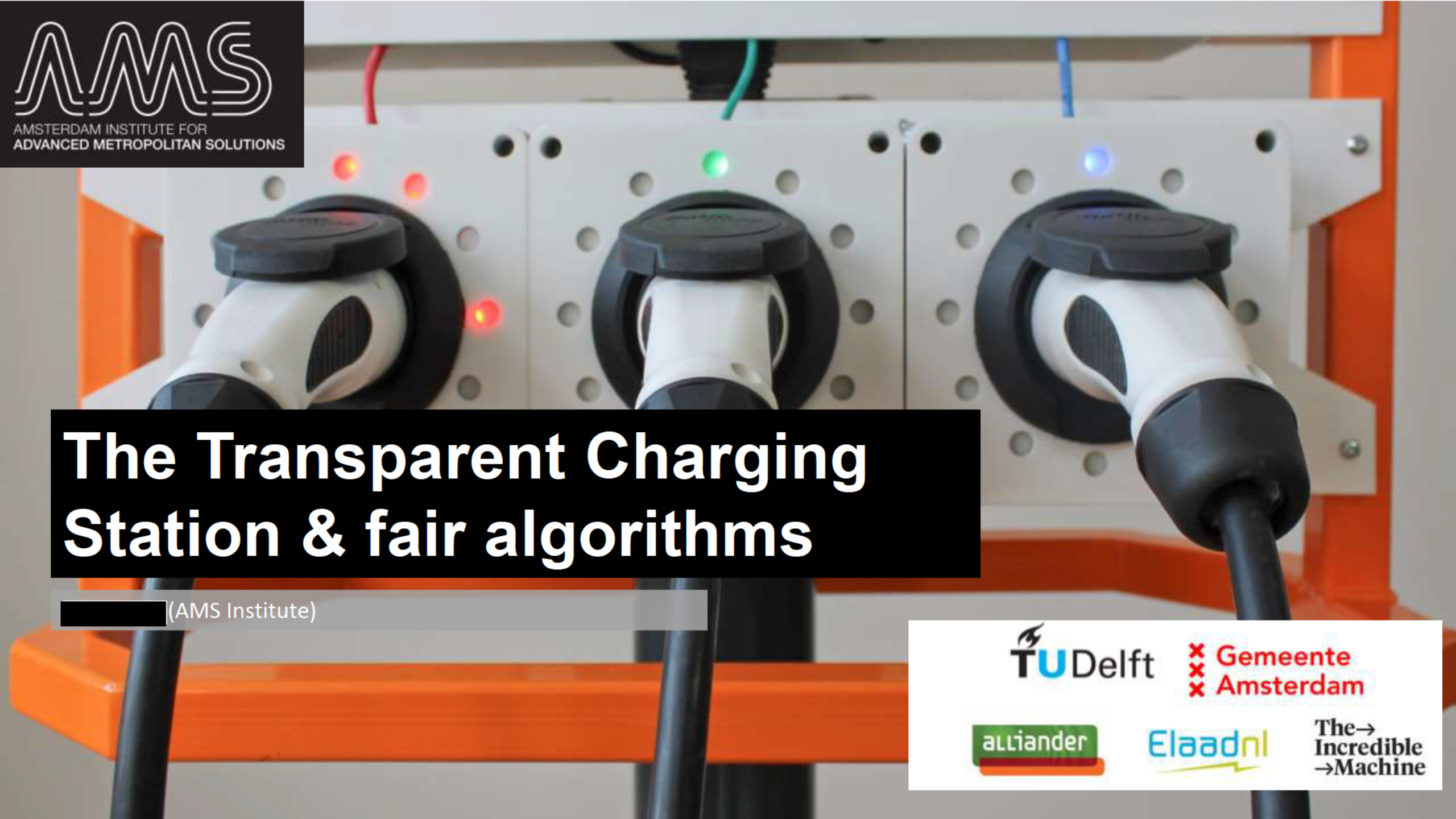

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The Transparent Charging Station & fair algorithms

[redacted] (AMS Institute)

TU Delft · Gemeente Amsterdam · alliander · Elaad nl · The Incredible Machine

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FAIR TECH AND ALGORITHMS

INCLUSIVE



Our digital city is inclusive. We take into account the differences between individuals and groups, without losing sight of equality.

CONTROL



Data and technology should contribute to the freedom of citizens. Data are meant to serve the people. To be used as seen fit by people to benefit their lives, to gather information, develop knowledge and find room to organise themselves. People stay in control over their data.

TAILORED TO THE PEOPLE



Data and algorithms do not have the final say. Humanity always comes first. We leave room for unpredictability. People have the right to be digitally forgotten, so that there is always an opportunity for a fresh start.

OPEN AND TRANSPARENT



What types of data are collected? For what purpose? And what are the outcomes and results? We are transparent about this.

LEGITIMATE AND MONITORED



Citizens and users have control over the design of our digital city. The government, civil society organizations and companies facilitate this. They monitor the development and the social consequences.

FROM EVERYONE FOR EVERYONE



Data that the city, companies and other organizations generate from the city are held in common. Everyone can use them. Everyone can benefit from them. Together we make agreements about this.

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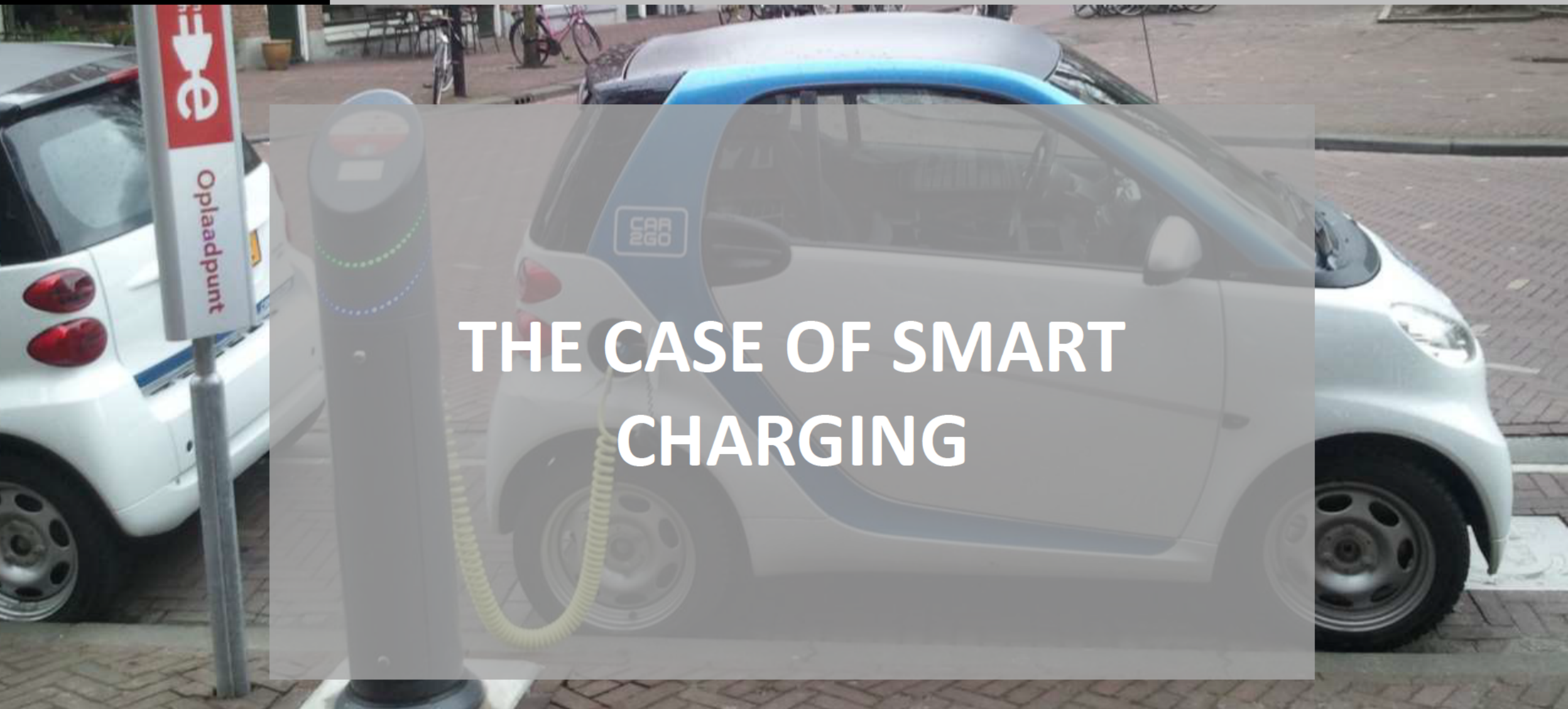
ALGORITHMS IN THE CITY



THE CASE OF SMART CHARGING

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ELECTRIC VEHICLES WILL BECOME THE STANDARD



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CHARGING ALL CARS AT THE SAME TIME IS IMPOSSIBLE



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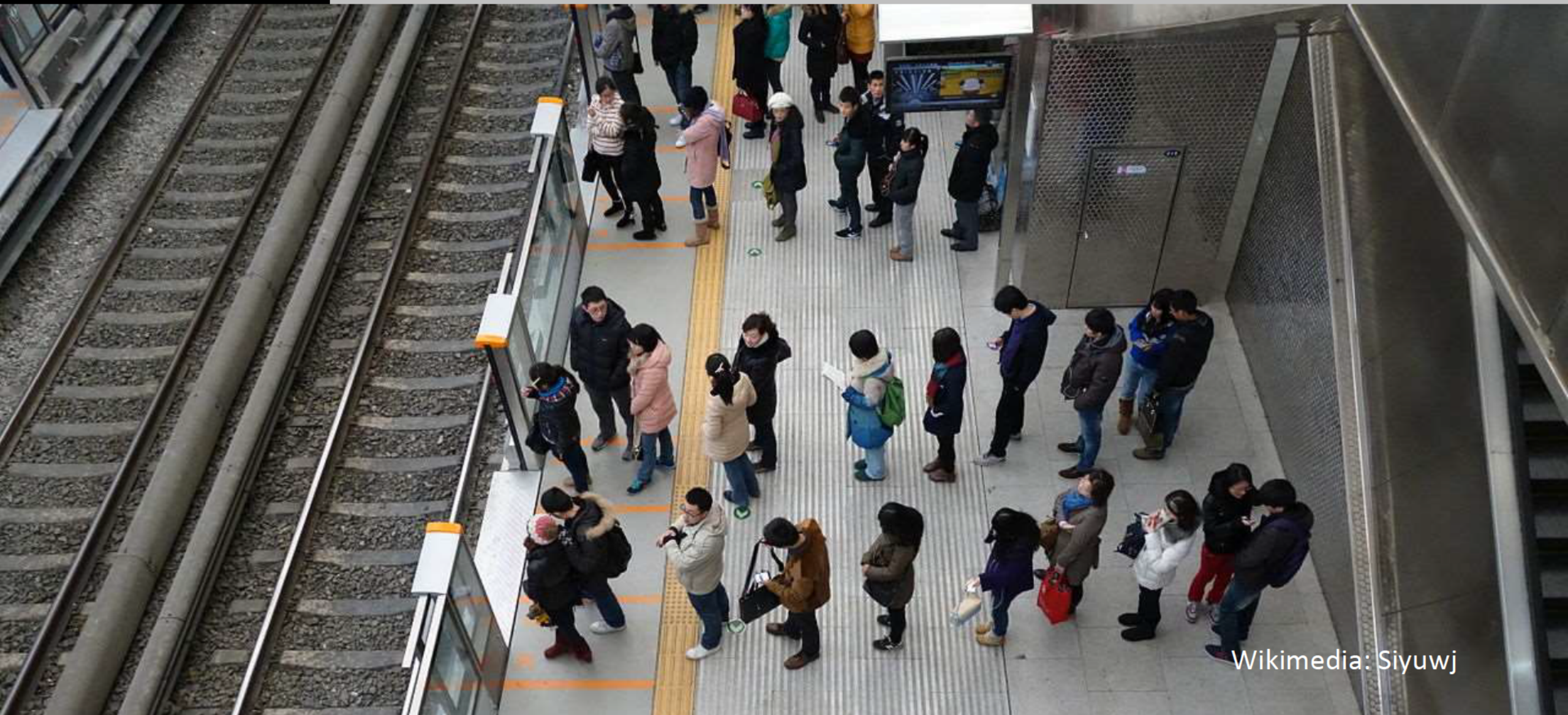
WE WILL NEED TO DIVIDE AND PRIORITIZE BETWEEN PEOPLE



Wikimedia: Siyuwj

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IN THE FUTURE, WE WILL BASE PRIORITIZATION ON MULTIPLE CRITERIA...

INPUT

SYSTEM

Is sufficient grid capacity available?

What is the electricity price?

Is solar panel production available?

CAR

How full is the battery?

Is the car shared or individually owned?

USER

When does user need to leave?

What is the next destination?

What is users charging privilege?



CHARGING INSTRUCTIONS

OUTPUT







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…THIS IS HARD TO UNDERSTAND AND MIGHT FEEL UNFAIR OR ARBITRARY.



‘I DO NOT UNDERSTAND’	HOW DO WE MAKE SURE PEOPLE HAVE A **GENERAL UNDERSTANDING** OF THE DIGITAL WORLD?
‘WHO DECIDED THAT MY NEIGHBOUR'S CAR IS CHARGING WHILE MINE IS NOT’?	HOW DO WE MAKE SURE ALGORITHMIC DECISION MAKING IS **DEMOCRATICALLY** LEGITIMATE?
‘NOT GETTING WHAT I AM ENTITLED TO..’	HOW DO WE ENSURE DEMOCRATICALLY DECIDED **RULES ARE APPLIED**?
‘I THINK I AM BEING RIPPED OFF’	HOW DO WE **DETECT FRAUD?**

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STRATEGIES FOR KEEPING ALGORITHMS AT BAY

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

HOW SHOULD WE COMMUNICATE TO END USERS TO GET TO FAIR ALGORITHMS?

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PHASE 1: PROTOTYPE TO CREATE AWARENESS





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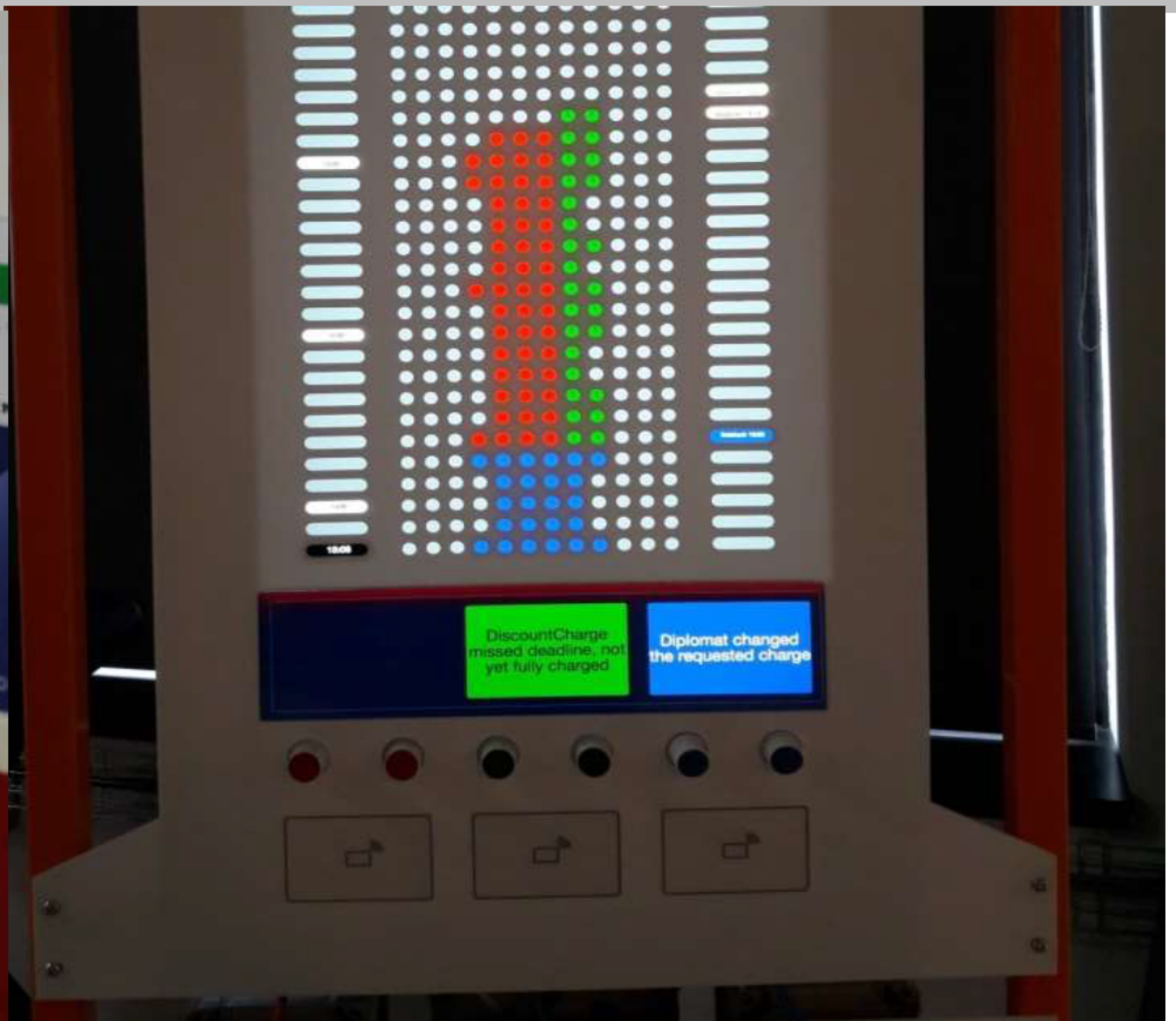
CHARGING CARDS AND INTERFACE





PEOPLE GET THE PROBLEM AND CARE

TRANSPARENCY FOR LAY PEOPLE IS A KEY ISSUE

OBJECT RATHER THAN APP

HARD TO USE METAPHORS

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PHASE 2: A PILOT TO SEE IF THIS CAN BE USEFUL





Image: The Incredible Machine

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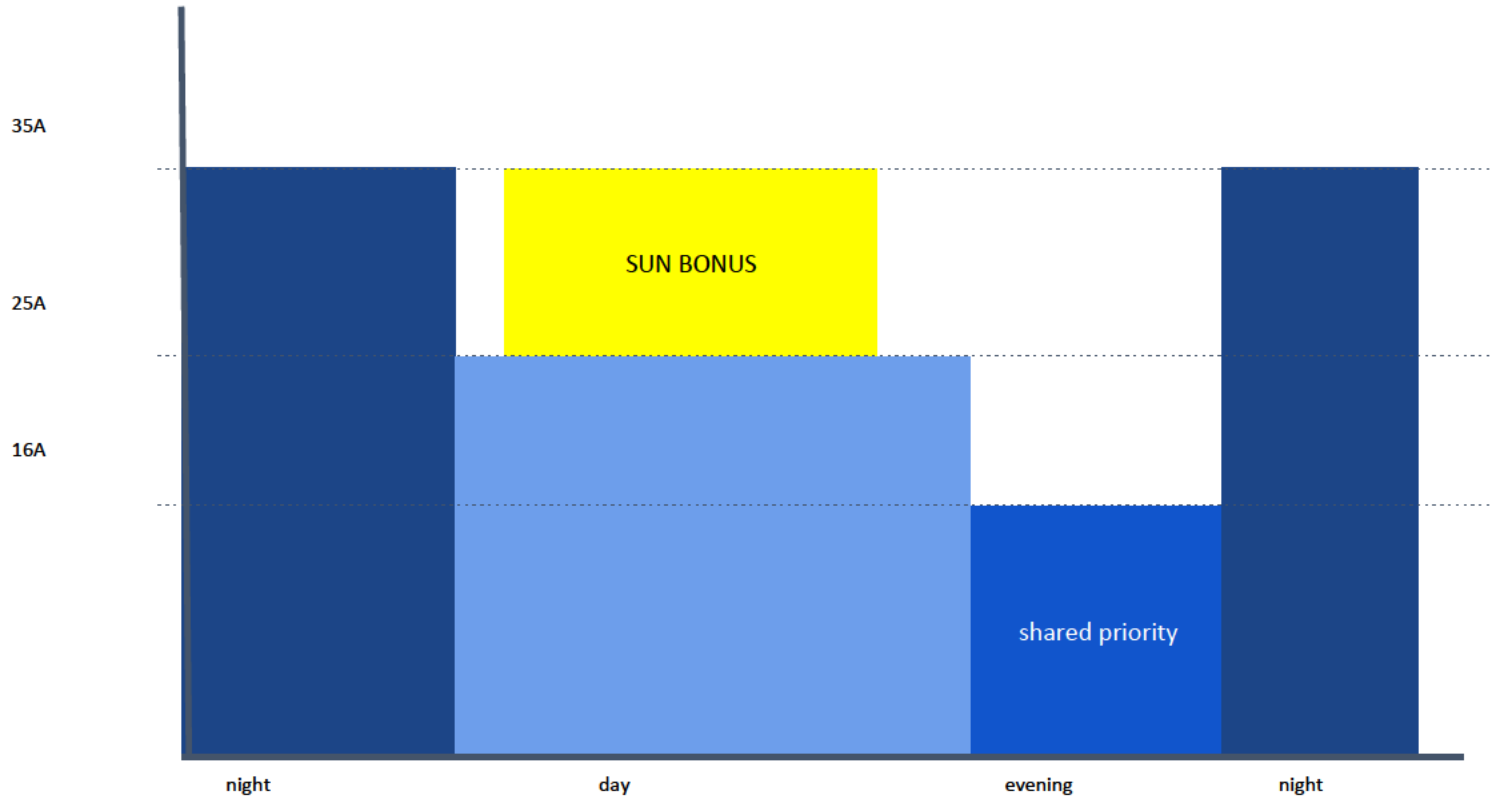
NOT QUITE THE ACTUAL ALGORITHM



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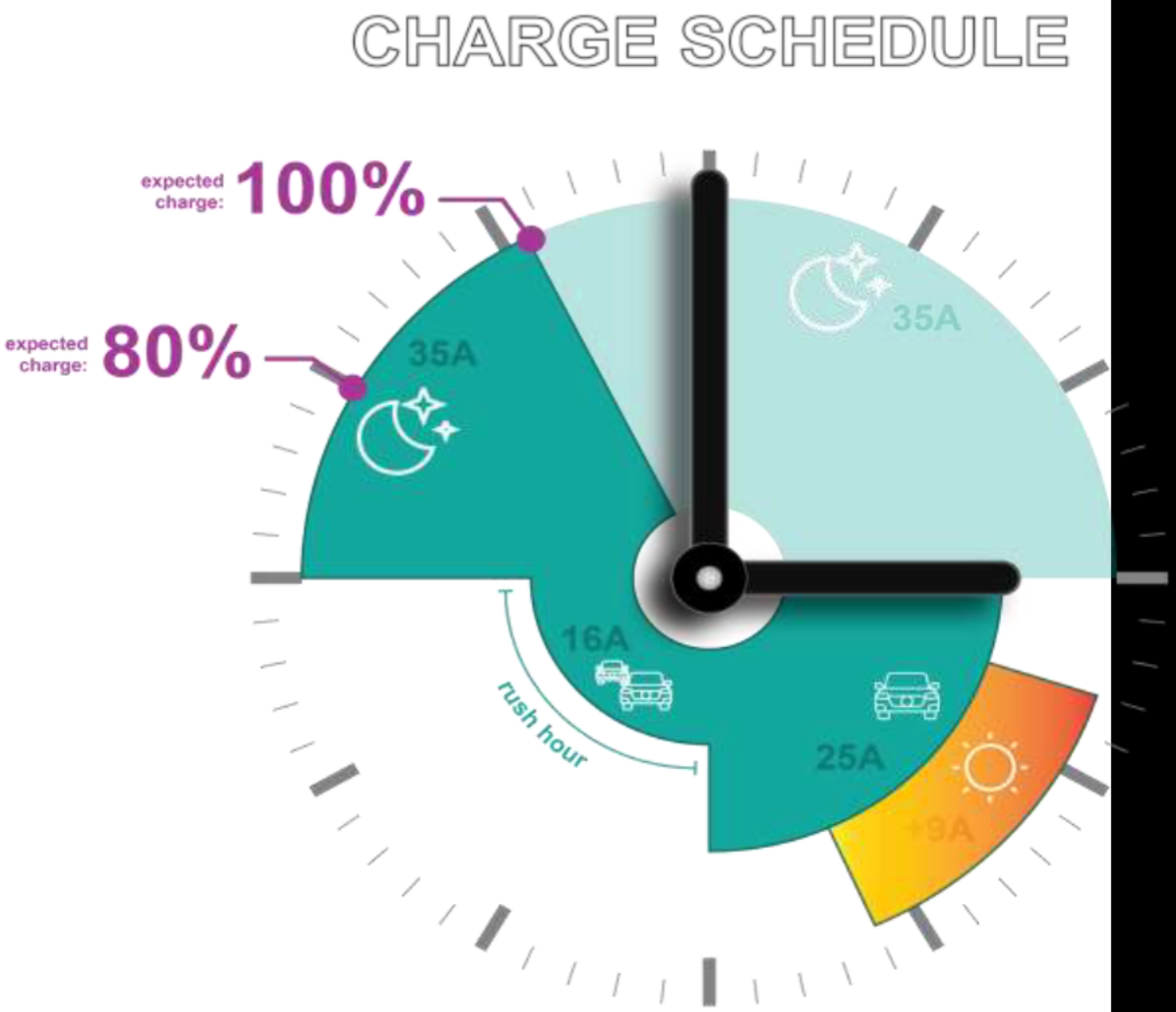
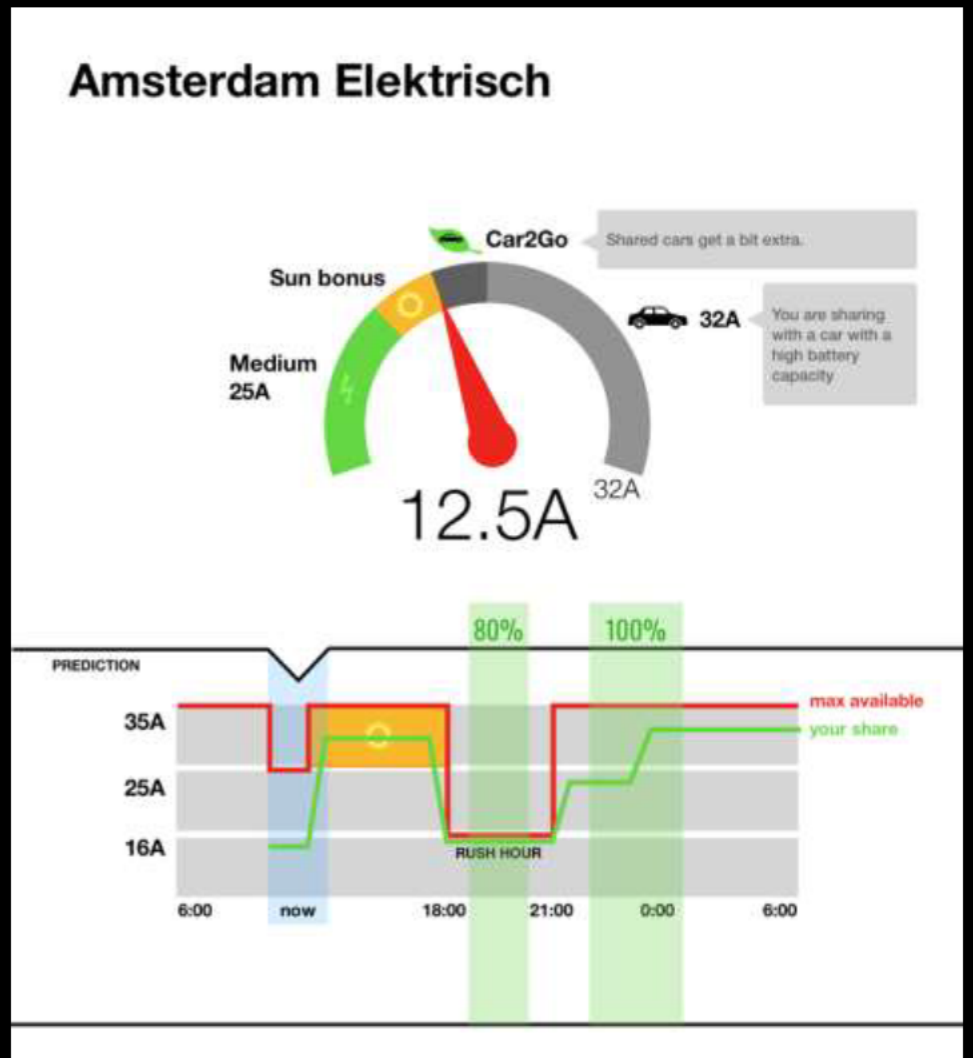
SOME CONCEPT DIRECTI





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TESTING THE INTERFACE DESIGN



LESSONS LEARNED SO FAR

ALGORITHMIC ECOSYSTEM IS CLOSER TO THE TRUTH

SIMPLE ALGORITHMS ARE HARD TO EXPLAIN

FROM TRANSPARENCY TO ACTIONABILITY

RECEIPT

COMING MONTHS

IMPLEMENT: INSTALL THE TEST SITE

TEST: DO PEOPLE FIND THIS MEANINGFUL INPUT?

HOW TO PUSH THIS FORWARD?