#Standards4AI

‘Putting Science Into Standards’ workshop

Welcome!

We will start soon

slido.com
#Standards4AI

@Standards4EU

@EU_ScienceHub

#Standards4AI

'Putting Science Into Standards' workshop

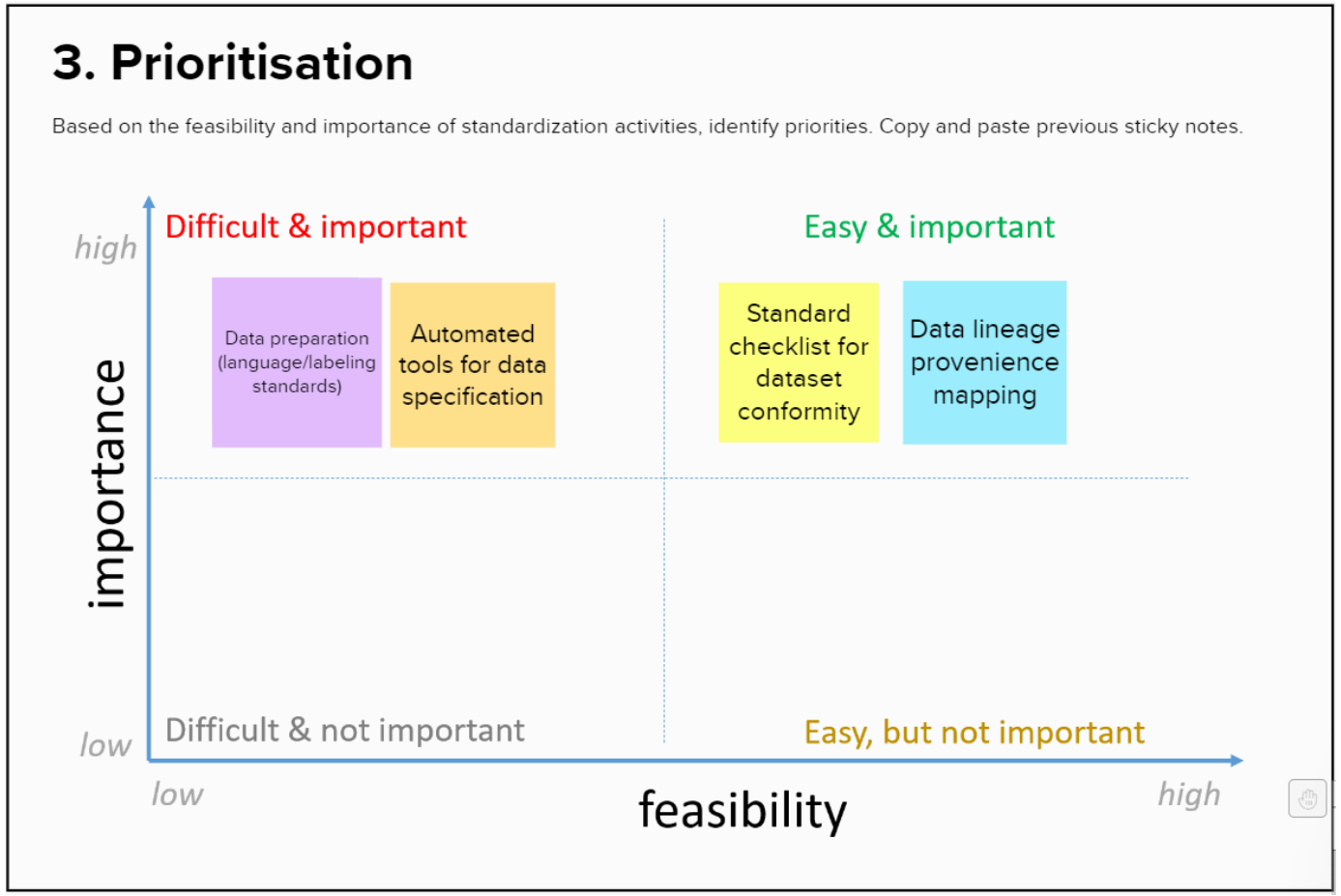
Flash summaries of parallel sessions

Creating and documenting datasets for AI

Panelists:

- Felix Naumann, Hasso-Plattner-Institut
- Emmanuel Kahembwe, Univ Edinburgh
- Kasia Chmielinski, Dataset Nutrition Project
- Flora Dellinger, Confiance.ai

Rapporteurs: Isabelle Hupont Torres

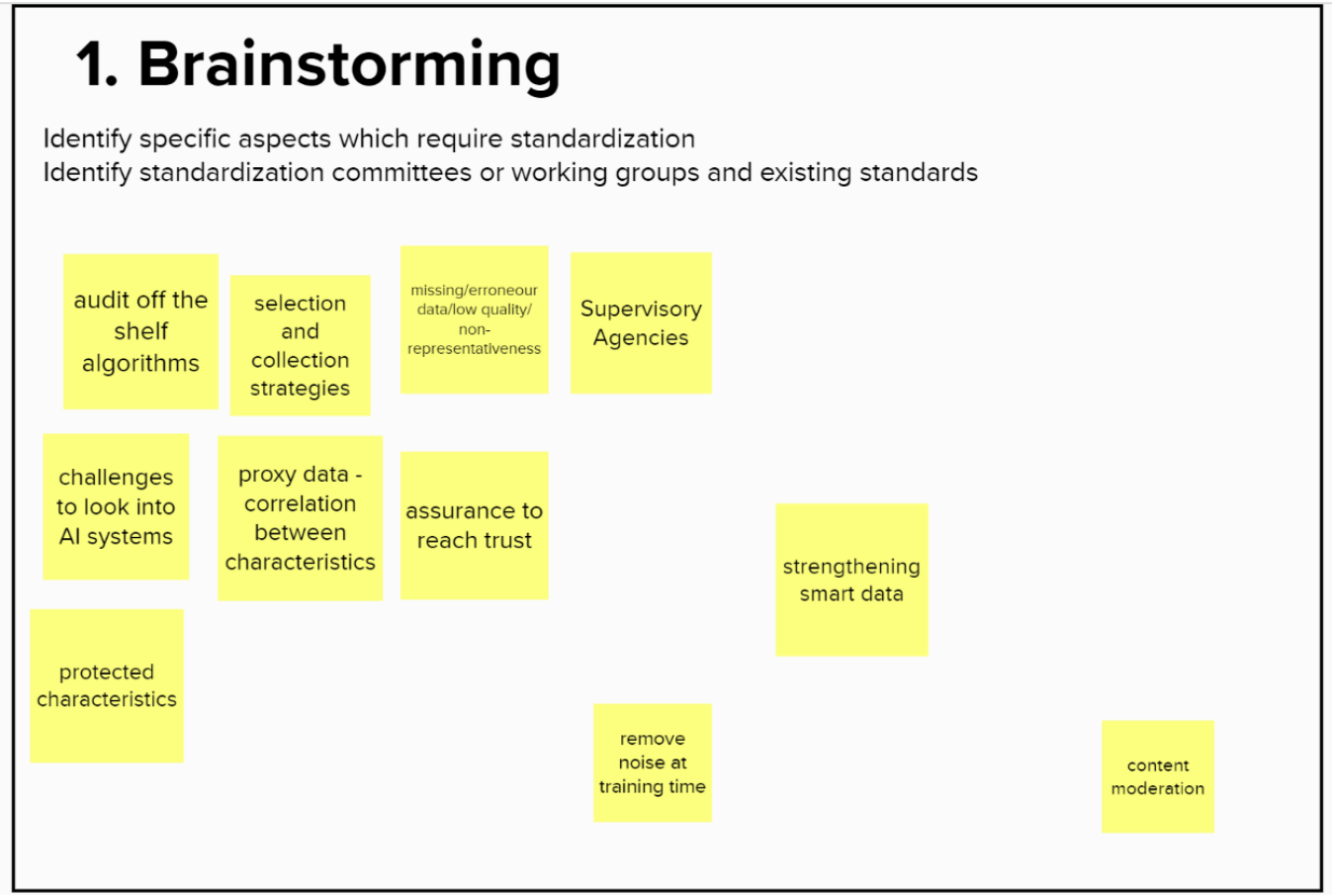


Data quality and bias examination and mitigation in AI

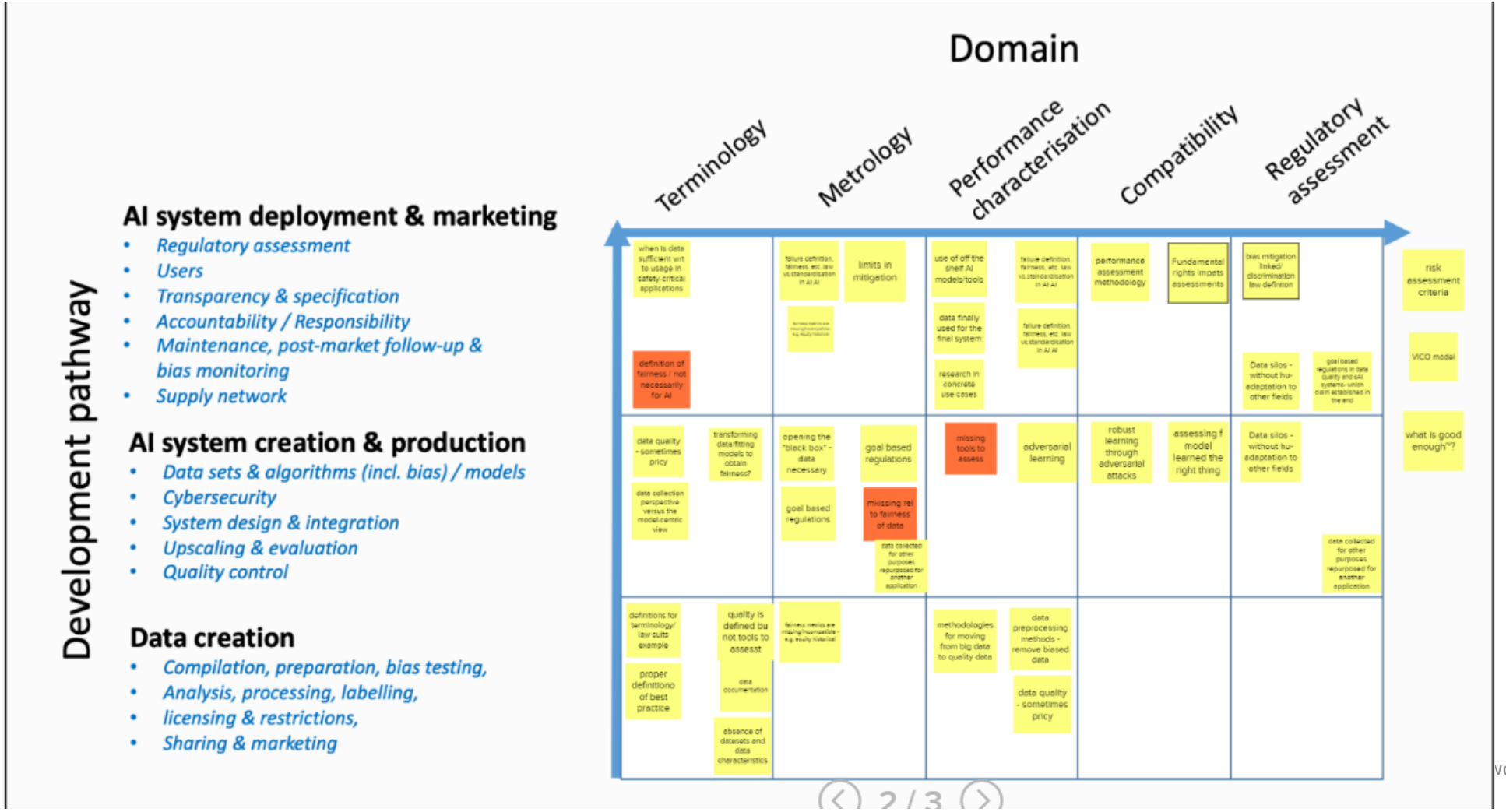
Panelists:

- Francisco Herrera, Univ Granada
- David Reichel, FRA
- Fred Morstatter, ISI
- Rasmus Adler, Fraunhofer IESE

Rapporteur: Maurizio Salvi, Alexandra Balahur



Data quality and bias examination and mitigation in AI

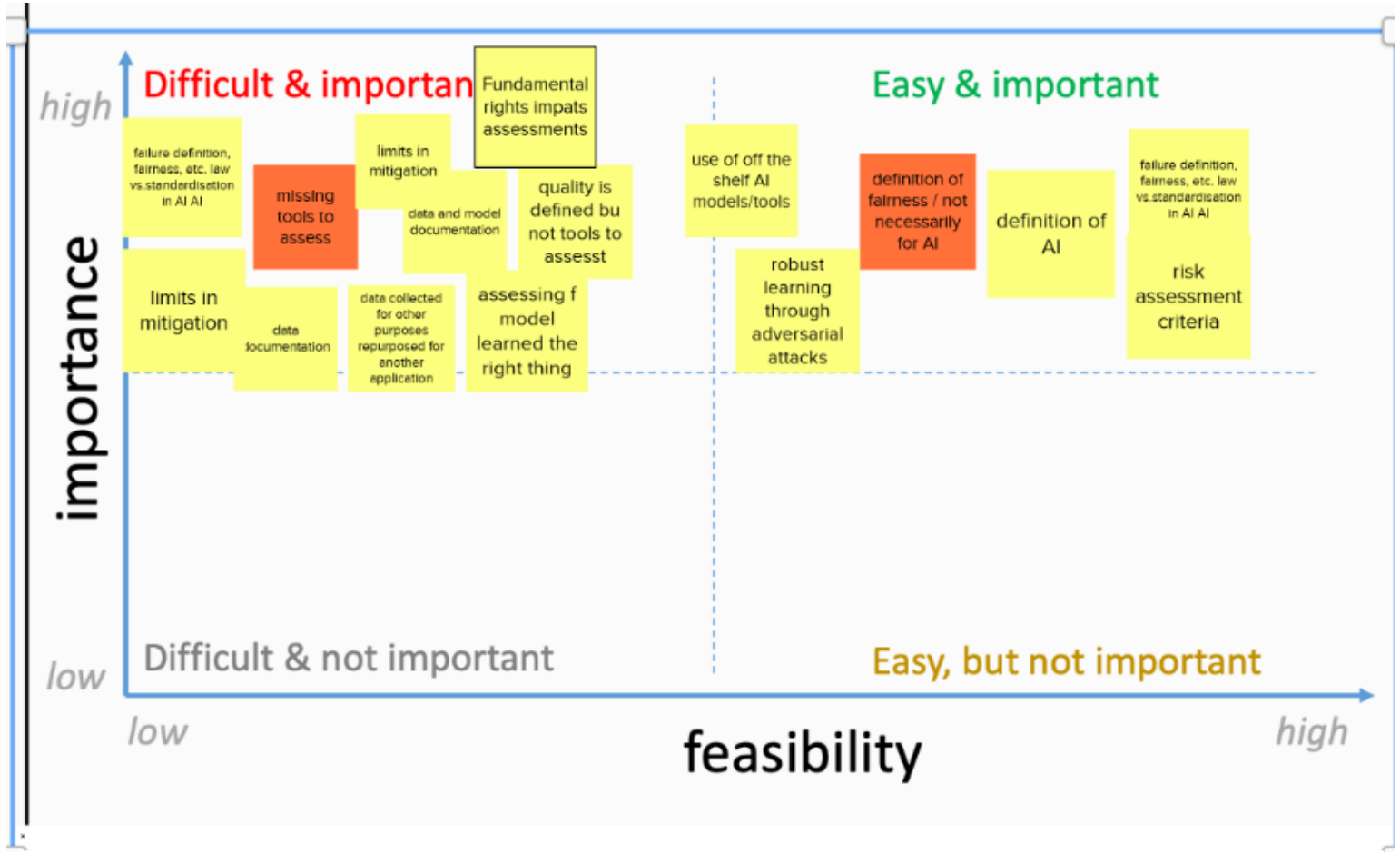


Data quality and bias examination and mitigation in AI

Panelists:

- Francisco Herrera, Univ Granada
- David Reichel, FRA
- Fred Morstatter, ISI
- Rasmus Adler, Fraunhofer IESE

Rapporteur: Maurizio Salvi, Alexandra Balahur

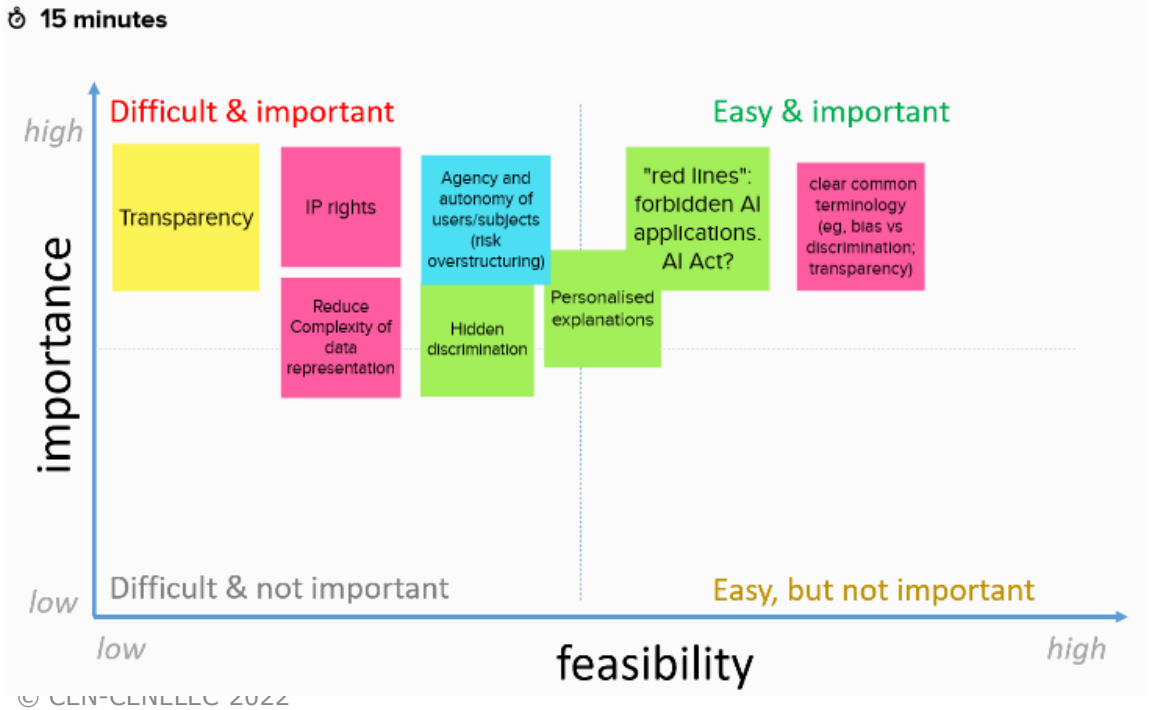


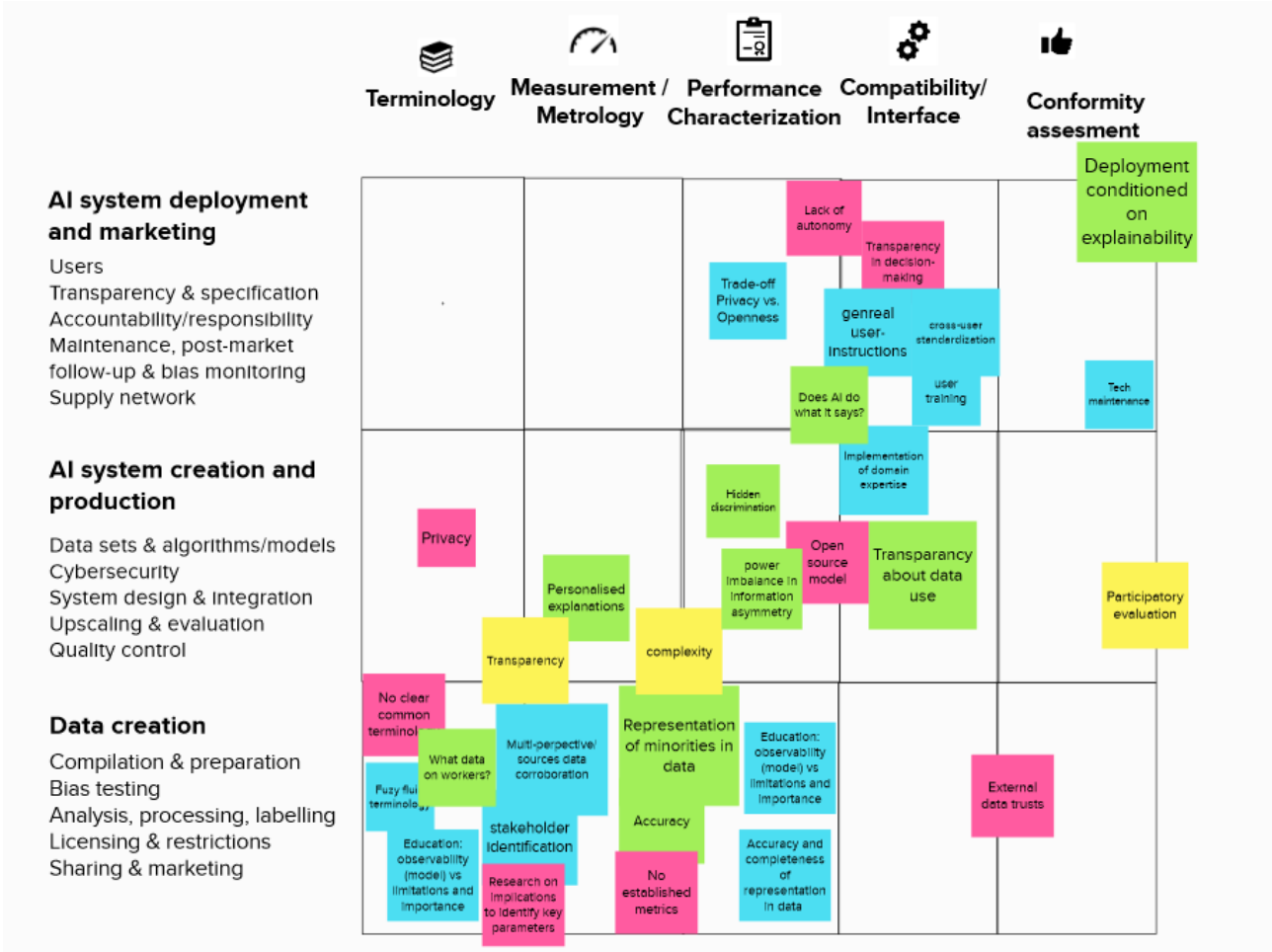
Education and employment

Panelists:

- Dee MASTERS, Cloister
- Nikoleta GIANNOUTSOU, JRC
- Enrique Fernández-Macías, JRC

Rapporteurs: Songül Tolan, Matteo Sostero





Law enforcement

Panelists:

- Patrick GROTHER, NIST FRVT
- Javier RODRÍGUEZ SAETA, Herta
- Robin ALLEN, Cloister
- Rosalía MACHÍN PRIETO, Gov Spain

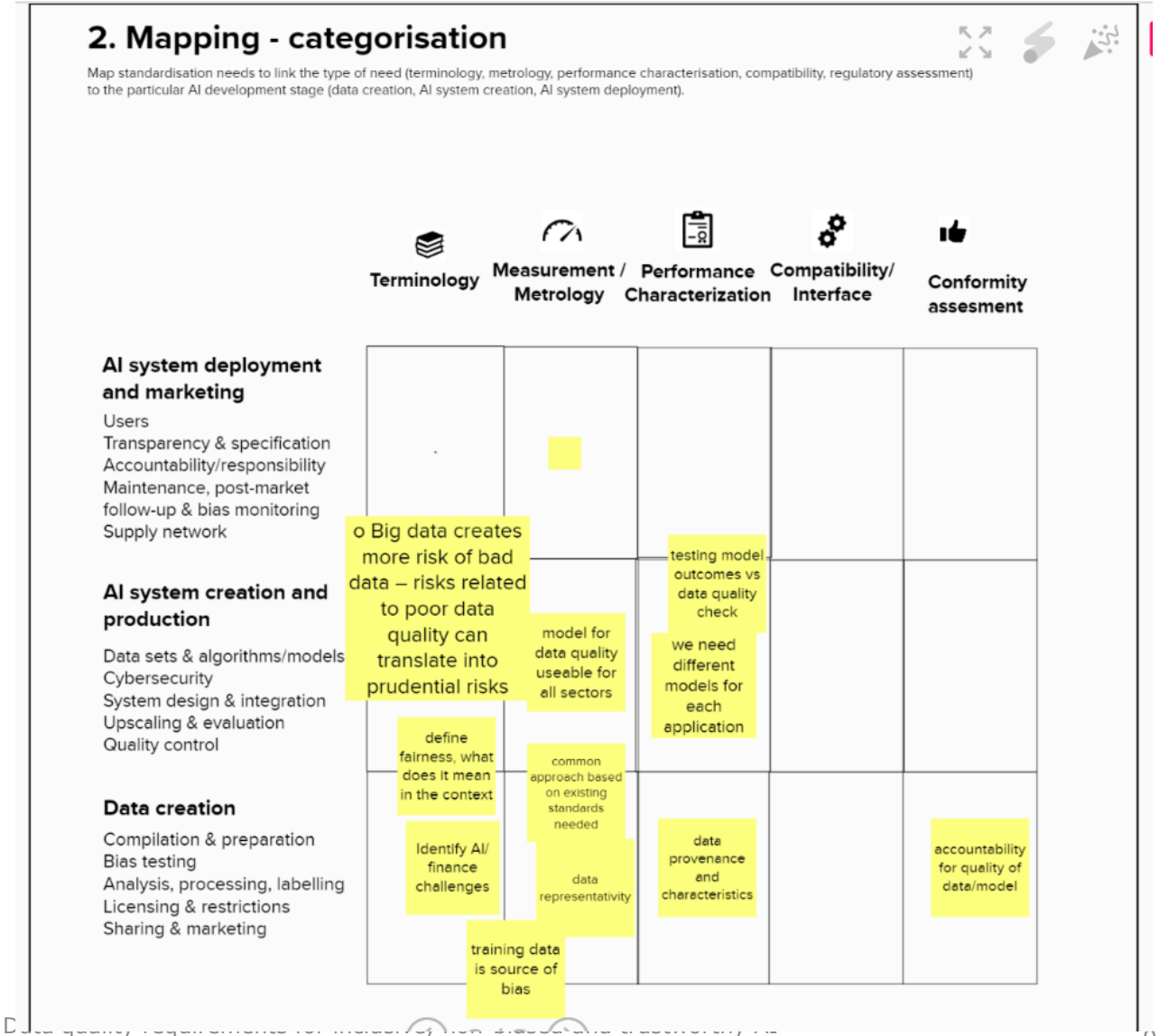
Rapporteurs: Isabelle Hupont Torres

Finance

Panelists:

- Karen Croxson, FCA UK
- Andrea Caccia, chair CEN-CENELEC JTC 19 Blockchain
- Jörg Osterrieder, University of Twente & Zurich University of Applied Sciences

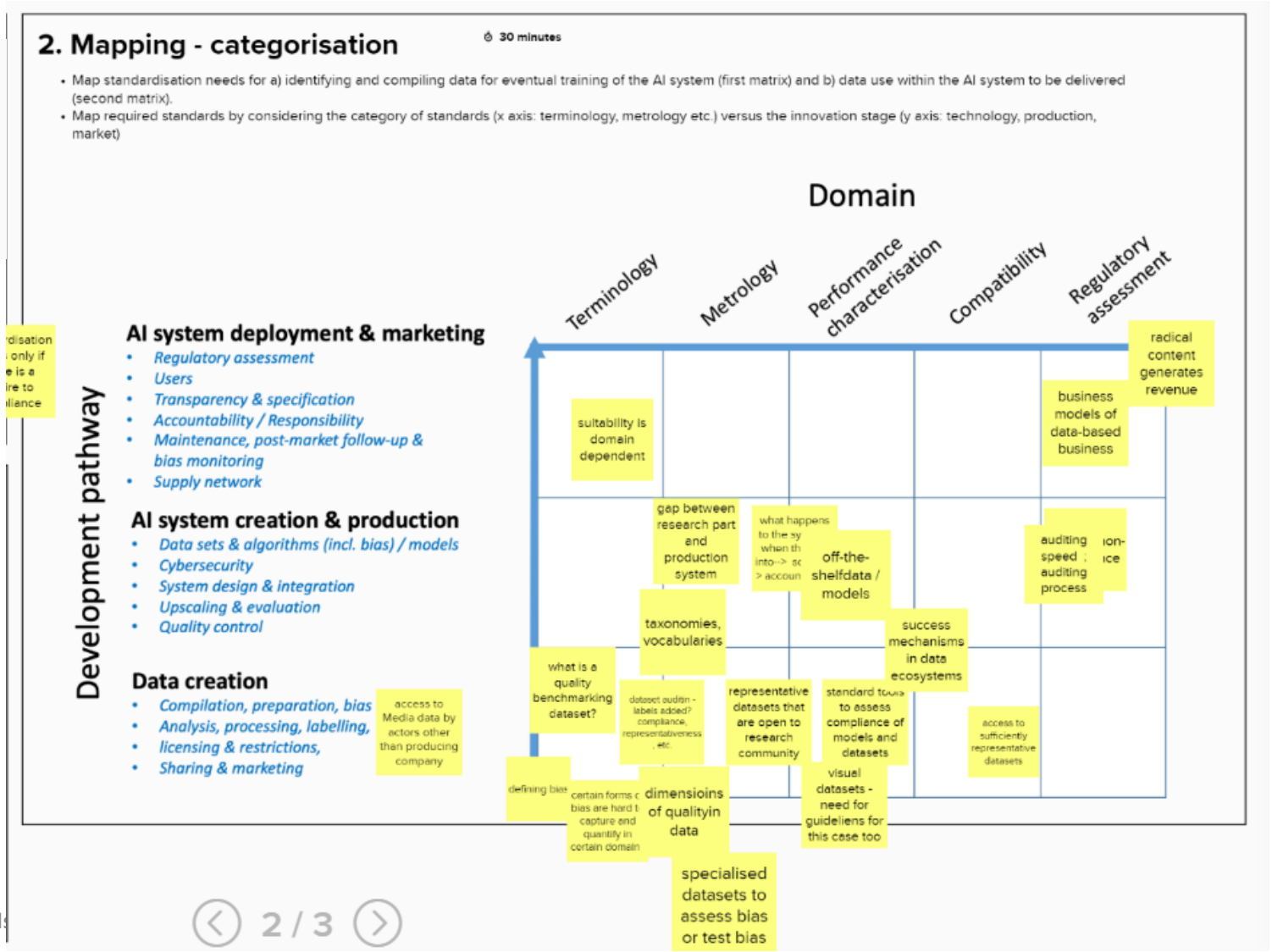
Rapporteurs: Maurizo Salvi (JRC)



Media, including social media

Session: Media, including Social Media, content moderation, recommender systems
Panelists:
- Symeon Papadopoulos, Centre for Research and Technology Hellas
- Jochen Leidner, Coburg University

Rapporteurs: Alexandra Balahur



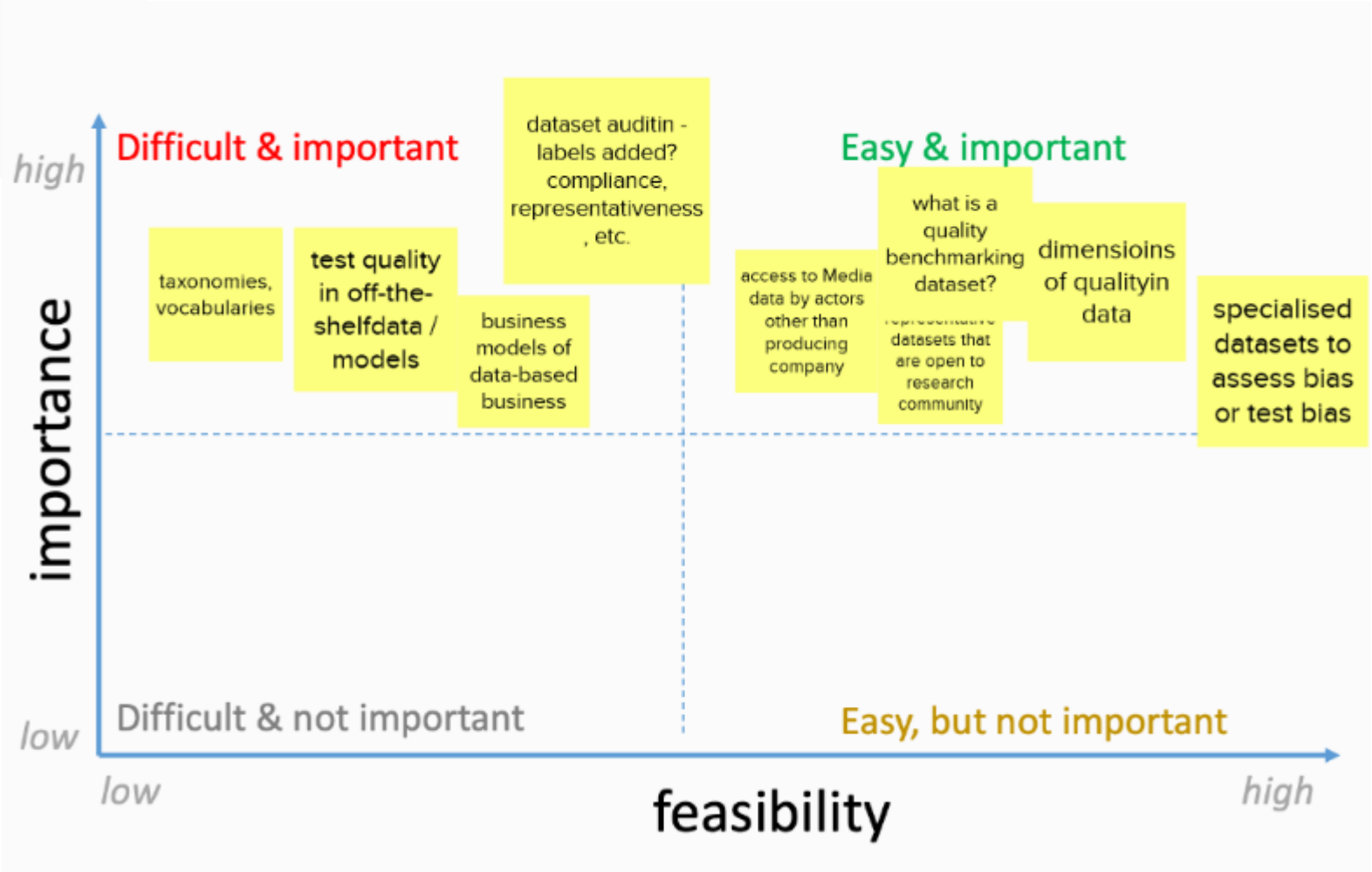
Media, including social media

Session: Media, including Social Media, content moderation, recommender systems

Panelists:

- Symeon Papadopoulos, Centre for Research and Technology Hellas
- Jochen Leidner, Coburg University

Rapporteurs: Alexandra Balahur



Session “AI in medicine and healthcare”

PSIS workshop on data quality requirements for inclusive, non-biased & trustworthy AI

Dr. Claudius B. Griesinger

European Commission - Joint Research Centre (JRC)

High-risk AI applications & critical sectors

The EU's approach to Artificial Intelligence (AI), based on trust and excellence, will give citizens the confidence to embrace these technologies while encouraging businesses to develop them.

What is a high-risk AI application?

- When it concerns a critical use in a critical sector

CRITICAL SECTORS

- healthcare
- transport
- police
- legal system

CRITICAL USE

- legal effects
- risks of death
- damage or injury

- For example: medical equipment, automated driving, decisions on social security payments;
- Some uses are critical in all sectors, for example use of AI in recruitment processes.

AI Act risk classification and health

AI Act – Article 6

Classification rules for high-risk AI

(a) **AI system** intended to be used as a safety component or a product, or is itself a product, **covered by the EU harmonisation legislation (Annex II)**

AND

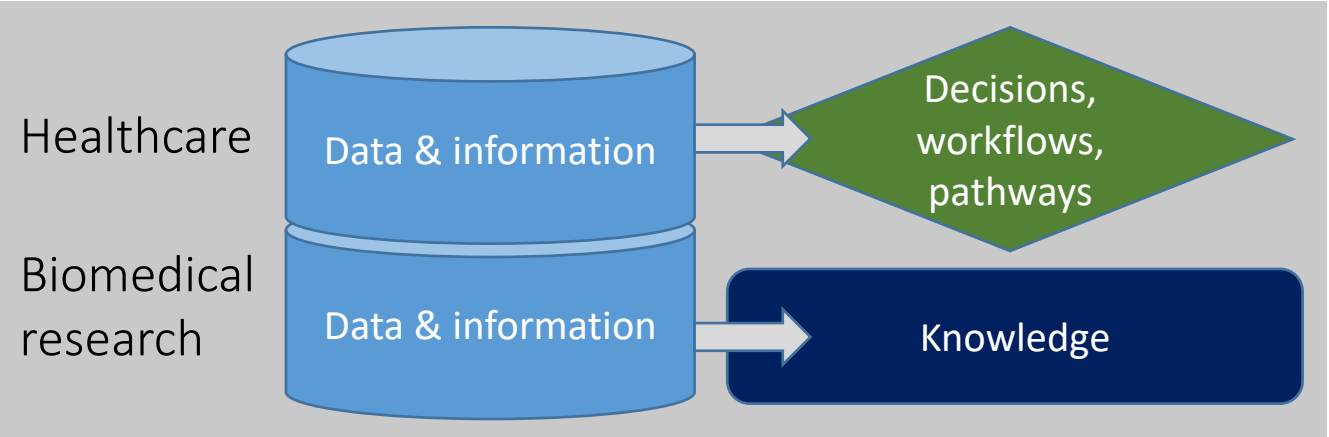
(b) **Product** (of which AI system is safety component) or the **AI system** itself need to undergo **conformity assessment** under Annex II listed legislations

Health relevant

MDR	(EU)2017/745
IVDR	(EU)2017/746
PPRR	(EU)2016/425

AI in medicine and healthcare: many diverse applications

- Medicine / healthcare:
  currently sector with
  highest number of
  AI application cases



1) Healthcare

- Diagnosis & prediction-based diagnosis
- Clinical care
  risk identification, therapy optimisation…
- Robotic surgery

2) Health systems management

- Administrative workflow
- Logistics
- Support decision making
- …ots & virtual nursing assistants
- …icine

Data

3) Public health & surveillance

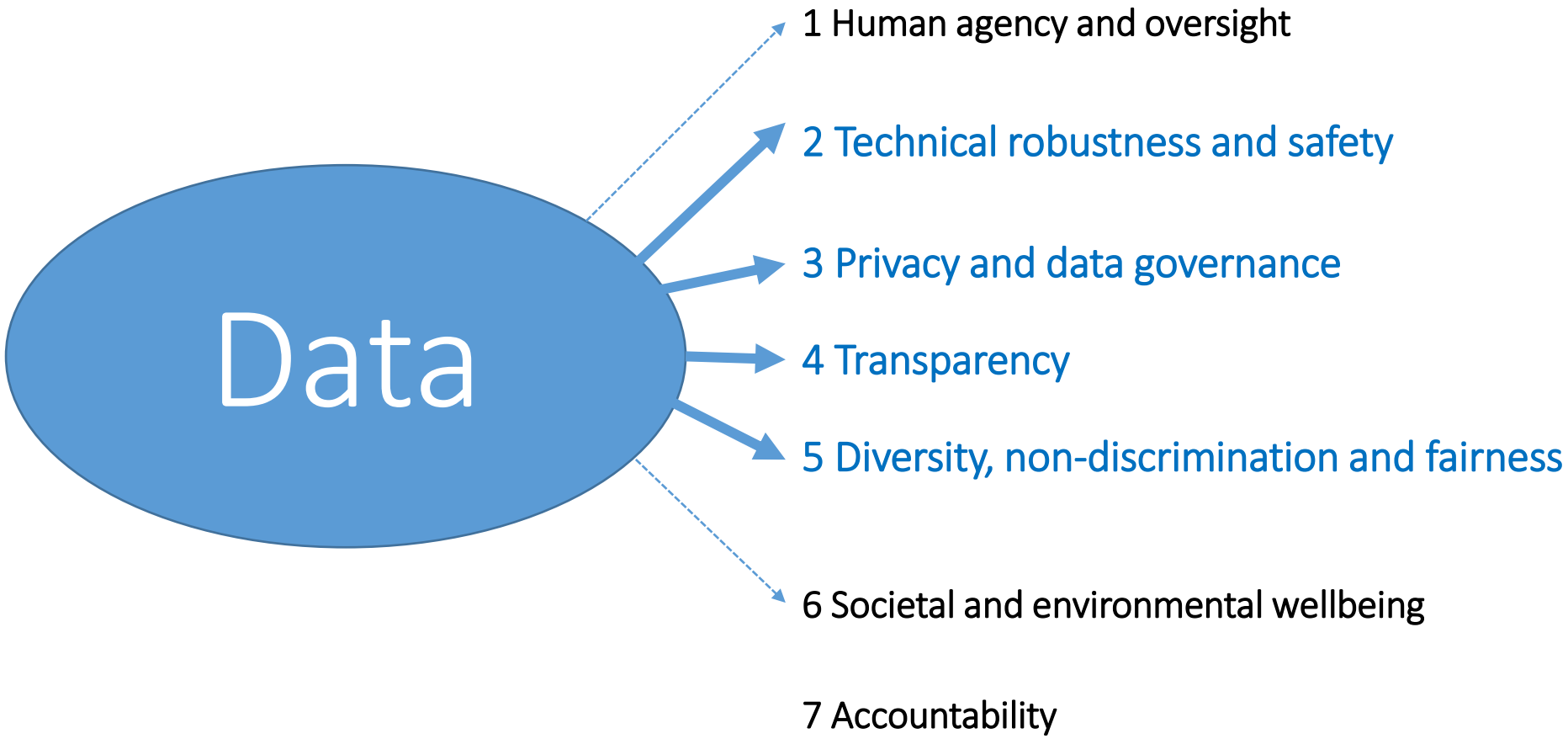
- Disease outbreaks
- Pandemic preparedness
- Health promotion & disease prevention

…th research

- …ealth data for research
- Electronic health records:
  optimisation of clinical care
- Drug development & repurposing
- Genomic medicine & personalised medicine

Data quality and the trustworthiness

7 key requirements of trustworthy AI



Session questions & mural

1 Overview

Challenges, topics, gaps & needs

Ongoing Standardisation Activities

Committees, communities, groups

Standards (of relevance)

2 Mapping

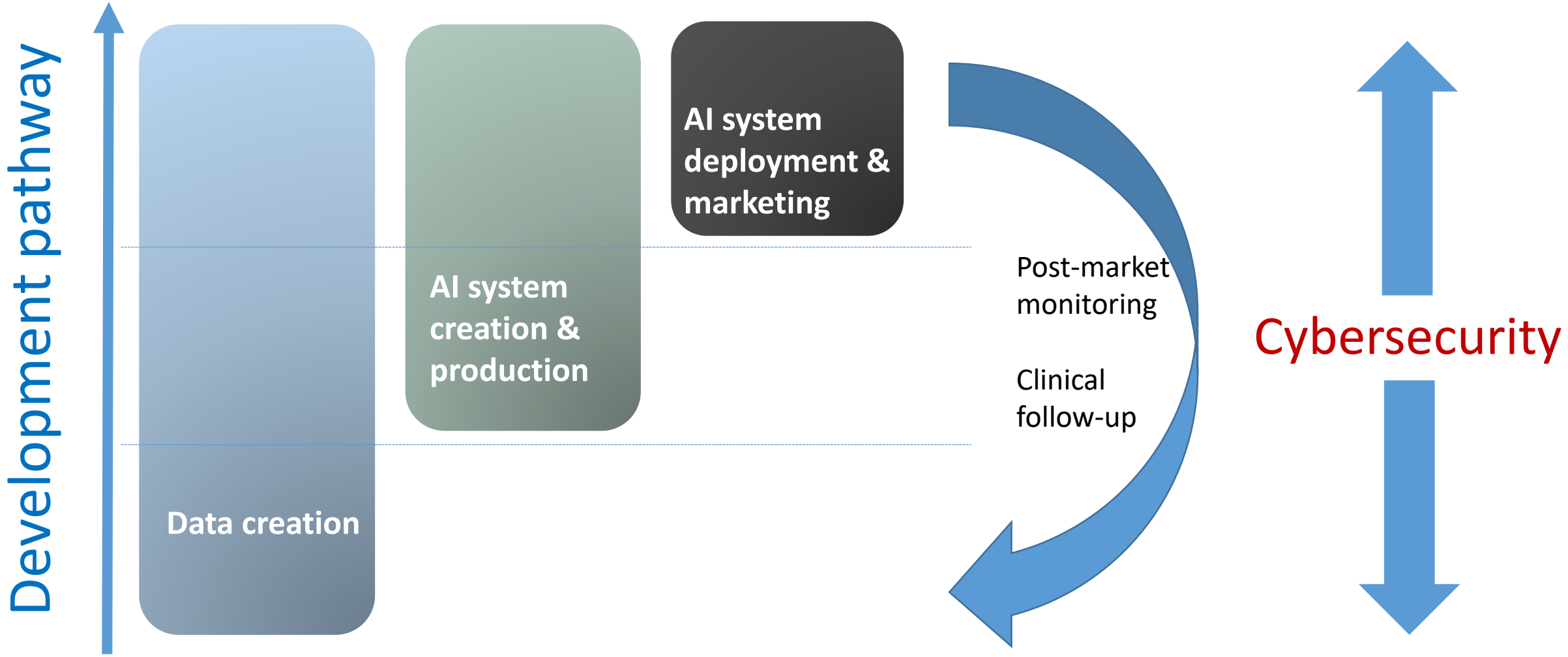
Mapping items over development pathway

- *Standards, guidance, technical reports, frameworks*

3 Priorities

Prioritisation

Development pathway & product cycle of AI systems



Kick-off questions

Challenges, topics, gaps & needs …

- What are **key challenges** that need to be addressed, specific to medicine and healthcare?
- What are **key aspects of standardization / guidance** that would need to be tackled? – in particular in view of **data quality throughout the development pathway of the product.**

How to do it …

- Can the **diversity of application cases** be appropriately served by horizontal standards?
- What is the **role of specific guidance** – e.g. prior to standardization ?

1. Brainstorming

15 minutes

REQUIREMENTS (high level)

DATA

AI SYSTEM CREATION

AI SYSTEM MARKETING

Robustness & safety

Data governance, restrictions, privacy

Intelligibility

Under-standability

Trans-parency

Fairness non-discri-mination

Responsi-bility / Accounta-bility

standards

DATA statsitics characterisation

DATA: terminology

DATA: symmetry of datasets

DATA: focus on methodology (detailed metrics unrealistic?)

DATA: anonymisation / pseudominisation

DATA: "Tripod-AI" "PROBAST-AI"

data in relation to purpose!

DATA: compliance legal...

DATA: balanced-ness

DATA: complete-ness

DATA: correctness

DATA: bias testing

DATA (required) Size of data sets

DATA Data visualisation (e.g. data flow diagram)

AI SYSTEM MARKETING Maintenance of data sets and extension of data basis

AI SYSTEM CREATION External validation

DATA: currentness

DATA: dataset consistency

DATA: represen-tative

DATA: sharing/ marketing

DATA: labelling

AI SYSTEM: Algorithmic bias

AI SYSTEM: set independence

AI SYSTEM: evaluation & upscaling

AI SYSTEM: intelligibility explainability

AI SYSTEM: transparency

AI SYSTEM: maintenance

AI SYSTEM CREATION AI-specific safety and security risks

DATA Data splitting strategy

AI SYSTEM: postmarket follow-up

AI SYSTEM: bias monitoring

AI SYSTEM: supplier requirements

Development pathway

AI system deployment & marketing

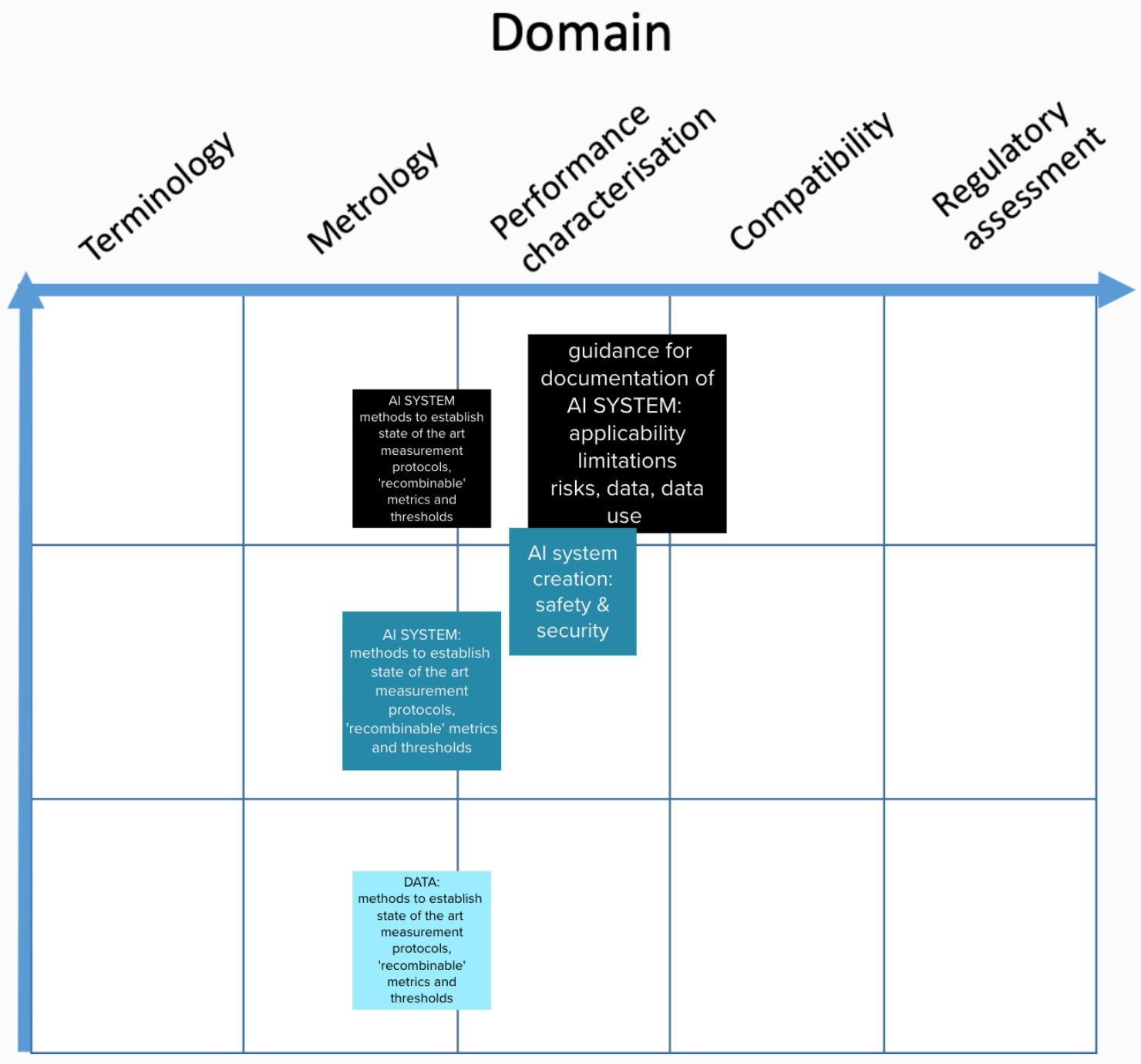
- *Regulatory assessment*
- *Users*
- *Transparency & specification*
- *Accountability / Responsibility*
- *Maintenance, post-market follow-up & bias monitoring*
- *Supply network*

AI system creation & production

- *Data sets & algorithms (incl. bias) / models*
- *Cybersecurity*
- *System design & integration*
- *Upscaling & evaluation*
- *Quality control*

Data creation

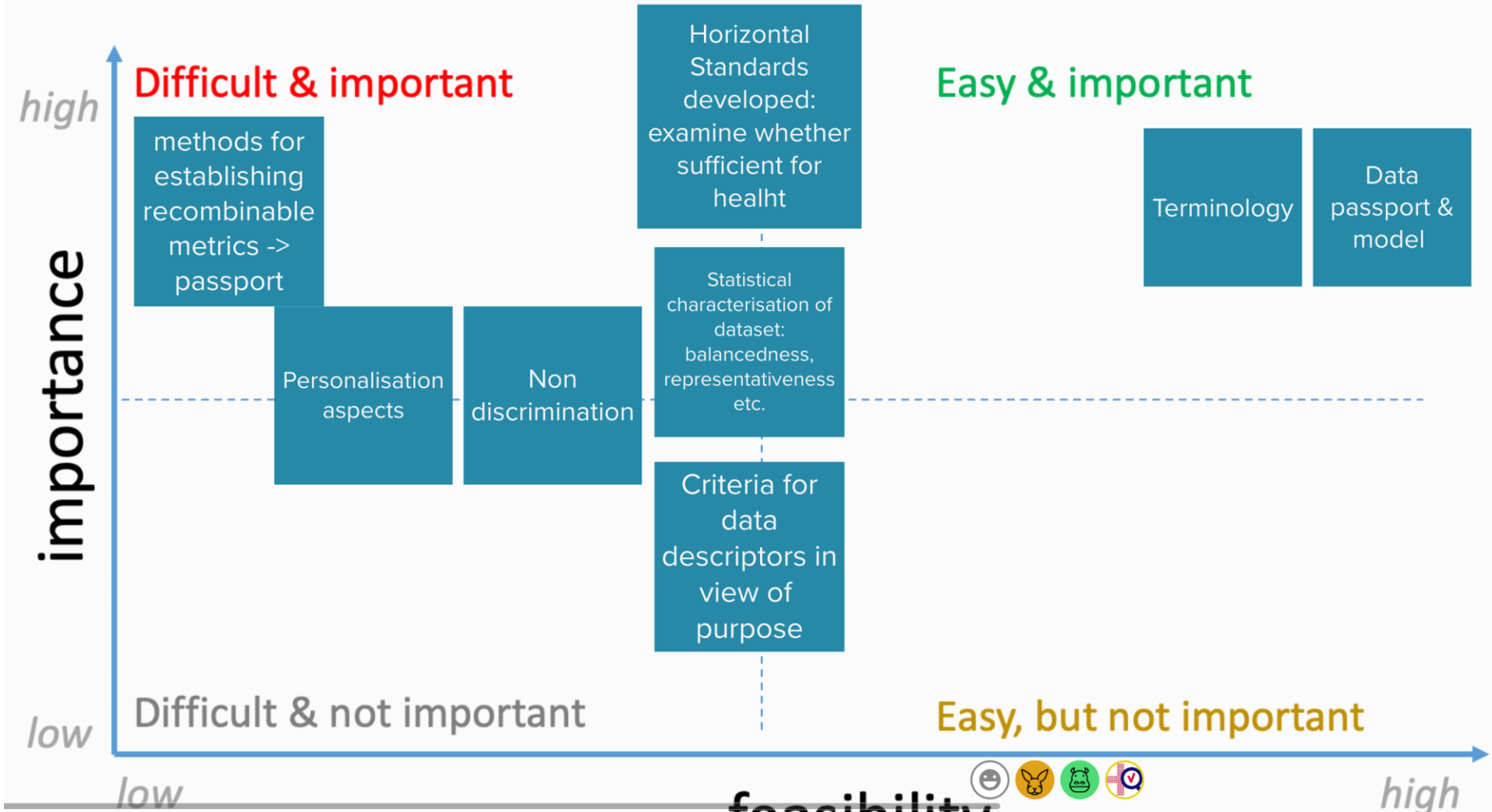
- *Compilation, preparation, bias testing,*
- *Analysis, processing, labelling,*
- *licensing & restrictions,*
- *Sharing & marketing*



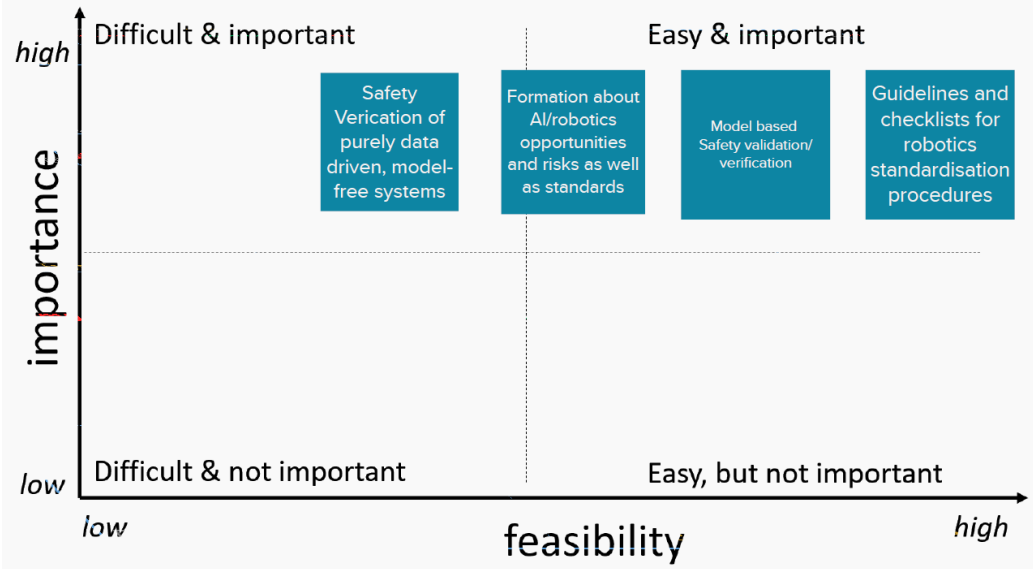
3. Prioritisation

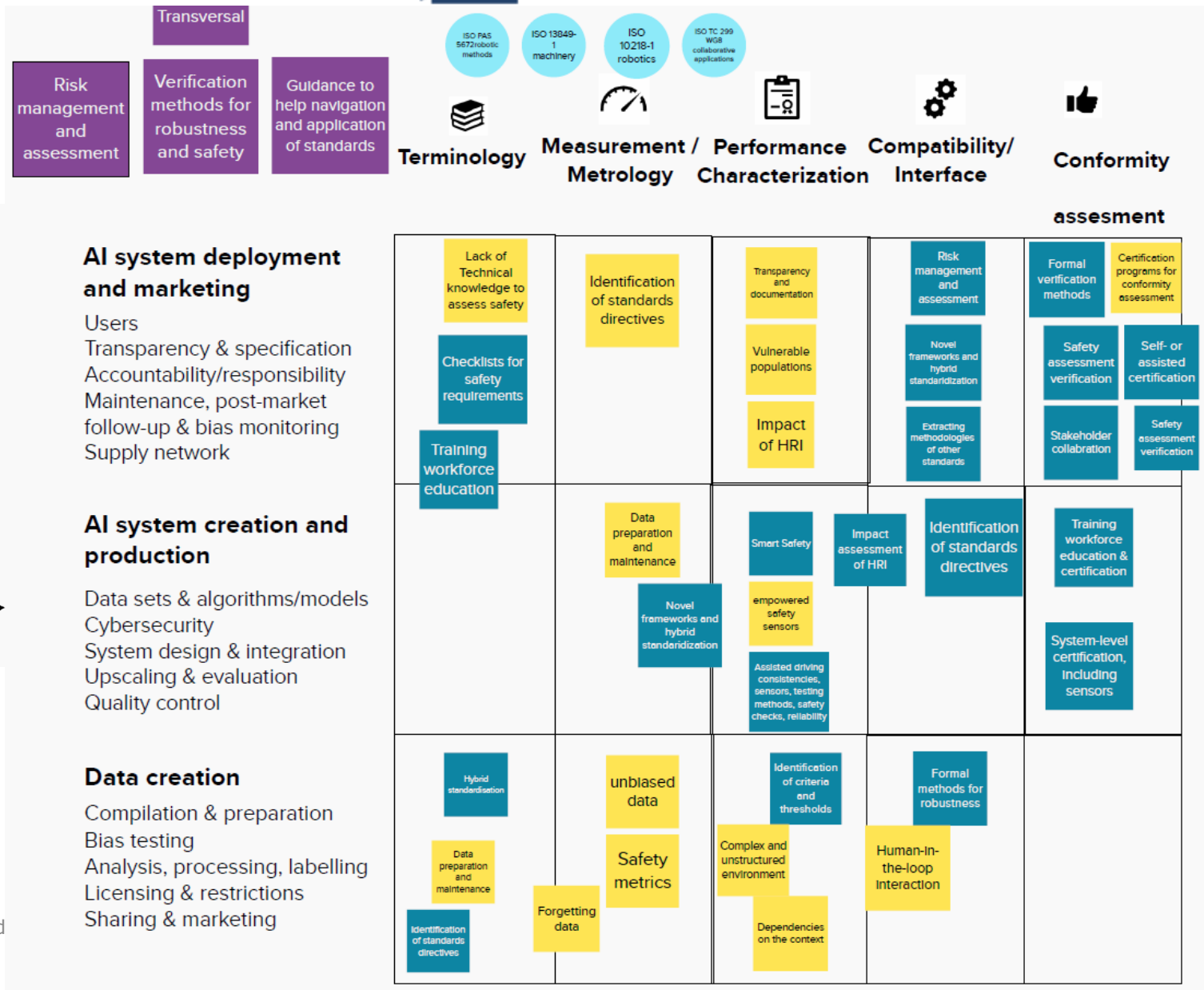
15 minutes

Based on the feasibility and importance of standardization activities, identify priority needs. Copy and paste the sticky notes from previous steps.



Industrial automation and robotics





#Standards4AI

Panel discussion on ways forward

Emilia GOMEZ GUTIÉRREZ

EC DG Joint Research Centre (JRC)

Audience interaction

slido.com

#Standards4AI

- Select the **Day 2: Main room** on Slido
- Zoom chat - only technical questions to host
- Camera and audio OFF

Panel discussion on ways forward

Agnès DELABORDE
Laboratoire national de métrologie et d'essais (LNE)

David REICHEL
European Union Agency for Fundamental Rights (FRA)

Philippe SAINT-AUBIN
Confédération française démocratique du travail (CFDT)
ETUC expert in CEN-CLC JTC 21

Antonio CONTE
EC DG GROW

Emilia TANTAR
Black Swan LUX
CEN-CENELEC JTC 21 AI

Salvatore SCALZO
EC DG CNECT

#Standards4AI

Closing Remarks

Elena SANTIAGO CID

CEN and CENELEC Director General

Thank you for joining us!