computer architecture
- The 2 buildings of the Information Technology centre, hosting about 80 companies.

All of them are located within a 50 meter radius.

Source: WISTA-MANAGWEMENT GMBH, Berlin Adlershof

Asking a manager from a technology company in the IT-cluster, what he assumes to be relevant for synergy, the man answered: “Synergy for me is, when I open the window to say, I need qualified persons for a specific problem, and, after an hour there will be one, than this is synergy”.

The park does not focus on just one single technology; it addresses selected technologies and markets. This way Adlershof does not have such a high specialization like KISTA in Stockholm or Otaniemi near Helsinki in communication. But, therefore it makes it not as dependent on a “mono-technology approach” like KISTA from Ericsson. One of the visible consequences of this is the fact that Adlershof did not suffer as much from the burst of the internet bubble in early 2000.
Concentration on selected research fields and innovation areas allows, besides a strong competence, also a good level of interdisciplinary and establishing synergy lines; and, this way the door is more open for new emerging technologies, e.g. in the field of new materials, nano-structures etc.

4. Development of Innovation clusters – example of Optical Technologies

Focusing on carefully selected fields of technology and keeping a strong selection of tenant companies on the campus, did strongly support the creation of areas of competence and later even clusters.

A characteristic example may be given with the **optics and photonics cluster**:

Starting with a strong scientific competence, already based during the times of the former academia, the first photonics companies were created, and are still in close cooperation with research:

Phase 1: Induced by founders from former Academia, often as a result of liquidation and the restructuring of Eastern Academia:

Company	founded	Empl.	Remarks:
LTB	1989	35	Introducing now 3rd product line with close Cooperation with research
LLA	1991	25	Now erecting their own building at the campus
IFG	1992	25	close „roadmap“ cooperation with Max-Born-Institute
IUT	1992	40	Part of the institute sold to „Draeger”; New Impulses with security products
SenTech	1992	35	2nd product line in close cooperation with research.
AstroFein	1993	50	Strong expansion with big clients.

(Source: WISTA-MANAGEMENT GMBH, 2007)

Phase 2: Investors become active: examples show companies or parts which were taken over by large corporations:

Draeger Safety - Acquired parts of the SME „IUT” (ion mobility spectroscopy)
Bruker AXS - Has taken over the Adlershof bornSME “Röntec AG” (X-ray instruments)

New growth impulses for cluster development came from new spin offs out of university or from Non-university research institutes:

Company	Source institute	remarks
Eagleyard	Ferdinand-Braun	strong growth, VC-financed
Jenoptik Diode	Ferdinand-Braun	completion of the manufacturing
3-5 Epitaxial	Ferdinand-Braun	growth by strengthening the distribution
TESSAG	Ferdinand-Braun	still in the starting phase
Lumics	Max-Plank	6 Mio € capital
Sulfurcell	Hahn-Meitner	construction of a 50 MW factory in Adlershof
First Sensor	TU	pressure sensors automotive, medicine, semi conductors

(Source: WISTA-MANAGEMENT GMBH, 2007)

Another actual development within innovative business, supported by the park are new build SME as spin offs, MBO or spill overs from large companies. Examples in the field of optics are coming from Siemens and Infineon spin offs here are:

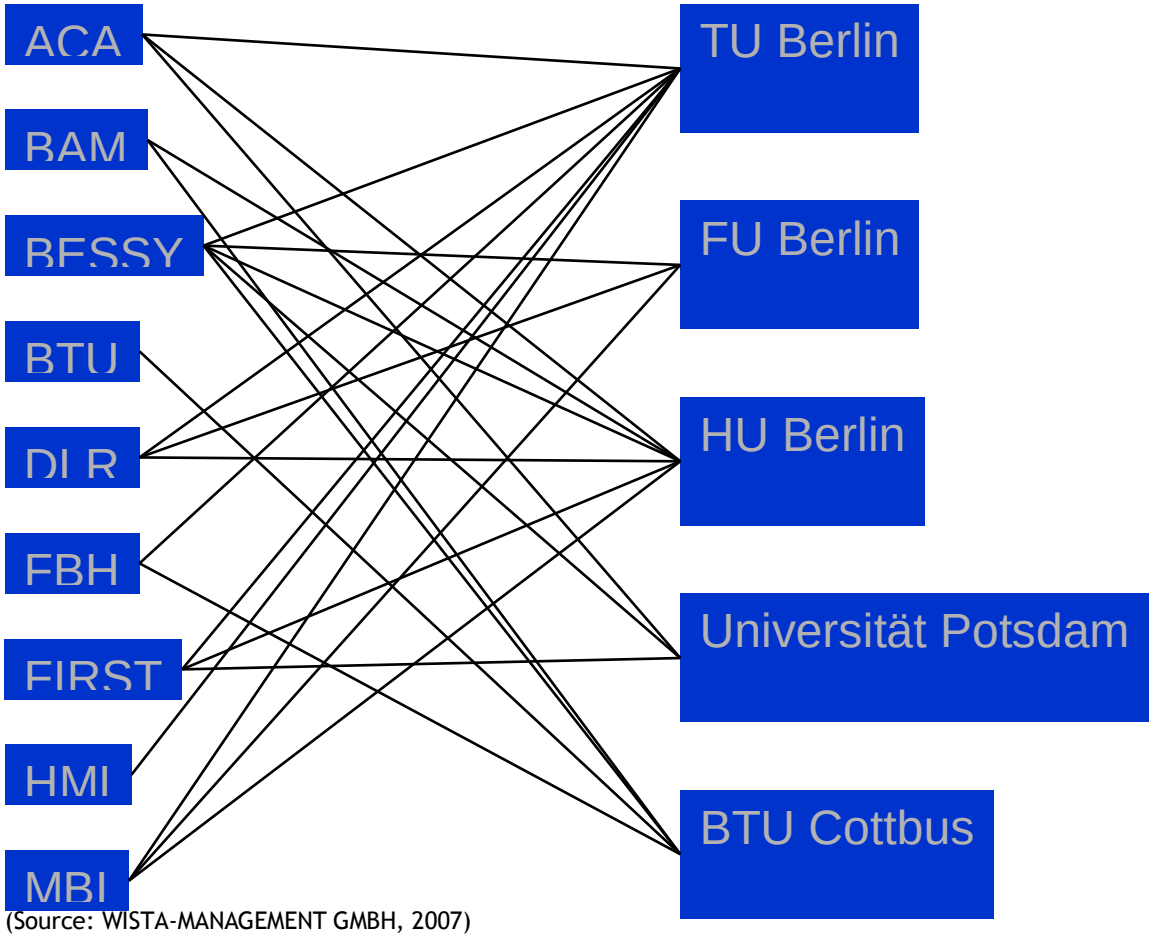
AEMtec – a now leading company in the combination of Surface Mount Technology, Flip Chip, Chip on Board, on all normal substrates (Circuit boards, ceramics, wafers…)

C2GO – innovative company for operational support of an innovative product idea, from design to manufacturing and support for development of manufacturing processes, for development individual process steps for electro mechanical and electro optical subassemblies and modules.

EZconn – developing, manufacturing and marketing of components for optical communication. The basis of the business is a highly sophisticated production line from Infineon Fiber Optics GmbH which was acquired by EZconn Corp.

Optricon – core competence in the development of electro-optical subassemblies and modules based on advanced know-how of coupling arrangements between light sources or detectors and optical wave guides.

Strong networking impulses came from the practice of joint professorship appointments between research institutes and Berlin universities:



(Source: WISTA-MANAGEMENT GMBH, 2007)

This complex network is characteristic for Adlershof. Above all, it illustrates the agility and dynamic nature of the processes.
The competencies of the research and the innovative companies in the fields are regularly demonstrated at the cluster-expo: Laser Optics Berlin. This bi-annual conference and exposition, held since 1998 in Berlin, additionally enforced the cluster building process.

The cluster organization Optec-Berlin-Brandenburg (OpTecBB) was created in 2000. OpTecBB, an initiative of companies, universities and scientific institutes, has from the very beginning been strongly supported by the Adlershof campus and many of the founding members are based in Adlershof. The organization's office is located in the Adlershof Science Park – not least as the campus hosts a dense concentration of the OpTecBB members – companies and research institutes.
The cluster aims mainly at strengthening the economic power of the Berlin-Brandenburg region - through joint activities and the potential of the optical technology field. The optical branch in the Berlin capital region is strong[2]: almost 270 companies, with about 8,400 employees in industry and another 3,500 in research and education. Industrial turnover is of about 2,000 M€/a, with annual growth rates of 10 %/a.

OpTecBB was founded by the Technology Foundation Innovations Center Berlin and the Technology Foundation Brandenburg, jointly with the Berlin Senate - Department for Economy and Technology , Department for Science, Research and Culture and, the Ministries of Economy; Science, Research and Culture of the State of Brandenburg.
Since the organization was created, it took an active role in the development of the optics cluster in the region and succeeded in the fact that Optics is now an official and moreover an essential part of the Berlin innovation strategy. Optics as an enabling technology is not as visible as e.g. IT sector. Only few statistics count optical technologies, but just their application fields – like medical technologies, transport sector.

The significant factors in getting the official status of a "cluster" were due mostly to the high competence and the strong growth of park members and the award from the Federal Ministry of Education and Research. On the other hand, the deciding influence was probably more the fact that this "enabling technology" is a fast growing sector and produces a staggering economic result in the capital region, with 2.000 M€ more than many other industries.

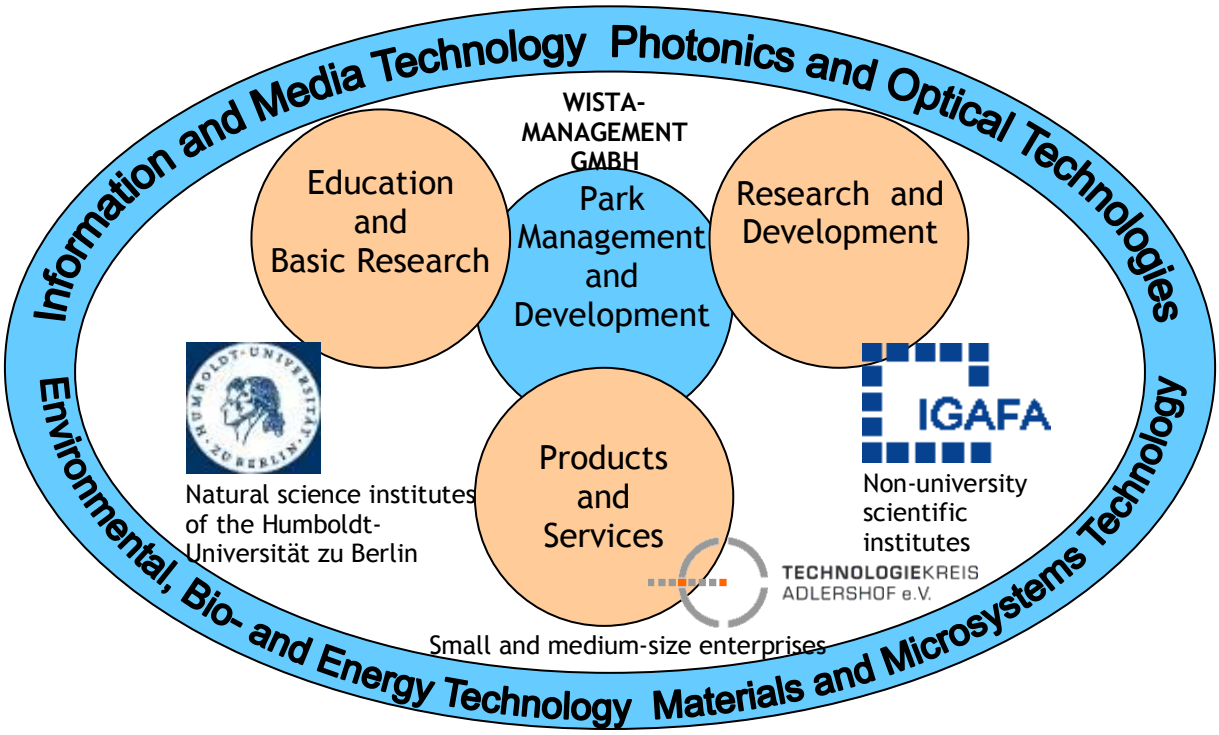
Berlins Senator for Economy and Technology, H. Wolf states: "Optical technologies are - national and international – a key technology, indispensable for many industrial branches. The Berlin Adlershof Science and Technology Park is a focal Point of optical technologies. More than 50 companies are based at this campus. The successful development of the field is essentially based on a dense cooperation between research institutes and companies, exemplified on the campus"[3].

Similar is the development of other Clusters, selected in the Berlin Innovation Strategy "Quadriga". Comparing Berlin's Innovation strategy focus with Adlershof's it is easy to see that Adlershof's high priority ranking is a front end of knowledge and technology production as well as in new, innovative products. It significantly drives the innovation policy in Berlin.

[2] Potential to network Innovative clusters In the Baltic Metropoles regions, FU Berlin, 2007, p. 31pp.
[3] Optische Technologien aus Berlin und Brandenburg, Newsletter LOB, Berlin 2006, p. 5.

The figures of priority in the innovation policy of Berlin and the Adlershof strategy reflect clearly this thesis:

Technology profile of Adlershof:



And Fields of Competences:

Optics and Optical technologies:

- Laser technology including laser medical technology
- Optoelectronics including photovoltaics
- Spectrometry
- Sensors
- Technical optics
- Synchrotron radiation
- Optical, electron beam, and X-ray analysis

Materials and Microsystems Technology

- Semiconductor crystals
- Reference Materials
- Special Materials
- Catalysts
- Chemical analysis
- Microsystems
- Precision engineering
- High vacuum technology

Information and Media Technology

- Multimedia
- 3-D graphic systems and 3-D file analysis
- IT security

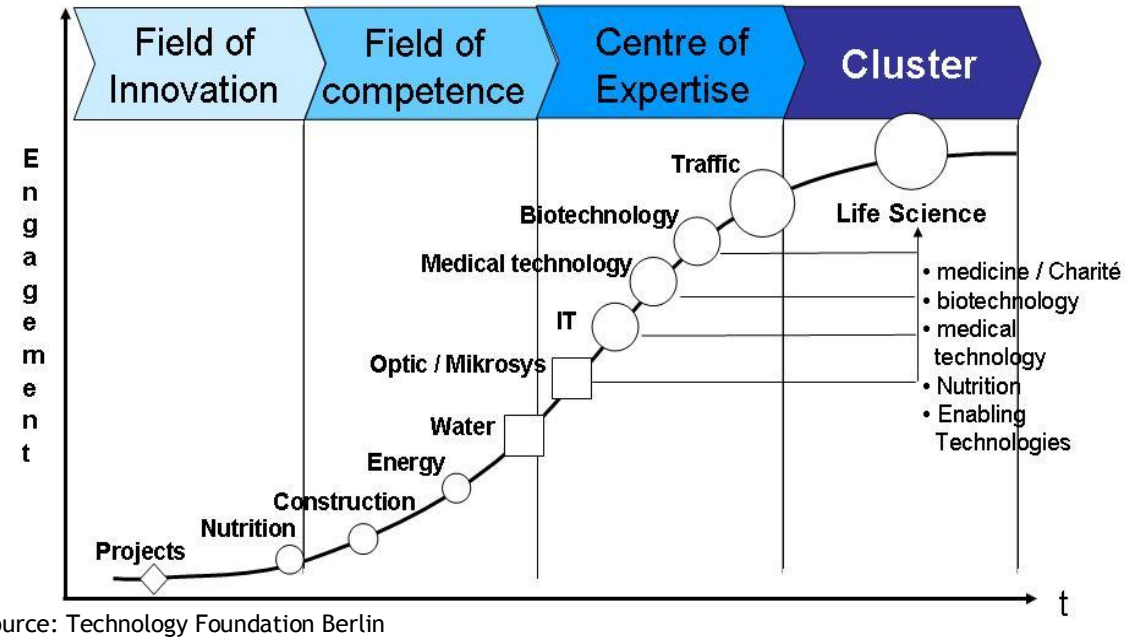
- Software technology
- Integrated simulation environment
- Optical communication networks
- Production planning systems

Environmental, Bio and energy Technology

- Water, soil, and air analysis
- Biotechnology products and procedures developed for pharmaceuticals and medicine
- Environmental analytic instruments
- Development of environment friendly buildings and materials
- Energy-Saving processes engineered for management, treatment, and disposal of waste[4].

Berlins Innovation Policy:

Strengthening fields of competence and enforce cluster building



Source: Technology Foundation Berlin

5. The new campus today

Two major decisions for future campus development:

- Definition of Adlershof as a designated "Development Area", allowing development of the site according to a long-term master development plan
- Admission to the Adlershof park management company, WISTA-MANGAGEMENT BMBH, to act as trusty on behalf of the State of Berlin

After this, comprehensive building and restructuring activities were started with generous support from both the EU and the German Federal government. Adlershof - as the whole Eastern part of Berlin - was up to 2006 subject of area one within the EFRE program of the EU. This way it was possible to get significant co-financing for economic infrastructural reconstructions and new infrastructure building projects– as incubators, Innovation centers, technical support centers, and communication infra, transport infra. This was a political priority within the German "Recovery East Program."

[4] WISTA-MANAGEMENT GMBH, 2007.

The former Chancellor Helmut Kohl stated that Adlershof is of the highest importance next to the transfer of the Federal Government from Bonn to Berlin. The background reasoning was to create an innovation hub to significantly support the structural paradigm shift from a blue collar to a knowledge-based society.

Until today nearly 1.500 M€ for park infrastructure, scientific institutes and infrastructure, university transfer and new buildings, business incubators, has been spent.
The result of this capital infusion is that Adlershof today ranks among the most modern Science and technology parks in the world.

Facts and figures: Adlershof, the City of Science Technology and Media today:

Total Numbers	
Overall Space	420 ha
Total N° Institutes	18
Companies	739
Total N° Staff	12.700
Students	6.400

Media City
138 companies (appr. 2.050 employees)

Commercial Area
201 companies (appr. 4.250employees)

Science and Technology (core) Park
12 non university research institutes (1.500 employees)
6 Institutes of the Berlin Humboldt University (130 Professors, 700 employees, 6.400 Students)
400 technology based, innovative companies (4.200 employees)

Innovation centers	space (sqm)	innov.SME/Inst.	Employees
Photonics and Optical technologies	20.300	54	867
Material and Microsystems Technol.	22.000	39	578
Information and Media Technologies	15.300	78	791
Environment, Bio and Energy Technol.	32.300	65	726
Incubator/International incubator	34.300	102	761
Non-university scientific institutes	40-800	12	1.508

Next to these figures[5], Adlershof is the most important location for Media companies in Berlin. And, in direct vicinity to the research and innovative SME, there are now lots of shops, hotels and restaurants and a neighboring relocation park of about 60 ha and close to 300 newly built condominiums.

Essential for the development of the campus is the creation of a growth climate, with favorable conditions for entrepreneurs and researchers, a creative atmosphere, providing attractive company related services and, last but not least, synergy lines and platforms for cooperation, exchange and networking. The park management in this respect has to act in close cooperation with the campus actors, the organization of innovative companies in Adlershof (TKA), the Humboldt University administration, and the association of non-university research institutes (IGAFA).

[5] WISTA-MANAGEMENT GMBH, 2007

The following Services are offered to create cost incentives and to support a creative growth atmosphere:

- Comprehensive building infrastructure (respect for customer needs)
- Favorable rent and additional expenses (between 6,50 and 9,50 €/sqm*month)
- Incubation and promotion of start-ups (general incubator services)
- Consultation for grants and loans, etc. (by incubator management, or by experts)
- Common project development (construction, networking, cooperation with R&D, SME)
- Proactive participation in specialized networks (Optics network OpTecBB, Microsystems, IT)
- Communication services (face-to-face discussions with successful entrepreneurs, their ideas and products)
- „ Berlin Welcome Package“ (rent an office and apartment, get tax and legal consultancy for 2.400 €/3 months)
- „EurOffice Services” and “Global advantage network “ (dense networks with leading international European, US, Canadian and Asian Centers, more than 60 partners)
- „ Start-up“ Package (start your business and become visible at the campus and in the region)
- Local job exchange
- Conference and event services
- Participation/organization of exhibitions and fairs

Critical to the successful deployment of the above services is the “hard infrastructure” needed to carry them out- this means the ability to connect the park with its home region as well as locations abroad. At Adlershof these requirements are achieved via a high-degree of accessibility to urban transport, international airports, highways, and railway.

6. Performance measurement - Benchmark with other parks

Development of business clusters and agglomeration is a very complex process, with many players involved, often imbedded and accompanied by processes of realizing regional innovation strategies, and as part of the triple helix process.
It should be understood that development and networking within or between clusters is heavily dependent on existing innovation infrastructures and the quality of communication and cooperation platforms.

Deciding factors are as shown before:

- Appropriate infrastructure (incl. accessibility, urban transport, airport, highway)
- Communication platforms (high-speed backbone, web services, press)
- Internal and external networking structures and their organization (existing cluster and networks, cluster alliances)
- Existence of providing company related services, entrepreneurial services
- Existing synergy opportunities between the different players from, e.g. science and industry
- Close links between education (human resources), research (technology know how) and application (innovative companies, realization of innovation)
- Support for new innovative businesses.
- Mechanisms and quality of transfer of technology and know-how
- Founders climate.

Innovation policy in a Science park is not limited to just supporting technology networks and selected players in certain tech fields. Instead a successful innovation policy must include a wide network of corporate services as well as a climate attractive to creative people.
In order to foster the kind of creative spirit necessary to the innovation process, parks must also be able to provide lively neighborhoods within a high-quality cultural and social environment.
Successful implementation of innovation strategies must not forget about these factors to attract and support fast growth companies and the best qualified people.
To see the quality of innovation services, a Benchmark study was carried out with the leading European partners from Sophia Antipolis, Copenhagen, Helsinki, Stockholm (KISTA) and Tallinn.

The study has since shown the value of Benchmarking for the improvement of the quality of services offered by park management.

E.g. in:

- Quantifying the quality parameters (performance) of Science parks and innovation environments
- Helping to measure the own potential and profile, benchmarked against best practice
- Improving management and Services offered within the park
- Optimizing park structures
- Optimizing relations to partners on the site – in the park and the region
- Developing targeted partnerships and efficient interregional cooperation
- Accelerating strategy building processes
- Getting better international visibility (incl. partner-peer reviews).

Analysis of the Benchmark has shown the importance of networking and transfer services for innovative SMEs that are dependent on reaching the international markets. This is one of the reasons to actively participate in STP networks, build “docking stations” for SME in leading technology regions and provide internationalization services. For example,the Euro Office Services Network (www.euroffice-servies.eu).

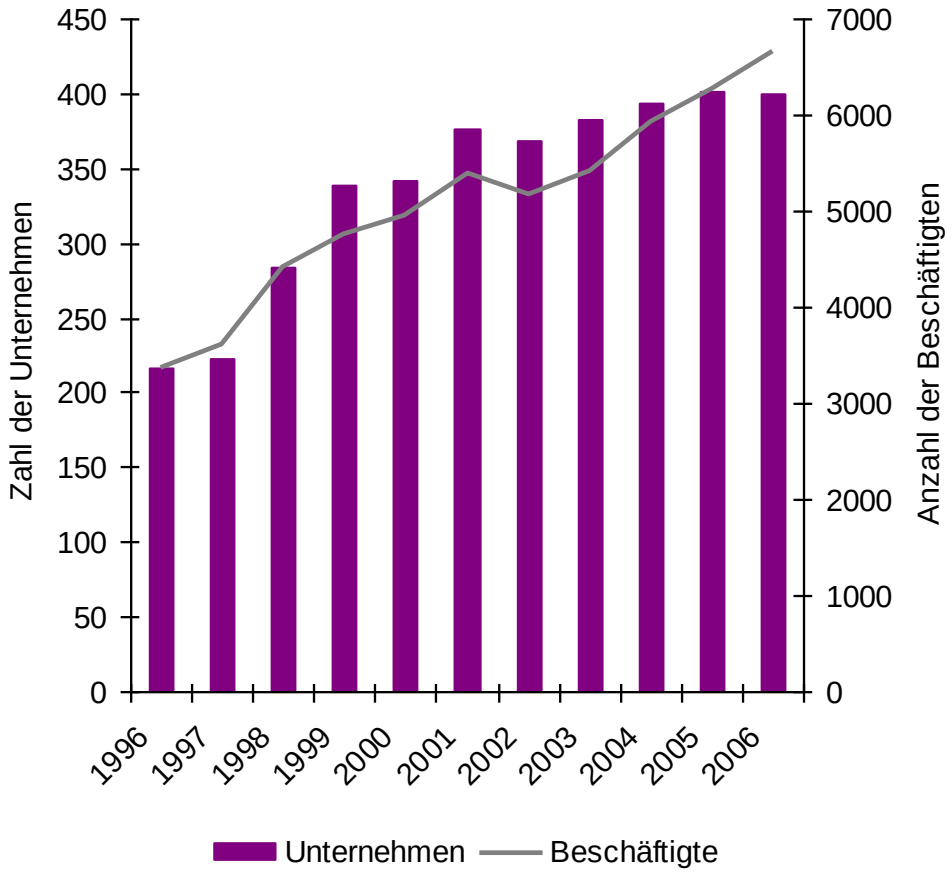
Success of contribution to regional innovation strategy

With regard to the above, Adlershof Science Park has found an active role in contributing to the realization of the Berlin regional innovation strategy.
The park today is an important and reliable player for developing new technology solutions and business ideas, energetically pushing cluster development and providing excellent infrastructure, platforms and networks like

- Entrepreneurial and business related infrastructure and services,
- Focus on key directions in regional economic development,
- Business creation and incubation excellence,
- Actively providing cooperation competence and platforms,
- Create synergies between tenants - companies and research facilities,
- Have qualified & experienced management, active players in regional business development
- Access point for transfer, for cooperation and networking
- Excellent knowledge about regional markets;
- Often involved in international networking activities, with
- High visibility and marketing expertise

As a result, Adlershof today is “significantly influencing the growth of the region” (Source: Deutsches Institut für Wirtschaftsforschung, 2008),

- The park generated a 2007 growth in turn of over 14,4 % (based on growth of the
- campus companies from 2005 to 2006)
- Number of employment could be doubled within the last 7 years
- At the same time the share of subsidies in the turn over of the companies was reduced to 5 % (from 24 & 1996)



Source: Deutsches Institut für Wirtschaftsforschung, 2007

- The neighborhood of Science and companies is a motor for Innovation and growth
- The business sector and the institutes in Adlershof generate a market demand (turn over) of 592 M€ and created about 21,000 jobs
- Per employment in Adlershof there were created another 0,6 employments by indirect and induced effects

The growth is caused by innovative companies, actively operating in the markets:

Growth in Adlershof remains above-average and stabile. All technology fields and clusters in Adlershof continue to grow. And the growth is an endogenous one, based on internal resources.
Growth described affects mainly the selected fields of technology or the Adlershof as there are:

- **Photonics and optical technologies**

- **Information and Media Technologies**
- **Materials and Microsystems Technologies**
- **Environmental, bio and energy technologies.**

These fields are driving forces for Berlin's innovation strategy.

The example of Adlershof impressively demonstrated the successful strategy of shifting the paradigm from a de-industrialized city after the economic crash at the beginning of the 1990's. The main resources of Berlin lie in the knowledge based economy. Berlin in comparison to the rest of Germany has one of the highest concentrations of universities, research institutes, persons with academic education and students. With about 4% expenses for Science, Berlin ranks on top of the German scale.
It ranks on top in measuring European innovation dynamics (#2 after Stuttgart region, measured by Statistical Office Baden Württemberg; within the leading 5 according to OECD)[6].

8. Conclusion

STP Berlin Adlershof today may be named as one of the leading European Science and Technology Parks. The courageous experiment, to reconstruct a former academic research site in the East of Berlin into a model for connecting science, industry and university education and research did lead to a large success. Despite the often skeptical view in the starting phase, culminating in the exclamation "Potemkin in Adlershof" (1992).
The realization of the project was, one can say an early stage realization of what is known today as the "triple helix approach". Adlershof is very grateful for the ongoing policy support in realizing the Vision – support from the "poor but sexy" Berlin (Senate and borough), but not less by the federal State of Germany and, not to forget, also the European Union.
Adlershof now is an outstanding example of successfully realized management and control of investment. The example could be successful not just by pumping tremendous amounts of money, but first of all by the spirit, the impatience, the creativity and innovativeness of its habitants – the entrepreneurs and researchers.
An ambitious yet down-to-earth Management Company to operate the campus is also helpful.
The dense networks between the players from all levels are essential. And so are also the surrounding conditions: A successful innovation site needs to be attractive – this includes also the living and working conditions; the scientific and economic infrastructure, but also social and cultural conditions.
Adlershof is willing to share the lessons learned. Twinning projects have already been begun, starting with the Baltic Sea region but also within other international networks, e.g. the EurOffice Services project.

Today, Adlershof is an innovation driver in the Berlin capital region and one of the most dynamic innovative sites in Europe. Above-average growth rates of about 10 % within the last few years bare witness to the success of the restructuring of East Berlin.
Berlin Adlershof is a proactive and competent partner within the Berlin innovation strategy for cluster development. In particular the example of Photonics and Optical Technologies demonstrates that the campus significantly contributes to the internationally acknowledged quality of the Berlin optics cluster. International networking opportunities and service networks are essential to keep this well-earned lead.

[6] Statistisches Monatsheft Baden Württemberg, 10/2004, S. 21;
berlinews 2006, http://berlinews.de/archiv-2006/1687.shtml.