

# Data ethics by design @Schiphol

“from gut feeling to control framework”

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Data Governance

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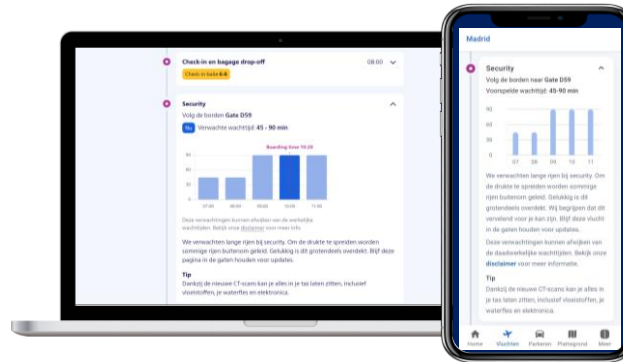
# Schiphol & AI



# Schiphol & AI: in development



**Augmented decision-making for gate planning**



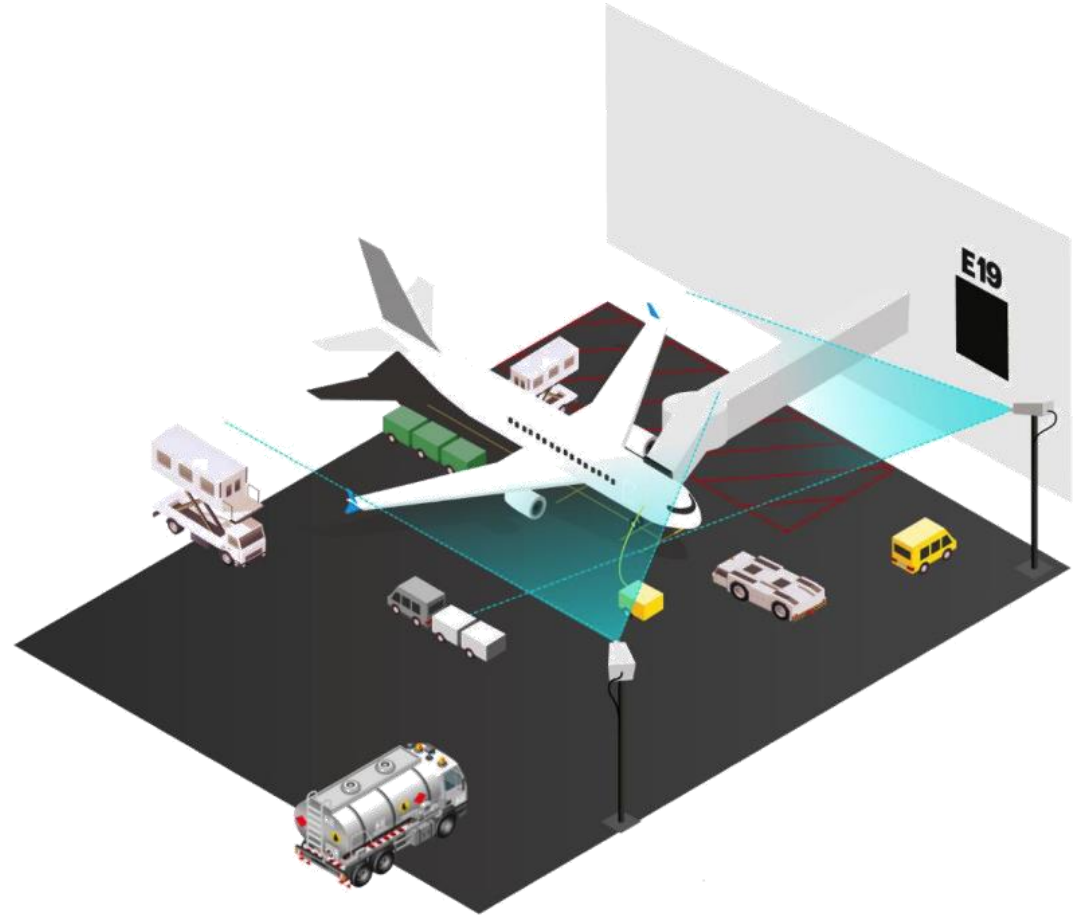
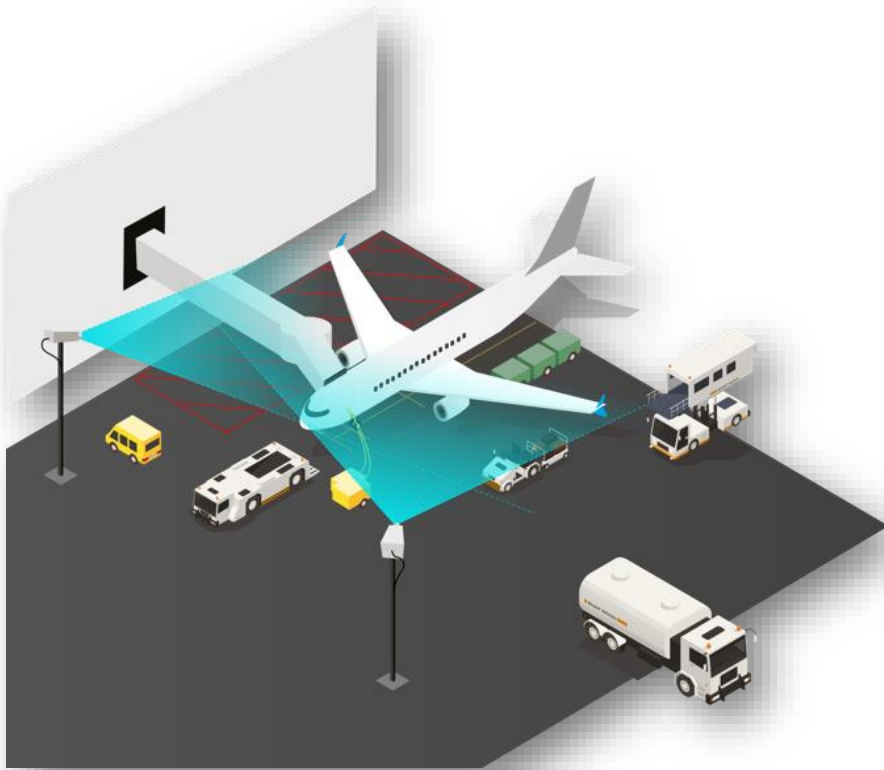
**Predictive waiting times**



**Taxibot**



# Schiphol & AI: Deepturn



open\_cargo\_door



catering\_truck



aircraft



fuel\_tank\_truck



lavatory\_truck

# Not only compliance, but....



**Passengers**

If you want my trust as a customer, I expect you to not misuse my data



**DnA Teams**

I'm using data to generate business value, but am I allowed to do what I want with it?



**Regulators**

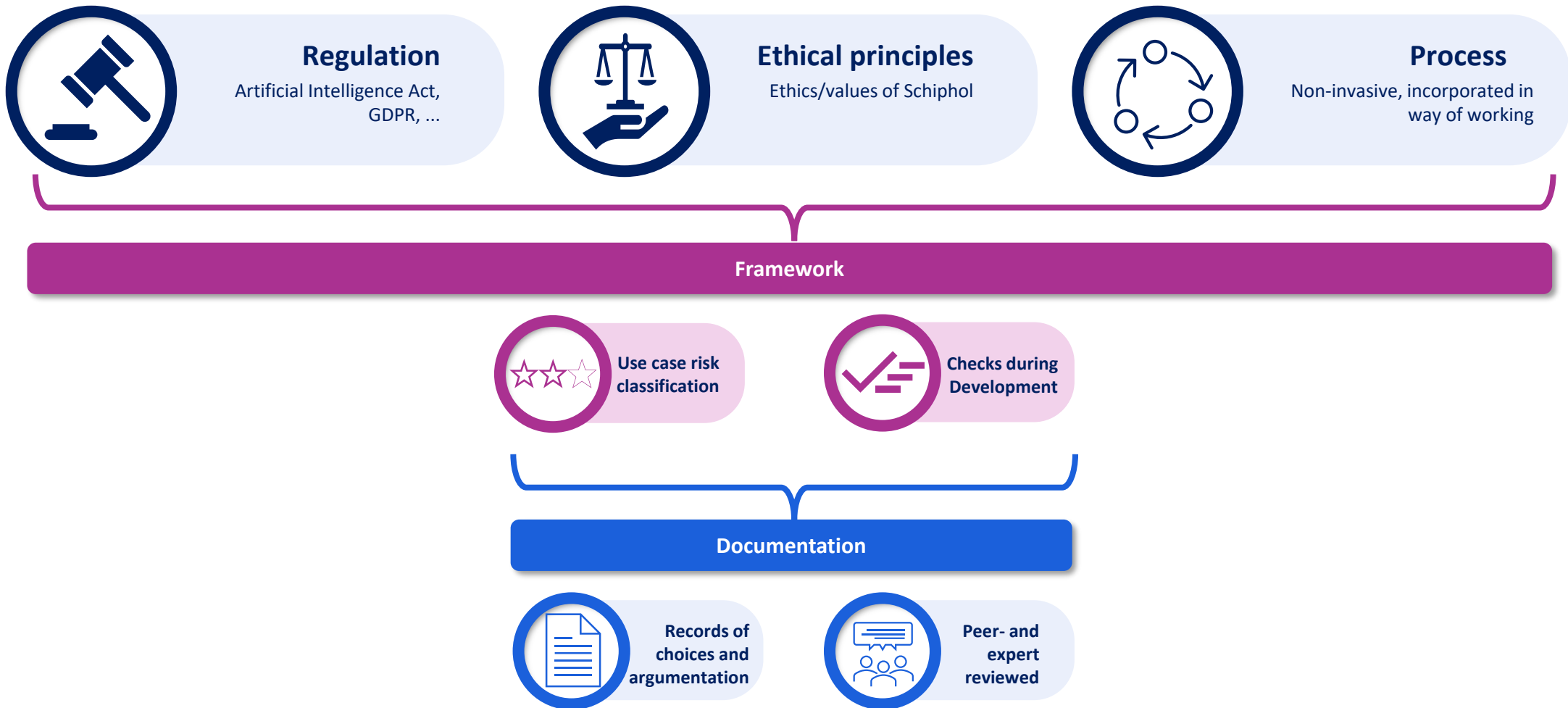
Non-compliance with EU Regulations (GDPR, Regulatory Framework on AI) can have significant financial implications.



**Shareholders**

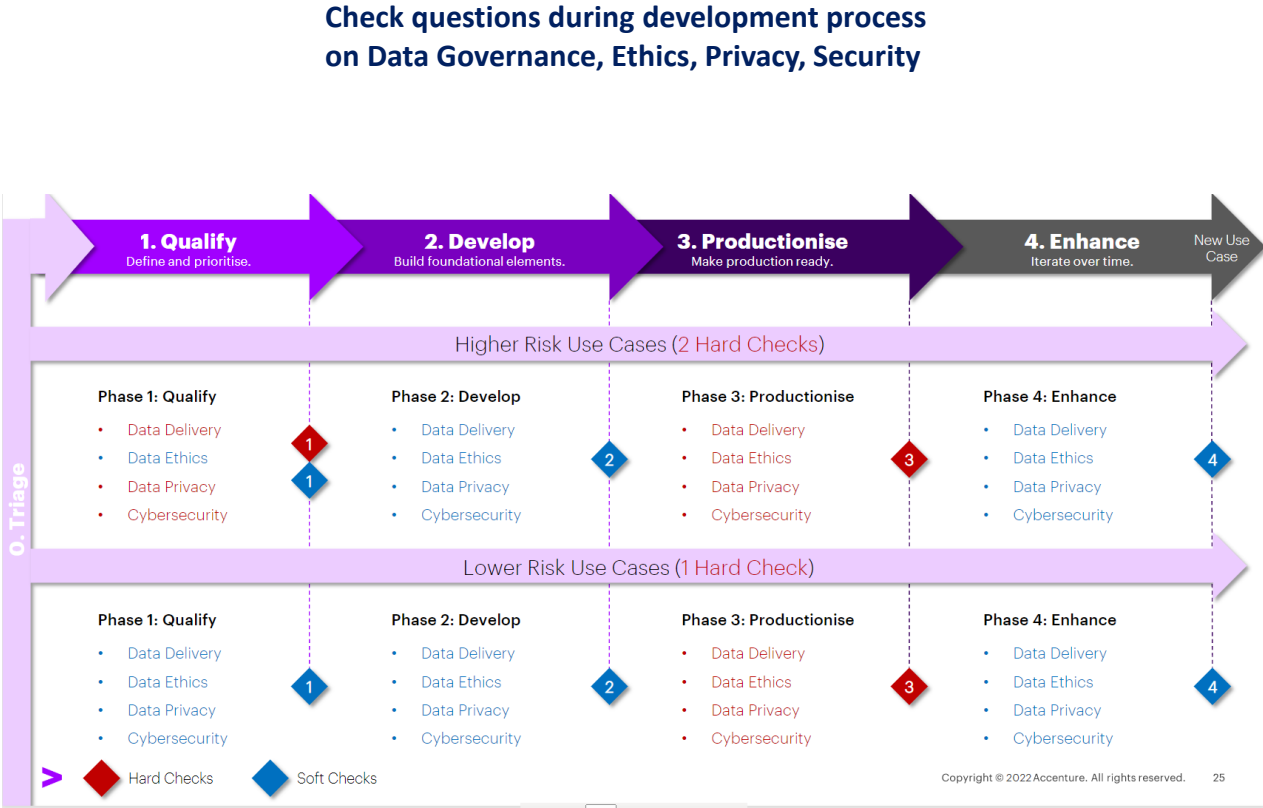
Schiphol plays a key role in connecting the world, we should do this in a responsible way avoiding reputational damage

# Basis of framework





# Basis of framework



# Basis of framework



**Awareness**

**Demo**

# Risk classification (triage)

**Prohibited  
(AI only)**



Exploitative Systems



Subliminal Manipulation




Real Time Biometrics (Law Enforcement)




Social Scoring


**High Risk**




Personal Data




Safety Components




Unconsented Biometric ID




Pollution Controls




Migration / Border Controls




Physical & Digital Safety Infrastructure




Educational Assessment




HR Recruitment / Performance



Service Access Decisioning



Legal Decisioning



Human Interactions

**Low Risk**

**All other**

## Checks during development stages (example: checks before production)



### Ethics

Is a potential lack of fairness / unintended bias mitigated?

Is the solution accessible, to the extent that this can reasonably be expected / be achieved?

As appropriate to its context, can the function and logic of the use case reasonably be considered to be 'transparent'?

Is the intended purpose clearly understood? Are responsibilities agreed?



### Security

Has a BIA been performed for the applications used?

Are appropriate security safeguards in place?



### Governance

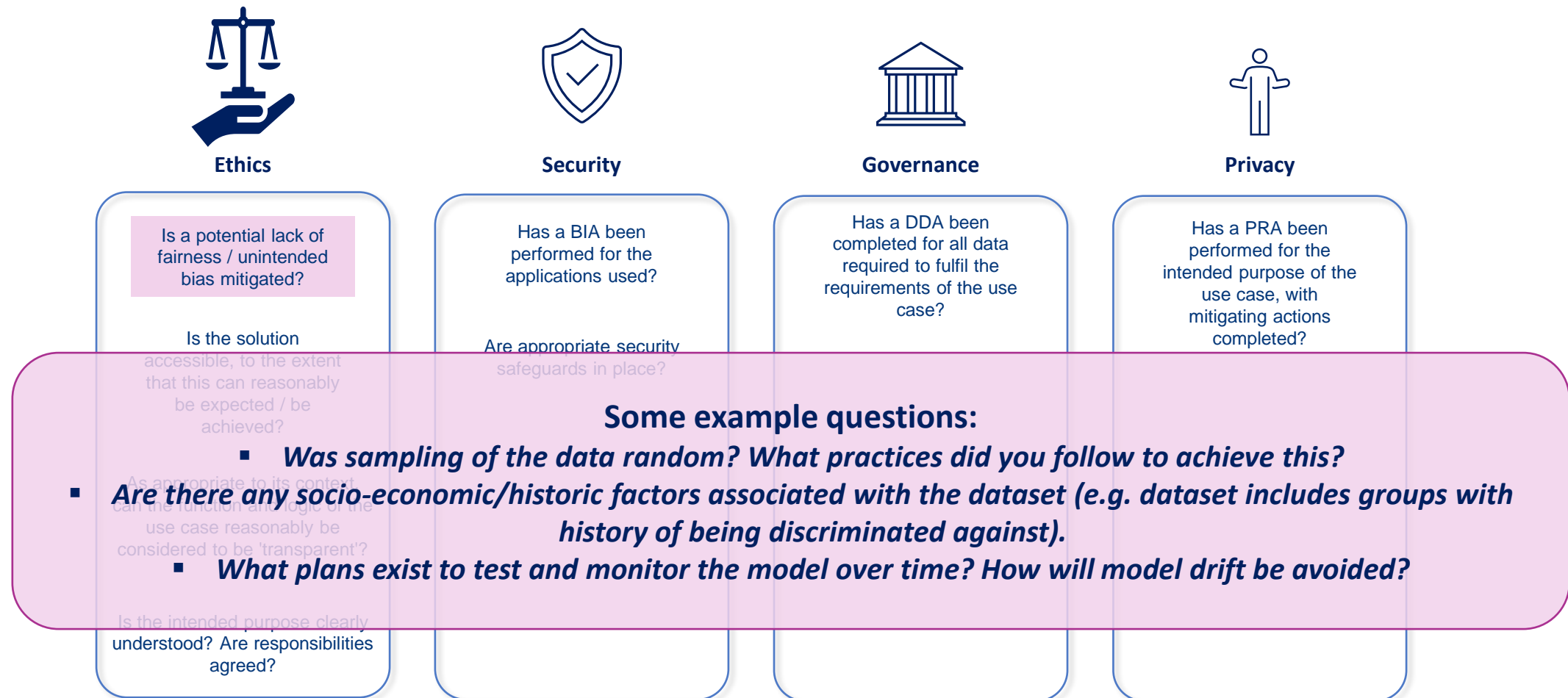
Has a DDA been completed for all data required to fulfil the requirements of the use case?



### Privacy

Has a PRA been performed for the intended purpose of the use case, with mitigating actions completed?

## Checks during development stages (example: checks before production)





# Documentation of ethical checks

Projects /  Jira Agile Playgroun... / JIP-165 /  JIP-169

## Data Ethics Check 3.4: Productionise - HIGHER RISK ONLY - HARD CHECK - Unintended Bias

 Attach

 Link issue



### Description

**What Is This Check:** This is a Hard Check that assesses for the potential bias of the AI or BI system - relative to its intended purpose. Hard Checks should be evidenced via technical documentation for the project, and held in Confluence.

Note: This check is primarily relevant to AI systems. BI developers should consider relevance on a case-by-case basis, and respond accordingly.

**How To Complete:** For this specific check, the Lead Developer should provide substantive evidence in their technical documentation of efforts to mitigate unintended bias or a lack of fairness. Such evidence of this might include:

1. Clearly documented potential causes of / types of bias that could occur at different points in the lifecycle (conception bias, collection bias, data bias, model bias, operational bias). A high level summary could be provided of how each of these is addressed, enabling further discussion with the specialist if relevant.

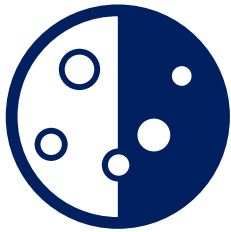
2. Evidence of active efforts to reduce bias, such as via the quality of data used, features selected (ML models only) or through statistical analysis (either via a purpose built package / tool, or via some other method). These can be scrutinised by the specialist.

As a technical check, the Lead Developer should attest that criteria are met, before the Data Consultant provides approval. The Consultant should receive a simplified explanation of measures undertaken to reduce bias prior to providing approval, and also be able to view evidence provided.

Once assessed, the Lead Developer should record in their technical documentation (via Confluence) that this check has been made. The Data Consultant should record that this check has taken place in the chosen system (TBC).

The use case may not be released into Production without this check being passed.

# Challenges



**Ethics: hard boundaries**

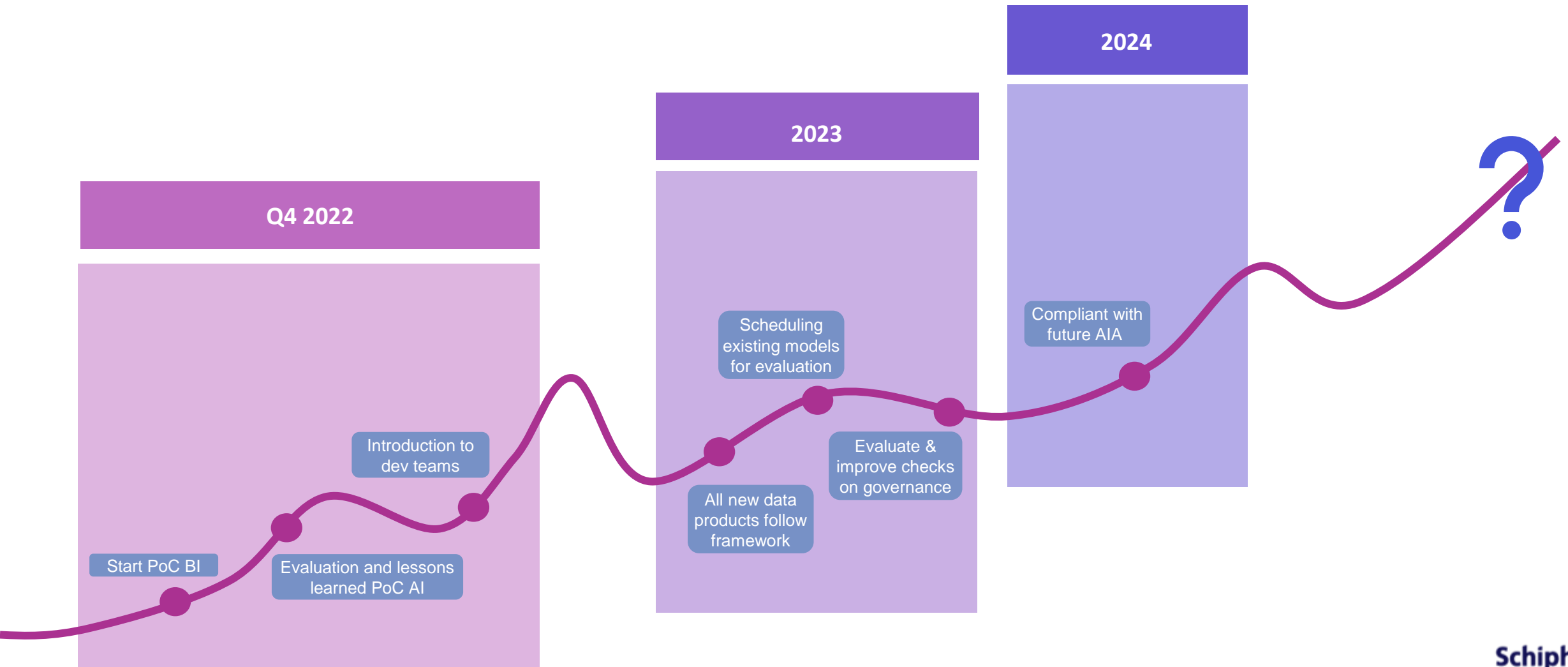


**Way of Thinking Data: Data as an asset**



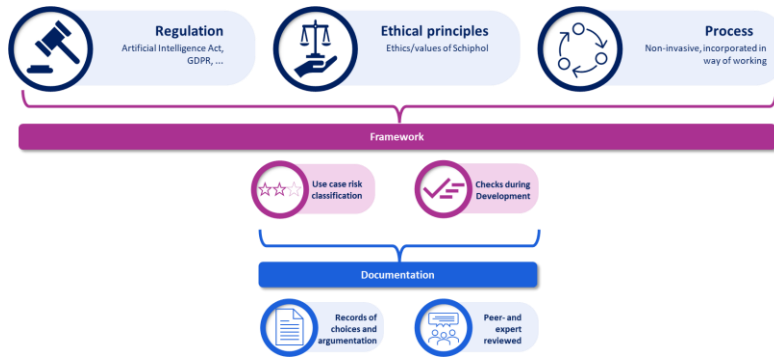
**Way of thinking Data: Data Ownership**

# Next steps



# Wrap-up

# Key take aways



Awareness



Governance

- Created framework
- Documentation of decisions and considerations
- Strengthen awareness of ethical data use
- Strengthen data governance
- Compliant to future AIA regulation

Questions?



**Thank you!**