



Ekimetrics.

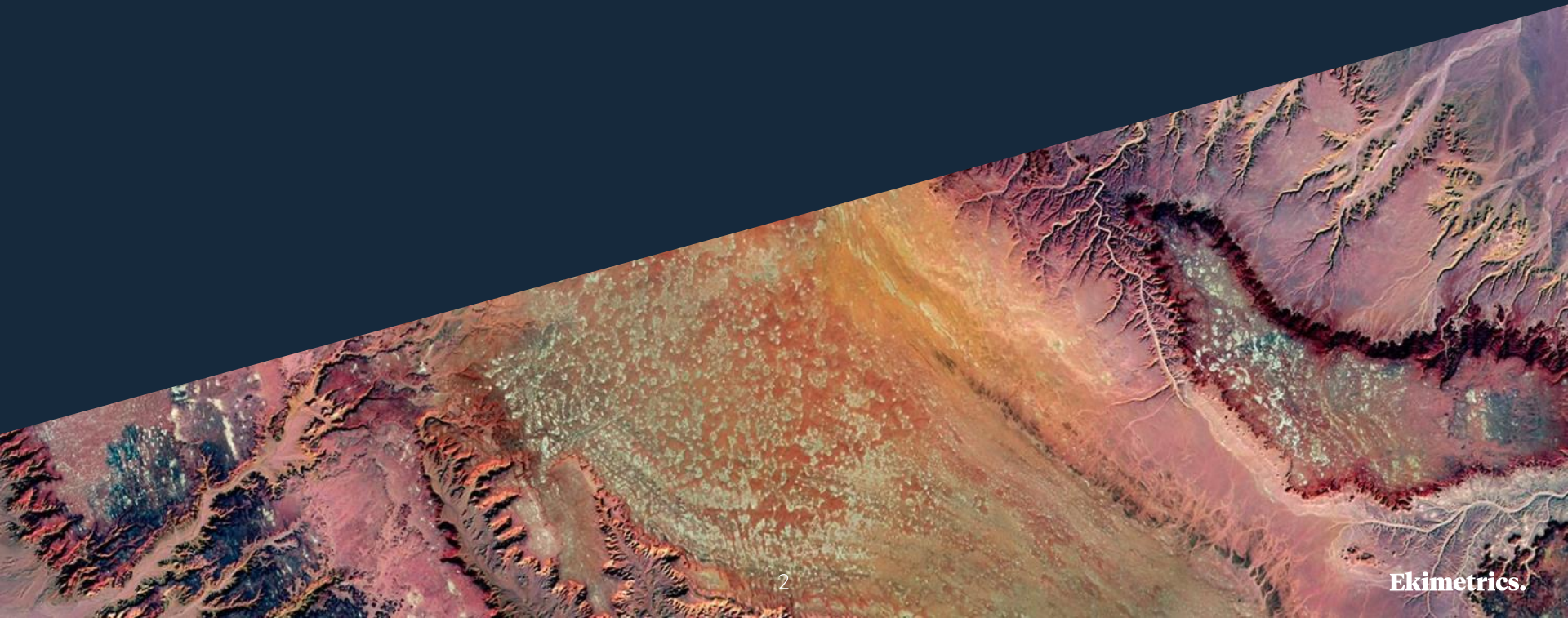
Responsible AI

Helping businesses in becoming aware of their impact and implement models and solutions responsibly.


PARIS | LONDON | NEW YORK | HONG KONG

Ekimetrics.
Data science for business

Ekimetrics



Who are we?



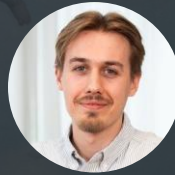

Timothée BOHE

Senior Data Scientist - Consultant

CentraleSupélec Paris – 2020
4 years of experience | French | English

Business skills

- QSR
- AI4S
- ML & DL
- GenAI
- MLOps
- Computer Vision
- Demand Sensing




Elie PONT

Junior Data Scientist - Consultant

IMT Atlantique – 2024
1+ years of experience | French | English

Business skills

- AI Fairness
- ML & DL
- GenAI
- MMM
- Private Equity
- Industrialization



Ekimetrics, European leader in data science for sustainable business transformation with +320 tech profiles and +1,000 projects since 2006

Who we are ?

18

YEARS
EXPERIENCE
IN DATA SCIENCE

+400

DATA
Profiles

+350

CLIENTS

+50

COUNTRIES
WHERE WE LEAD
PROJECTS

Data & AI

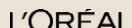
Technological expertise on Data Science and AI to multiply the positive impact

Sustainability & Climate

Expertise on sustainability and climate issues and how data can accelerate transition

Business

Proximity to the businesses and understanding of economic issues



Our mission and purpose

Data Science for sustainable business transformation

A good company

Delivering Data Science for business solutions **since 2006** with **400+ tech profiles** in 4 countries

A company that **commits to higher standards & responsibilities**, “Entreprise à Mission” since April 2023, on the road towards BCORP in 2024 and Net Zero by 2030

One of the 30/150 precursor members of the 2021-2022 “**Convention des Entreprises pour le Climat**”



Doing sustainable AI

100% of Eki employees **trained and aware on social & environmental challenges** (Climate Fresk, Climate trainings, Vendredi challenges).

Strongly against using technology for the sake of technology. We invest in R&D to develop unbiased and low-carbon footprint AI algorithms, and always rethink why we solve problems and how we can develop frugal tech solutions.

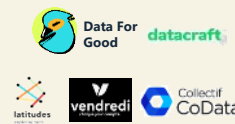
Open sourcing our best practices on our Eki.Lab website
<https://ekimetrics.github.io/>

For positive impact

Partnerships with sustainability & climate specialists



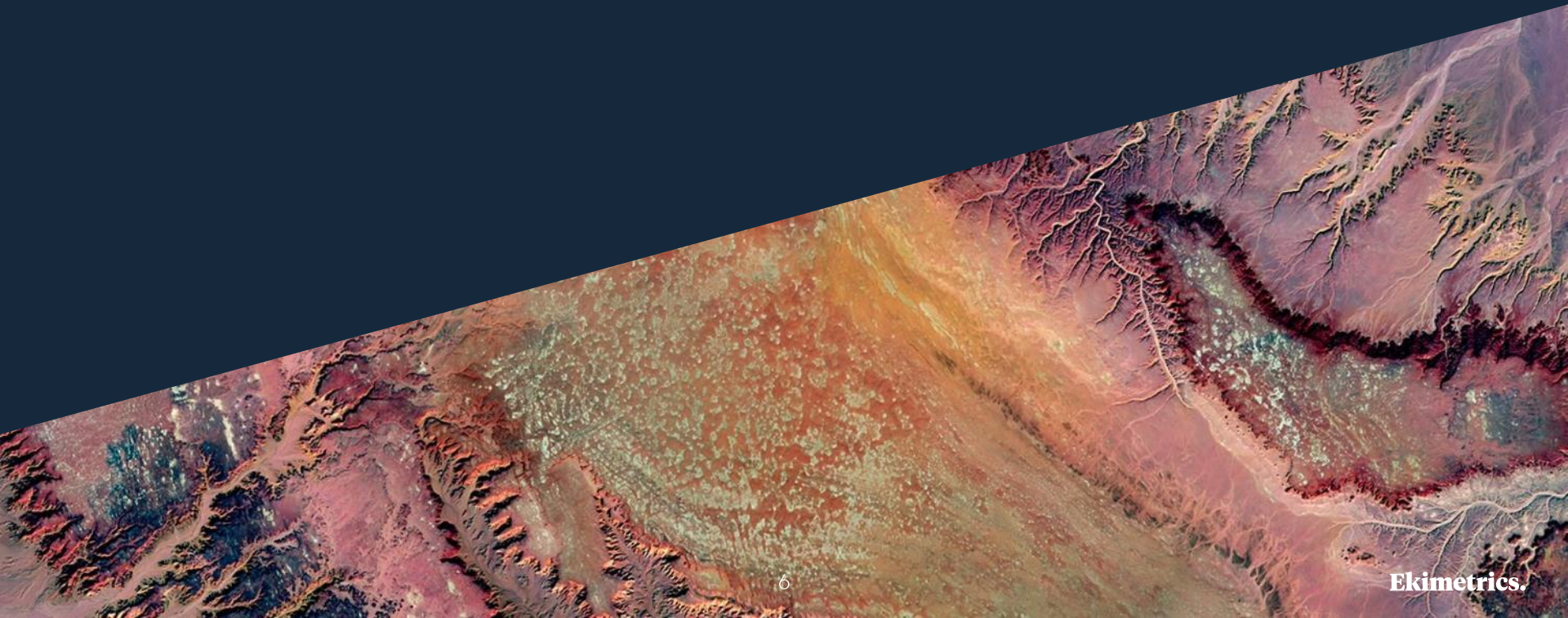
Active member of the “tech for good” ecosystem



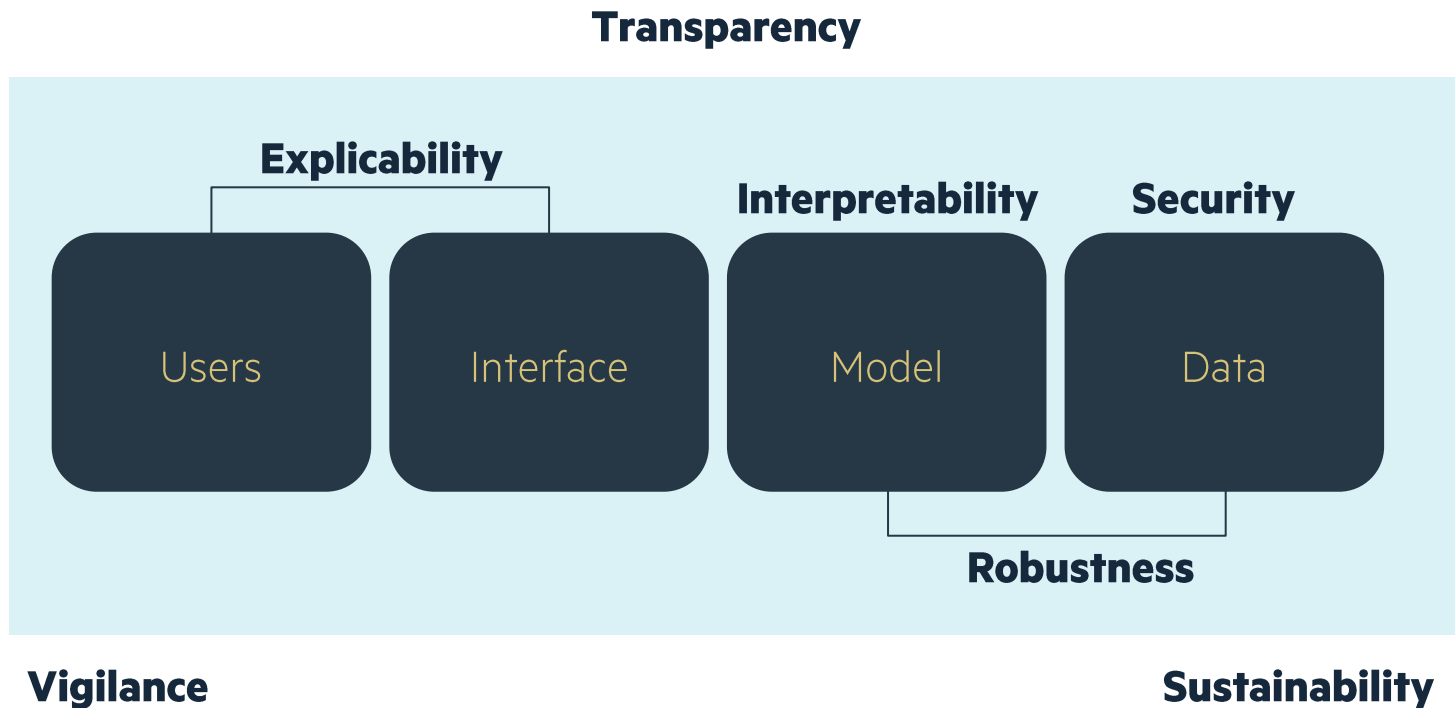
AI for Sustainability solutions help businesses perform within the planetary boundaries and transition to a low-carbon economy



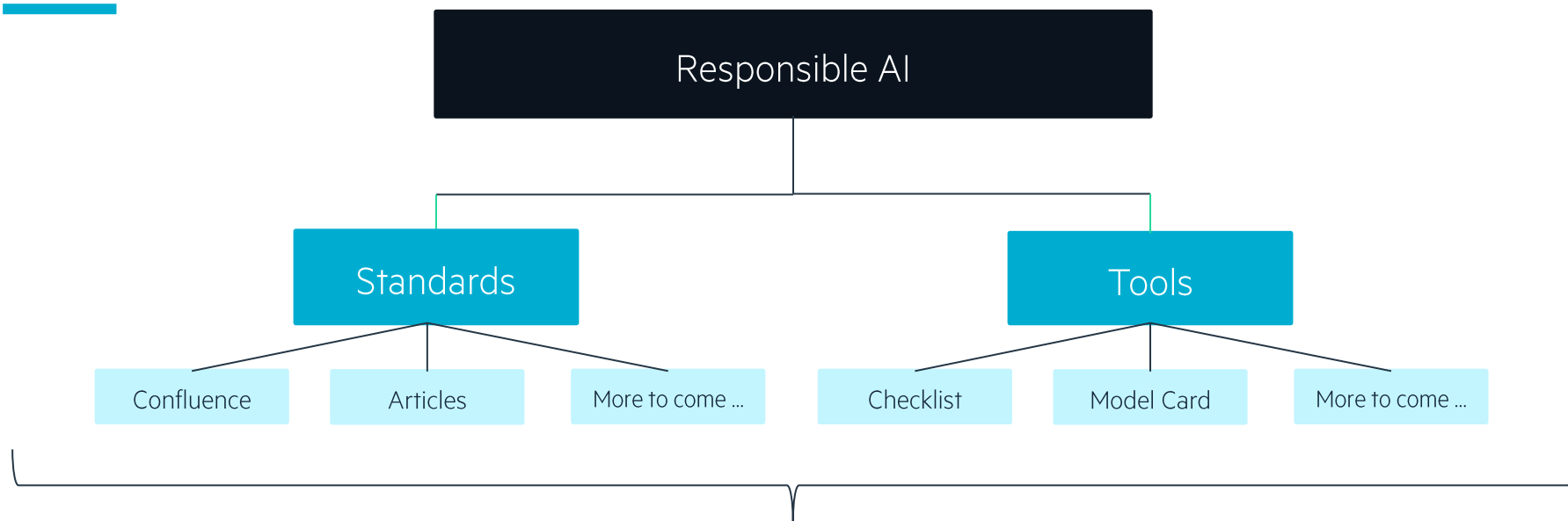
Responsible AI At Ekimetrics



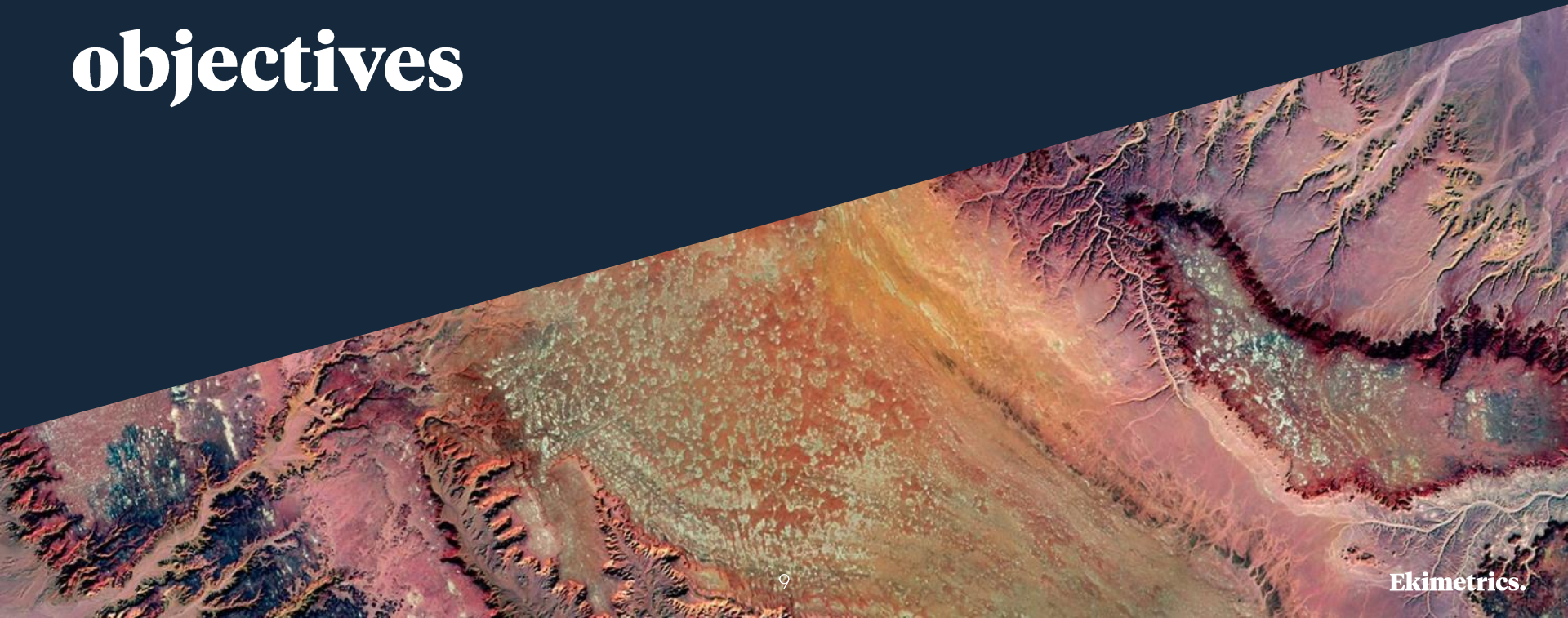
Responsible AI at every level



Standards and tools to help implement Responsible AI



Kick off The Hackathon objectives





Mission: Provide a solution for
your clients that want to facilitate
the recruitment in their company



Goals: Ensure your solution does
not discriminate against
candidates

Main steps to follow during this Hackathon:

0. Data exploration and bias identification

1. Think of a solution to pass by those biases

Discussion with the Eki consultant team to guide you and to give you the **following notebooks**

2. Implement the solution and compare it

3. Challenge your solution

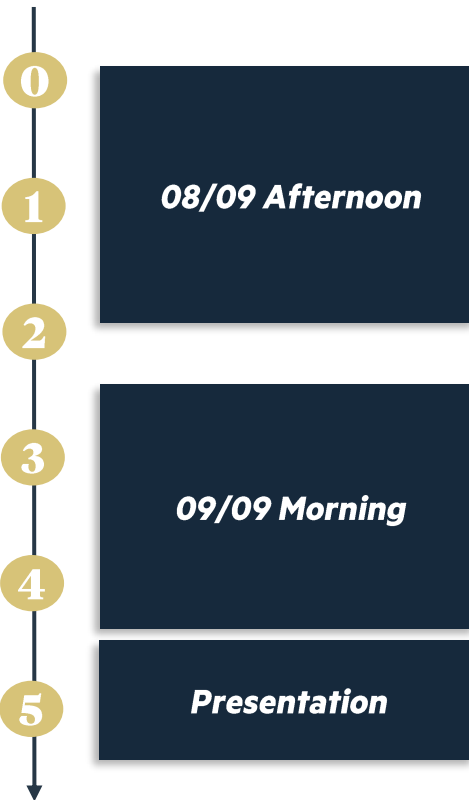
Accuracy, recall, ethic ?

4. Business analytics

ROI, business impact (**time, candidates, money...**)

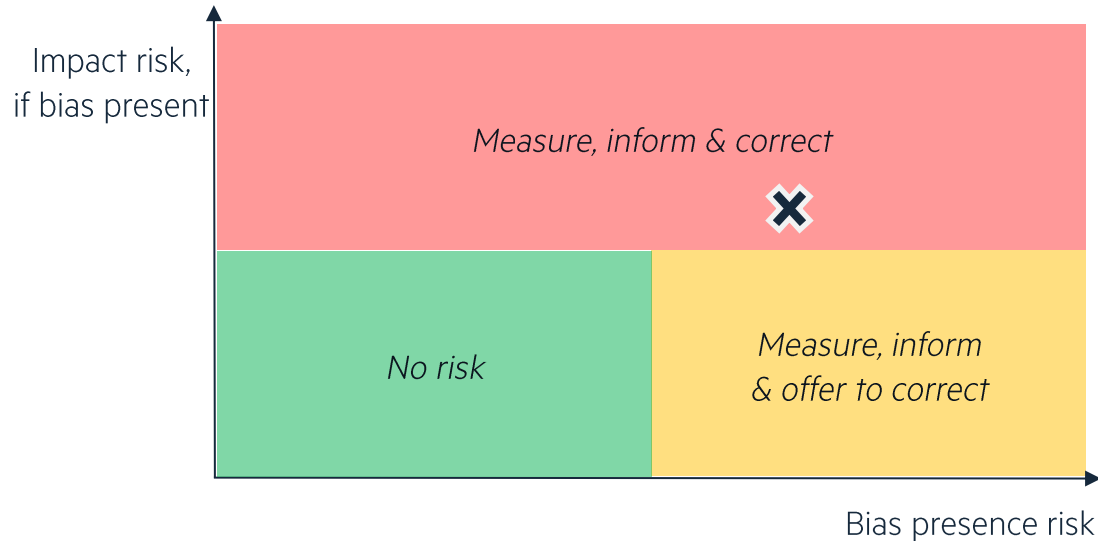
5. Presentation

PPT presentation, 10 min per group



Fairness and Responsible AI should be at the heart of HR solutions

Action matrix with regards to the risk of presence of bias



HR **potential risks** if the presence of bias is confirmed and not mitigated :



Discrimination



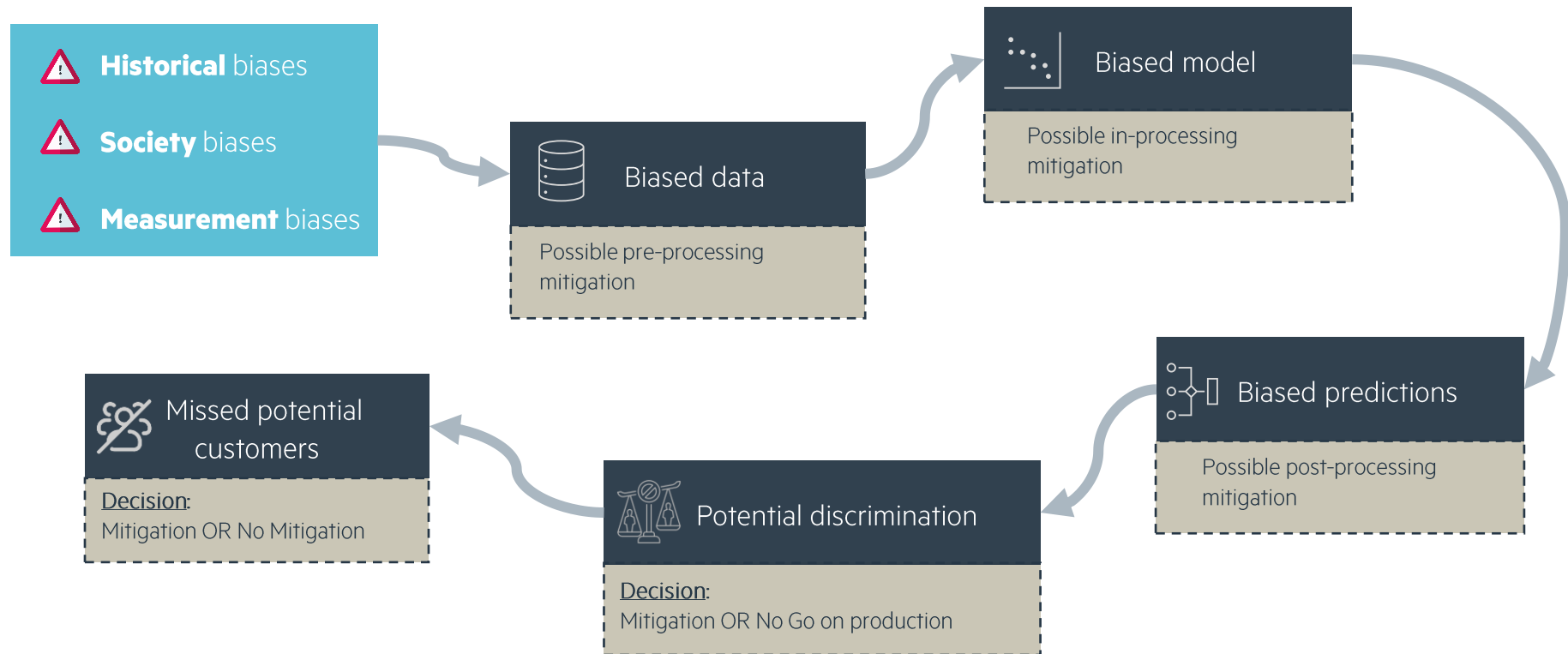
Non-targeted
potential candidates



Damage of image
and reputation

Origine of biases and mitigation options

HR – a sector particularly exposed to biases



Studying for biases in data to increase model performance and limit reputation risks and regulatory infringements

Identification of Bias

Checklist, Exploratory Analysis, Bias Metrics to identify **cognitive biases** and **machine learning biases** (historical, representation, measurement biases).

Having transparent and unbiased data processing capabilities and algorithms are a prerequisite to enable adoption at large.

Mitigation of Bias



Pre-processing

techniques to correct a biased dataset while keeping the original labels of observations (Reweighting).



In-processing

techniques to regularize the model while preserving good accuracy (Prejudice Remover, Adversarial Debiasing).



Post-processing

techniques to ensure that the final predictions respect fairness metrics (Equalized Odds). Model interpretation (Shapley values).

Business Gains

Generate **short-term gains** due to a higher efficiency and accuracy of the model : customer characteristics are better considered and addressed, and no potential customers are excluded.

Generate **long-term gains** due to limitation of the risk of damage to image and reputation. They must especially be enforced when the AI is in direct contact with the consumer.

We believe fairness and transparency of AI generate value

What you will have to do

- **Identify potential sources of bias and quantify the risk for the client**
- **Train a base model and measure prediction performance and fairness performance**
- **Explore mitigating the bias with pre-processing techniques**
- **Explore mitigating the bias with post-processing techniques**
- **Compare the tradeoff between model performance and fairness and conclude on the best approach**



Data & notebooks



Notebooks (pre and post processing)

Aide

[Conseils de présentation \(notion.site\)](https://notion.site)

Thank You

Reach Ekimetrics →



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