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Mitigating biases of AI in the labour market

BIAS-project introduction

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Webinar: Citizen Science and Artificial Intelligence Technologies

When you apply for a job,
how can one make sure
that the right person got the job?

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Research show **humans** discriminate when hiring, e.g. based on:
-age, gender, race, class

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Artificial Intelligence (AI)
is increasingly used for **recruitment**,
e.g. on:
-finding, screening and assessing candidates

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How can we (1) make sure that AI does not **reproduce human** bias & discrimination

nor that (2) AI **invents new** forms of discrimination for job applicants and workers?

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Mitigating biases of AI in the labour market

Project claim

AI used in the labour market needs to be **trustworthy** and **socially responsible**

Project key info

- Funded by European Union's *Horizon Europe* research program
- Under Pillar 2
- Total project size: € 4.2 million
- Led by NTNU Department of Interdisciplinary Studies of Culture with PI Assoc.Prof. Roger A. Søraa
- From October 2023-October 2027
- 9 partner organizations across all corners of Europe
- About 40 people working actively in project

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CONSORTIUM MAP

- **NORWAY** – NTNU
- **SWITZERLAND** – BFH
- **ICELAND** – HI
- **PORTUGAL** – LOBA
- **IRELAND** – CHX
- **ITALY** – SVEN
- **NETHERLANDS** – LEID
- **ESTONIA** – DIGI
- **TURKEY** – FARPL

BIAS Project mission:

Empower the AI and Human Resources Management (HRM) community by addressing and mitigating algorithmic biases.

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The BIAS project follows an interdisciplinary research and impact methodology.

The **research methodology** is based on the following pillars:

- **Ethnographic fieldwork** with employers, employees, and AI developers from different European countries providing information about current experiences and future scenarios where AI is important in a work context.
- **The creation of national labs in each country** (communities of practitioners, employees, HRM, and AI specialists).
- **AI research and development** with a focus on Natural Language Processing (NLP) and Case-based Reasoning (CBR)
  - **The creation of the Debiaser, our proof-of-concept technology** with modules that both identify and mitigate bias and unfairness in decision making, that will be made available to the AI community

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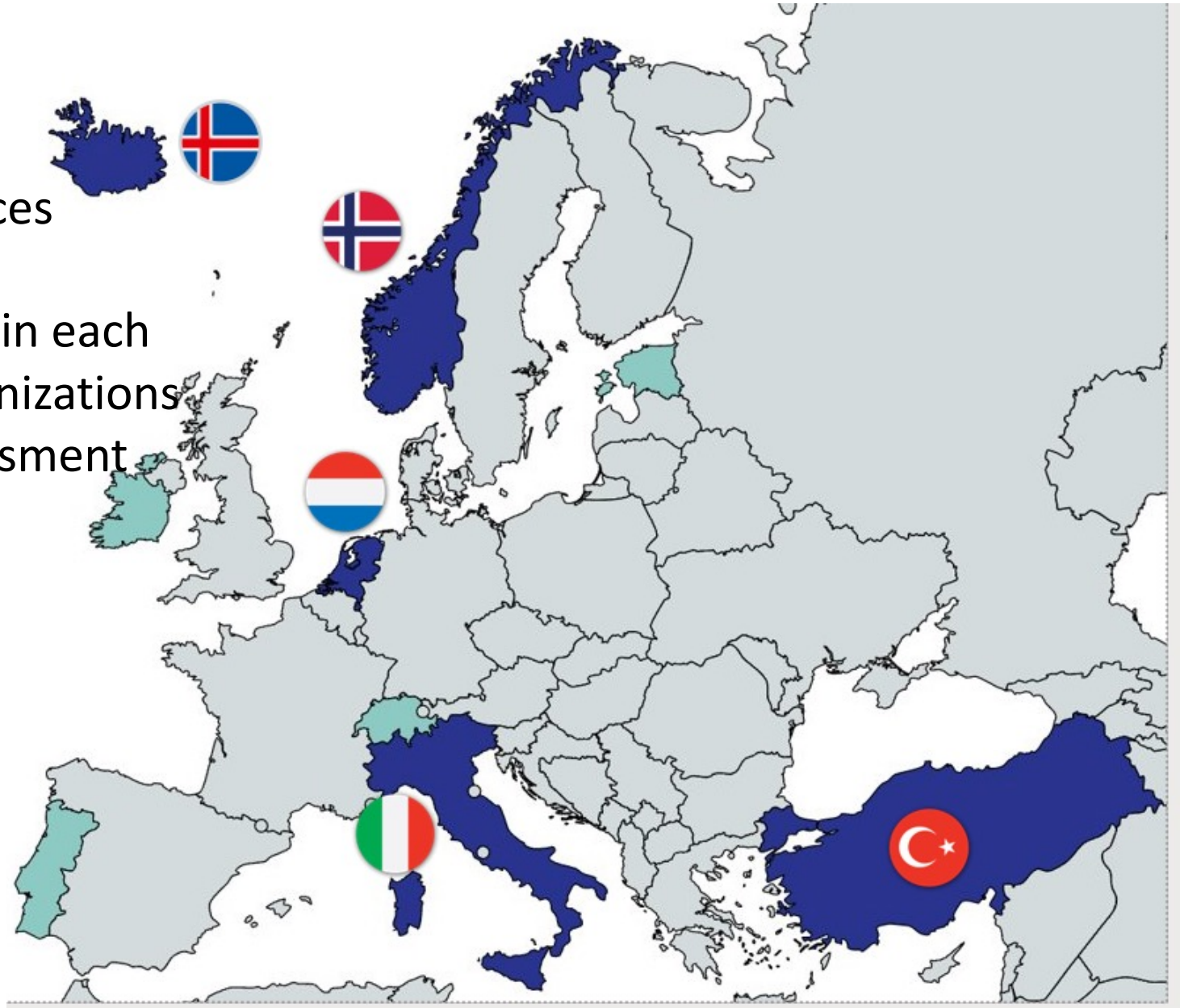
Ethnographic fieldwork

Goal:
Investigating AI & HR practices

4 months of fieldwork each in each country on companies/organizations using or making AI for assessment for hiring & work:

- 365 interviews in total

Country	Developers	Employers	Employees
Iceland	50	10	25
Norway		20	50
Italy		20	50
Netherlands		20	50
Turkey		20	50
Total (365)	50 (pan-European)	90	225



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Debiasing AI

What does a job-text tell you about an applicant?

Whereas data in texts such as motivation letters in applications are **anonymized to avoid bias**, this is often not enough.

Some **patterns not explicitly visibile to the humans might be picked up by the AI and lead to a bias** in decision making upon such documents.

(example are hobbies, family situation etc.)

This is in particular delicate for the matter of automated recruitment tools.

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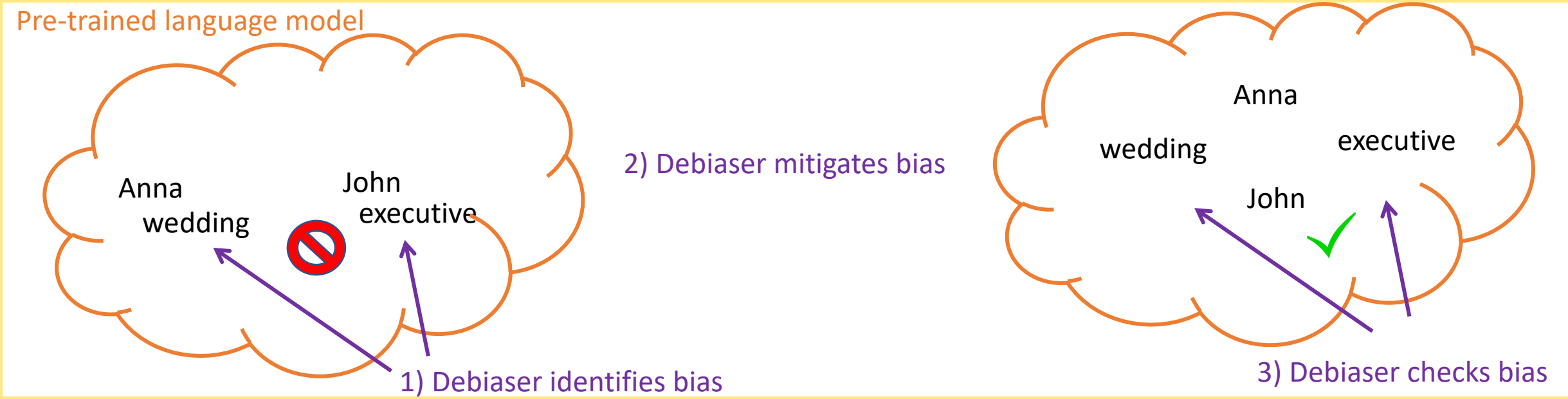
The Debiaser tool

The Debiaser provides a **toolkit to identify and mitigate the bias** in such language models, making them safer to use in your application. In combination with our **expertise** from research, the toolkit and application is adapted exactly to oranizational needs, in terms of language or application use case.

(More on this from our technical lead, Prof. Dr. Kurpicz-Briki, later today)



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But what is “fairness”?

- The challenge of bias in automated recruiting starts with the definition of **what fairness means**.
- Different disciplinary understanding
- Different socio-cultural understandings
- We need to continue discussing what is fair:
  - For individual?
  - For the company?
  - For a minority group?
  - For society?
- We look at procedural fairness: that **similar candidates are treated in a similar way**.
  - What similar means, is **dependent on individual businesses** and use cases.
- Based on our research, we will support identifying and building the **domain- and organisation-specific knowledge** necessary to implement **case-based reasoning**, and conducting regular checks to ensure **fairness** and **consistency** in the **recruitment process.**
- More on **Citizen engagement** on tackling intersectional issues of bias in AI from our legal leads later today

  (Dr. Rigotti & Assoc.Prof. Fosch Villaronga)

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Our core goals

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thank you

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