Contestable Infrastructures: Designing for Dissent in Smart Public Objects

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We Make the City / Cities for Digital Rights
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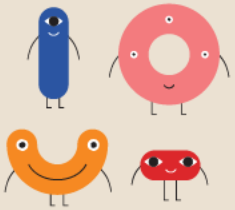
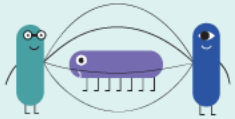
INCLUSIEF



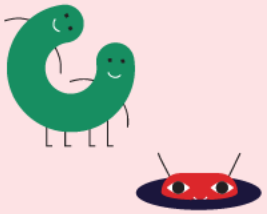
We houden rekening met de verschillen tussen individuen en groepen, zonder gelijkwaardigheid uit het oog te verliezen.

ZEGGENSCHAP



Data en technologie moeten bijdragen bij aan vrijheid van bewoners.

MENSELIJKE MAAT



Data en algoritmen hebben niet het laatste woord. Menselijkheid gaat altijd voor.

OPEN EN TRANSPARANT



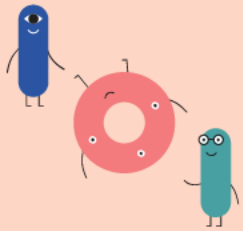
Welke data worden verzameld? Waarvoor? Daarover zijn we altijd transparant.

LEGITIEM EN GECONTROLEERD



Bewoners en gebruikers hebben zeggenschap over de vormgeving van onze digitale stad. De overheid, organisaties en bedrijven faciliteren en monitoren ontwikkelingen en gevolgen.

VAN IEDEREEN VOOR IEDEREEN



Data die overheden, bedrijven en andere organisaties uit de stad genereren en over de stad verzamelen zijn gemeenschappelijk bezit.

tada

DUIDELIJK OVER DATA

www.tada.city

Rise of Smart Public Infrastructure

Trend 1:
Shift from informing policy to automated decision-making leading to **increased stakes**

Trend 2:
Distributed ownership (PPP) leading to **unclear responsibility**

Trend 3:
Machine learning leading to **opaque decision-making**



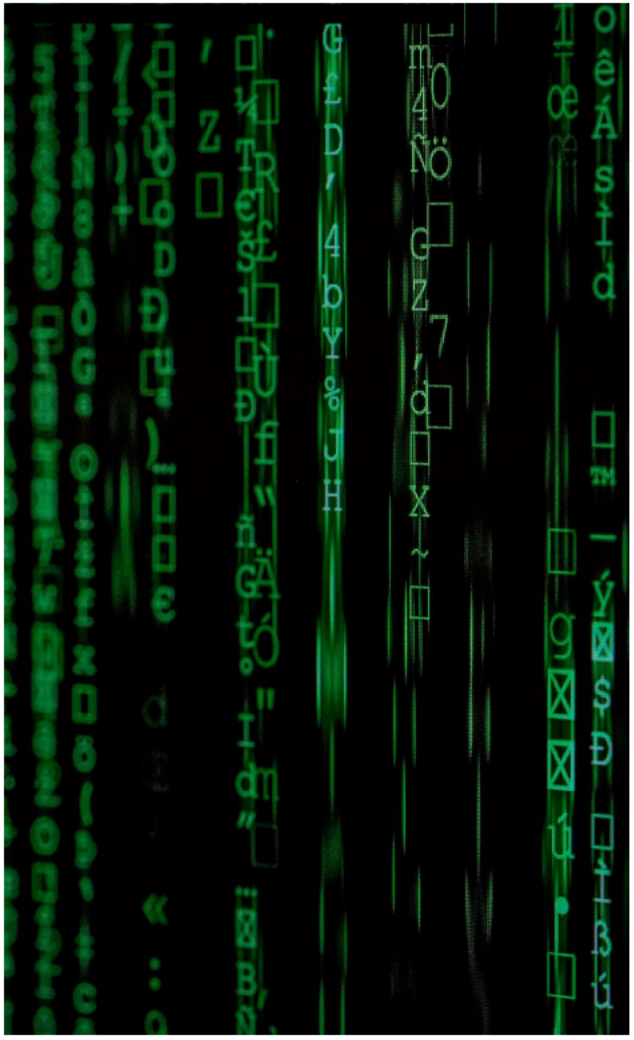




Ethical concerns raised by algorithms

- Inductive correlations leading to **unjustified results.**
- Lack of accessibility and comprehensibility leading to **algorithmic opacity**. Opacity leading to **lack of trust** in algorithmic systems and the organisations that wield them.
- Developer prejudice, technical flaws, bad data and unforeseen interactions producing **biased algorithms**.
- Profiling, nudging and personalisation leading to **diminished human agency**.

(Mittelstadt *et al.* 2016)



How do we organise supervision of smart public infrastructure in a democratic and lawful way?

Existing Approaches to Supervision of Algorithmic Systems

Legal & regulatory

Right to explanation of automated decision-making in GDPR

Auditing

KPMG's "AI In Control" method, BKZ transparantielab

Procurement

Open source clauses, Liander smart meter purchasing policy

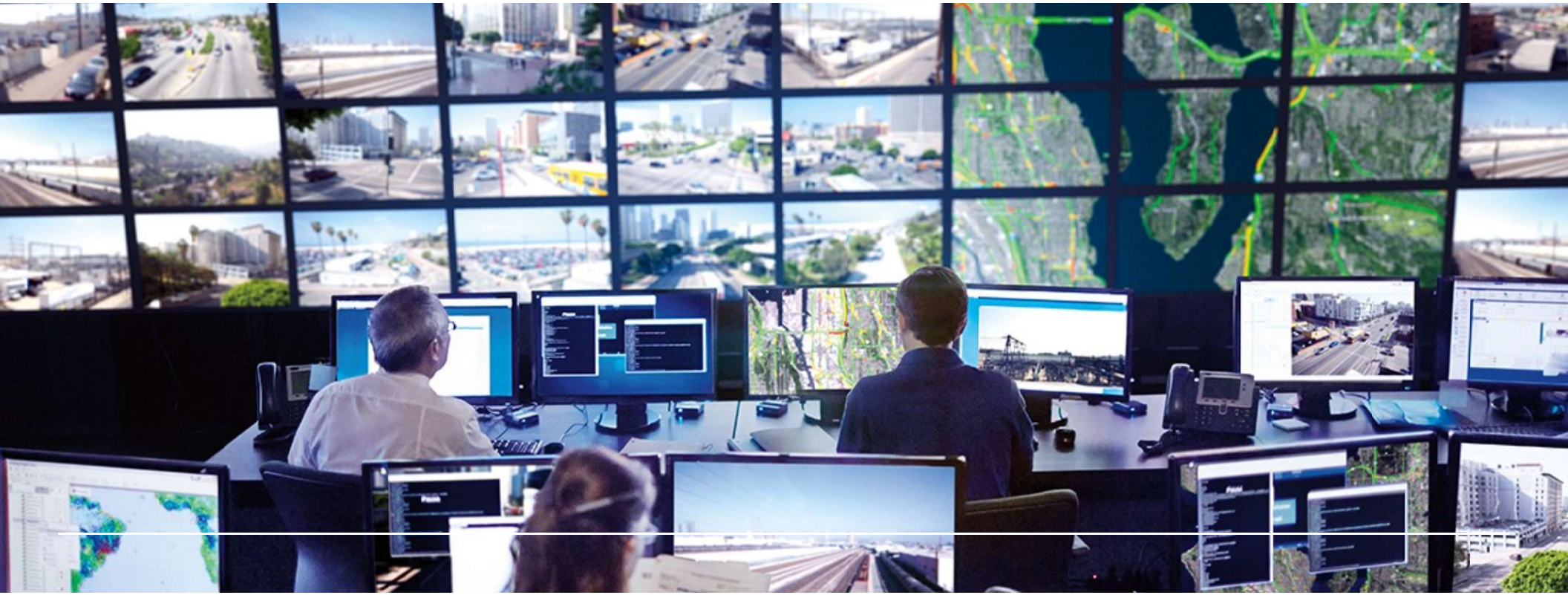
Insourcing

GOV.UK

Design & Engineering

Transparent Charging Station

Limitation 1:
Focus on Professionals



Limitation 2: Focus on Prediction

"Kitchen of Tomorrow"
Design for Dreaming
General Motors 1956



Touchpoints



From Transparency to Contestability





Router

Transparent (seamfulness)

Unplug to contest



Emergency Brake

Adds agency

Designed for not-use



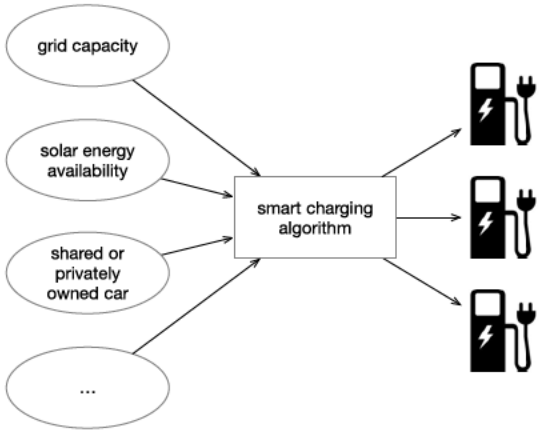
Receipt

Transparent procedure

Means to contest

Smart EV Charging







Type of Objection	Example in the Context of Smart Charging	Contestability Features
Presence	“Charging shouldn’t be made smart at all.”	See below.
Policy	“Shared cards get priority. I don’t drive a shared car so I think this is nonsense.”	Who made the policy, who can change it, how can I contact them?
Faulty outcome	“I charged a shared car but I did not receive the priority I am entitled to.”	What was the intended outcome? What is the actual outcome? Why did this change?
Unfair outcome	“I work shifts and the system assumes office hours so I am always screwed.”	What are the assumptions behind the policy? Who else is adversely affected?

Exercise

1. Can you imagine examples of **other objections** people may have to the system?

2. Do these objections fit within the categories already identified or have you uncovered **new categories**? If so, why are they different?

3. As a citizen, what **additional resources** would you need to be able to act on the objections you've identified?



1. Algorithmic systems are becoming part of public infrastructure.

2. Smart public infrastructure raises new ethical concerns.

3. Many solutions to ethical concerns are premised on a transparency ideal, but do not address the issue of diminished agency.

4. There are different categories of objections people may have to an algorithmic system's workings.

5. Making a system contestable means creating resources for people to object, opening up a space for the exploration of meaningful alternatives to its current implementation.

Thank You!

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