Urban Cooperation by Urban Design Thinking

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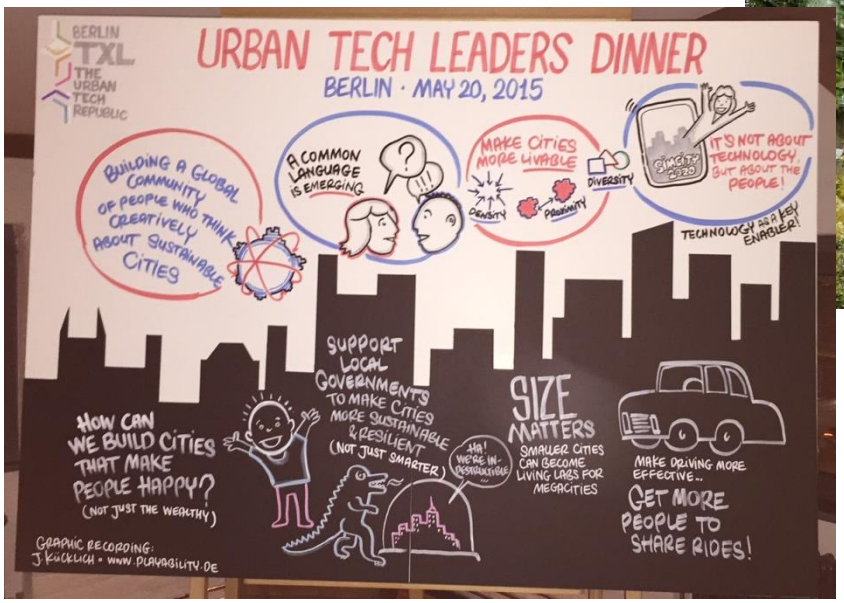
TU Berlin, Chair of Urban Development and Regeneration

Foto: Namphuong Van, www.unsplash.com

Smart Sustainable Cities

Pictures, Facts, Challenges, Strategies, Instruments, Solutions



above: Nationale Platform Zukunft Stadt, NPZ Dateien, onlinepresentation 26.04.2016
2 nd line: Elke Pahl-Weber, Urban Tech Dinner, Berlin 2015, Copenhagen, July 2015, Delhi March 2016

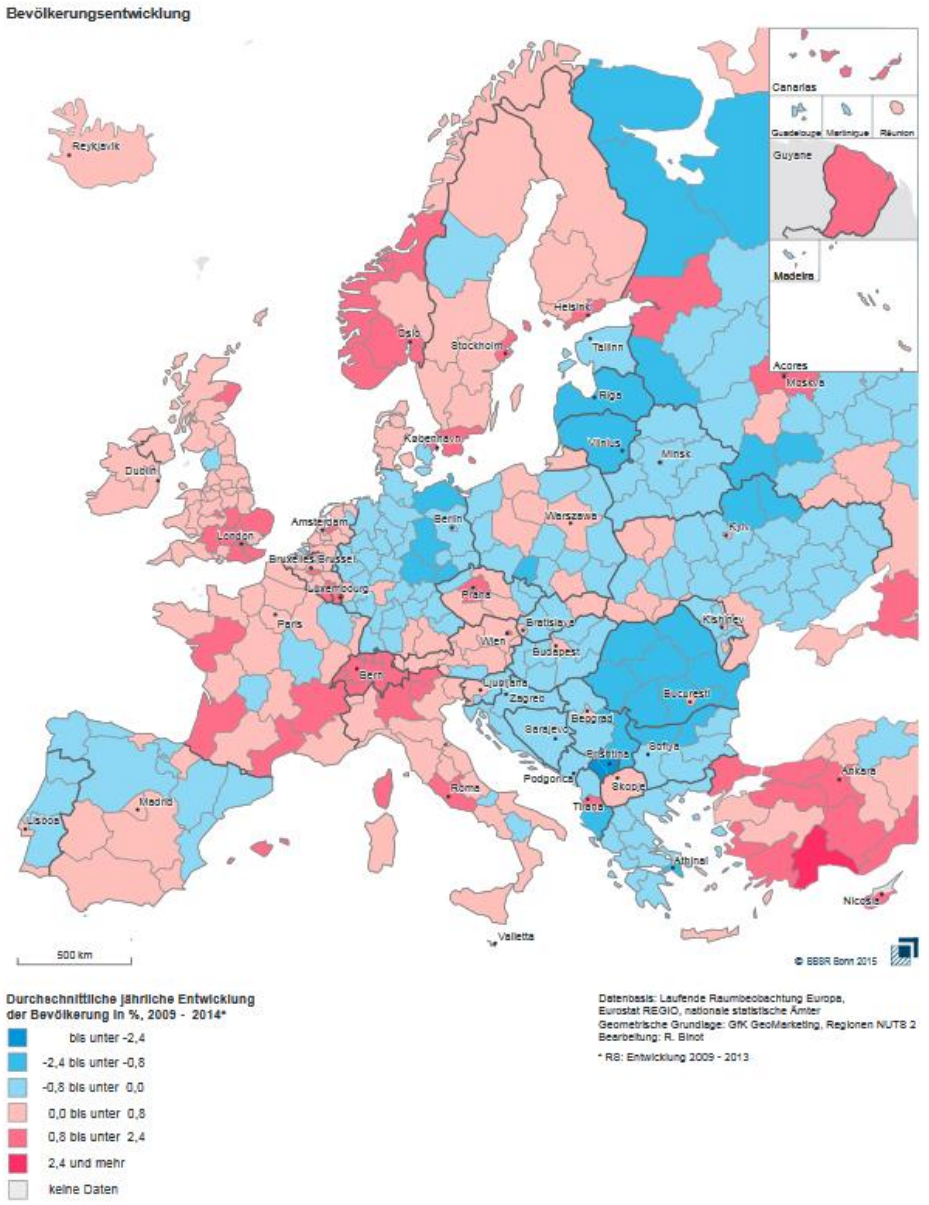
Smart Sustainable Cities

Pictures, Facts, Challenges,
Strategies, Instruments, Solutions

Demography:

Where people live

Shrinking and Growing Population Rates
In Europe



Population Trends in Europe 2009-2014

BBSR, 2016

Smart Sustainable Cities

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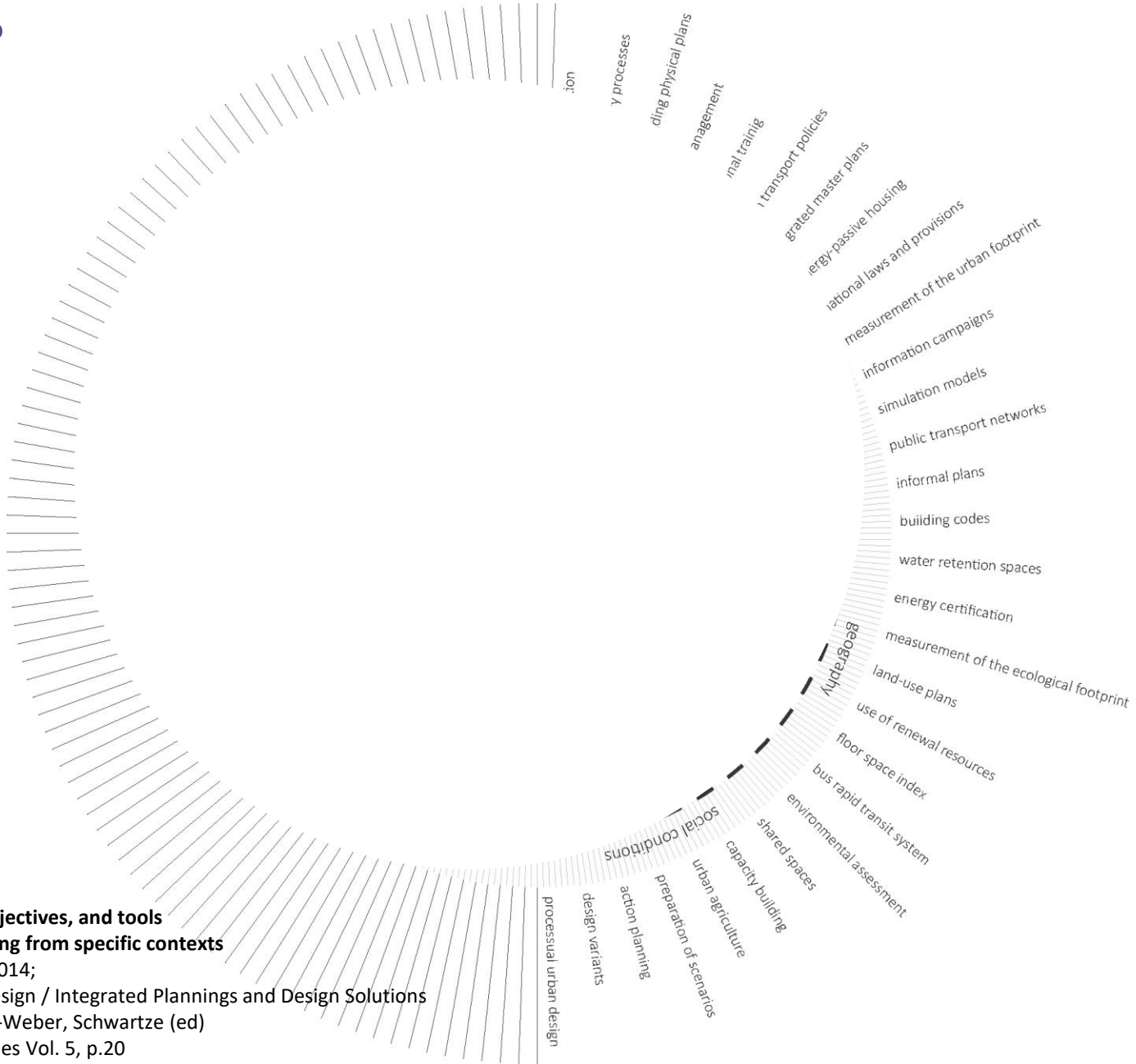
Economic Transformation

Smart industrial production

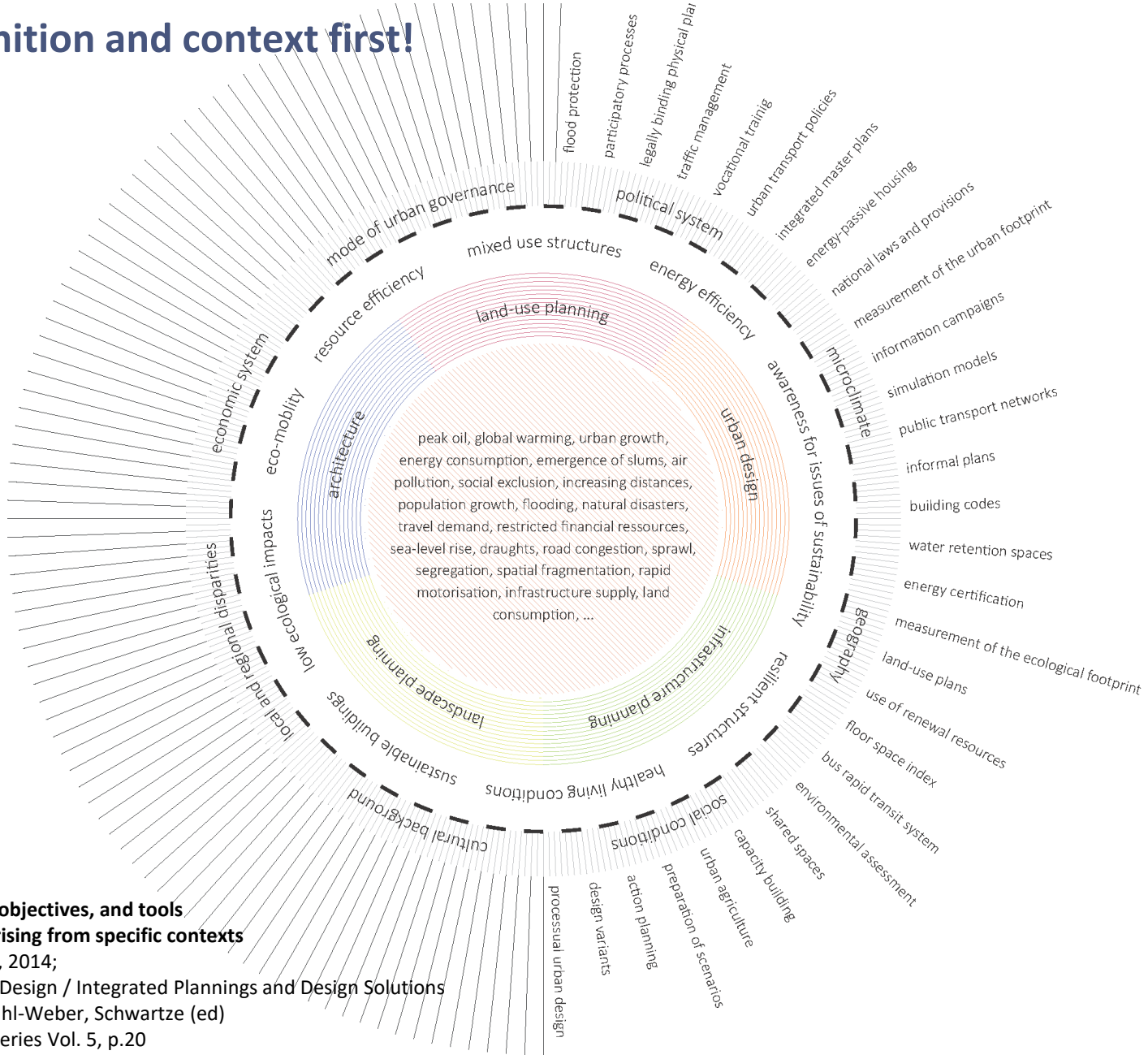
- In mixed used areas in the city?
- In a new kind of buildings?
- Production on Demand?
- No airpollution, no noise?

Solutions first?



Challenges, dimensions, objectives, and tools
to confront challenges arising from specific contexts
Graphic: Jeutner, Marcus, 2014;
In: „Space, Planning, and Design / Integrated Plannings and Design Solutions for Future Megacities“ Pahl-Weber, Schwartze (ed)
Future Megacities Book Series Vol. 5, p.20

Problem definition and context first!



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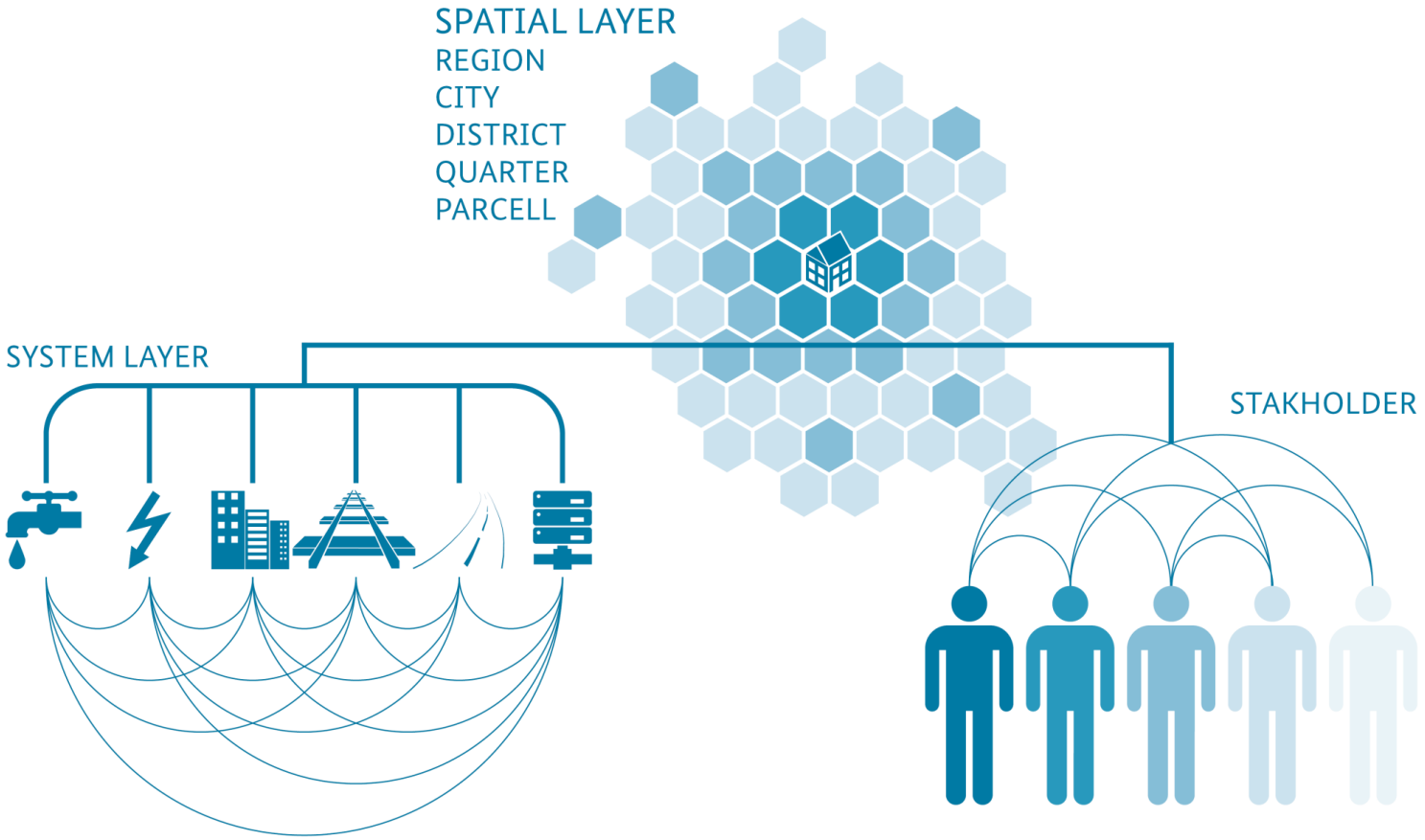
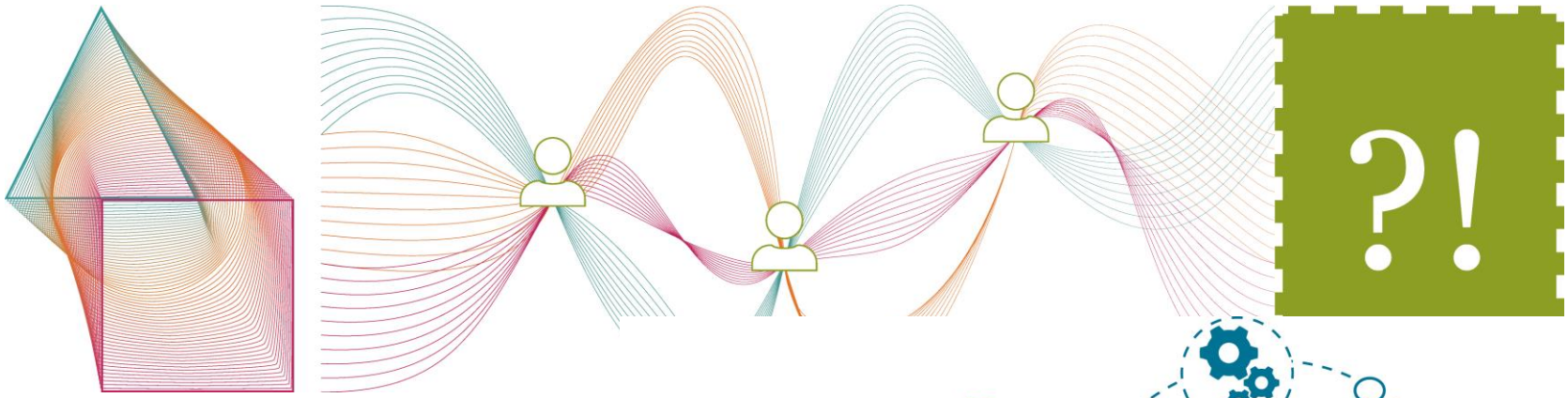


Energy Resources and technical Infrastructure systems
Graphic: Jeutner, Marcus, Magdalena Konieczek, 2015;
In: „Die Zukunftsstadt: CO2-neutral, energie- und ressourceneffizient, klimaangepasst und sozial. Langfassung der Strategischen Forschungs- und Innovationsagenda (FINA)“

Smart Sustainable Cities

Pictures, Facts, Challenges, Strategies, Instruments, Solutions

How to handle complexity?
Transfer of the Triple Helix as cooperative model in urban development



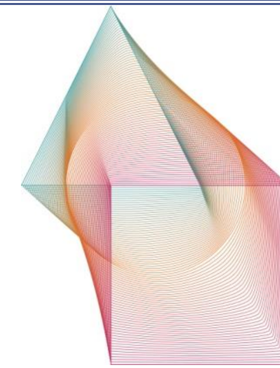
Transformation as dialogic Process – Innovation by urban Co-Production
Graphic: Jeutner, Marcus, TU-Berlin, 2015;

Involvement of People and Stakeholder
Graphic: Jeutner, Marcus, Magdalena Konieczek, 2015;
In: „Die Zukunftsstadt: CO2-neutral, energie- und ressourceneffizient, klimaangepasst und sozial. Langfassung der Strategischen Forschungs- und Innovationsagenda (FINA)“

Urbanisation in Germany

Pictures, Facts, Challenges, Strategies, Instruments, Solutions

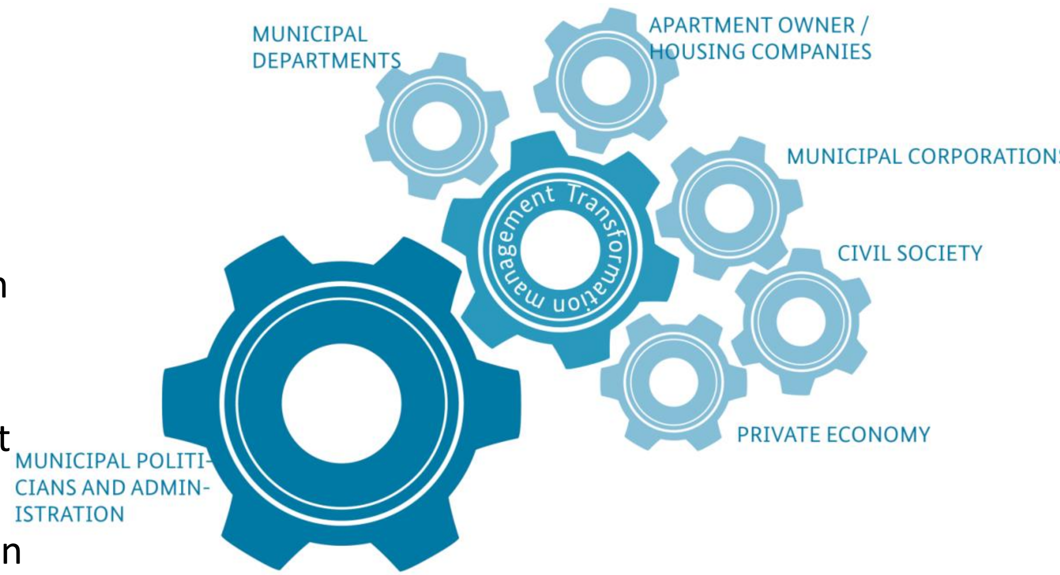
Here: „Smart City“ = Urban Coproduction



TU Urban Lab:
Economy-governance-science collaboration
Graphic: Marcus Jeutner

How to handle complexity?
Transfer of the Triple Helix
as a cooperative model in urban development

- **Industries and enterprises, also housing companies, small and medium enterprises and local businesses** for innovation and implementation in urban transformation processes
- **Governance** with municipality as steering entity in concept development, implementation in politics and administration as well as promoter for active user engagement (civil society) and participation in urban development
- **Sciences** for invention, process supervision, reflection, evaluation and for overall comparison

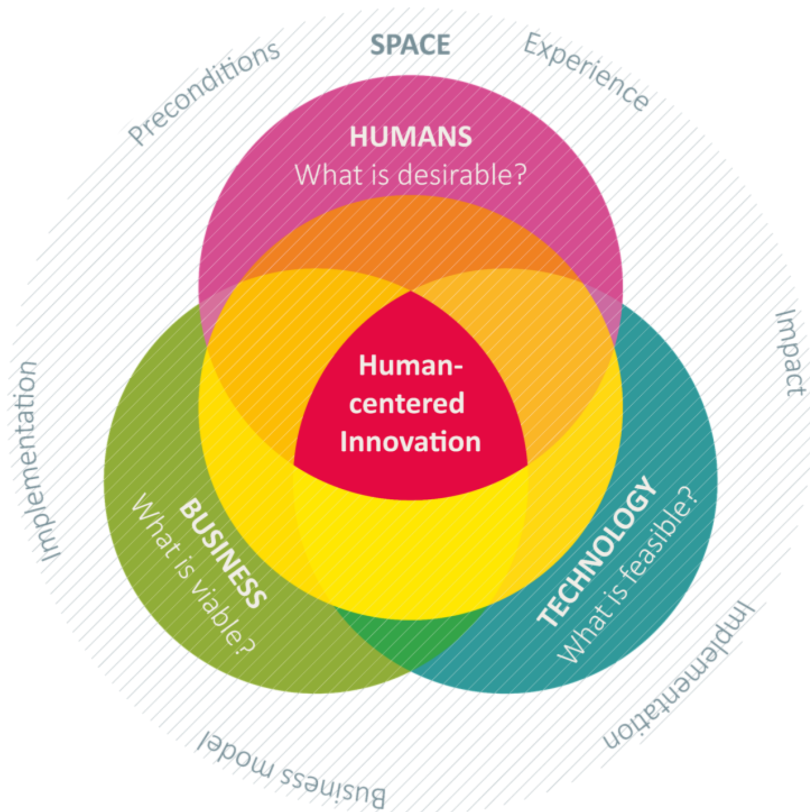


Urban Transformation Management
Graphic: Jeutner, Marcus, Magdalena Konieczek, 2015;
In: „Die Zukunftsstadt: CO2-neutral, energie- und ressourceneffizient, klimaangepasst und sozial. Langfassung der Strategischen Forschungs- und Innovationsagenda (FINA)“

Smart Sustainable Cities

Pictures, Facts, Challenges, Strategies, Instruments, Solutions

Smart City ⬄ Urban Coproduction

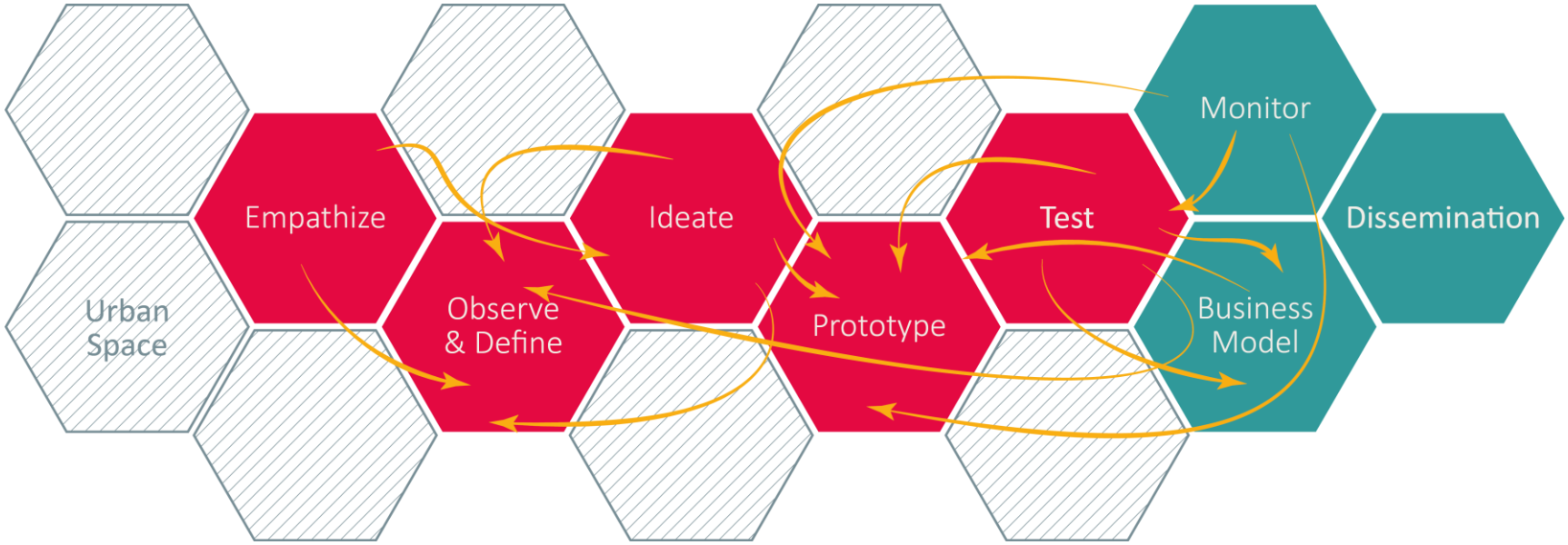


Human-centered Innovation and co-production of urban solutions
TU Berlin, Graphic: Jeutner 2016, on Nadja Berseck, 2015

Smart Sustainable Cities

Pictures, Facts, Challenges, Strategies, Instruments, Solutions

Smart City ⇔ Urban Coproduction



Urban Design Thinking
TU Berlin, Graphic: Jeutner 2016

Smart Sustainable Cities

Pictures, Facts, Challenges, Strategies, Instruments, Solutions

Research

Basic oriented applied research
Sustainable and smart urban Development

City of the Future

Wolfsburg

Research Project, funded by the National Ministry for Education and Research, March 2017-October 2018

- Urban Development ViWo 2030+: Visions for Living in Wolfsburg, digital and connect
- December 2016: WolfsburgDigital; Memorandum of Understanding between Volkswagen AG and City of Wolfsburg: Digital Infrastructure, digital Platform, Real Lab Wolfsburg

Smart Sustainable Cities

Pictures, Facts, Challenges, Strategies, Instruments, Solutions

Research

Basic oriented applied research

Economic Transformation

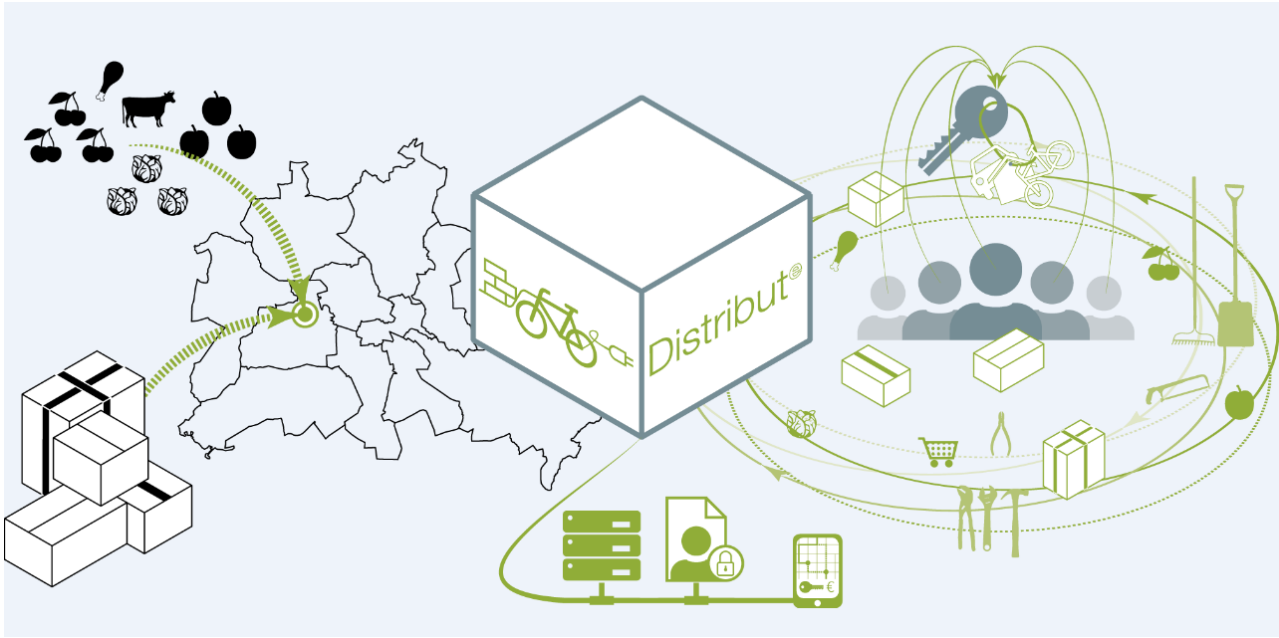
Smart City Services

Distribute

Grüne Kiez-Lieferketten für die Stadt von morgen

Research Project, funded by the National Ministry for Education and Research, April 2017- April 2020

- In districts and quartiers?
- Planned and driven by triple helix actors?



Distribut(e) – Green Logistics for Neighborhoods
Smart-city-Services-Program funded by BMBF
TU Berlin, 2016
Graphic: Marcus Jeutner, 2015

Smart Sustainable Cities

Pictures, Facts, Challenges, Strategies, Instruments, Solutions

Research

Basic oriented applied research
Integration of different cultural backgrounds by co-productive formats

How do highly skilled migrants think about questions of:

- Mobility?
- Housing?
- Work?
- Communities?
- Governance?

Migrants4Cities – Welcome perspectives for sustainable cities funded by BMBF
TU Berlin, 2016
Graphic: Marcus Jeutner, 2015

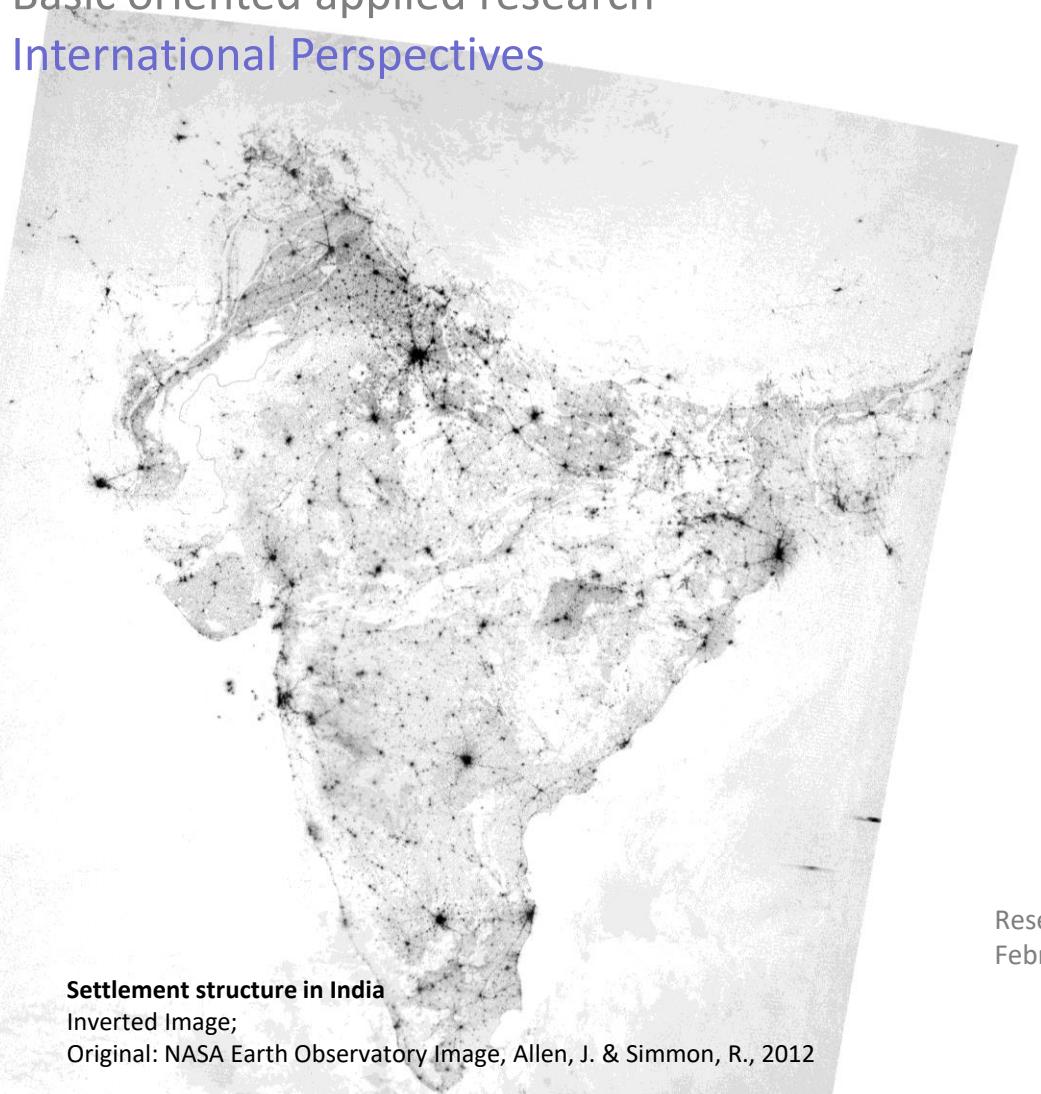
Smart Sustainable Cities

Pictures, Facts, Challenges, Strategies, Instruments, Solutions

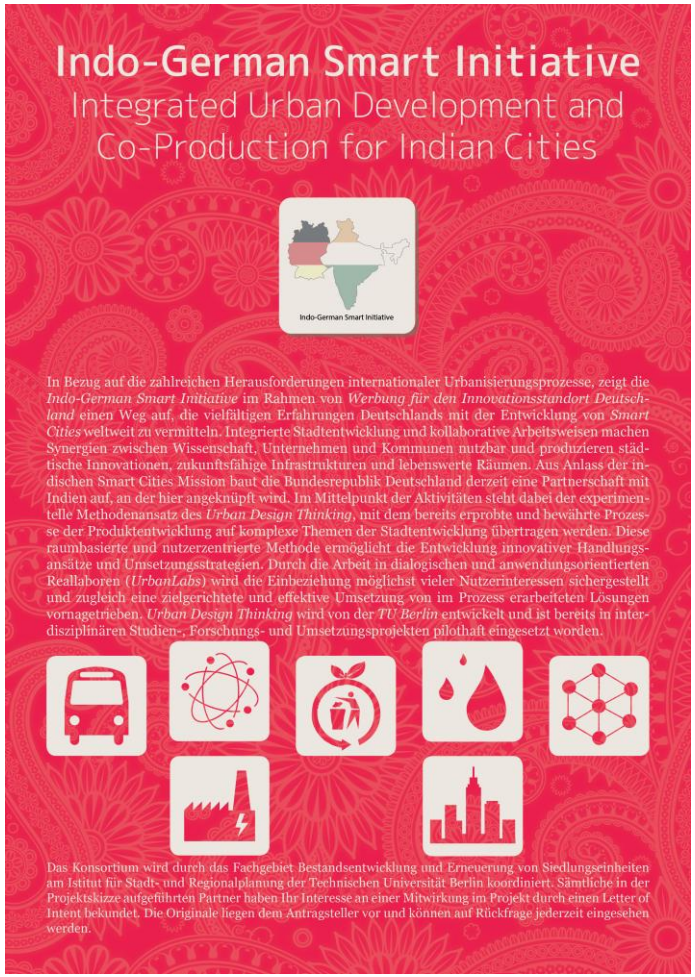
Research

Basic oriented applied research

International Perspectives



Settlement structure in India
Inverted Image;
Original: NASA Earth Observatory Image, Allen, J. & Simmon, R., 2012



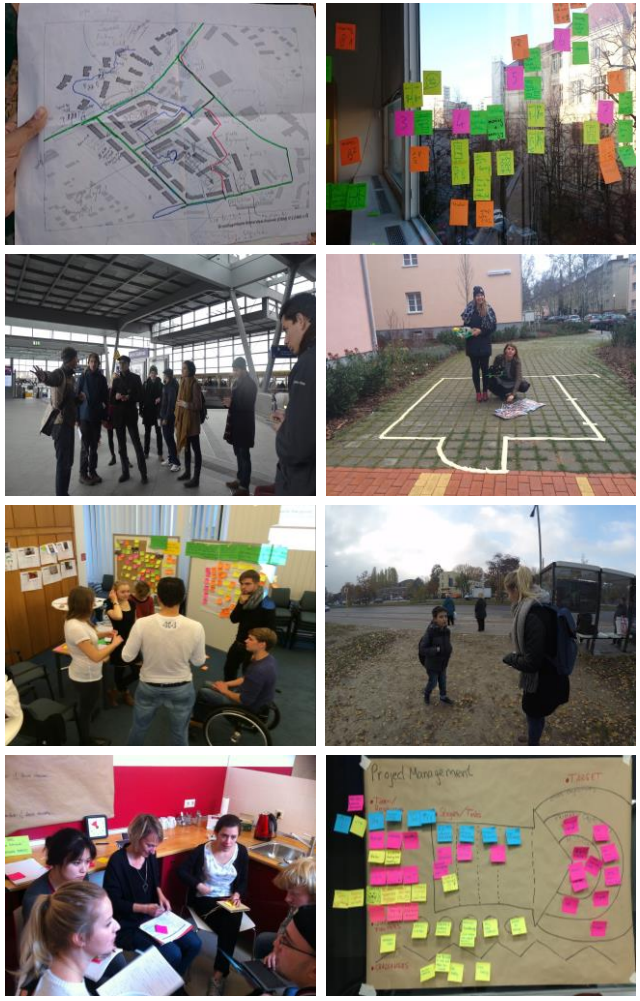
Research Project, funded by the National Ministry for Education and Research
February 2017-July 2018

Germany Land Ideas, Research Campaign "Building the City of Tomorrow of Ideas" funded by BMBF
TU Berlin, Graphic: Marcus Jeutner 2015

“Designing Smart Cities“ master project

Facts & figures

- Started in 2013, 5 months project each winter term
- Different project partners with challenges, e.g., in the field of urban mobility or energetic renewal
- 24 students in 4 teams with urban planning, business and engineering backgrounds
- 1) Conceptual prototype, 2) Spatial visualization, 3) Business model
- Develop space-based urban innovations and learn to work in an innovation team



Network of partners and mentors

Transdisciplinary projects

Graphic: Markus Jeutner, TU Berlin, 2015

Project challenges

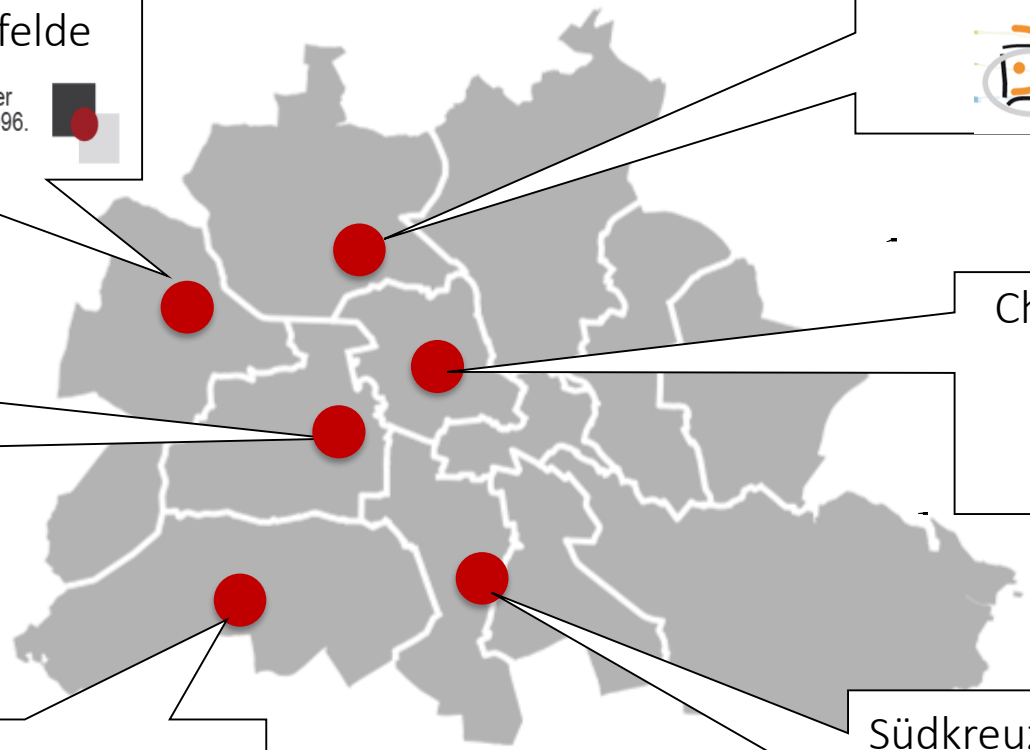
Difference locations in Berlin

Future mobility in Inselstadt Gartenfelde

UTB Unternehmensberatung in der Immobilienwirtschaft. Seit 1996.

Community experience in Brunnenviertel

Quartiersmanagement Brunnenviertel Brunnenstraße



Elderly mobility & health

SIEMENS

Checkpoint Charlie experience

Checkpoint Charlie Stiftung

Energetic renewal in Gartenstadt Lichterfelde

Märkische Scholle Wohnungsunternehmen eG

Südkreuz future train station

DB inno

EMPATHY !

Elderly mobility and health

User insights

I know, it's less safe but I prefer to have a stick, rather than a walker!

There is no elevator at Deutsche Oper station.

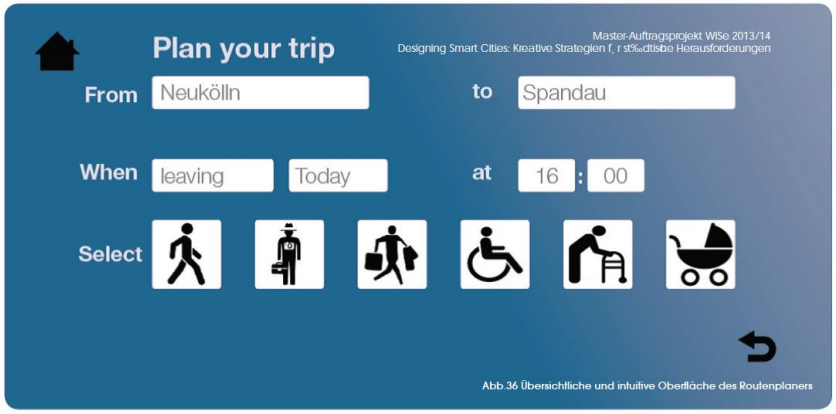
I feel again like a baby because I am not being able to ride my bike anymore.

Elderly mobility and health

Solutions

Multi-functional rollator

Route planner for mobility impaired users



Modular bike

Energetic Renewal

Challenge context at Gartenstadt Lichterfelde

- Project area owned by housing association
- Renovation of 841 apartments in houses from the 1930s houses

Objectives:

- **Family-friendly** and **age-oriented** adaptation of the living space
- **Energy efficiency**: energetic self-sufficiency
- **Socially compatible**: the lowest increases in rent possible

Re-design campus “Lichterfelde Süd”
to achieve
ENERGY-EFFICIENT AND INTERGENERATIONAL HOUSING.

Energetic Renewal

User Insights

With all this new technology in the basement, we have less storage space.

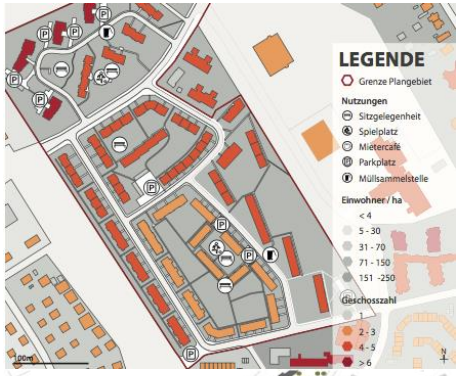
The renovation went great, no complaints! But I cannot find a spot to do sports.

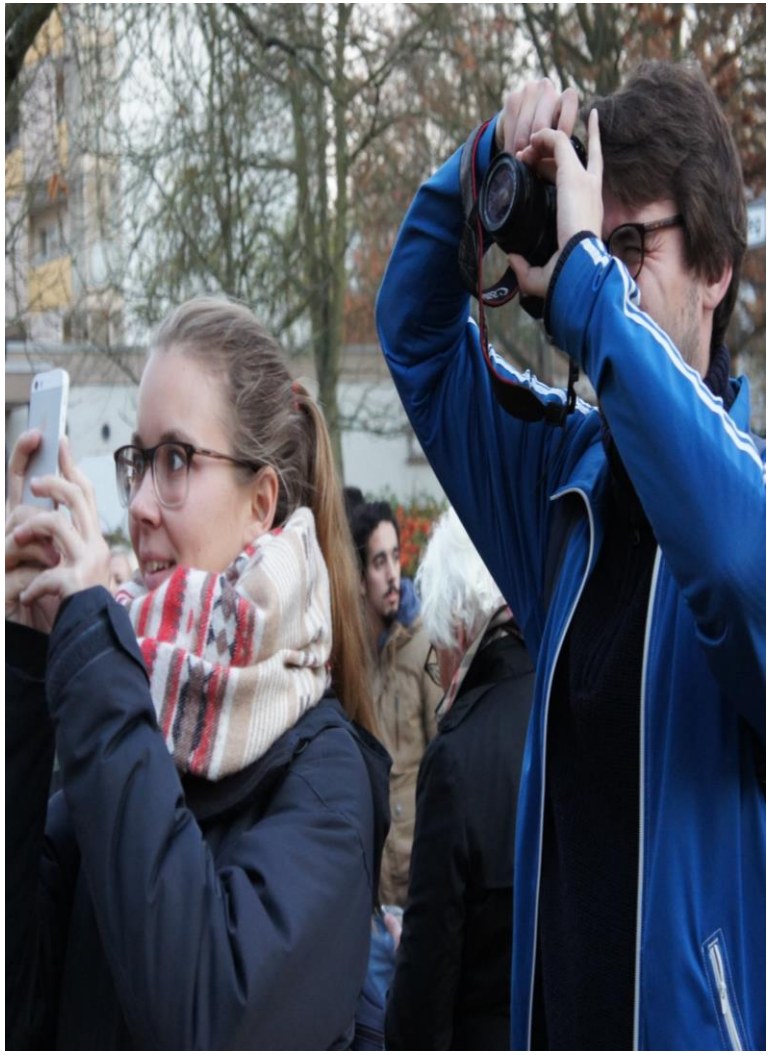
Residents workshop with only 10 residents…

There is no place to play with our children…

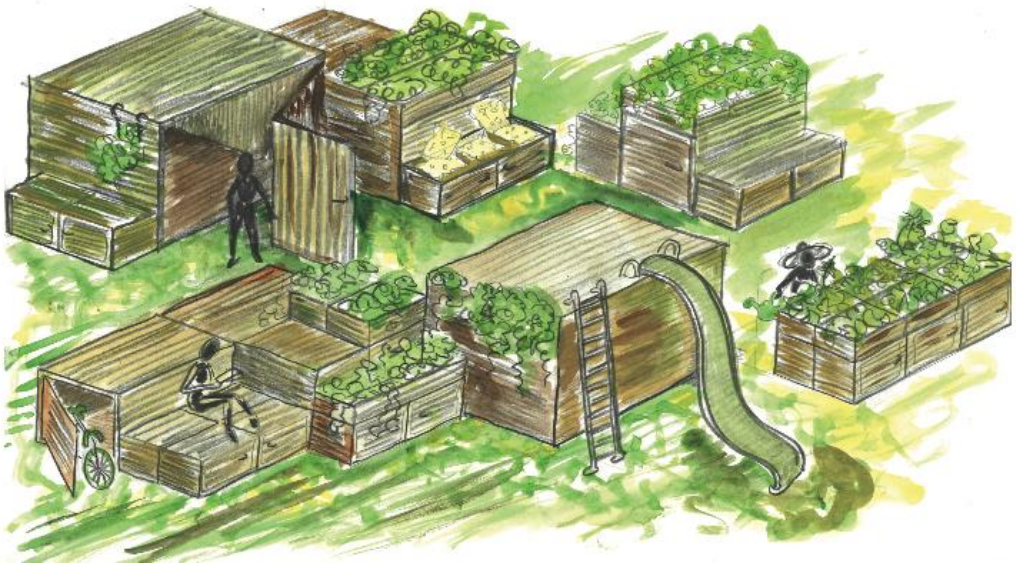
Energetic Renewal

Observation and mapping



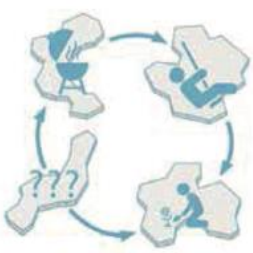


Energetic Renewal
Solutions



FlexiCubes

Rainbow meeting point



Recreation floes

Märkische Scholle
Wohnungsunternehmen eG

Thank you for your attention!

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