SF 29: Creation of incentives and opportunities for investing in innovative technologies (experimentation clauses)

Fr	B	C	NY	S	T	Total
4	5	4	5	8	6	32

Beispiel:
Tokyo: In Ota-ku, networks of SMEs and R&D centres are being formed in order to promote new technologies.

Singapore is actively pursuing a policy of „City Labs". And at Berlin Tegel, a re-use concept consisting of a „science park" with numerous experimental and testing opportunities for innovative technologies is currently being developed.

1. Differentiated description of the key field

Creating incentives and opportunities to promote the trialling of new technologies in a city must be designed to fit in with the needs of innovative and technological solutions on the one hand.
On the other hand, the adoption of new laws, regulations, guidelines and other rules and regulations is – at least in Germany –subject to increasing time pressure, which means that any examination of their suitability for daily use hardly takes place[1]. That is why for the municipal level, a loosening of the budgetary rules has, therefore, been developed (in Germany) since the 1990s as part of a „new management model" with a focus on resource consumption and outcomes; however, they had to be requested by the individual municipalities and be approved by the relevant supervisory authority. This flexibility allows municipalities to advance certain issues such as the trialling and use of new technologies for sustainable development. As the term „experimental clause" implies, it is innovative projects in particular which can be tested.

Conversely, this means that a city, in consultation with the relevant stakeholder groups, offers incentives that are conducive to the successful testing of new technologies. For this purpose, certain fields of technology along with strategic growth sectors which have the potential to make the city attractive as a business location can first be defined. For example, the developers of a new wind turbine or a smart data and power network have very specific needs such as financial assistance or the official notification of the technological innovation by the city at a Sustainable Energy Congress. In the best case scenario, these requirements are covered by one of the following activities of a city:
- Permission and provision of (experimental) areas in the form of „test beds", in which new technologies are tested under real-world conditions. For regional, industry-specific and/or technology clusters (see the example of Copenhagen) they serve as a spatial unity or cluster of certain sunrise industries within specific and limited areas within the city area. This concept of the city as a living lab for the experimental implementation of projects aimed at sustainability can also be used to publicize a corresponding medium-term economic strategy.
- Provision of financial resources and innovative financing concepts (such as the experimentation clause) to develop certain research centres.
- Industry-related, national and/or international (systematic) benchmarking for new technologies.
- Creation of new markets for the distribution of solutions.
- Events with specific emphases that are aimed at specific industries, such as ‚Hack Days'. There, in cooperation with the ICT community, application ideas revolving around the topic of ‚open data' (see, for example, Berlin) will be developed and approaches for generating new business models presented.
- Joint projects (cooperation networks)/public private partnerships between urban institutions and research facilities or enterprises.

Incentives and opportunities need not necessarily originate exclusively from the city. Since the trial introduction of new technologies harbours potential for urban as well as private actors, the economy could be a key player as an initiator. However, it has to be supported, approved or at least tolerated by the city or the political sphere.

2. Reference to sustainability:

The chance to be able to implement creative ideas quickly and without large administrative overheads allows a city to react relatively quickly to external events (environmental events, population growth) and to position itself accordingly in the international competition in order to attract businesses settle in the area.

In the event of a failure to comply, lengthy and non-transparent administrative processes may result in innovative ideas from the city administration itself, the city's residents or the economy not coming „to the surface" and so valuable suggestions for sustainable urban development will be lost. The motivation of all those involved sinks. At the same time, the incentive for innovative, often young and thus also flexible (a far as location is concerned) firms to settle in the city or to stay there also diminishes. The city thus misses out on important (potential) tax revenue.

3. Relevance to industrial sectors?

Mobility: Medium
Energy: Medium
Production & logistics:

1 http://www.staedtetag-rlp.de/infothek/Von_der_Experimentierklausel_zur_Standardoeffnung.pdf; S. 1.

Security:
ICT: Medium
Water infrastructure: Medium
Buildings: Medium
Governance: High

4. Impact (positive & negative)

Positive: ... exemptions such as experimentation clauses lead to
- A reduction in rigid (administrative) rules[2]
- A re-thinking, e.g. learning processes and possibly even a culture change are initiated within municipalities[3]
- An increased focusing on the economy (market control) as well as on profitable products and solutions (earnings management)
- The (low-cost) promotion of innovative solutions; new approaches are implemented locally and maintained by the developers:
    - Tailored solution, often for local problems
    - Early identification of potential areas of growth (technological progress)
    - Moreover, by identifying and cutting deficits, the re is also a mobilisation of previously hidden sa vings and efficiency potentials[4]
- A strengthening in the field of R&D (economic and scientific), and thus progress within the municipality
- The increased use of the positive effects of alternative technologies: resource conservation, lower emissions, thus having a positive impact on the life and health of citizens.

Negative:
- The risk of the new technologies failing is high
- (HR) capacity needs to be held in readiness
- New technologies are being developed in irregular cycles, i.e. the volume of ideas and their emergence, along with the scope as regards implementation and any necessary follow-expenses such as funds for any essential maintenance of the technology solution, etc. cannot be predicted with accuracy.

5. Implementation measures:

- Flat hierarchies to enable quick decisions
- Reduction of bureaucratic obstacles, such as a simplified application filing process by improving access and the filling out forms and other documents
- Clear definition of the decision-making and implementation processes
- Clear regulation of the relevant contact person (and representative)
- Support measures (e.g. regular events such as competitions, etc.) to fill certificates of exemption with contents
- Possible build-up of know-how within the city administration regarding the assessment of new technological key fields

6. Actors: Who can shape things?

- City administration
- State facilities (if a legal framework has to be created or adapted)
- Associations
- Universities and research facilities as incubators and sites of (further) education
- Companies (especially SMEs and start-ups), especially their R&D departments
- Affected citizens
- Experts to assess the potential of new technologies

7. Prerequisites:

- Specification of the scope of the promotion of possible projects or events. Especially if the municipal budget is tight, one must prevent the flexibility in the budget management from being used by experimentation clauses to hide unbalanced deficits.
- Information and communication inwards (city administration): in order to properly handle the certificates of exemption and experimentation clauses for the trialling of new technologies, learning processes by means of continuing education activities must be initiated within the city administration.
- Information and communication of incentives (funding options etc.) and opportunities to the outside world (to the public, political sphere):
    - The increased flexibility within the administrati on brought about by experimentation clauses should be offset by greater transparency and ac countability´vis-à-vis stakeholders, in particular (re gional) policy.
    - The selective targeting of research facilities as well as of technology-focused companies should take place

8. Obstacles/barriers:

- Strict and detailed rules and regulations
- Extensive bureaucracies with many levels of hierarchy
- Uncertainty about whom to contact within the city administration as well as with regard to the relevant stakeholders (companies, research institutions, etc.)

2 http://www.econbiz.de/archiv/p/up/public_management/experimentierklauseln.pdf, p. 7.
3 http://www.econbiz.de/archiv/p/up/public_management/experimentierklauseln.pdf, p. 7.
4 http://www.econbiz.de/archiv/p/up/public_management/experimentierklauseln.pdf, p.7.

9. Indicators:

- Performance/success indicators that enable the quality and potential of new technologies to be assessed (and thus determine whether the technology should continue to be used on the market or in the city after the test) □perspective that is necessary for the developer so that any resources whatsoever are invested in the development of new technologies
- Technology indexes (local, regional)
- Number of universities or students, other research centres and technology parks
- Number of patents in various technological areas (energy/ smart grid, mobility, wind energy, CO2 services, etc.),
- Other R&D activities in enterprises
- Number of corporate sponsors (of occasions)
- Export activities as regards successful, innovative technologies (visible in GDP, export statistics, etc.)

10. Special features/remarks: