Contestable Urban Sensing

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DTPS conference
6-7 October, 2021
Amsterdam, NL

Image: https://www.geodan.nl/nl/kennis-en-innovatie/stadsprocessen-slim-managen-met-het-amsterdam-smart-city-dashboard/

MX3D bridge

https://mx3d.com/industries/infrastructure/mx3d-bridge/

“A right to the city now depends upon a better reading of today’s critical phase in urbanization as a period where the city is increasingly reproduced through digital information.”

Shaw, J., & Graham, M. (2017). An Informational Right to the City? Code, Content, Control, and the Urbanization of Information. Antipode, 49(4), 907–927. https://doi.org/10/gbwxcs

amsterdam.nl

Gemeente Amsterdam

Innovatie

Focusgebieden Samenwerkingen Nieuws

Innovatie › Nieuws Innovatie

Code the Streets pilot: draag bij aan een leefbaar Amsterdam

20 september 2021

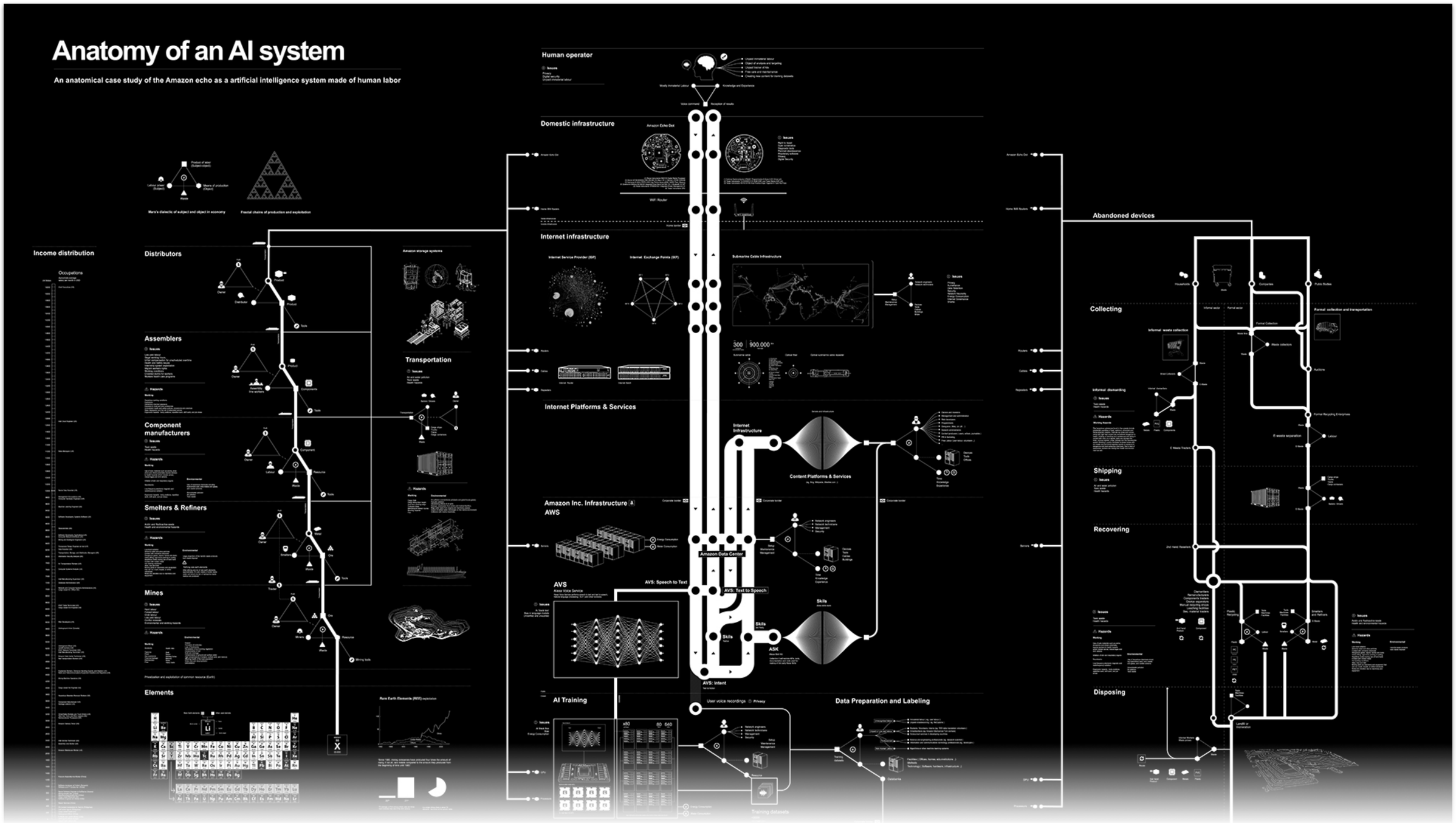
Amsterdam groeit en heeft te maken met bijbehorende uitdagingen als drukte, verkeersopstoppingen, luchtvervuiling en een toenemende druk op kwetsbare infrastructuur. Tegelijkertijd hebben we te maken met digitalisering en klimaatverandering en wil Amsterdam een veilige,

“Holding an assemblage accountable requires not just seeing inside any one component of an assemblage but understanding how it works as a system.”

Ananny, M., & Crawford, K. (2018). Seeing without knowing: Limitations of the transparency ideal and its application to algorithmic accountability. New Media and Society, 20(3), 973–989. https://doi.org/10/gddxrg

Anatomy of an AI system

An anatomical case study of the Amazon echo as a artificial intelligence system made of human labor



“It is not shared values that unite diverse citizens but participation in a shared process.”

Lowndes, V., & Paxton, M. (2018). Can agonism be institutionalised? Can institutions be agonised? Prospects for democratic design. British Journal of Politics and International Relations. https://doi.org/10/gdw7jp

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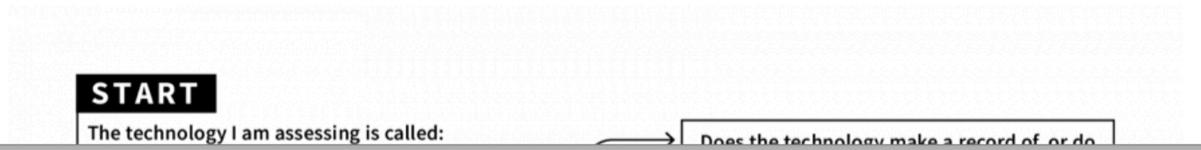
FLOW→CHART

ALGORITHMIC EQUITY TOOLKIT

Automated decision systems pose certain hidden risks because of their use of **data** and **algorithms**. Identification of **automated decision systems** can be an important first step to intervening in the use of these systems.

Use this flowchart to identify whether a particular technology is an **automated decision systems**. In the **system map** you can find definitions for the **bolded words**, and a map of the relationships between various parts of an **automated decision systems**. **Click here** to view the flowchart step-by-step.



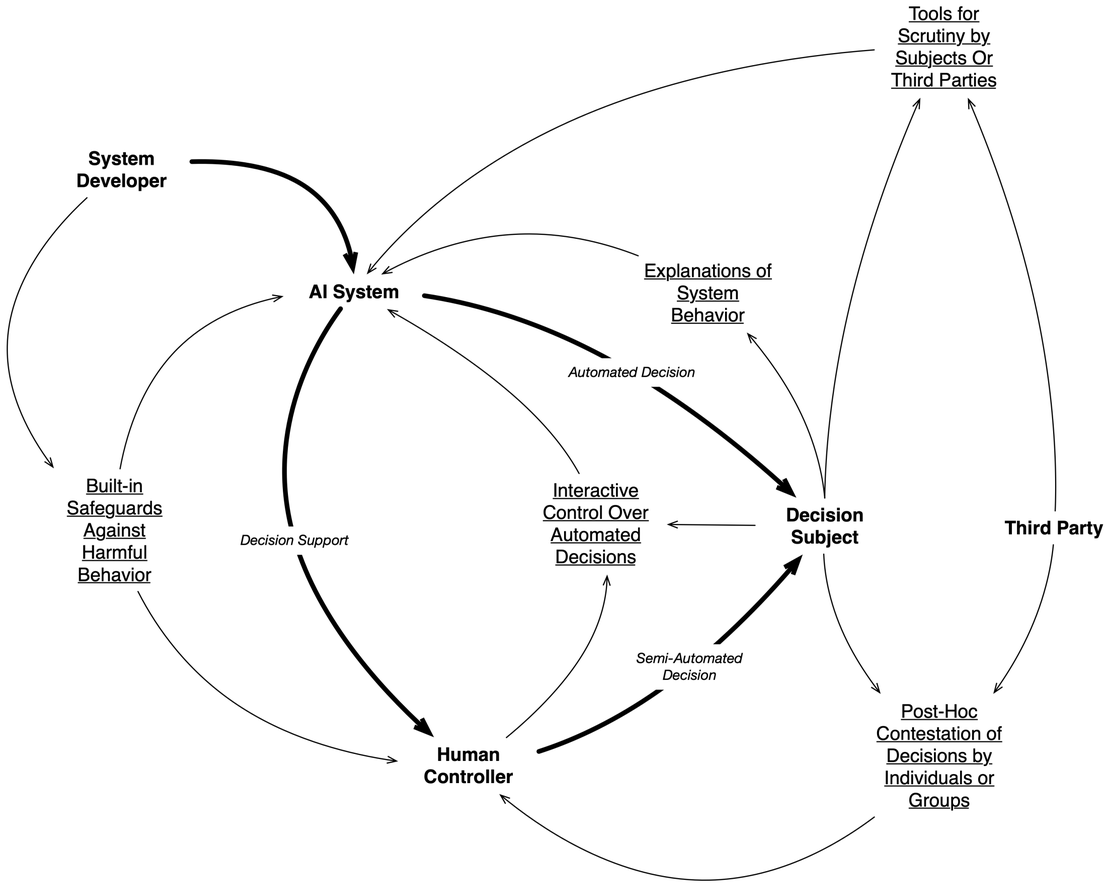
“[Legal protection by design] should steer clear of automated implementation of […] norms, and instead recreate an information and communications infrastructure that scaffolds the […] autonomy of individual citizens.”

Hildebrandt, M. (2011). Legal Protection by Design: Objections and Refutations. Legisprudence, 5(2), 223–248. https://doi.org/10/fpzbdw

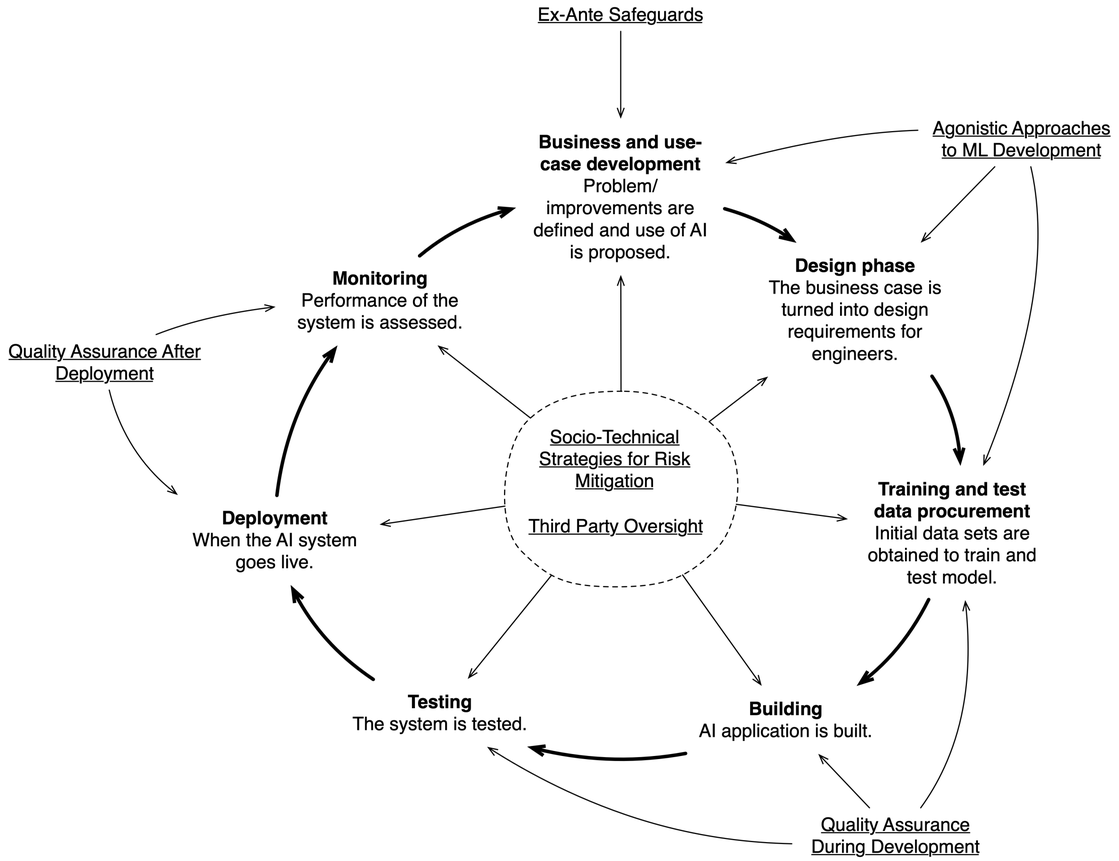
Contestability by Design:

- The possibility of human intervention
- Throughout the system lifecycle
- A procedural relationship between decision subjects and human controllers

Features



Practices



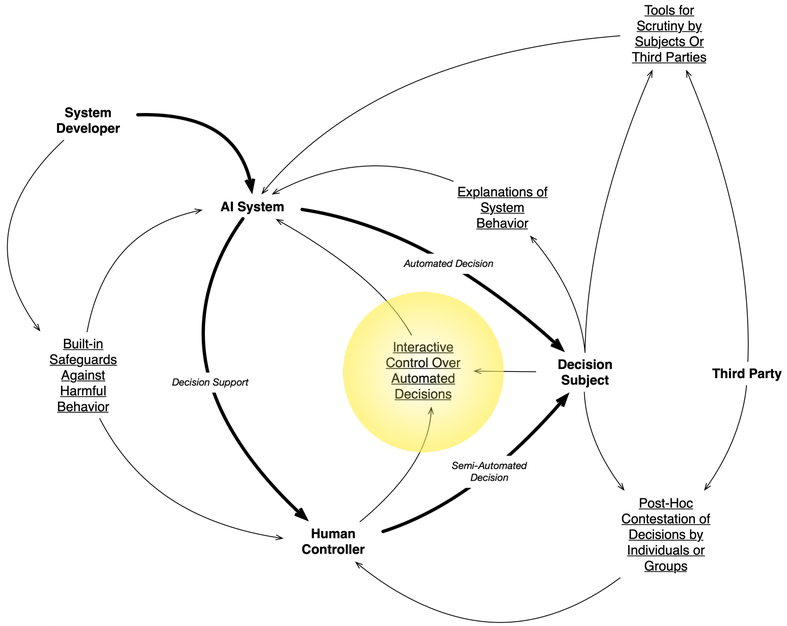
Lifecycle stages:

Binns, R., & Gallo, V. (2019, March 26). An overview of the Auditing Framework for Artificial Intelligence and its core components. Information Commissioner's Office (ICO). https://ico.org.uk/about-the-ico/news-and-events/ai-blog-an-overview-of-the-auditing-framework-for-artificial-intelligence-and-its-core-components/

Feature

Interactive control over automated decisions:

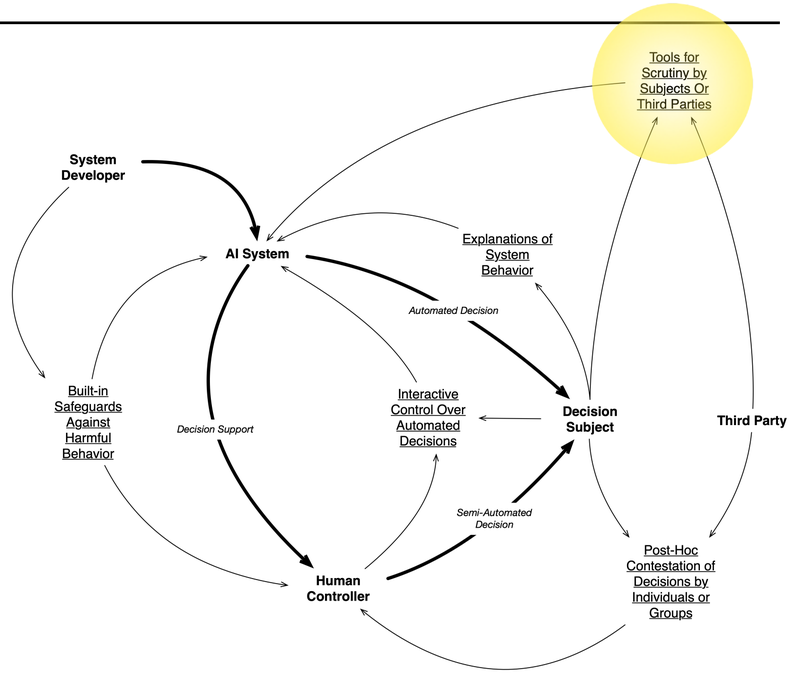
Allowing users to supplement data with additional contextual information



Feature

Tools for scrutiny by subjects or third parties:

Documentation of
1. Design & development process
2. Technical system composition

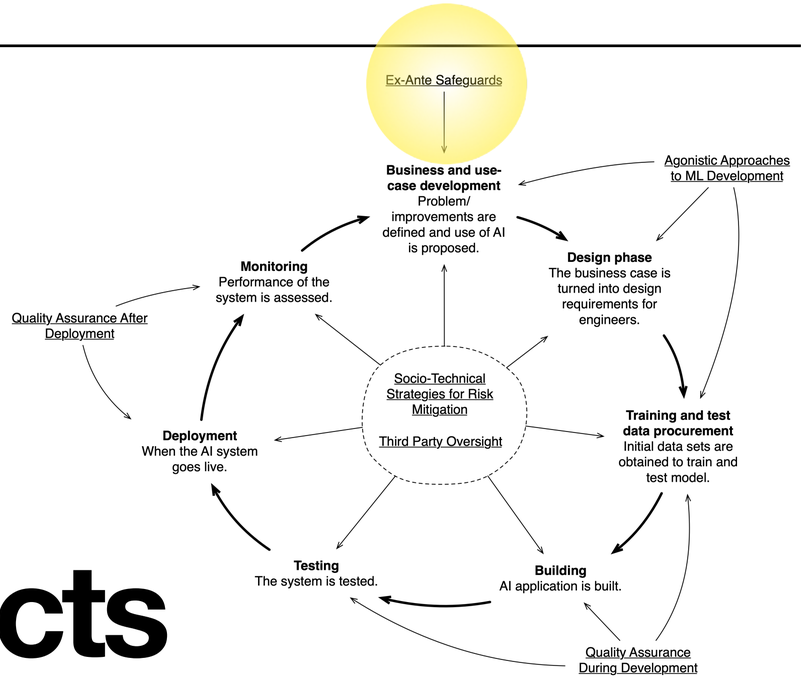


Practice

Ex-ante safeguards:

Anticipation of system impacts in advance

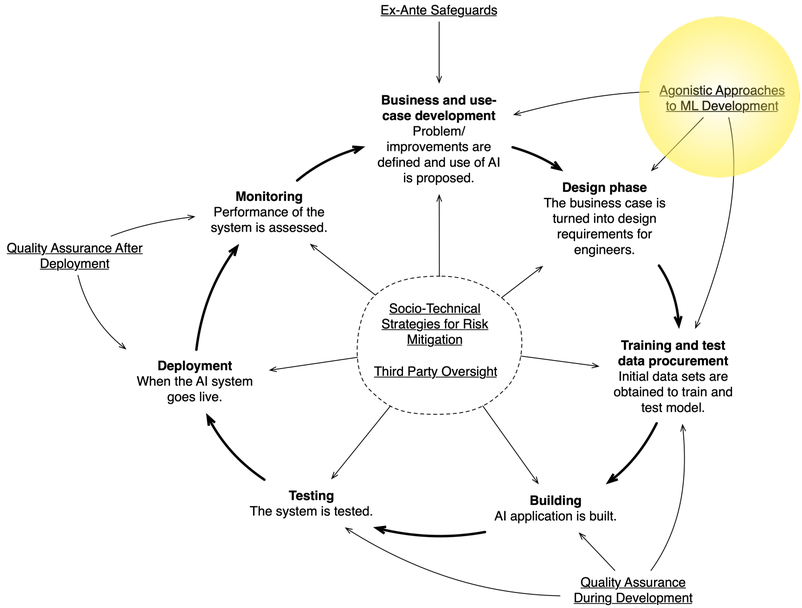
Certification of software object and controlling organization



Practice

Agonistic approaches to ML development:

Data subjects, 3rd parties, and indirect stakeholders co-construct the decision-making process



Summary:

- Urban sensing reproduces urban space
- Transparency is challenged by sociotechnical complexity
- Contestability leverages conflict towards continuous improvement

Thank you!

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