



## **Making Mega-City Regions Visible!** **A Programme to Creating Awareness for Mega-City Regions**

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### **Abstract**

Mega-City Regions are an emerging new large-scale urban phenomenon. (1) In research their constituent elements and driving forces are more and more revealed; their decisive role to European as well as national spatial development is increasingly being recognised. At the novel spatial scale of Mega-City Regions new questions and tasks have to be faced. The relevant stakeholders and players are challenged – large-scale metropolitan governance is called for. (2) At the same time awareness of the prominence of Mega-City Regions among the relevant players all-over Europe is still small. Mega-City Regions remain invisible and intangible in many respects: They are rarely mapped, there is a lack of concept or image and they hardly offer any direct sensual perception in everyday life.

The paper draws on the hypothesis that perception is an essential building block when trying to transform the analytical or normative concept of Mega-City Regions into spaces of collective action. Therefore the paper conceives ‘Making Mega-City Regions visible!’ as a programme following the three interrelated dimensions of strategy, structure and culture. Discussing the programme’s potential functions and contents, techniques and processes, producers and recipients, major hypotheses to research and practice are presented.

### **I Emerging Mega-City Region’s Lacking Awareness**

Mega-City Regions are in the process of emergence; a multi-scalar urban process that is currently unfolding on two spatial scales. First, at an international and European level there are increasing functional linkages between the core cities of each Mega-City Region. Second, at a metropolitan, regional level there are evident and increasing interdependencies between highly global cores and their surrounding areas. The main driving forces of the emergence of Mega-City Regions are knowledge-intensive business sectors leading to a dense network of interaction such as virtual communications and business travel within and between advanced producer service firms (Halbert et al., 2006a).

Mega-City Regions are a series of anything between ten and 50 cities and towns, physically separate but functionally networked, clustered around one or more larger central cities, and drawing enormous economic strength from a new functional division of labour. These places exist both as separate entities, in which residents work locally and most workers are local residents, and as parts of a wider functional urban region

connected by dense flows of people and information carried along motorways, high-speed rail lines and telecommunication cables (Hall & Pain, 2006; p.3).

The Interreg III B Study Project POLYNET – Sustainable Management of European polycentric Mega-City Regions – is one of the most recent research activities about this emerging new large-scale urban phenomenon of Mega-City Regions (Hall & Pain, 2006). Mega-City Regions arise from a process of very extended decentralisation from big central cities to adjacent smaller ones, old and new. Within Mega-City Regions multiple cities and towns are bound together. Their critical mass enables to provide the infrastructure that is needed for superior high-quality knowledge production and global knowledge exchange. The different locations and areas within Mega-City Regions are characterised by increasing functional specialisations and corresponding spatial differentiation; a new functional hierarchy and different degrees of polycentricity within the Mega-City Region are emerging.

Mega-City Regions as functional spaces turn out to be the hubs of the globally organised knowledge-economy. Consequently Mega-City Regions are of key importance for the economic and social development at the European as well as national spatial scale. Their strategic role to spatial development is more and more recognised; their emergence is pushed in different domains. Mega-City Regions are object of analytical research, of normative political concepts as well as of strategies of communication and marketing within the global competition of location. The Mega-City Region's process of emergence however does not succeed with equal pace; the ongoing 'spatial development on the quiet' such as revealed by analysis is not conform to the current state of the corresponding policy strategies and structures. The POLYNET study examined the policy implications that arise from the analytical findings about the emerging Mega-City Regions. Thereby the crucial importance of awareness of the spatial scale of Mega-City Regions became apparent (Halbert et al., 2006a).

It came as a surprise to the whole POLYNET project team to learn how crucial is an awareness of the spatial scale of Mega-City Regions. With regard to policy-making – especially on a regional, national and supra-national level – a gap in perception still seems to exist between the documented and normative policy approaches on polycentric development of Mega-City Regions – as in the ESDP – and the knowledge and recognition about the factual degrees of functional polycentricity and the spatial scale of Mega-City Regions (Halbert et al., 2006a; p.113).

The results of POLYNET stress the essential and pressing awareness issue in all of the eight Mega-City Regions. The lack of attention and awareness leads to a gap between the growing knowledge about Mega-City Regions provided by research on the one hand and spatial policy in Mega-City Regions on the other hand. Governance processes on a metropolitan scale have hardly started yet, and awareness of the importance and the particular functionality of Mega-City Regions is not apparent in EU policy in the years 1999-2000, nor in policy at regional and national level in the year 2005. As there is little concern for the crucial connection between the changing requirements of knowledge-intensive firms and urban change, the ability to use this knowledge for local and regional development and spatial planning purposes is still weak (Halbert et al., 2006b).

The lack of awareness of the new spatial scale of Mega-City Regions results in the inability to establish stable and successful multi-level governance. Consequently, contemporary spatial planning policies are characterised by a gap between the functional logic of the economic driving forces of spatial development and the territorial normative approaches public bodies are bound to (Halbert, 2006). This mismatch affects the ability to pursue sustainable spatial development in Mega-City Regions. The political bodies and institutions that have impact on Mega-City Regions indeed have planning objectives of sustainability, but their strong territorial logic does not consider the driving functional forces of spatial development. As a consequence, the concept of sustainability is not reflected in the context of the complex system of interaction of Mega-City Regions on a global / European as well as regional / local spatial scale (Halbert et al., 2006b).

The following second section traces back the awareness issue to the question of perception; major challenges to the perception of Mega-City Regions are explored. When conceiving 'Making Mega-City Regions Visible!' as a programme, the third section introduces relevant layers of intervention and proposes an integrated framework to the perceptual work. Subsequently six major principles of the programme of 'Making Mega-City Regions Visible!' are presented.

## **II Perception as an Essential Building Block**

Before discussing models for large-scale metropolitan governance or possible answers to the implications of the concept of sustainability in the context of Mega-City Regions, one has to address the essential prerequisite to all these efforts. Who is fully aware of the Mega-City Region's spatial scale? The question of perception precedes every attempt to develop strategies for or to adapt governance structures to the new challenges. One can condemn the ignorance and lack of understanding of major stakeholders and players or one can cope with that task. We want to comprehend the question of perception as a substantial challenge in the context of Mega-City Regions; instead of a side-line it is a priority issue.

How to specify the challenge of 'Making Mega-City Regions Visible!?' The perception and recognition of the new spatial scale of Mega-City Regions from a local, regional and metropolitan perspective underlies a double complexity. The first difficulty can be attached to the object itself; the spatial characteristics of Mega-City

Regions hinder their immediate sensory perception. The second one is tied to the observer's perspective; the fragmentation of political responsibilities results in a concurrence of views, backgrounds and interests of different actors that have to be integrated into metropolitan governance processes.

### **Complexity of Perceiving Mega-City Regions I: Invisible Qualities and Characteristics**

What are the spatial characteristics of Mega-City Regions found in POLYNET that make the perception so difficult and demanding for the different actors involved?

#### 1. A new spatial scale

The mere size of Mega-City Regions – they are bigger than a city and its agglomeration – challenges our perception. It breaks down our common notions of spatial categories and consequently disputes our mental dispositions being the basis for our perception. When extending beyond administrative borders and other familiar boundaries, Mega-City Regions also disturb every historically founded comprehension of the territory. The new scale brings about the sheer impossibility of an intuitive sensual perception in everyday life.

#### 2. Flexible, ever-changing boundaries

The non-physical functional approach to Mega-City Regions implies the loss of fixed, static boundaries.

“(…) everywhere it proved impossible to identify precise Mega-City Region boundaries. The dynamic nature of emergence of Mega-City Regions prevents their fixed delimitation, (…)” (Halbert et al., 2006b; p.207). Mega-City Regions are of a variable geometry. They extend over the area, where the economic players interact in a dynamic way. Mega-City Regions as a concept of spatial development does not even aim at generating fixed borders but it endorses thinking in flexible, functional defined spaces.

#### 3. Invisibility of the constituent elements

The definition of Mega-City Regions mainly by means of their non-physical functions and networks means that its constituent elements are not directly perceptible.

Visible changes by no means tell the whole story of the underlying development tendencies. Beneath the surface of expansion of the built environment there exists an intensive network of virtual exchange of knowledge, data and information. Recent research has shown that the activities of the knowledge-intensive business firms and their location strategies are major driving forces of spatial development (Gabi et al., 2006; p.157).

#### 4. Shifting perspectives and coexistence of opposite dynamics

This functional analysis of Mega-City Regions reveals simultaneities of different and overlapping spatial scales. In order to really understand the ongoing Mega-City Region formation processes it is necessary to permanently change the perspectives between different spatial scales such as global, national, metropolitan, regional and local. And by doing so, simultaneities appear of opposing processes in Mega-City Regions, such as concentration and dispersion, centralisation and decentralisation.

#### 5. Lacking congruence of functional, morphological and administrative shape

Different analytical approaches with the associated differing notions of space bring about different versions and spatial shapes of Mega-City Regions. Once the non-physical functional correlations within Mega-City Regions are revealed, one observes that the invisible functional shape thus far discovered does, in the majority of cases, differ from the initially visible morphological shape of the territory. The interrelations between the functional and morphological spaces are not evident and are difficult to understand. This divergence adds to the more obvious gap between small-scale administrative borders on the one hand and the organisation of everyday life in large-scale City-Regions on the other hand.

#### 6. Discontinuity and diversity

Finally, the non-physical functional spatial approach to Mega-City Regions brings about a perimeter that includes manifold and morphologically heterogeneous parts that partly invalidate common spatial categories such as the distinction between urban and rural spaces (Thierstein et al., 2006). Mega-City Regions include a very diverse range of different categories of space; highly urban centres, hybrid urban landscapes, and semi-rural areas. The often functionally as well as morphologically polycentric Mega-City Regions imply a discontinuity of space; in Mega-City Regions highly concentrated urban nodes of functional and physical density alternate with big empty spaces or in-between spaces.

To wrap it up, as non-physical, dynamic functional forces form their internal adhesive emerging Mega-City Regions seem to be rather counterintuitive than catchy notions and thus challenge perception and comprehension.

### **Complexity of perceiving Mega-City Regions II: multiple recipients and worlds**

When shifting from the description of the object to the perspective of the observer a second complexity in the recognition of the emerging new urban phenomenon of Mega-City Regions arises. It is induced by the institutional fragmentation of Mega-City Regions that brings about also a fragmentation of perception.

In most cases there exists no political institution at the scale of Mega-City Regions. Instead a multitude of political bodies from different spatial scales, regional as well as municipal, have to be integrated in a process of multi-level governance. As functional forces are crucial driving forces to spatial development in Mega-City

Regions, other important actors for spatial development that have to be considered come from outside the administration (Davoudi, forthcoming 2008). According to their economic, social, civil or cultural function, position and affiliation these different players perceive Mega-City Regions in different ways. They focus different contents, topics and challenges; they have different interests and scopes of action.

In the case of the Rhine-Main Mega-City Region, the POLYNET project has found a concurrence of various regionalisations, a multiplicity of regional views compiled by different coalitions of actors (Freytag et al., 2006). According to the authors, the region remains internally fragmented despite the high international visibility of Frankfurt. In the RhineRuhr case the research team even speaks of an ‘unborn’ giant because of fragmented institutional landscape, fuzzy strategic concepts and uncoordinated policies (Danielzyk et al., 2006).

Considering the multiplicity of players and stakeholders is only a first step towards understanding the complexity of perception from the recipient’s point of view. There is a second and probably more important aspect. The hub function of Mega-City Regions brings about another kind of inconsistency of perception. Mega-City Regions are described as interface and gateway between economic activities on different spatial scales, from local to global (Thierstein et al., 2006). One expression of this function is the crucial importance of international gateway infrastructures, such as airports or seaports. As a consequence, Mega-City Regions are also intersection points of people and actors with different ranges to their spatial activities. The different areas of reference also implicate a different kind of logic and motivation for their action. Differing logic behind actions and different interests imply a variation in spatial reach of respective actions. Manufacturing firms mostly locate their individual activities along their value chain following their industrial logic of global functionality. Administrative bodies whereas follow an institutional logic, which is determined by the territorial boundaries of their – localised – jurisdiction. These different worlds mix and confront one another in Mega-City Regions more than on any other spatial scale. This is where they interact directly or indirectly by sharing the same space.

### III The Programme of ‘Making Mega-City Regions Visible!’

In the context of the lacking awareness and immanent invisibility of the emerging new spatial scale of Mega-City Regions, we want to introduce ‘Making Mega-City Regions Visible!’ as a programme. We call it a programme, because it has to be conceived as a multi-faceted approach; different dimensions of ‘making visible’ have to be joined with the different steps within collective learning processes that help to gradually establish large-scale metropolitan governance.

How to specify the necessary with and depth of the programme? First of all, understanding our perception of space provides a basis to identifying the relevant layers of intervention of ‘making visible’. The perceptual process is object of investigation of many scientific as well as practical disciplines. Petrin (forthcoming 2008) explores a couple of these different approaches in relation to large-scale spatial contexts. Following his hypothesis, space is basically produced in the human brain. Consequently, when thinking about modes of intervention in order to improve or change perception he introduces a dualism of spatial production: In addition to material space – first space – there is a second, immaterial space that can be understood as a synthesised model of perception or imagination. It is these two layers that can be object of spatial production (Petrin, forthcoming 2008).

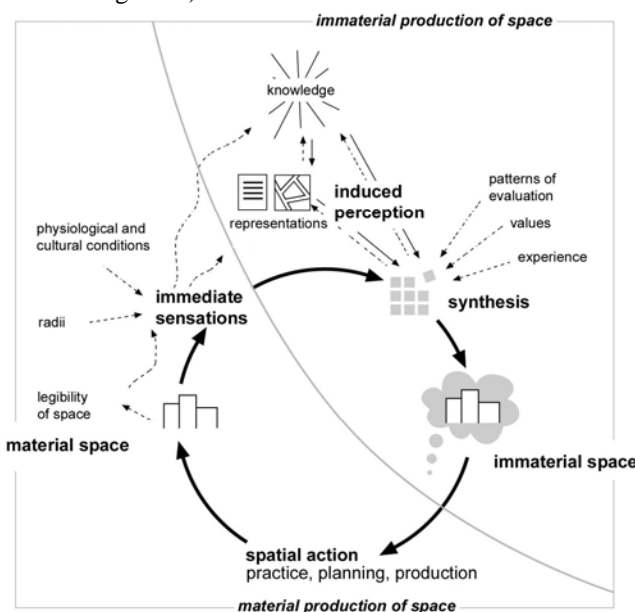


Fig. I: Dualism of spatial production (Petrin, forthcoming 2008).

## Three Dimensions of 'Image' Steering Perception

When understanding perception as a learning process, driven by the dualism of immediate sensations and mental projections, the programme of 'Making Mega-City Regions Visible!' can be started from a double perspective. It implies the work on the object – the emerging phenomenon of Mega-City Regions – as well as the work on the observer – the players, stakeholders and citizens to be involved in processes of metropolitan governance. In the observers' mind the image, idea and concept of Mega-City Regions has to be established and reinforced. In real space the perceptibility of these large-scale polycentric urban regions has to be strengthened. Referring to the idea of a learning process a third, intermediary layer of intervention plays a crucial role: images in the sense of visualisations help to communicate between these two poles.

The German Brockhaus gives three meanings to the term 'Bild' – image in English. First image can mean outlook, view, and perspective – the perception of an object with the human eye. Second image can be understood as illustration, picture – a two- or three-dimensional representation of an object. Third image may refer to idea or concept – it can only be experienced and seen in the people's mind. It is a mental representation of real or fictive objects (Brockhaus-Enzyklopädie, 1987). When applying these three categories of images to spatial phenomena and contexts one can assess their meaning and substance in the context of Mega-City Regions.

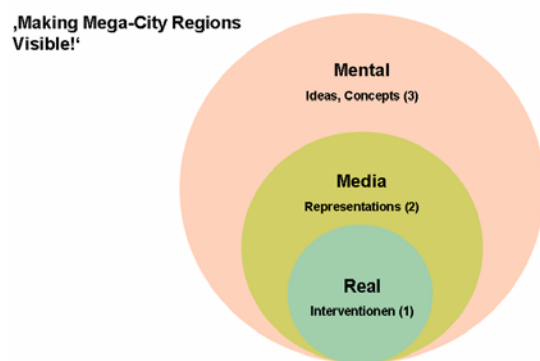


Fig. II: Three dimensions of 'Making Mega-City Regions visible!'.

### 1. Real images

Real images refer to spatial qualities of Mega-City Regions that can be directly perceived and experienced in everyday life. These spatial characteristics may be foremost locations and places within the region: city centres, living areas, commercial areas, airports or protected landscapes. Second the real images can relate to physical, spatial objects like buildings, infrastructures or parks. Third the ways of using space are involved: highly synchronised timetables, space information system, media and culture or sports activities or festivities (Schönwandt, 2006). When reflecting about a region's potential real images questions of significance, sense and importance of these real elements and aspects arise. One main function of real images may consist of visualising a region in day-to-day life.

### 2. Media images

Media images – generated by different techniques of visualisation including maps, photographs, models, diagrams or interactive visualisations – help to visualise not directly perceptible spatial qualities of Mega-City Regions. The non-physical functional analytical approach implies the endeavour of developing adequate techniques of visualisations. This applies to commuting or communication patterns. While a relational understanding of space is fundamental to the concept of Mega-City Regions, essentialist concepts of space and the corresponding self-evident importance of morphological space are still very familiar and dominant (Healey, 2004). This also raises questions concerning form, style and design. Shall media images purposely break up with or to look for ways to tie up to these present ideas of space? The special importance of media images consists in their role as a starting point to the awareness creation process. It is by this category of images that the spatial construct of Mega-City Regions is 'discovered' analytically. In the course of time media images may change mental ones and may form a basis for real images to be recognized and purposefully developed.

### 3. Mental images

This category of images includes at least three different aspects. Firstly mental images refer to the notion of conception or idea. Thereby it is closely related to the process of classification and arrangement. According to Paasi (2003) naming a region in day-to-day life of the citizens is important and part of the spatial symbolism. "... 'naming is showing, creating, bringing into existence' (Paasi, 2003; p.480). The name stands for a mental construct that has found its way into everyday life. When applied to spatial development and planning, ideas such as theoretical constructs of space are powerful in forming categories of thinking, empirical research and normative action. This is very much the case with Christaller's theory of Central Places in the German planning tradition that dominated spatial thinking and action for a long time – subliminally expressed by the use of Christaller's hexagon symbol up to the year 2000 (Bundesamt für Bauwesen und Raumordnung, 2000).

Secondly mental images may point to the ‘mindware’ – reputation is a synonymous – of a region. It is about the cognitive attraction factors of a place, the image a locality evokes in the outside world. Hospers argues that the image of a place, the ‘mindware’, becomes more and more important for location decisions as ‘hardware’ – physical and human capital – and ‘software’ – social capital – of different places more and more assimilate (Hospers, 2006). Thirdly, when turning to the way Mega-City Regions are perceived from inside, mental images as subjective mental projections of the region determine the identity formation processes of players, stakeholders and citizens. These kind of mental maps are based upon the cognitive and emotional relations that the inhabitants bind to their region. The importance of mental images is due to their function as a filter in the process of perception; they precede and result of the processing of sensations. They give orientation, steer attention and help to interpret the environment.

### Towards an Integrated Approach

When approaching the programme of “Making Mega-City Regions visible!” – thus our hypothesis – all of the three notions of images have to be considered together. There is a mutual correspondence between real, media and mental images; they comprise and influence one another. When applying this tripartite understanding of ‘making visible’ to the evolutive understanding of spatial development the task is not only to reveal and enrich the different modes of ‘making visible’, but to think about their integration and sequence within planning processes alike. As a result, the different facets of our programme multiply. Not only different techniques and corresponding disciplines of the perceptual work have to be integrated, but also dimensions such a function, content, process and recipient have to be considered. The programme of ‘Making Mega-City Regions Visible!’ does not bring about one all-embracing picture. The immense task of the invisibility of Mega-City Regions cannot be managed by a single strategy of ‘making visible’ but demands multifaceted and complementary visualisation strategies. But how can the whole be more than the sum of its parts?

We suggest to adapting the St.Gall management concept to the task of ‘making visible’. As it integrates the level of contents with the level of processes, it might be instrumental in posing the right questions in the right dimensions (Rüegg-Stürm, 2002). This kind of management teachings is based upon the systems approach; it aims at an integral thinking and acting when dealing with the complexity of a business company. Therefore three basic interacting components are identified that help steering corporate processes; strategy, structures and culture.

<b>Strategy</b>	Function	Why? What for?
	Content	What?
<b>Structures</b>	Technique	How?
	Process, Context	When? Where?
<b>Culture</b>	Recipient	For whom?
	Producer	Who?

Table I: An integrated approach for ‘Making Mega-City Regions visible!’.

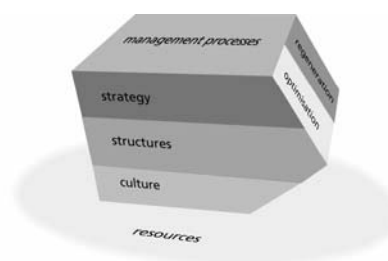


Fig. III: The St.Gall management cube (Rüegg-Stürm, 2002).

When applying these interconnected areas to the programme of ‘Making Mega-City Regions Visible!’, the different layers of the perceptual work can be described as follows:

- The visualisation *strategy* firstly describes the tasks that occur when awareness of the relevant stakeholders inside and outside the region shall be raised. *Why* and *for what* shall Mega-City Regions be visualised? These functions have to be conceived in succession related to the evolutive process of emergence of Mega-City Regions. The strategy secondly implies a choice of relevant and promising contents to be visualised. *What* shall be made visible?
- The visualisation *structures* refer on the one hand to the different techniques of ‘making visible’. *How* shall Mega-City Regions be made visible? These visualisation types may include the proposed differentiation between real, media and mental images. On the other hand structures relate to the contexts and processes within the perceptual work that has to be done. Modes of integration in planning processes have to be conceived and tested. *When* and *where* shall Mega-City Regions be made visible?
- The visualisation *culture* points to behaviour patterns, capacity, and expectations of the producers as well as the recipients of the images and visualisations. *Who* makes Mega-City Regions visible? *Whom* does the visualisation work address? Different disciplinary backgrounds and the belonging to different ‘worlds’ inducing different spatial realm of activity and individual logic of action have to be considered.

## Exploring the Toolbox: Six Major Principles

Following the proposed dimensions of the programme of ‘Making Mega-City Regions visible!’, the approach is ample and complex. Furthermore, it heavily demands for practical application and experience that is hardly available at the emerging new spatial scale. Nevertheless we try to gain insight into the toolbox of the programme. We propose six major principles. On the one hand they are based upon existing experience from other spatial scales. On the other hand these principles are derived from the challenges the programme has to face as described in the preceding chapters. These propositions shall not be taken for practical tools ready for use; they still operate at a conceptual level.

### **1. Function: The multi-dimensional purposes of the programme of ‘Making Mega-City Regions Visible!’ can be divided into two main functions: it serves as a tool as well as a communication instrument within governance processes.**

Identifying and describing the potential functions and estimated benefits of the programme of ‘Making Mega-City Regions Visible!’ would go beyond the scope of this paper. When considering the functions of knowledge visualisation, Burkhard already identifies three areas: cognitive, social and emotional benefits (Eppler & Burkhard, 2005). In our context, basically two main functions have to be considered. The dimension of the tool relates to the working process of the relevant players and stakeholders to bear large-scale metropolitan governance. ‘Making visible’ is thought to stimulate, enrich and conduct these processes of cooperation. Awareness among the responsible bodies will gradually rise when they succeed in making Mega-City Regions more and more visible. This process includes self-knowledge, common objectives as well as common concepts and visions for the future. When turning to the dimension of the communication instrument, the acquired visibility demonstrates the added value of the cooperation inside the region; simultaneously the Mega-City Region’s distinct role in its wider spatial and functional context becomes apparent.

Working instrument	Communication instrument
Process character	Ready, coordinated products
Tentative, explorative	Irrepressible power and permanence of images
Rough, sketchy, thought provoking	Political convenience

Tab. II: Contrasting requirements of the working and communication instrument.

A successful internal and external communication strategy potentially reinforces the process of cooperation when self-perception is reflected and strengthened and additional supporters join. Consequently these two functions with their at first glance contrasting requirements have to be put into a productive interplay (Tab. II).

### **2. Content: Mega-City Regions are characterised by diversity, discontinuity and shifting perspectives. When their image shall be more than the sum of its parts, the combination of different level of contents is crucial.**

The multifaceted character of Mega-City Regions relates to different aspects; the horizontal and vertical superposition of different spatial scales with the related authorities; different dimensions of space that are of relevance such as functional and morphological; the diversity of the different parts relating to different categories of space such as highly urban centres, hybrid urban landscapes or semi-rural areas. So ‘making visible’ means to interpret these single components in a broader context and to search for potential syntheses. This work has to be done primarily on the level of contents and of strategy, before further questions of realisation have to be addressed. On what subject matters may the synthesis work be based upon? Three dimensions seem to be of special relevance: questions of scale, of dimensions of space, and of time and topicality.

When assuming that the perceptual work needs to be based upon the suitable contents first, existing expectations of the relevant players may be failed to meet. The programme of ‘Making Mega-City Regions Visible!’ is no product ready to buy that can completely be delegated to external experts. It demands for own commitment and work on the self-perception, at which professionals from different disciplines may assist.

### **3. Technique: The programme of ‘Making Mega-City Regions Visible!’ needs an active communication between the different kinds of images - real, media and mental - given that spatial perception is steered by a synthesis of all three dimensions.**

The question of visualisation techniques is very demanding in the context of the large-scale immaterial functional relations within and between Mega-City Regions. We will not consider this aspect in this paper. Instead a more general view on the question of technique shall be taken. ‘Making Mega-City Regions Visible!’ – especially when considering the programme as a long-term project – has to take into account all three dimensions of images, as discussed in the preceding sections. In doing so knowing about and understanding their interplay is crucial. Moreover the relative weight of the single components within this triad of images has to be considered. In the case of the Oeresund Region Hospers (2006) reflects on the reciprocal importance of branding

and place marketing basically focusing on the region's mental images on the one hand and the internal real lived and experienced spatial qualities of the region on the other hand. In addition to external marketing, Hospers demands for an internal marketing – a kind of bottom-up process – that fosters the cross-border identity of the inhabitants. Otherwise, when externally communicated mental images and internally lived real images diverge, the region risks to become an only 'imagined space' (Hospers, 2006). Beyond, an active communication between real, media and mental images potentially strengthens the single components. Real images shall be taken up by media and mental ones and vice versa. The quality and usefulness of real images – created or modified by interventions in real space – also has to be measured according to their potential of adding to communication by media images. Looking for and elaborating such kind of interfaces and points of contact has to be part of an integral approach to the programme of 'Making Mega-City Regions Visible!'.

**4. Process: The programme of 'Making Mega-City Regions Visible!' has to be conceived as an iterative process; the manifold aspects of the perceptual work loosely and situationally intertwine, accumulate and complement one another when adding to planning processes.**

Fostering perception and visibility of Mega-City Regions is a constant challenge within governance and planning processes. How can the whole process of 'making visible' be conceived and organised? Can the programme of 'Making Mega-City Regions Visible!' be thought as an all-embracing approach adding value to planning processes in all their steps from A to Z? Although the idea of a masterplan or blueprint to this process is enticing, it will hardly be findable; it even seems to be an inappropriate attempt. A causal and linear connection of the different ways of visualising Mega-City Regions with their related functions can hardly be established. The transition between different functions of visualisations such as from analysis to design and communication is ambiguous, there are always multiple solutions.

The expectations vary; delivering products ready to use such as legal instruments and official plans on the one hand and 'stimulating the second space' on the other hand (Stein & Schultz, forthcoming 2008, Petrin, forthcoming 2008). The conception of the perceptual work as mere stimulation to planning processes means that 'making visible' is an independent layer of design that is not directly linked to planning in the sense of town or regional planning. The interdependency between real, media and mental images – Petrin speaks of a spiral of perception – shall be exploited to change attitude and behaviour of players and citizens towards large-scale urban regions. The purposeful intervention in the present perception of the region – so the idea – may ultimately stimulate planning processes (Petrin, forthcoming 2008).

**5. Recipient: Mega-City Regions are multi-scalar spatial systems of functional interrelations. Changing perspectives turns out to be a fundamental method when internal and external perspectives are interlinked and nested on different spatial scales.**

The perceptual work has to be broken down to different spatial scales, on each relevant scale internal and external points of view matter. There are always the two directions of interrogation: What is our self-image? What makes us identify with our community, city or region that is part of a Mega-City Region? – and – How are we looked at from the outside? What can we contribute within the larger functional, spatial context? These questions are of importance to every policy-maker that has to act and decide as a specific component within the Mega-City Region's network and at the same time has to be legitimate to those who vote, pay and use. Therefore the added value of this endeavour also has to become apparent internally. Hence the programme of 'Making Mega-City Regions Visible!' demands for a process of communication that embraces a series of different spatial scales; at any one time simultaneously providing internal as well as external images. Changing perspectives as a method also applies to the different backgrounds – different logic of action and corresponding different realm of activity – of the relevant players within Mega-City Regions. 'Making visible' has to empathise, address and meet these different 'worlds', that result from the fact, that Mega-City Regions are intersection points between different spatial orientations - from local to global.

**6. Producer: The programme of 'Making Mega-City Regions Visible!' has to be based upon various disciplinary approaches. Analysis, visualisation and communication as a value chain approach are instrumental in coping with the demanded connectivity of different disciplines.**

The programme of 'Making Mega-City Regions Visible!' cannot be attached to one single discipline. When one considers the three interdependent layers of strategy, structures and culture, the complexity of the programme becomes apparent. It is not only different techniques of visualisations that are relevant, but when conceiving an integrative strategy of 'Making Mega-City Regions Visible!' analytical and communicative competencies are of equal importance. Visualising Mega-City Regions is no end in itself. 'Making visible' does not add value to Mega-City Regions on its own but – so our hypothesis – has to be integrated into a value chain approach with analysing and communicating.

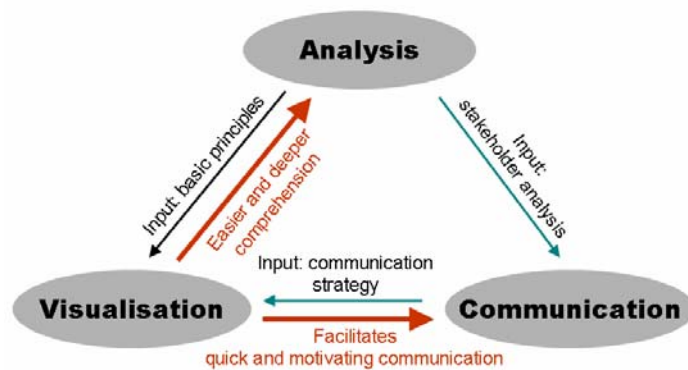


Figure IV: The concept of the value-added chain: exemplary interplay of analysis, visualisation and communication.

Analysis, visualisation and communication are long-existing indispensable tools of spatial planning each of them featuring specific functions and potentials and applying specific techniques and specialised knowledge. The concept of the value-added chain gives new significance to these three tools of planning when putting them together and reconceiving them within this new context.

As strategic methodological components to planning processes they shall release the penetrating power to transforming the analytical and normative concept of Mega-City Regions into spaces of collective action. Therefore analysis, visualisation and communication have to work together in a coordinated and complementary way. The value chain approach provides a framework to the programme of 'Making Mega-City Regions Visible!'. It describes a comprehensive procedure that the visualising work has to be embedded in.

## Conclusion

As a practical tool the three dimensions of analysis, visualisation and communication facilitate the conception of 'making visible' as an integrative part of governance strategy, structures and culture in a particular Mega-City Region. The connectivity of the different disciplines turns out to be a decisive factor of success. Within this kind of value chain of qualifications and methods not only the single quality but also the connectivity of each contribution is very important. What does the capacity to connect one design step to another depend upon? Breaking free out of one's professional domain requires the awareness about the core as well as the limitations of the respective competencies and the functions and needs that may be served. The interfaces to required suppliers as well as to possible further processing have to be recognized. Therefore it is necessary to conceptualize the single disciplinary position within the superior framework of the programme of 'Making Mega-City Regions Visible!'.

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