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## PREFACE

*Manfred SCHRENK*

*Conference Director,  
President CORP – Competence Center of Urban and Regional Planning*



### **WELCOME to REAL CORP 2020, the 25<sup>th</sup> International Conference on Urban & Regional Development and Spatial Planning in the Information Society!**

REAL CORP 2020 under the topic “Shaping Urban Change” tries to explore the common things in different trends which can be seen in urban development around the globe.

Historic administrative boundaries do not represent real urban structures any more, cities expand beyond these boundaries and form metropolitan regions, which may even result in transnational functional urban areas and agglomerations. In almost all cases it is of utmost importance to coordinate urban development between several governments, administrative authorities and institutions on different levels, but this task turns out to be a quite difficult one.

Cities and regions are hungry for resources and see themselves opposed to density and environmental problems as well as other threats, nevertheless sustainability, resilience, high quality of life and considerate exploitation of natural resources are central goals of urban development. New technologies and digitisation play an essential role in the development of cities, urban regions and metropolises – without appropriate urban, environmental and mobility technologies it would hardly be possible to see urban development, maintenance of functionality and creation of livable urban areas.

In some parts of the world – particularly in China and India, but also in Japan and South-East Asia, and in parts of South America, Africa and the Gulf region – cities and metropolises are growing undamped and hundreds of millions of people are attracted to cities. However, in numerous European cities and agglomerations we can currently see two kinds of processes which may appear to be contradictory at first glance: reurbanisation and regionalisation. The return to core cities as a place of life has a lot of reasons, but it is strongly linked to changes in the working environment and the trend to combine working and living much more as it were possible in suburban fringe areas. But many city centres are lacking affordable housing space, whereas there are plenty of vacancies in the surroundings. Wrong allocations create unnecessary commuter flows.

REAL CORP 2020 aims to discuss strategies and concepts for quality change management in the light of the challenges outlined above, which arise in neighbourhoods, cities, urban regions and metropolitan areas. This also raises the question of who the actual actors of current urban, regional and metropolitan regional development are and what role planners can play in the corresponding scenarios.

The renowned RWTH Aachen in the historical European medium sized city of Aachen, in the German federal state of North Rhine-Westphalia with its rich mining and industrial tradition, located in a cross-border city region in the border triangle Germany-Belgium-Netherlands, is the ideal place to discuss these developments and challenges with experts from all over the world.

This year we brought together some 250 participants from more than 40 countries worldwide. The main goal of the REAL CORP conference series is to bring together leading experts in the field of spatial planning, geoinformation and related disciplines to exchange their knowledge, share their ideas, discuss current developments and get together for face to face networking leading to the development of new thoughts, partnerships and projects. The success of the REAL CORP conferences is – clearly without doubt – the result of the efforts of participants, reviewers, and the conference organising team consisting of CORP association and RWTH Aachen – Department of Urban Design. We would like to acknowledge the Reviewer Team and Programme Committee members for their valuable voluntary help with the review process. Our thanks go to all participants and authors of the submitted papers as well.

The proceedings of this year’s conference contain 135 scientific papers; 101 of them were selected after a double-blind, double-stage (for both abstracts and full papers) peer-review process for publication and presentation at the 25<sup>th</sup> International Conference on Urban Planning and Regional Development in the Information Society, REAL CORP 2020. The non-reviewed papers were accepted by the programme committee after a double-blind abstract review. The conference is held from 15 to 18 September 2020 in co-operation with RWTH Aachen – Department of Urban Design and Ministry for Regional Identity, Communities and Local Government, Building and Gender Equality of the Land of North Rhine-Westphalia.

**Have a great conference!**

**Manfred SCHRENK, Clemens BEYER & the REAL CORP Team**

## **PREFACE**

*Christa Reicher*

*RWTH Aachen, Professor and Head of Chair and Institute for Urban Design  
Local Host of REAL CORP 2020*



### **WELCOME to REAL CORP 2020, the 25<sup>th</sup> International Conference on Urban Planning, Regional Development, Information Society and Urban, Transport, and Environmental Technologies!**

At the beginning of the 21<sup>st</sup> century, the question of how we should shape the future of our cities and regions is more important than ever. Urban spaces are becoming the central form of organization of almost all human societies. In the emerging and developing countries, the force of the urbanization surge is becoming visible. The urban population is growing as people move out of rural areas; this growth process is accompanied by social change. In many parts of Europe a fundamental paradigm shift is taking place: from a phase of shrinking and stagnation to enormous growth of cities and regions. It is not only the large cities that are coming under real pressure; medium-sized and small towns and cities are also facing the challenge of how to meet the demands of climate change and the associated need to secure open spaces on the one hand, and to densify and make available space for living and working on the other.

Many inner cities lack affordable housing, while at the same time the surrounding area suffers from vacancies. Incorrect allocations generate unnecessary commuter flows. Against this background, intermunicipal cooperation is an obvious way of achieving the necessary balance between different development dynamics. The current intensive discourse on “Low Carbon Cities” or “Smart Cities”, the question of the future development of cities under the conditions of climate change, the use of energy-saving technologies and the foreseeable depletion of fossil resources, raises concrete questions about future urban development and urban design that can only be answered in part so far. In the search for concepts and strategies, sustainability, resilience, a high quality of life and careful use of natural resources are among the central objectives of urban and spatial development.

Within the framework of REAL CORP 2020, global transformation processes and experiences will be discussed on the one hand, while on the other hand there will be an in-depth examination of individual German regions such as “Rheinisches Revier” and Lausitz, where political decisions to phase out lignite mining have raised pressing questions about the future prospects of regions: What does a climate-neutral model region of the 21<sup>st</sup> century look like? What strategies, concepts and processes can be used to successfully restructure a region that has been characterised by mining, industry and resettlement since the 19<sup>th</sup> century?

The future urban planning objectives will have to provide answers to the general challenges as they apply more or less to all cities and urban regions – regardless of whether cities are growing or shrinking, regardless of whether cities want to become metropolises, regional cities or explicit green cities. Often such simplistic dualisms do not face each other anyway, but are part of a comprehensive and contradictory transformation process that cities go through in the course of their history.

Against the background of the transformation tasks ahead, it is clear that urban design is slowly but noticeably becoming a „supreme discipline“ again. This is why REAL CORP 2020 is also the 1<sup>st</sup> Aachen Conference on Urban Design. This format is intended to lead the international discourse on a contemporary understanding of urban development and to promote an exchange of strategies and concepts between research, practice and politics. After all, urban design and urban development must offer spatial and strategic concepts that ensure a sustainable quality of life for all.

**Christa REICHER, Canan ÇELİK**  
**and the whole team of the Institute of Urban Design at RWTH Aachen University**

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## VORWORT

*Ina Scharrenbach*

*Ministerin für Heimat, Kommunales, Bau und Gleichstellung des Landes Nordrhein-Westfalen*

### **WELCOME to REAL CORP 2020, the 25<sup>th</sup> International Conference on Urban Planning, Regional Development, Information Society and Urban, Transport, and Environmental Technologies!**

Die Städte und Regionen entwickeln sich weltweit mit einer atemberaubenden Dynamik. Rund um den Globus steht die Stadtplanung vor ähnlichen Fragestellungen: Wie sorgen wir trotz hoher Verdichtung für Lebensqualität? Wie machen wir die Städte widerstandsfähig gegenüber extremen Wetterlagen? Wie organisieren wir eine zukunftsfähige Mobilität? Wie kooperieren Großstädte und das Umland, mit dem sie immer enger verflochten sind?

„Shaping urban change“ lautet das Gebot der Stunde. Wir müssen und wir können den Wandel der Städte gestalten – auch, indem wir innovative Technologien konsequent nutzen. Die Stadt der Zukunft wird „smart“ sein. Wir brauchen digitale Anwendungen, um die begrenzten Ressourcen effizient zu nutzen, die Verkehrsströme intelligent zu lenken und die urbane Infrastruktur insgesamt zu steuern.

Ein Baustein des Erfolgs ist dabei der grenzübergreifende Austausch zwischen Praxis und Wissenschaft. Was lokal erprobt wurde und sich bewährt hat, verdient es, global diskutiert und eingesetzt zu werden. Für diesen internationalen Diskurs sorgen Formate wie die REAL-CORP-Konferenzen. Deshalb kooperiert das Land Nordrhein-Westfalen sehr gern bei der diesjährigen 25. Ausgabe – und das umso mehr, da der Kongress zum 150. Jubiläum der weltweit renommierten RWTH in Zusammenarbeit mit dem dortigen Institut für Städtebau in Aachen stattfindet.

Digitalisierung ist in diesem besonderen Jahr 2020 auch eine Herausforderung für die Veranstalter. Ich wünsche der virtuellen Ausgabe der REAL-CORP-Tagung ein interessiertes weltweites Publikum und allen Konferenzteilnehmerinnen und -teilnehmern erkenntnisreiche Tage, einen lebhaften Austausch und wertvolle Impulse für ihre Arbeit. Schließlich hoffe ich, dass Sie bald auch persönlich die Gelegenheit finden werden, Nordrhein-Westfalen und die ebenso traditionsreiche wie technologieaffine Stadt Aachen zu besuchen.

**Ina SCHARRENBACH**

**Ministerin für Heimat, Kommunales, Bau und Gleichstellung des Landes Nordrhein-Westfalen**



## **VORWORT**

*Ulrich Rüdiger*

*Rektor RWTH Aachen*

*Dr. rer. nat. Dr. h. c. mult., Universitätsprofessor*



### **WELCOME to REAL CORP 2020, the 25<sup>th</sup> International Conference on Urban Planning, Regional Development, Information Society and Urban, Transport, and Environmental Technologies!**

Seit über 150 Jahren wachsen die Stadt Aachen und die RWTH Aachen miteinander und arbeiten in vielen Bereichen sehr gut zusammen. Sie prägen sich dabei gegenseitig in ihrer Entwicklung.

Die RWTH Aachen hat sich im Zuge der Exzellenzinitiative in den letzten Jahren zu einer "Integrierten Interdisziplinären Hochschule für Wissenschaft und Technologie" entwickelt. Damit ist sowohl die Hochschule, als auch die Stadt als Wissenschaftsstandort für Menschen aus Deutschland und der ganzen Welt ein noch attraktiveres Ziel zum Studieren, Forschen und Leben geworden. Diese Entwicklungen und vielfältigen Einflüsse führen nicht nur innerhalb der Hochschule, sondern auch in Bezug auf die Transformation der Regionen, Städte und Quartiere zu immer neuen Anforderungen, die zusätzlich unseren Lebensstilen im 21. Jahrhundert gerecht werden müssen.

Ich freue mich sehr, dass dieses Jahr die 1. Aachener Städtebaukonferenz von der Fakultät für Architektur veranstaltet wird und damit diese großen gesellschaftlichen und räumlichen Herausforderungen thematisiert werden. Im Hinblick auf das Thema „Shaping Urban Change. Livable City Regions for the 21st Century“ werden zukunftsweisende Fragestellungen mit Expertinnen und Experten diskutiert werden können.

Dass die Konferenz aufgrund der Corona-Pandemie nicht wie geplant stattfinden kann, ist natürlich sehr schade, aber – ganz im Sinne der Wissenschaft – haben die Organisatorinnen und Organisatoren zielgerichtet nach alternativen Lösungswegen gesucht und die Konferenz um digitale Komponenten erweitert, damit dieses wichtige Thema ohne Verzögerung bearbeitet werden kann. Denn für uns als Wissenschaftsregion ist es wichtig, Transformationsprozesse anzuregen, mit dem Ziel Technologien, Innovationen und Wissen aus Forschung und Lehre in die Stadtplanung zu integrieren und gleichermaßen mit Blick auf die Stadtentwicklung die Universität zu gestalten.

Ich wünsche Ihnen angeregte Diskussionen und eine interessante Konferenz!

**Mit freundlichen Grüßen**

**Univ.-Prof. Dr. rer. nat. Dr. h. c. mult. Ulrich RÜDIGER**