CALL FOR WORKSHOP CONTRIBUTIONS

'Making the smart city safe for citizens: The case of smart energy and mobility'

Interdisciplinary perspectives on data ownership, data security and liability

Date	**28th-29th November 2018**
Place	Forum of the Brightlands Smart Services Campus, Heerlen, Netherlands
Workshop Host	Open University of the Netherlands in Heerlen and Business Intelligence & Smart Services (BISS) Institute
Who is invited to apply	Researchers from all relevant disciplines; delegates from (smart) cities; start-ups and companies with relevant innovations in this field
Please apply with	an abstract of 400 words to smartcity@ou.nl as soon as possible. The call will remain open until 1th September 2018

For updated information, check **www.ou.nl/smartcitysafe**

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Making the Smart City Safe for Citizens

The United Nations 2030 Agenda for Sustainable Development set the goal (no.11) to "Make cities inclusive, safe, resilient and sustainable". The most popular strategy to achieve this is the smart city concept. The smart city has become the leitmotiv of urban development in the sustainability transition. The smart city promises to reorganise the flows of resources, goods, services and people much more efficiently, drawing on sensor technologies and artificial intelligence, and thereby potentially saving resources on a massive scale. Many cities have engaged in partnerships with technology corporations to pilot data-based ways of running the city. The European Union has dedicated more than 120 million Euros in 2016 and 2017 to "Smart Cities and Communities lighthouse projects" under its Horizon 2020 programme call SCC-1-2016-2017. According to the Horizon 2020 call "[t]he goal is to facilitate a successful transformation towards intelligent, user-driven and demand-oriented city infrastructures and services".

On the other hand, there is growing resistance to framing the urban sustainability transition mainly as an investment and business opportunity requiring private investors. According to critical voices, there is a clear risk that smart cities end up selling their citizens' data to private investors for private profit, rather than using the data for the common good. Additionally, instead of serving sustainability and enhancing quality of life, many smart city innovations could be used for the surveillance and manipulation of citizens. The way data has been handled by some cities has been exposed as failing to meet the requirements of privacy and data security. Data has in the past often been shared with businesses without the active consent of the citizens. The concept of the 'Smart City' has recently been awarded the 'Big Brother Award' by the German NGO Digitalcourage.

Before this background, we ask: What needs to be done to make the smart city safe for citizens?

With this workshop, we want to contribute to 'making the smart city safe for citizens'. 'Safe', here, is meant in a political, legal, technological and emancipatory sense.

- From a **political science perspective,** we ask: How can cities influence the technological developments of the smart city to ensure that it contributes to the common good? Some smart cities like Barcelona have begun to reclaim ownership over their data and over their technologies, and work towards the ideal of data sovereignty.
- From a **computer science perspective**, we ask: In the case of cyberattacks, can AI Services in the city react in a way that will keep the citizens safe? How can artificial intelligence self-organize to detect and fight dangerous anomalies in the data flows of the smart city? We will assess smart contracts based on blockchain technology to check if they can offer secure usage of constantly self-optimizing services.
- From a **legal perspective**, we ask: Who owns the data and who is liable in case of damage? Here, we will assess instruments for consumer protection and legal liability in case of damage, and investigate the promise of smart contracts.
- Finally, we want to explore if and how the smart city can contribute to **emancipatory goals** and to a more vibrant urban democracy.

Focus on energy and mobility in the smart city

This workshop takes a particular interest in energy and mobility issues. The focus of the plenary sessions will be on two smart city innovations: smart grids and autonomous driving. Both issues draw on artificial intelligence and both involve high security stakes.
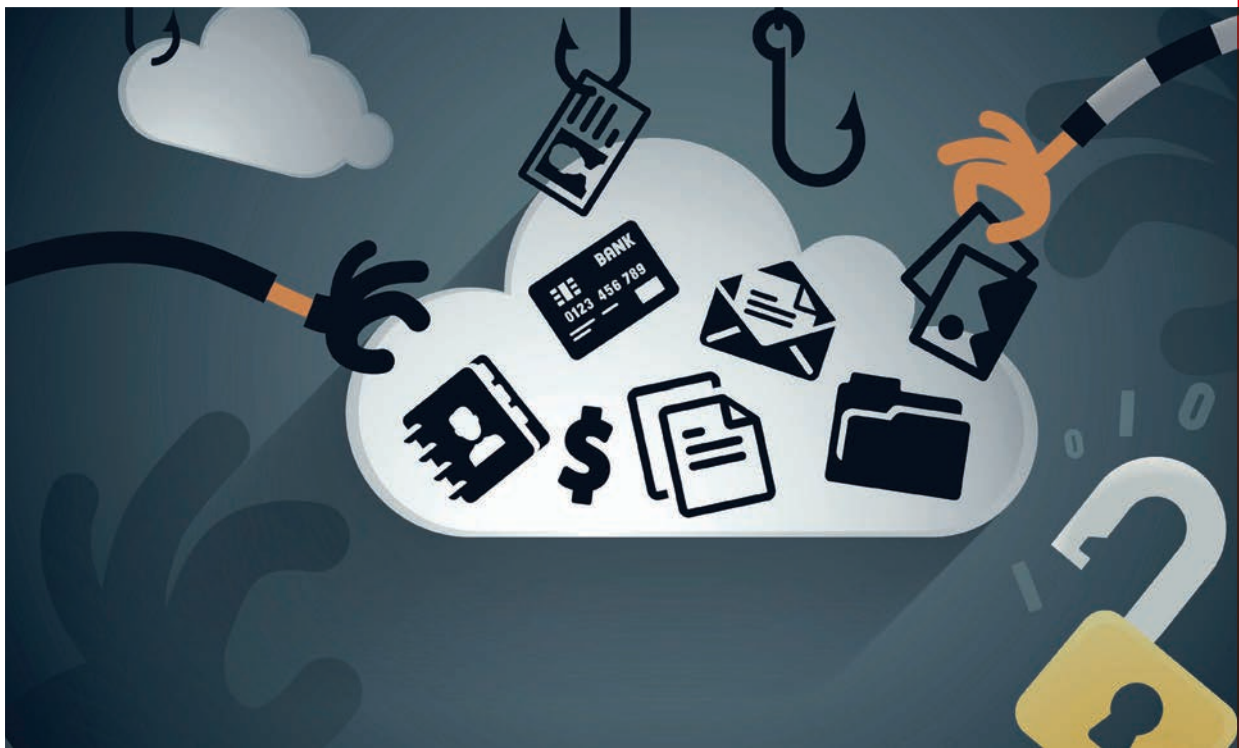
Smart grids

The smart grid is supposed to contribute to demand management of electricity. In times of peak electricity demand, the smart grid postpones non-urgent activities and reschedules them to times of low demand. Smart grids could also be linked to batteries of electric vehicles which could be used as storage capacity. However, such efforts run into problems of data privacy and data security. The system needs to be secured from unauthorized access, drawing on strong systems of user authentification. Secondly, who owns the data generated by users and who is allowed to exploit that data for profiling? Resilience is another strategy of securing; resilience could imply diversification and subsystems, but also electricity back-up systems for critical infrastructure like hospitals. However, there is a clear tension between efficiency, privacy and resilience in the smart city. How can the fascinating idea of load management contributions be rendered operational and safe?

Autonomous driving

Autonomous driving is the key technological innovation in the field of mobility. It is of primary interest to the sustainability agenda as it has (in theory) the potential to reduce the number of cars by 70%, and even more when integrated with efficient public transport. There are challenges to secure the data so that cars that drive autonomously cannot be 'taken over' by non-authorised persons. Self-driving cars need to be set up to respond to abnormal behavior by promptly self-correcting. At what point should humans be able to intervene and take over? Moreover, many legal questions have not been resolved, including liability in case of accident (who is 'the driver'?). Finally, energy consumption and production models need to be adapted to take into account the needs of autonomous vehicles as these will be mostly electric. How can autonomous driving be rendered safe and ecologically sustainable?

At this workshop, we will bring together practitioners from leading smart cities with experts on artificial intelligence, data security and privacy from various disciplines. Our workshop involves experts from law, political sciences, environmental sciences and computer sciences, amongst others. Risk management in the smart city requires an integrated approach across these disciplines to succeed. We will study different modes of securing – in the political, legal and technological realm.

Keynotes

DR. EVGENY MOROZOV, JOURNALIST AND AUTHOR
'A critique of digital capitalism: The smart city in the trap of data extractivism'

Evgeny Morozov is the author of The Net Delusion (2011) and To Save Everything (2013). Morozov's monthly column on technology and politics appears in The Observer (UK) and is syndicated in various newspapers across Europe. His writings have appeared in The New Yorker, The New York Times, The Wall Street Journal, Financial Times, and other publications. Previously a senior editor at The New Republic, he has been a fellow at Georgetown University, Stanford University, New America Foundation, and the American Academy in Berlin. He has a PhD in history of science from Harvard University. His next book, Freedom As a Service, will come out in 2019.

DR. FRANCESCA BRIA, CHIEF TECHNOLOGY AND DIGITAL INNOVATION OFFICER, BARCELONA
'Reclaiming the smart city for the citizens: Data sovereignty and encryption as human right'

Francesca Bria is currently the Commissioner of Digital Technology and Innovation for the city of Barcelona in Spain and she is leading the DECODE project (www.decodeproject.eu) on data sovereignty in Europe. As Senior Programme Lead at Nesta, the UK Innovation Agency, she has led the EU D-CENT project, the biggest European Project on digital democracy and digital money. She also led the DSI project, advising the EU on digital social innovation policies. She holds a PhD in Innovation Economics from Imperial College, London and a MSc on Digital Economy from the University of London, Birkbeck

PROF. RALF MARTIN, IMPERIAL COLLEGE LONDON
'How to make smart meters smart'

Ralf Martin is an Associate Professor of Economics at Imperial College Business School and the programme director of the Growth Programme at LSE's Centre for Economic Performance. In ongoing research, he is looking at how new IoT technologies, improved customer feedback and customer incentives can change energy customer behaviour to both reduce consumption and improve energy system efficiency. Ralf is often advising government bodies such as the UK Department for Business Energy & Industrial Strategy (BEIS), the UK Climate Change Committee (CCC) or the OECD on issues related to his research. He holds a PhD in Economics from the London School of Economics.

PROF. MARTHA ROGGENKAMP, UNIVERSITY OF GRONINGEN
'Energy networks, smart cities and the law'

Martha Roggenkamp is professor of Energy Law (the first one in The Netherlands) and director of the Groningen Centre of Energy Law at the Faculty of Law. She is an expert in the field of Dutch, European and international energy law. She is on the editorial board of the Journal of Energy and Natural Resources Law, International Energy law and Taxation Review and Renewable Energy Law and Policy Review. Roggenkamp studied Scandinavian languages and literature. She holds a PhD in Law from the University of Leiden.

PROF. DR. DR. ERIC HILGENDORF, UNIVERSITY OF WÜRZBURG
'Do we need ethical and legal boundaries for the development of automated cars?'

Prof. Dr. Dr. Eric Hilgendorf is head of the Department of Criminal Law, Criminal Justice, Legal Theory, Information and Computer Science Law, University of Würzburg, Germany. His main areas of interest and research are legal challenges of new technologies with respect to media, internet and computers, AI, medicine and biotechnology. Hilgendorf is a member of the German Ethics Committee on Automated Driving and of the EU´s High Level Expert Group on Artificial Intelligence.

DR. MARTIN DODGE, UNIVERSITY OF MANCHESTER
'The (In)Security of Smart Cities: Vulnerabilities, Risks, Mitigation, and Prevention'

Martin Dodge is a Senior Lecturer in Human Geography at the University of Manchester. He has coauthored three books analysing the spatiality of computer technologies: Mapping Cyberspace (Routledge, 2000), Atlas of Cyberspace (Addison-Wesley, 2001) and Code/Space (MIT Press, 2011). He has completed his PhD at University College London and has previously worked at Cardiff University and the University of Nottingham.

We encourage paper contributions that address the following research questions (but applications are not limited to these questions)

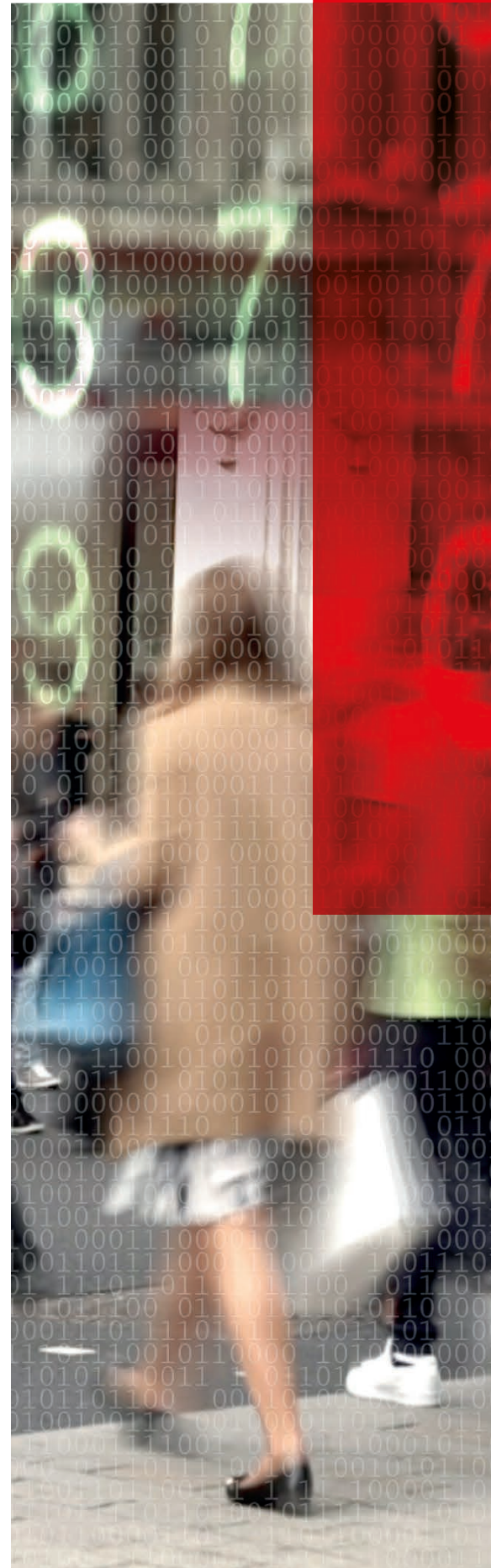## Political sciences/ environmental sciences/ geography

- What are the risks and opportunities for sustainable development from the use of artificial intelligence/ big data in the smart city?
- Which modes of securing are most promising for the smart city – protection, back-up, insurance, liability or resilience?
- How can public space and privacy be defended against privatization and private profit interests?
- How can cities influence technological development to ensure that it serves the goals of the local government? Is there a need for remunicipalisation?
- Which standards of data security, privacy and liability should be imposed by law/politics?
- When decision-making is transferred to artificial intelligence – which checks are needed, where and how should humans be able to intervene?

Law

- Who owns the data (and related profiles) generated by customers – the user, the service provider, the intermediary?
- Who is liable for a product/service in case of damage (who is the 'producer' of a co-produced service/product, what about intermediary platforms)?
- How can smart contracts be used to ensure consumer protection?
- When does antitrust law/ cartel law need to step in to limit market power of single corporations?

Computer sciences/ modelling

- How can the artificial intelligence system self-organize to be resilient against abnormalities?
- How can we ensure that the system optimizes its behaviour to ensure the wellbeing of the citizens?
- Which simulation models are useful for autonomous driving and smart grids in the smart city?
- How can synergies between renewable energies, the smart grid and autonomous driving be realized in the smart city (for example, by storing excess energy in car batteries)?
- Which settings could enable privacy by design?
- Can smart contracts based on the blockchain ensure a secure usage of constantly optimizing services?
- What are secure software architectures to deal with the streaming of the high volume of data coming from the smart city?

Special issues and follow-up grant applications

The workshop will be organized in interdisciplinary plenary sessions and disciplinary parallel workshop tracks. The disciplinary workshop tracks will work towards a special journal issue in their discipline. The special issue of the discipline of law will focus on the subject of smart contracts/ blockchain. In the discipline of political science, the special issue will address data sovereignty in the smart city. In the discipline of computer science, the special issue is on self-organising and self-optimising systems and resilience. We will confirm the names of journals by September.Workshop participants will also network for one or more follow-up grant application(s) at EU level.

Time line

Please indicate your interest to attend our workshop by sending us an abstract **as soon as possible**. **Deadline to send your abstract to smartcity@ou.nl is 1th September 2018.**

- **Researchers** submit an English language **abstract of 300-400 words** (including: research question, theoretical framework, methodology, empirical work carried out, main finding)
- **Practitioners** from smart cities can apply by submitting **300-400 words in English** about what they would like to present

Don't forget to submit your full name, position, institutional affiliation, e-mail and a phone number with your abstract.

We will inform you about acceptance of your contribution on 1st September 2018.

The procedure is different for the computer science track. Abstracts need to be submitted by 7th September 2018. FULL PAPERS for the computer science track need to be submitted by 15th September 2018 so that they can pass peer review before the workshop.

For all other disciplines, it is of advantage to have your full paper submitted by **15th November 2018** if you want it to be considered for one of the special issues.

For updated information, check **www.ou.nl/smartcitysafe**

Organizers

At the Open University of the Netherlands in Heerlen
- PD dr. Angela Oels (Political Science/Environmental Sciences)
- Prof. dr. J.G.J. (Jac) Rinkes (Law)
- Prof. dr. Anka L.H. Ernes (Law)
- Matthew Hanley (Political Science/Environmental Sciences)

At the Business Intelligence & Smart Services (BISS) Institute in Heerlen
- dr. Stefano Bromuri (Data Analytics and Artificial Intelligence)

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