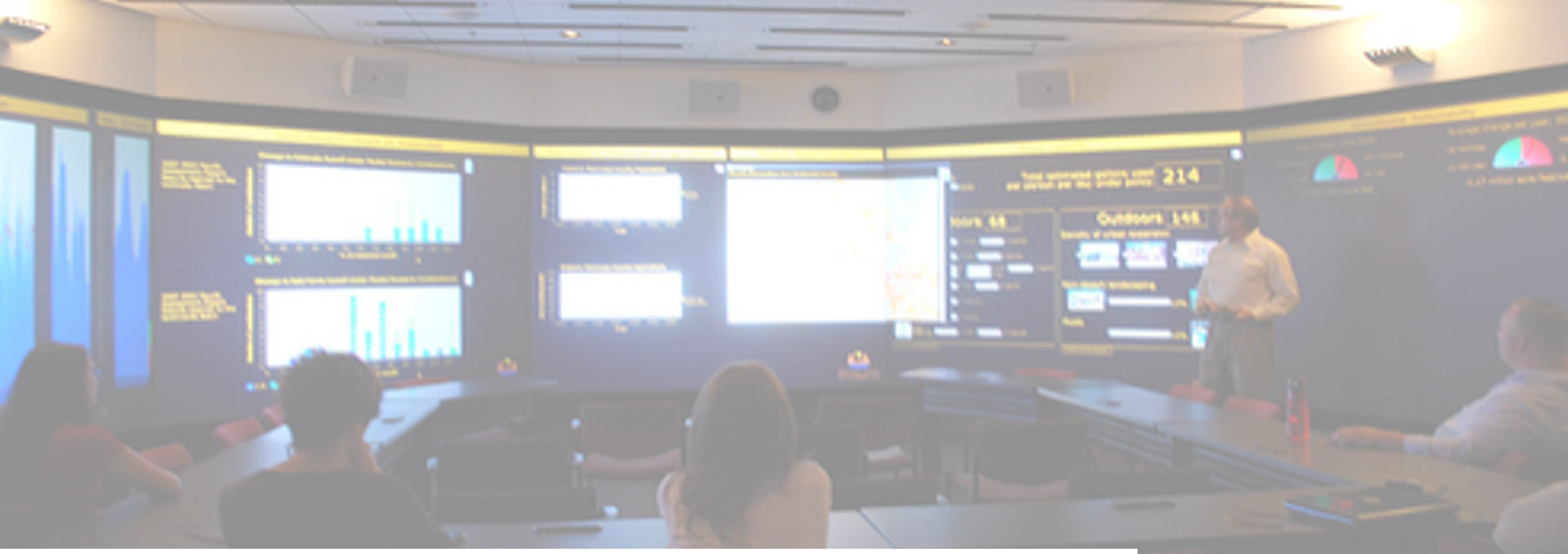

Second General Partner Meeting

2-4 May, 2023

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artificial intelligence for assessment

https://www.ai-fora.de

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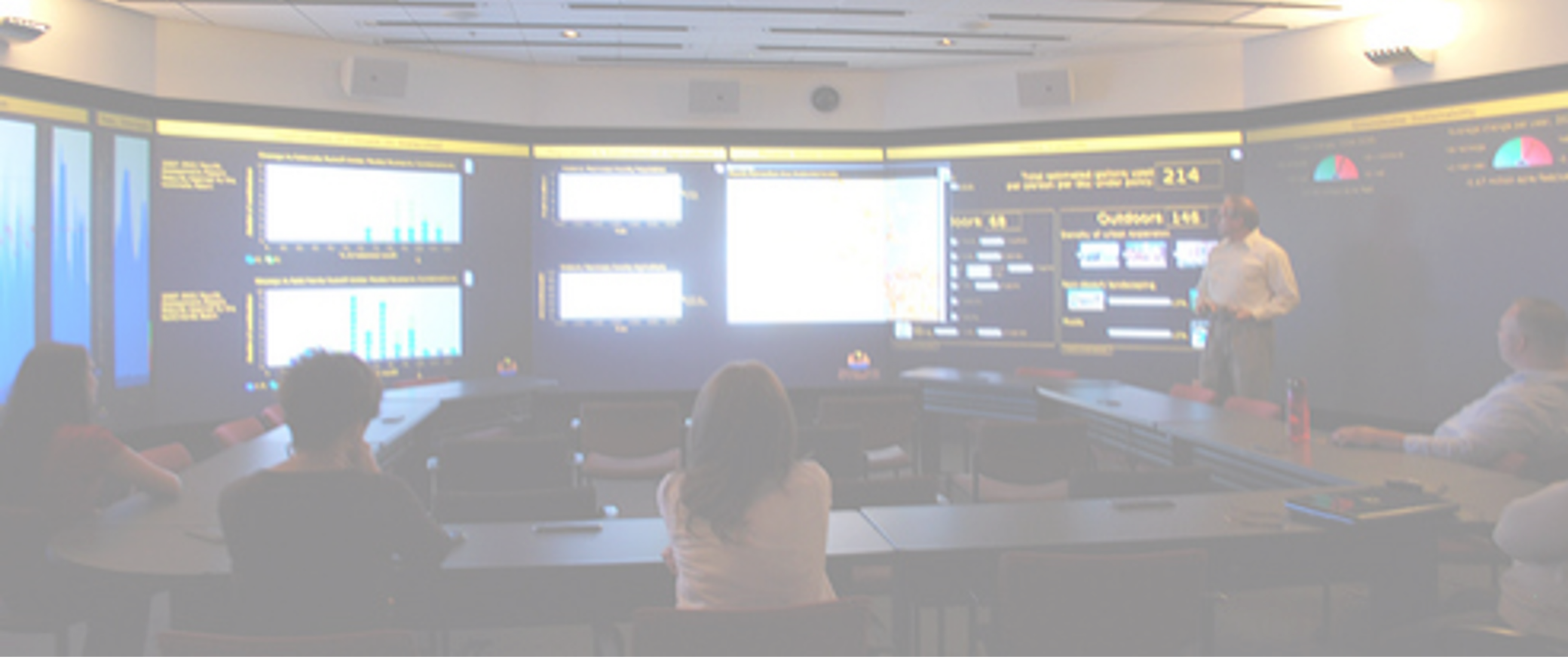


AI assessing people

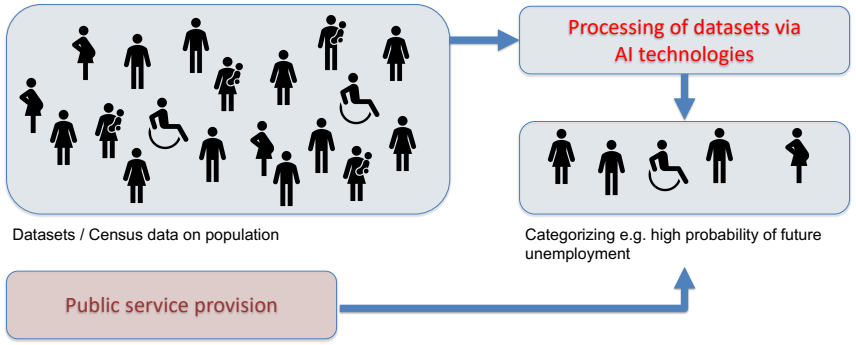
AI-based social assessment

- Used in more and more countries to provide public social services
- Hoping for greater efficiency and objectivity
- Eligibility of receiving support from the state according to profiles and scores of citizens

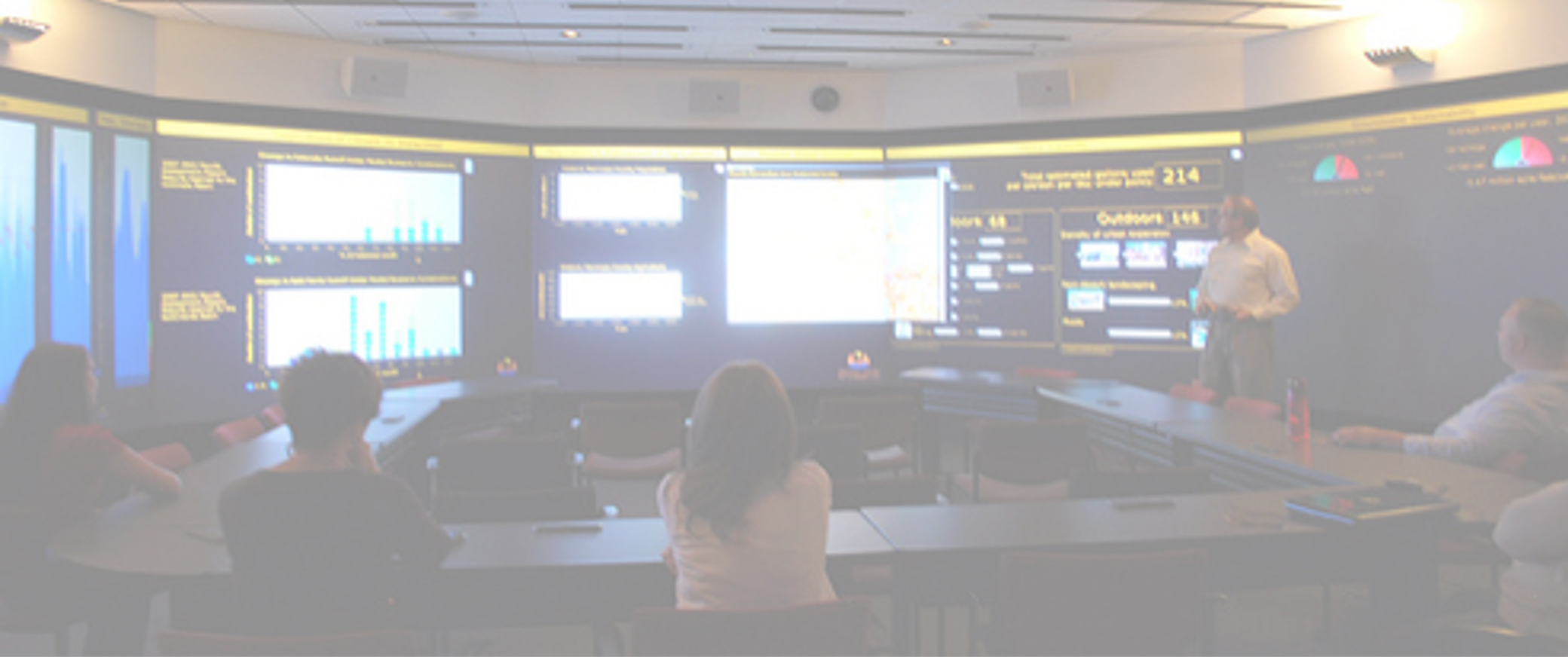
Challenge

Systems are accused to prolonging bias and discrimination into the future by ML from bad training data (past data)

- goes often against the most vulnerable groups in society



AI FORA seeks to develop “better AI” for social assessment using a **participatory approach**



People assessing AI

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Why a participatory approach?
…because everybody is a stakeholder

- Challenges of national welfare systems
  - scarce public resources
  - **growing citizen demands** on state support
  - **growing population sizes**

- **Most people** use them at some point in their lives: from cradle to grave
  - to alleviate poverty and inequalities
  - to ensure fair living conditions among citizens

- Who gets what from the state concerns **everybody**: Policymakers, recipients, service providers, taxpayers, members of vulnerable groups …

- Whether AI makes things better or worse is of interest to **everybody**

- This makes all people living in welfare systems **stakeholders** of innovation in this area

AI FORA applies a participatory approach that involves multiple societal groups in technology co-design for AI-based social assessment.

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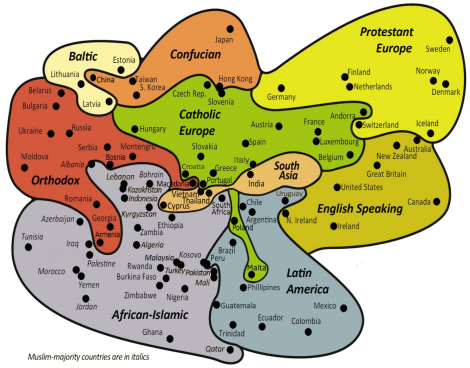
Why a participatory approach?
Cultural values and social context are key

Who is considered as **eligible, needy and deserving** to be a beneficiary?

- How to ensure a fair distribution of taxpayers' money is a permanent policy issue that concerns the cultural ideas of social justice and fairness in a society
- implies decisions privileging certain criteria / biassing & discriminating against others

Bias is everywhere, but **criteria vary widely around the world**

- No one-fits-all approach that would be perceived as fair everywhere
- Great variety and dynamics in fairness concepts across national welfare
  - Culture, norms and values
  - Religious imprints
  - In-place belief systems etc.



Can AI capture this variety and dynamics in social assessment?

- Contextualised AI responsive to societal value dynamics

AI FORA applies a participatory approach that provides input from many countries and cultural value contexts (see case studies this afternoon)

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Why a participatory approach?
Involving vulnerable groups in innovation

- Eliminating injustice, bias, or discrimination in AI-enabled social service delivery requires the **voices of non-recipients and critics** - not just those of recipients, decision-makers, service providers, or technology producers
- There are always „winners and losers“

“Losers“ as experts

- Vulnerable groups falling through the net or not benefitting from it
- can provide the most competent information
  - injustices, failures, and flaws of existing social assessment systems

Empowerment is necessary

- Often not / not sufficiently represented in democratic procedures and political participation
- Need to be empowered to bring this to bear in the co-design of technology

AI FORA applies a participatory approach that works with inputs from vulnerable groups.

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How to co-design

contextualized, value-sensitive, responsive and dynamic AI systems

from existing systems that are perceived as problematic?

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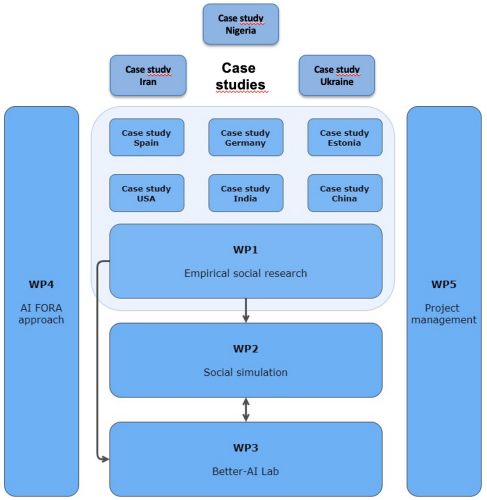
AI FORA's workflow (WP 4)



1. Participatory reconstruction and review of **existing systems**

Diverse case study set for empirical research (WP 1)

- Case-specific perspectives on existing national welfare systems
- Participation from a broad variety of cultural contexts

Stakeholder-driven description and analysis in each case study (WP 1)

- Participation from a broad variety of societal stakeholders
- Detailed actor network map of each case using participatory methods
- Identifying gaps, barriers, and desired futures from multi-stakeholder perspectives including those of vulnerable groups (workshops)

2. Followed by a participatory anticipation, projection and realisation of **systems desired**

Stakeholder-driven social simulation (WP 2) and science communication (WP 3)

- Participatory modelling strategy supporting the transition from existing to desired systems
- Suggested algorithmic solutions for "better AI" and policy recommendations are communicated using inclusive science communication methods

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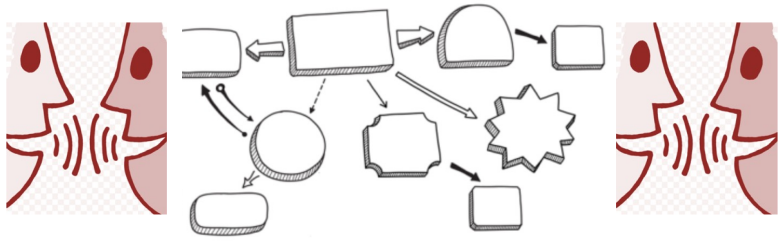

AI FORA participatory modelling strategy (= high-level strategy)

1. Case studies will elaborate their stakeholder-driven actor-network map as a flow chart during an online workshop
2. Rules for a game to be played with stakeholders will be written
3. An ABM that models the current social assessment system, including the initial rule set and exemplar agent attributes, will be written
4. The initial rule set will be checked and refined by running the ABM to become the 'current rule set'
5. At a gamification workshop with the stakeholders, the current rule set will be gradually adapted by the stakeholders to become a more desirable assessment algorithm
6. The 'better rule set' will be extracted using the records from the game play
7. The ABM will be modified to incorporate the better rule set
8. The ABM will be used to generate a data set that has a case ('row') for every permutation of the applicants' attributes. The ABM will be run using the better rule set for each case (possibly multiple times to deal with stochasticity) to see what the social assessment is for that combination of attributes. This will yield a dataset of 'inputs' (the attributes) and 'outputs' (the assessment)
9. Using this dataset, a neural network (NN) or other ML system will be trained to match the dataset. This NN is the 'better AI algorithm' for the case study
10. A final stakeholder workshop will be held at which the better AI algorithm will be introduced and if possible tested against representative empirical data about applicants for social assessment (or if empirical data are not available, tested on the basis of plausibility)

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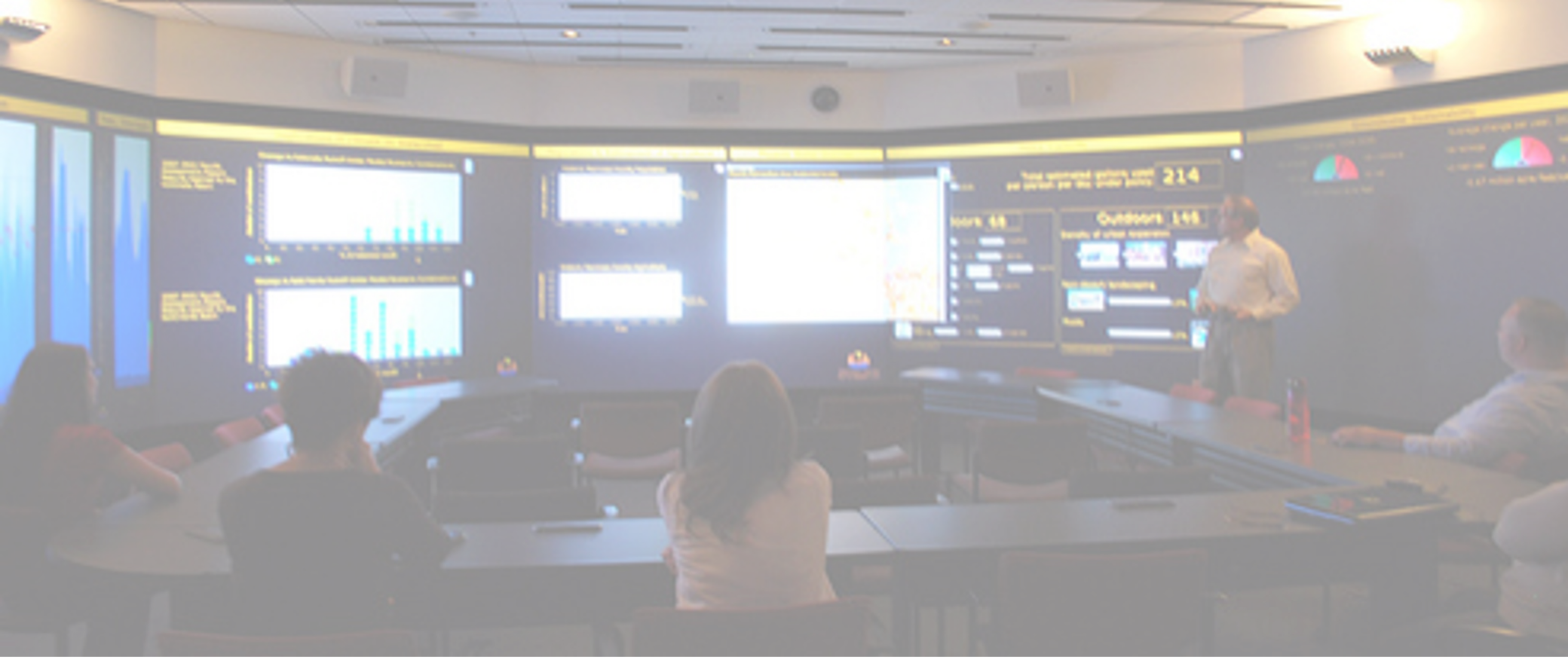

Where we are

Dipping into the agenda

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AI FORA

artificial intelligence for assessment

2nd General Partner Meeting

2-4 May 2023

Barcelona, Spain

Venue: Abadia de Montserrat (Intermediary Partner AI FORA)

Tuesday, 02/05/2023: AI FORA overview and case studies

13.00 **Registration** *[Foyer Meeting Room; Hotel Abat Cisneros]*

14.00 **Welcome addresses** *[Meeting Room; Hotel Abat Cisneros]*
Abbot Manel Gasch i Hurios, Petra Ahrweiler, Albert Sabater Coll

14.15 **AI FORA - Where We Are** *[Meeting Room; Hotel Abat Cisneros]*
Petra Ahrweiler

14.45 **Podium: Case study updates** *[Meeting Room; Hotel Abat Cisneros]*
- **Case study update Nigeria** *(Emmanuel Ejim-Eze)*
- **Case study update USA** *(Margaret Hinrichs, Chelsea Dickson)*
- **Case study update Iran** *(Hassan Bashiri)*

15.15 **Case study update Ukraine** *(Oleksandr Khyzhniak)*
Case study update China *(Hui Li, Blanca Luque)*

16.15 **Coffee break**

16.30 **Case study update Germany** *(Elisabeth Späth)*
Case study update India *(Sumathi Srinivasalu, Ebin Raj)*
Case study update Estonia *(Triin Verbalemn, online/virtual)*

18.15 **Walk through the monastery Gardens** *[Meeting Room; Hotel Abat Cisneros]*
Abbot Manel Gasch i Hurios

18.45 **Opportunity to join Vespers prayer with Escolania**

20.30 **Reception dinner** *[Restaurant Hotel Abat Cisneros]*

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Wednesday, 03/05/2023: AI FORA high-level strategy

09.00 **Introduction to gamification & simulation as methods of the high-level strategy**
[Meeting Room; Hotel Abat Cisneros], Nigel Gilbert

09.30 **AI FORA high-level strategy: Example Spain**
[Meeting Room; Hotel Abat Cisneros], Albert Sabater Coll

10.00 **Gamification session with stakeholders** *[Meeting Room; Hotel Abat Cisneros]*
All participants, Moderated by Albert Sabater Coll

14.00 **Lunch**

15.00 **Outlook for AI FORA's final policy workshops: VR module for increasing decisionmakers' empathy** *[Meeting Room; Hotel Abat Cisneros]*
Elisabeth André and Ruben Schlagowski

15.30 **Facilitated session on evaluating the AI FORA approach with walk-shop**
[Meeting Room; Hotel Abat Cisneros], Jennifer Abe and Gerhard Kruip

18.00 **Short break**

18.15 **AI FORA interactive feedback session/Worldcafé**
[Meeting Room; Hotel Abat Cisneros] JGU team

19.30 **Short break**

20.00 **Experimental session**
[Meeting Room; Hotel Abat Cisneros] Ferhan Otay band

21.00 **Conference Dinner**
[Restaurant Hotel Abat Cisneros]

Thursday, 04/05/2023: AI FORA stakeholder site visit

09.00 **Leaving Montserrat and going to Mataró by Bus**

10.00 **Excursion to AI-using social service agency in Barcelona / Mataró**
All participants

12.30 **Conclusions and open questions**
All participants

14.00 **Lunch in Barcelona / Mataró with reflecting on site visit**

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Case study updates

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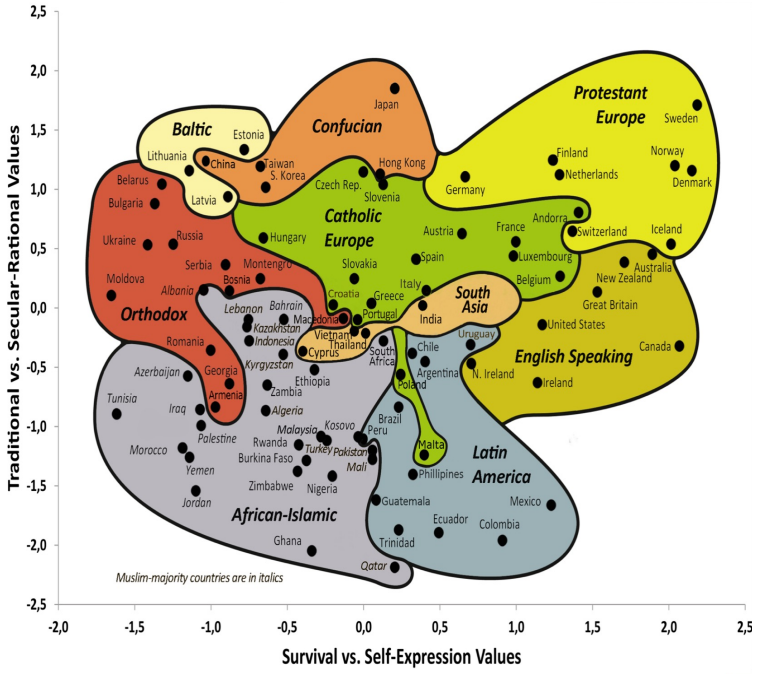
Case study updates

Country order as proximity to high-level strategy

Spain
Estonia
Germany
India
China
Ukraine
Iran
USA
Nigeria

Italy and Mexico did not materialise…

- General update on progress in case study
- Actor network map
- Insights from multi-stakeholder workshops
- Main interim results
- Challenges during research: Ethical issues and surprises
- Next steps towards high-level strategy



High-level strategy

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High-level strategy

Morning

- Modelling components
  - Interplay of gamification and simulation (Spanish example)
- Hands-on experience with high-level strategy (Spanish example)
  - Doing Step 5 of high-level strategy

Afternoon

- Evaluation of high-level strategy

Evening

- Low-barrier methods

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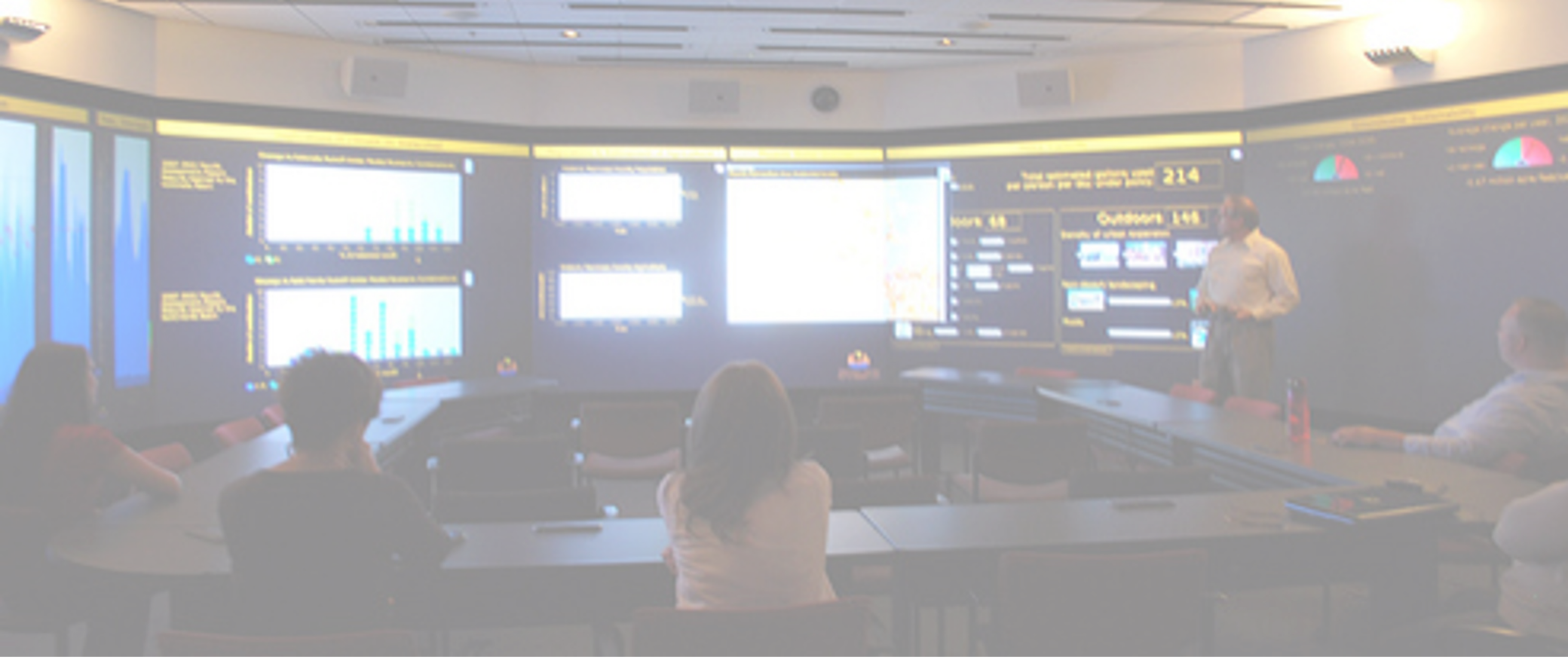
Site visit to stakeholders



Help and support

Food and organisation

- Coffee breaks (in meeting room)
- Lunch (in restaurant)
- Reception dinner tonight (in restaurant)
  - Live music with Ferhan Otay band
- Conference Dinner tomorrow (in restaurant)
  - Drinks already during last session in meeting room

JGU conference team - here to help you!

David Wurster

Elisabeth Späth

Jesús Siqueiros

Blanca Luque

Tobias Beckhoff