How to Avoid the Gender Data Gap in a Digitized Transportation Infrastructure

27 May 2021

Why do we need this conference?

Digitization of our transportation infrastructure is running at full speed today.
Technology and big data is an important tool for ensuring sustainable development and we who run this process have a responsibility to support new technologies that lead to an economically, environmentally and socially inclusive society.

The use of artificial intelligence, computer learning and apps are becoming normal in the design, construction, operation and maintenance phases of our infrastructure. For this reason, it is increasingly important that we make sure our technologies are inclusive and relevant for all its users. Data plays an important role in this. But as it turns out, data is not necessarily neutral and free of bias.

We are taking transportation infrastructure as a specific focus area because it is such an essential part of the built environment. What we see happening is that smart infrastructure is more and more becoming the cement between societal building blocks: from supporting electrified autonomous vehicles that reduce the environmental impact, to providing accurate information in order to support emergency services into urban areas...and so much more.

We have to make sure that within our digitization efforts our data is inclusive and representative of the entire population.

This means that within our engineering disciplines data bias and the gender data gap need to be recognized and we need to actively prevent our society from locking itself into solutions and processes that are not inclusive and thus not safe. The main aim of the conference is to raise the awareness of decision-makers and leaders that drive the development of infrastructure in the built environment.

Background

KTH Road2Science Competence Center conducted a study on gender equality in the road engineering sector. The aim was to gain a deeper understanding of the current gender distribution at different hierarchical levels in the road engineering sector in Europe and the United States, in both academia and industry.
Data from the survey clearly shows that the proportion of women decreases higher up in the hierarchy.

The aim of the conference is to raise the awareness of decision-makers about the urgency to deal with gender data bias.

Road2Science has identified the gender gap in the data (Gender Data Gap) as an important challenge in social development and will continue working to counter this in the digitization of the transport infrastructure sector.

May 2020 we organized a webinar with **Caroline Criado Perez**, award winning author of *Invisible Women - Exposing Data Bias in a World Designed for Men*. This conference is the next step on the road to widen our perspective and raise awareness of the impact that gender biased data has, not only on new technologies and the digitisation process but society as a whole.

Program

09:00 - 09:05 **Welcome**
Niki Kringos, Conference Chair
Professor in Highway Engineering and Director KTH Road2Science Center, KTH Royal Institute of Technology, Sweden

09:05 - 09:15 **Opening of the event & welcome to KTH**
Sigbritt Karlsson
President, KTH Royal Institute of Technology, Sweden

09:15 - 09:40 + 5 min questions **How to create gender and diversity sensitive smart mobility**
Malin Henriksson, *Senior Researcher in Mobility, Actors and Planning Processes Swedish National Road and Transport Research Institute*
Malin will present a framework for analyzing smart mobility from an intersectional perspective. She will give examples from her work on bike-sharing systems where the "one size all" model excludes users that divert from the predominant male norm.

09:45 - 10:10 + 5 min questions **How taking an outset in everyday practices forms our understanding of future mobility**
Malene Freudendal-Pedersen
Professor in Urban Planning, Aalborg University, Denmark
Malene's focus in this talk will be on how this gendered perspective is brough into discussions on automation, digitalization and the future of the world we are inhabiting.

10:15 - 10:30 **Coffee break**

10:30 - 10:55 + 5 min questions **Gender and (smart) mobility**
André Kingstedt and Marianne Weinreich,
Ramboll, Sweden
Men dominate the transport sector. In Europe less than a third of people employed in the transport sector are women. The way women and men move around society also differs significantly. Are our mobility systems biased towards men's travel needs and patterns? Ramboll smart Mobility shares its research findings based on survey of more than 3.500 people across 7 countries.

11:00 - 11:25 + 5 min questions **Responsible design: socio-technical challenges and opportunities**
Maaike Harbers
Professor, Artificial Intelligence and Society, Rotterdam University of Applied Sciences, The Netherlands
The 'gender data gap' often leads to the design of technology that is better suited to men than to women. Addressing this issue requires more than 'just' collecting more data about women's bodies and behavior. Gender and other biases need to be considered throughout the design, development and deployment of technology. Work on responsible design offers methods for accounting for ethical issues and values in design practice. This talk discusses ethics-focused design methods, and how they can help to address gender bias in design.

11:30 - 12:00 **Moderated discussion and Q&A with the audience**

Speakers

Sigbritt Karlsson is President of KTH Royal Institute of Technology. Her goal is to lift KTH to next level and strengthen its position as a leading international university. “To get there we need the work to be characterized by equality and sustainable development”. Gender equality is one of KTH’s four pillars that both support and drive the university forwards.

Nicole Kringos is the initiator and chair of the conference. Niki is Professor in Highway Engineering at KTH Royal Institute of Technology, where she also leads the Road2Science Competence Center. Through her work she is developing views on how to address the complexity of the transportation infrastructure sector to enable the sustainable integration of technical advances.

Malin Henriksson Ph.D., is a senior researcher at the Swedish National Road and Transport Research Institute. She has a background in gender science and have studied gender and transport for over ten years. Recent projects include transport poverty in excluded neighborhoods and the governance of new mobility services.

Malene Freudendal-Pedersen is Professor in Urban Planning at Aalborg University, Denmark. Her research focuses on mobilities practices, the interrelation between spatial and digital mobilities and its impacts on everyday life, cities and societies. She is co-organizing the International Cosmobilities Network, co-founder of the Journal Applied Mobilities.

André Kingstedt is a civil engineer and works with traffic planning at Ramboll on all levels, from strategic planning to detailed design. The focus in André’s work is to promote sustainable modes of transport such as pedestrian, bicycle and public transport through integrated traffic and urban planning. His main field of expertise is cycling planning and design of cycling infrastructure.

Marianne Weinreich is market manager of Smart Mobility at Ramboll. She has a background in communication and her fields of expertise are sustainable mobility policies, mobility management, promotion of sustainable mobility and behavior change. She has 20 years’ experience with promotion of sustainable modes in general, but she’s an expert in cycling policy and promotion. She is also co-founder and chairman of the Cycling Embassy of Denmark.

Maaike Harbers is a professor of applied sciences in Artificial Intelligence & Society at Rotterdam University of Applied Sciences, The Netherlands. She researches how designers of AI-applications can create interactive, intelligent technology while accounting for the ethical implications of their designs. She has developed methods within the value sensitive design, a design approach that accounts for human values, such as privacy, equity and freedom, and applied these and existing value sensitive design methods in novel contexts.

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