

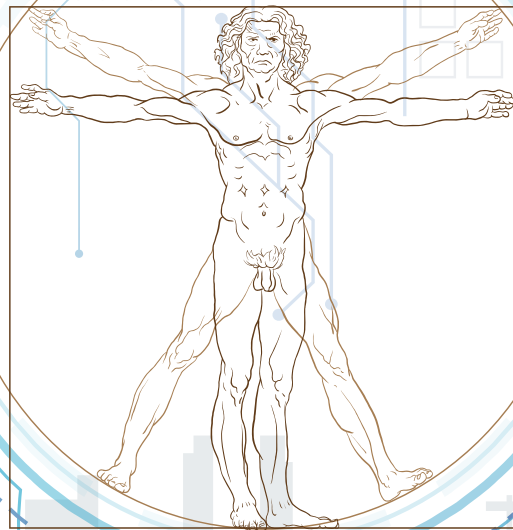


ACADEMY OF ENGINEERING SCIENCES OF SERBIA
UNIVERSITY OF BELGRADE - FACULTY OF GEOGRAPHY

THE e-FUTURE OF CITIES

BETWEEN TEMPTATIONS OF
EXPONENTIAL TECHNOLOGY
GROWTH AND THE CONCEPT
OF HUMAN CITY

EDITOR:
BORISLAV STOJKOV



BELGRADE, 2019

THE INTERNATIONAL SCIENTIFIC CONFERENCE



THE e-FUTURE OF CITIES

BETWEEN TEMPTATIONS OF EXPONENTIAL TECHNOLOGY
GROWTH AND THE CONCEPT OF HUMAN CITY

(THE BOOK OF PROCEEDINGS)

**EDITOR:
PROF. DR. BORISLAV STOJKOV**

Title of the Book of Proceedings:
**e-Future of Cities – between temptations
of exponential technology growth
and the concept of human city**

Publishers:
Academy of Engineering Sciences of Serbia,
University of Belgrade - Faculty of Geography,

For the Publishers:
Prof. Dr. Branko Kovačević, President of the
Academy of Engineering Sciences of Serbia
Prof. Dr. Dejan Filipović, Dean of the Faculty of Geography

Editor: Prof. Dr. Borislav Stojkov

ISBN 978-86-6283-084-5

No. of copies: 300

Printer: Grafika Galeb doo, Niš

Format: 21 x 26 cm

Design and layout: B.Sc.Arch. Jelena Stojkov

The Publisher thanks to the Ministry of Education, Science and Technological Development of the Republic of Serbia for their financial support, and others who supported the organization of the Conference:

- University of Belgrade: Faculty of Civil Engineering, Faculty of Mechanical Engineering, Faculty of Technology and Metalurgy, Faculty of Electrical Engineering, Faculty of Philosophy, Faculty of Security Studies,
- Institute of Architecture and Urban & Spatial Planning of Serbia,
- CPM Consulting d.o.o. Belgrade,

and with special gratitude to:

- ISOCARP, the Hague, the Netherlands (the endorsing organization)
- SPECTRA CE EU at the Slovak University of Technology, Bratislava, Slovakia
- Vienna University of Technology, Faculty of Architecture and Planning, Institute of Spatial Planning, Research Centre of Urban and Regional Research (SRF), Research Centre of Local Planning (IFOER), Research Centre of Regional Planning and Regional Development (REGION)
- Spa-ce.net – Network of Spatial Planning and Research Institutes in Central and Eastern Europe, Bratislava, Slovakia
- MIT SPURS

SCIENTIFIC COMMITTEE CHAIRS

Bernhard Müller, Technical University of Dresden and Int. Member of AESS, Dresden, Germany
Borislav Stojkov, Academy of Engineering Sciences of Serbia, Belgrade, Serbia
Maros Finka, SPECTRA CE EU and Slovak University of Technology, Bratislava, Slovakia
Rudolf Giffinger, Vienna University of Technology and Int. Member of AESS, Vienna, Austria
Velimir Šećerov, University of Belgrade – Faculty of Geography, Belgrade, Serbia

SCIENTIFIC COMMITTEE MEMBERS

Aleksandar Kadijević, University of Belgrade – Faculty of Philosophy, Belgrade, Serbia
Aleksandra Đukić, University of Belgrade – Faculty of Architecture, Belgrade, Serbia
Aleksandra Smiljanić, University of Belgrade – Faculty of Electrical Engineering, Belgrade, Serbia
Andreas Voigt, Vienna University of Technology, Faculty of Architecture and Planning, Vienna, Austria
Biljana Stojanović, University of Belgrade – Faculty of Technology and Metallurgy and AESS, Belgrade, Serbia
Bishwaprya Sanyal, MIT-spurs, Cambridge, USA
Bogdan Lukić, University of Belgrade – Faculty of Geography, Belgrade, Serbia
Božidar Manić, Institute of Architecture and Urban & Spatial Planning of Serbia (IAUS), Belgrade, Serbia
Branko Kovačević, University of Belgrade – Faculty of Electrical Engineering and AESS, Belgrade, Serbia
Dejan Filipović, University of Belgrade – Faculty of Geography, Belgrade, Serbia
Dragutin Tošić, University of Belgrade – Faculty of Geography, Belgrade, Serbia
Igor Marić, Union of Engineers and Technicians of Serbia and AESS, Belgrade, Serbia
Jelena Luković, University of Belgrade – Faculty of Geography, Belgrade, Serbia
Matej Jaššo, SPECTRA CENTRE and Slovak University of Technology, Bratislava, Slovakia
Mila Pucar, AESS, Belgrade, Serbia
Mina Petrović, University of Belgrade – Faculty of Philosophy, Belgrade, Serbia
Mirko Grčić, University of Belgrade – Faculty of Geography, Belgrade, Serbia
Petar Petrović, University of Belgrade – Faculty of Mechanical Engineering and AESS, Belgrade, Serbia
Siniša Trkulja, Ministry of Construction, Transport and Infrastructure of the Republic of Serbia, Belgrade, Serbia
Thomas Dillinger, Vienna University of Technology, Faculty of Architecture and Planning, Vienna, Austria
Vuk Bogdanović, University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Serbia

ORGANIZING COMMITTEE MEMBERS

Marijana Pantić, Institute of Architecture and Urban & Spatial Planning of Serbia, Belgrade, Serbia, President
Borislav Stojkov, AESS, Belgrade, Serbia
Branko Protić, University of Belgrade – Faculty of Geography, Belgrade, Serbia, Executive Coordinator
Dejan Filipović, University of Belgrade – Faculty of Geography, Belgrade, Serbia
Miloljub Smiljanić, AESS, Belgrade, Serbia
Velimir Šećerov, University of Belgrade – Faculty of Geography, Belgrade, Serbia
Vladimir Popović, University of Belgrade – Faculty of Geography, Belgrade, Serbia
Aleksandra Dragičević, University of Belgrade – Faculty of Mechanical Engineering

The presentation of the materials in this Book of Proceedings do not imply the expression of any opinion whatsoever on the part of the editor. The texts of this publication, excluding photographs, may be reproduced if indicated by the source. Quoting and sources are the sole responsibility of authors of particular articles.



THE e-FUTURE OF CITIES

BETWEEN TEMPTATIONS OF EXPONENTIAL TECHNOLOGY
GROWTH AND THE CONCEPT OF HUMAN CITY

(THE BOOK OF PROCEEDINGS)

CONTENT

THE EDITOR'S NOTE	9
-------------------	---

KEYNOTES

Between temptations of exponential technology growth and the concept of human city

THE E-FUTURE OF CITIES WITH UNCERTAIN SOCIAL OUTCOMES Prof. Dr. Borislav Stojkov	13
TOWARDS RESOURCE-EFFICIENT CITY-REGIONS. INTEGRATING RESOURCE FLOWS AND MOBILITIES (EXTENDED ABSTRACT) Prof. Dr. ir. Arjan van Timmeren	31
SMART CITY: REQUIREMENTS FOR SUSTAINABLE AND RESILIENT URBAN DEVELOPMENT Prof. Dr. Rudolf Giffinger	35
SMART URBAN MANUFACTURING:A SYSTEMIC FRAMEWORK FOR NAVIGATING TRANSITION PROCESS Prof. Dr. Petar B. Petrović	43
INDIA'S URBAN TRANSITION MSc. Om Prakash Mathur	63
THE CITIES AS INNOVATION HUBS – CHALLENGE FOR PLANNING Prof. Dr. Maros Finka	71
REGIONAL PRINCIPLES FOR A FUTURE-ORIENTATED PLANNING AND BUILDING CULTURE IN THE REGION RÖMERLAND CARNUNTUM IN LOWER AUSTRIA Assoc. Prof. Dr. Thomas Dillinger, BSc. Ing. Isaak Granzer	77
SMART RESILIENCE: DECENTRALIZING INFRASTRUCTURE AND INTELLIGENCE IN THE AUCKLAND CITY-REGION (AN EXTENDED ABSTRACT) Adj. Prof. Dr Dushko Bogunovich	85
TECHNOLOGICAL CHALLENGES AND RISKS FOR THE E-FUTURE OF CITIES Prof. Dr. Miodrag Mesarović	89
PLANNED NEW URBAN EXPANSION AREAS IN EUROPE. THE ROLE OF TECHNOLOGICAL INNOVATION IN ENHANCING LIVING ENVIRONMENTS Dr. rer.nat. Paulina Schiappacasse, Prof. Dr. rer. nat, Dr. rer. hort. habil, Dr. h. c. Bernhard Müller, B.SC. Tine-Lise Braekow	107
ROLE OF SOCIAL MEDIA CONCERNING PUBLIC PARTICIPATION AND PROMOTION OF CITY IDENTITY Ing. Arch. Michal Hajduk, Assoc. Prof. Dr. Matej Jaššo	119
SMART CITY AND ITS SOCIAL IMPLICATIONS Prof. Dr. Mina Petrović	135
CHALLENGES IN MATERIALS AND NEW TECHNOLOGIES FOR BUILDINGS IN HUMANE CITIES Prof. Dr. Biljana D. Stojanović	145
TOWARDS A NEW CONCEPT OF PUBLIC ADMINISTRATION BASED ON CITIZEN CO-CREATED MOBILE URBAN SERVICES Assoc. Prof. Dr. Dejan Drajić	159
IMPACT OF CLIMATE CHANGE AND NEW TECHNOLOGIES ON DEVELOPMENT OF CITIES IN THE FUTURE - THREATS OR OPPORTUNITIES Dr. Mila Pucar	179

SESSION I

Exponential technology growth and city development in the future

DEFINING ECONOMIC POTENTIALS OF SLOVENIAN URBAN AREAS FOR FUTURE URBAN POLICIES Prof. Dr. Andreja Cirman, Nataša Pichler-Milanović, Ass. Prof. Dr. Melita Balas Rant	201
---	-----

THE ROLE OF SMART MOBILITY IN INCREASING THE CITY HUMANE VALUES Prof. Dr.Vuk Bogdanović	215
BETWEEN DIGITALIZATION AND OM-LINE – NEW APPROACHES FOR THE POST-DIGITAL CITY Dipl.ing. Dunja Kovári-Binggeli, Dr.Thomas Kovári, MSc. Dominique Erdin, MSc. Angela Wiest	231
CHALLENGING URBAN CHIMERA: DIGITAL STORIES FROM THE CITY MULTIVERSE Assoc. Prof. Dr.Aleksandra Stupar,Aleksandar Grujičić,	247
INCLUSIVE URBAN PLANNING & THE DIGITAL CITY Santiago Sanchez Guzman	257
FOOD 4.0: FOOD SHARING AS A SMART APPROACH TO URBAN FOOD POLICIES. A LONGITUDINAL KEY STUDY IN MILAN Dr. Giulia Mura, Dr. Monica Bernardi, Ass. Prof. Nunzia Borrelli, Assoc. prof. Davide Diamantini	275
CITY DEVELOPMENT VS.ALLUVIAL GROUNDWATER SOURCES IN THE FUTURE:THE BELGRADE EXAMPLE Dr. Milan Dimkić, Dr. Srđan Kovačević, Aleksandar Čalenić, Jelena Zarić, David Mitrinović	289
THE NEW INDUSTRIAL POLICY OF SERBIA AND POSSIBLE CONSEQUENCES ON URBAN DEVELOPMENT (ABSTRACT) Dr. Slavka Zeković	301
 SESSION 2 Smart city and opportunity of sustainable city	
RENEWABLE ENERGY PROJECTS FOR THE UNIVERSITY CAMPUSES IN TURKEY Assoc.Prof.Dr. Seda H. Bostanci, Assoc.Prof.Dr. Suat Çabuk, Assoc.Prof.Dr. Adem Erdem Erbaş	305
CULTURAL DIVERSITY IN SMART CITY DEVELOPMENT Dr. Siniša Trkulja, Dr. Dejan S. Djordjević	313
A REVIEW OF THE SMART SUSTAINABLE CITIES RESEARCH IN CHINA Univ.Ass. MSc. Zhang Yanli	325
PRACTICE MAKES SMARTER? A FOCUS ON TURKISH AND SLOVAK SMART CITY PRACTICES Sıla Ceren Varış, Dr. Milan Husár	335
FOLLOWING THE PATH TOWARDS THE INTELLIGENT CITY - THE EXAMPLE OF THE CITY OF NOVI SAD B.Sc.Arch. Dušan Miladinović, Dr. Biljana Vrbaški, B.A.Soc. Bojana Kulačin, B.Sc.C.E. Olja Tolmač	349
SMART POLICIES AND INNOVATIVE SERVICES Prof. Dr. Snežana Đorđević	361
 SESSION 3 Social aspects of new technologies in the cities of future	
NEW TECHNOLOGY AS A CHALLENGE TO SECURITY AND SAFETY IN CITIES Assoc. Prof. Dr. Svetlana Stanarević	377
DEMOGRAPHIC CHANGE AS OPPORTUNITY OR CONSTRAINT FOR TECHNOLOGICAL DEVELOPMENT AND ECONOMIC GROWTH IN CITIES OF SERBIA Dr. Marijana Pantić, Dr. Jelena Živanović Miljković, MSc Aleksandra Gajić	391
DEVELOPMENTAL TRAUMA IN THE ARCHITECTURE OF BELIEFS: FUTURISM OF THE PAST FROM MILLENNIUM ORIGINS OF BELGRADE URBAN PLANNING Dipl. ing. arch. Aleksa Ciganović	405
GENESIS OF URBO-MORPHOLOGY IN THE FUTURE: SOME CHOICES FOR THE CITIES IN ORGANIZED GLOBAL SOCIETIES MSc. Miodrag Ferenčak	413
TRANSFORMATION OF THE URBAN MORPHOLOGY UNDER THE INFLUENCE OF THE NEW TECHNOLOGIES Branislava Simić	429
HUMANOPOLIS:A MODEL OF FUTURE CITIES Prof. Dr. Jerry Kolo	439

THE NEW INDUSTRIAL POLICY OF SERBIA AND POSSIBLE CONSEQUENCES ON URBAN DEVELOPMENT

(ABSTRACT)

Dr. Slavka Zeković

Institute of Architecture and Urban & Spatial Planning of Serbia,

slavka@iaus.ac.rs

Abstract: *The aim of the paper is to explore the perspectives of the new industrial policy of Serbia (in line with the Fourth Industrial revolution/4IR) and its un/predictable impacts on cities. It will discuss the main requirements of the 4IR (the expected shifts, challenges and effects) and the European concept of the “Research and Innovation Systems”/RIS as the multi-dimensional framework for the national “Strategy of Smart Specialization”/S3. These concepts have an important role for urban development, urban policy and urban economy. The paper indicates that the relationship between the movement and allocation of capital and territoriality of political power is a global challenge, which creates spatial configurations, such as smart cities superstructures, urban mega-projects and infrastructures. It opens the question of how to adapt to the new economic order in line to 4IR, especially due to complexity of globalization risks, shifting boundaries of urban governability, creation of new urban structures, possible conflicts and uncertain self-governance of the cities. A conflict between two different views is often refracted in cities: the logic of capital and territorial (political) decision-making. The interdependence of the globalization and the urbanization can contribute to redefinition of the economic and industrial policies and their impact on reshaping of (smart) urban structures, i.e. governance before urban super-structures. An analytical and conceptual framework of the theory of globalization will be applied in the research of a new Serbian S3 and its impact assessment on urban development. The future Serbian S3 should identify the strategic fields, some innovative products and services, consequent urban changes, and provide a reliable assessment of implementation, bearing in mind the real opportunities for the smart economy (jobless, sustainable, innovative, de-growth, sacrificing growth and deceptive growth) in an underdeveloped country. The paper offers some recommendations for perspectival intelligence-smart thinking about the future, real, and critical planning and governance.*

Key words: *new industrial policy, Fourth industrial revolution, strategy of smart specialization, urban development, Serbia*