

## Speculative enactment: an experimental research technique using design and prototypes to (in this case) explore future technologies with citizens

urban digital twins

23

urban digital twin: a digital copy of a city including a 3D model and layers of data

public participation: the involvement of citizens in public decision making

## public participation

Cities want to give birth to their own twins, on a computer.

The urban digital twin is a digital copy of the city constructed from heaps of data rather than concrete, and it is being heralded as the driver for Smart Cities: by collecting more and more data and processing it in more and more sophisticated models we would monitor, predict and control the physical city's behaviour to engineer solutions for today's most pressing issues, from climate adaptation to crowd management and from infrastructure to governance.

I looked at the role urban digital twins can play in processes of public participation I iteratively developed visions of what a future urban digital twin for participation could look like (seen on the left). These visions challenged the mainstream or obvious narratives around urban digital twins. This led to a prototype that was used to act out a process of participation concerning the redesign of a playground with residents of the neighbourhood Moerwijk, Den Haag.

I conclude that urban digital twins may have the potential to make public participation engaging to a wider group of citizens and could contribute to citizen trust and transparency in decision-making, but also poses the risk of steering citizens towards technocratic perspectives and leading conversations to focus on details rather than bigger issues. I provide a series of design recommendations in response to these.

David Tiemstra

Speculative enactments for urban digital twins & public participation

17 November 2023

Design for Interaction

Committee

Dr. Roy Bendor Dr. Achilleas Psyllidis

N/A

Company

TUDelft