



THE FAUX CURTAIN OF ACCURACY IN SYSTEMS THAT USE ARTIFICIAL INTELLIGENCE (AI)

Kevin Maynard, Co-Director, The Institute of Ethical AI, Oxford Brookes University

Webinar

Friday, 5 February 2021, 10:00am GMT

A WORD FROM TODAY'S CHAIRMAN



Professor Michael Mainelli

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TODAY'S AGENDA



- 10:00 – 10:05 Chairman's Introduction
- 10:05 – 10:30 Keynote Address – Kevin Maynard
- 10:30 – 10:45 Questions & Answers

TODAY'S SPEAKER



Kevin Maynard

Co-Director

The Institute of Ethical AI, Oxford Brookes University



The Institute for Ethical AI

Powered by expertise at Oxford Brookes

Helping organisations
maximise benefit of AI and Data Analysis



- If Artificial Intelligence systems are so great, then why aren't all AI developers out of work.



No-statistics All Star



NBA ALL Star Shane Battier did not rank for scoring, rebounds, assists
(picture NBA.com)



Facial Recognition

Border gates at Airport



Identifying People at Football Stadium





Border Gates at Airport

- 1:1 match against passport

Identifying People at Football Stadium

Crowd	60,000	FCR 95% accurate	Detected as wanted	
People on wanted database	0.5%	300	285	9%
General Public not on database	99.5	59,700	2,985	91%

A QUICK POLL



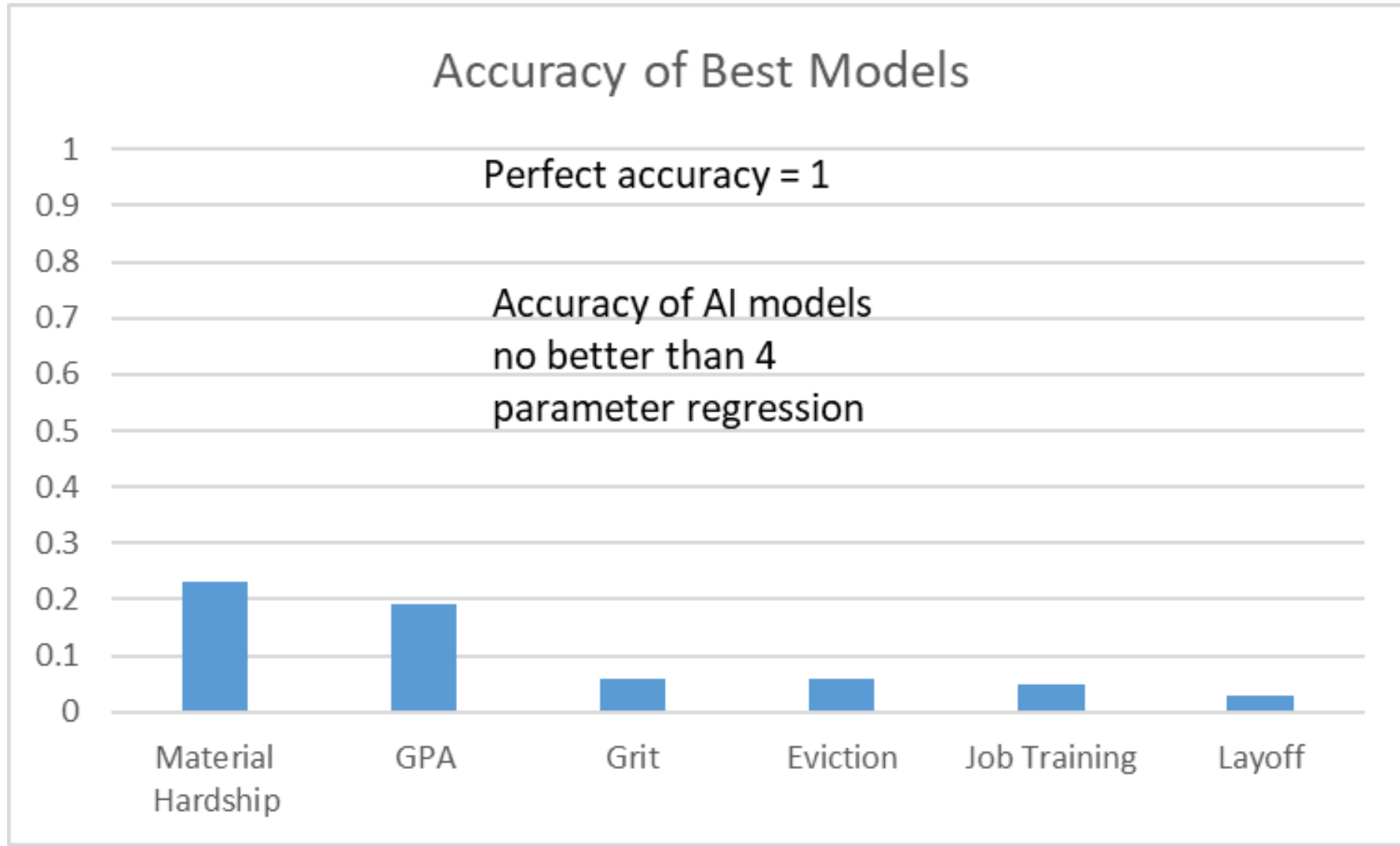
Have you come across launched systems based on some type of AI, working in the social sector that:

- a) Gave poor outputs right from the start
- b) Were working then stopped working or changed their performance
- c) Don't know, or not applicable



Fragile Family Studies

- Gathered 12,942 variables from birth from 4242 families over many years plus data on their social outcomes
- Gave 495 data analysts the data from approx. 3,000 families to create model using any technique they choose to predict outcomes
- Accuracy assessed on how well they predict the outcomes for the remaining 1,242 families





Genuine Advance

- **Perception**
- Medical diagnosis from scans
- Speech to text
- Facial recognition in some contexts
- There is a ground truth

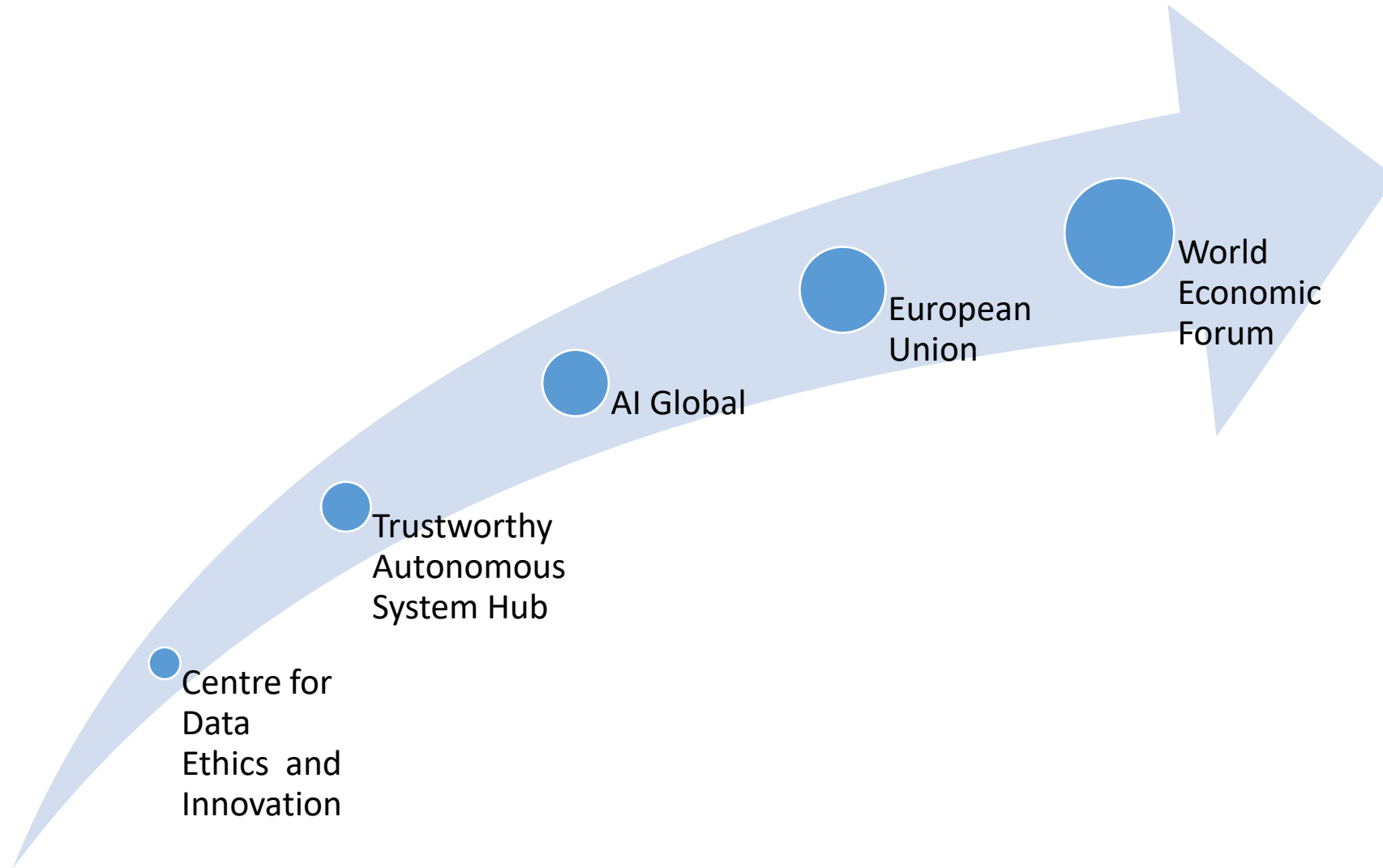
Not Perfect but improving

- **Automating judgement**
- Spam identification
- Detecting plagiarism
- Hate speech identification
- People can disagree about judgement

Unlikely

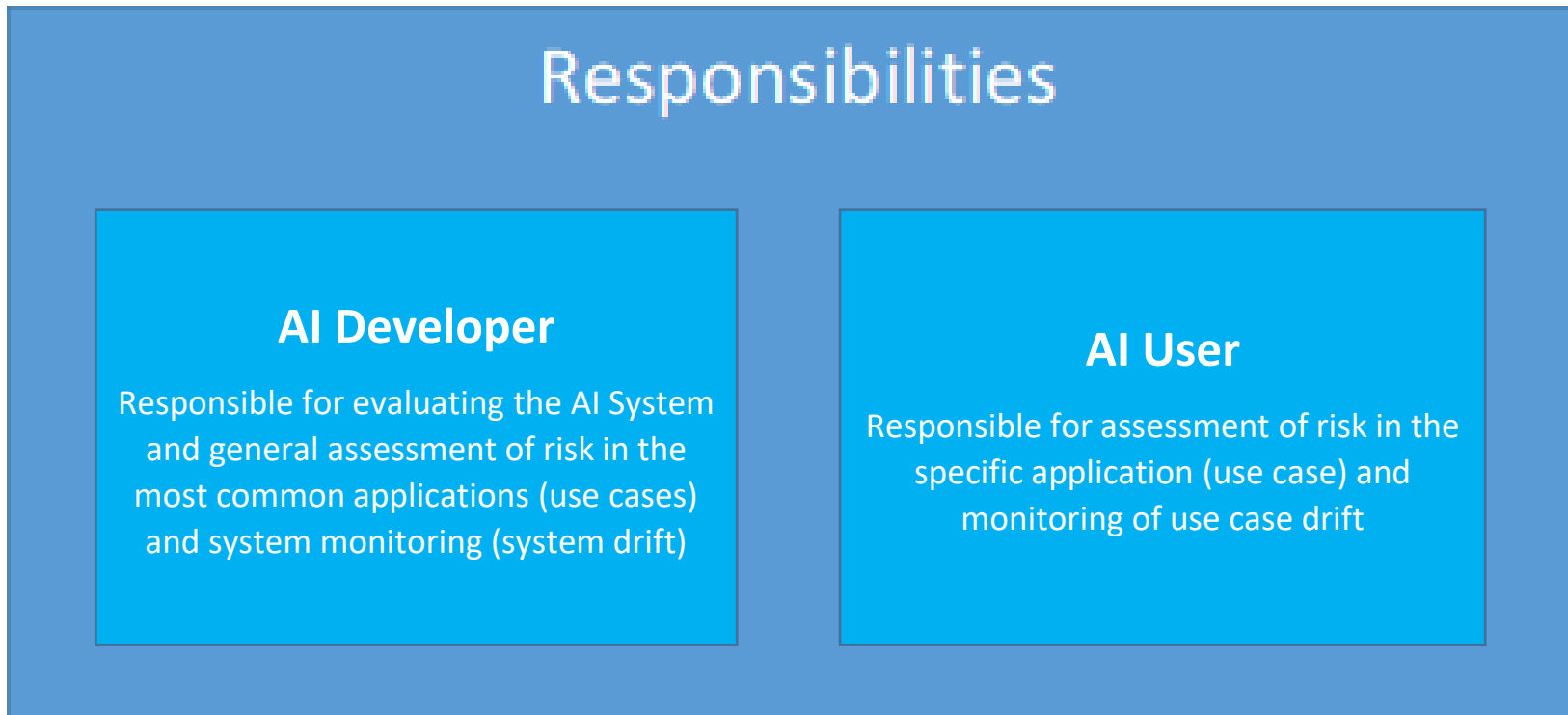
- **Predicting Social Outcomes**
- Predicting job performance
- Predicting at risk kids
- Predictive policing

World Wide Initiatives to improve trust in AI





IEAI proposed Split of Responsibilities





Responsibilities

The Developers would be responsible for

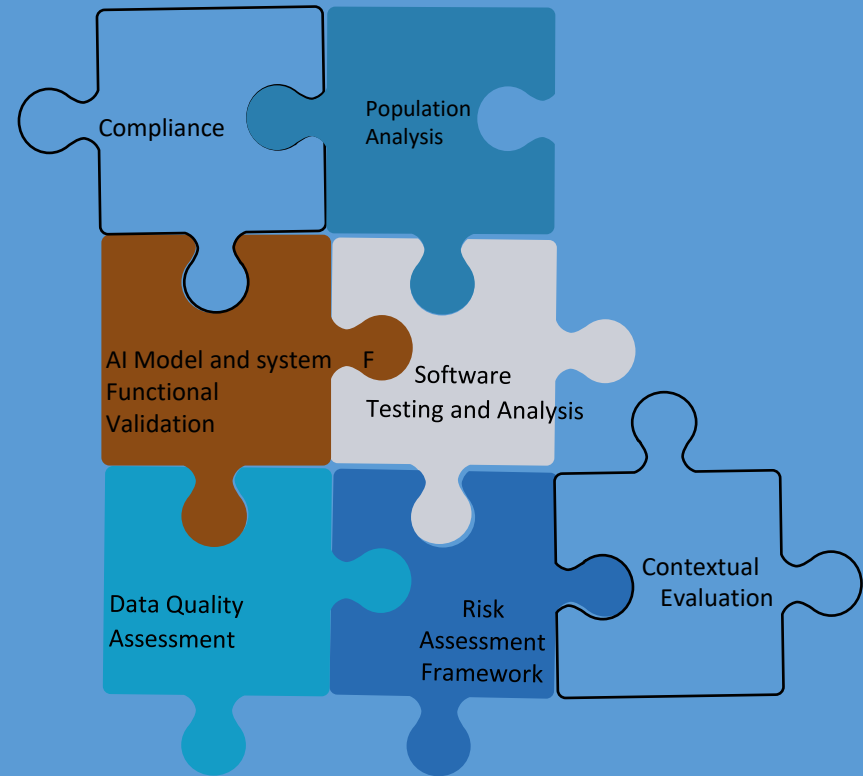
- supplying contextual information document (outlining key information and performance regarding their system)
- a characterisation of their system based on risks
- conducting a generalised risk evaluation covering the most likely common applications for their AI System
- Identification of the highest priority risks for their AI System for each common application and
- performance evaluations of realistic likely common specific instances of the most common applications for the highest priority risks.
- ongoing monitoring the AI system for drift in outputs using realistic likely common specific instances for the most common applications and general changes in law and regulation
- providing the Purchaser with the above information

The Purchasers would be responsible for

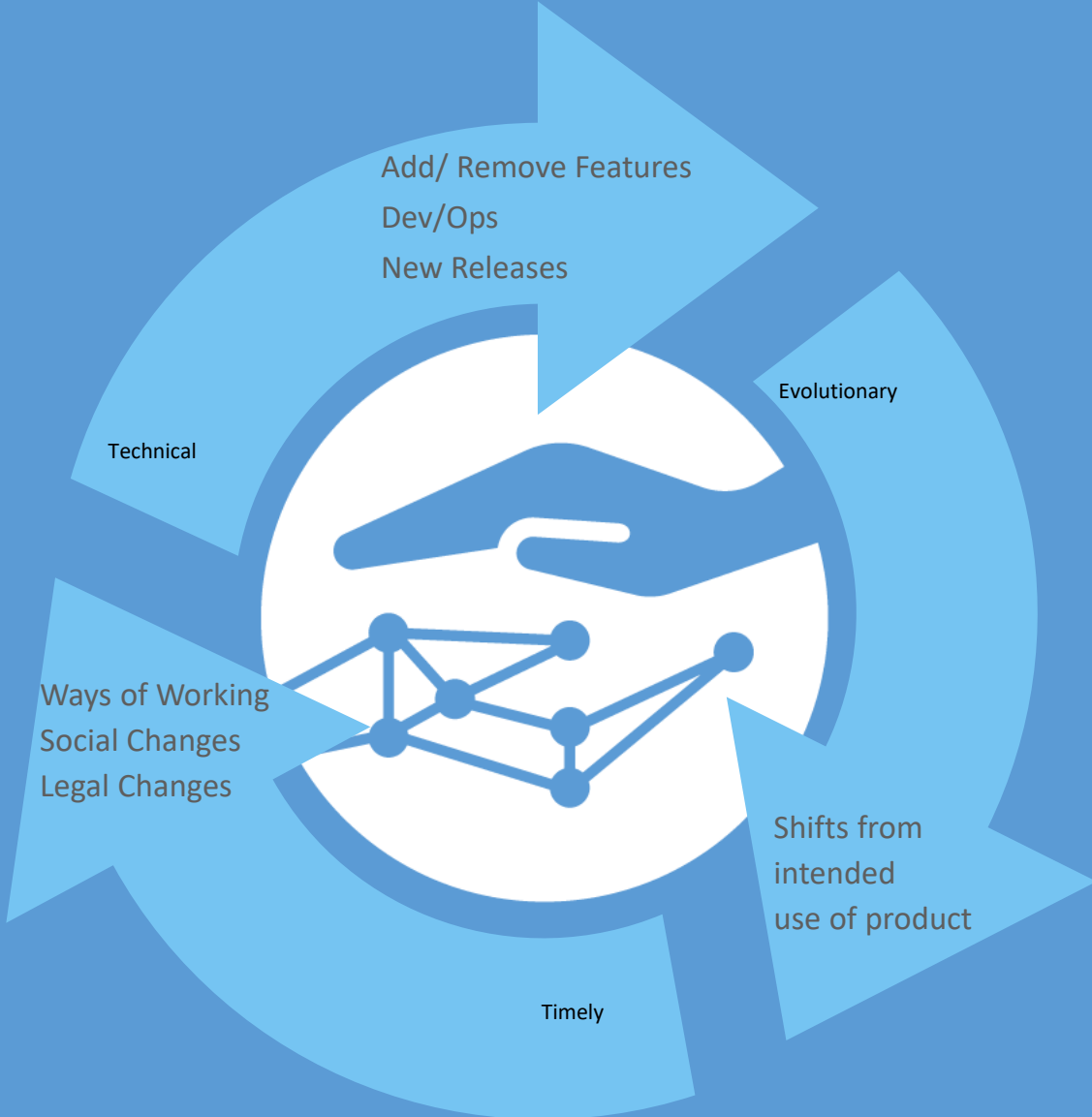
- carrying out a characterisation of their specific instance of the application for which they wish to use the AI system
- understanding the data provided by the Developer
- extending the risk evaluation of the AI Developer for their specific use case
- identifying the highest priority risks for their specific use case
- carrying Performance evaluations on the highest priority risks identified
- based on the results of the Performance Evaluations/tests, decide whether to use the product or not - or if required have it signed off by an appropriate authority
- Ongoing monitoring of their use case for changes in law, population, their application of the AI system

Evaluation tools For Users of AI and ML

- Evaluation areas
Ethics, Accuracy, Consistency Correctness, Robustness
- Legality, Time variation



Continuous Evaluation Cycle





Contact

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QUESTIONS AND ANSWERS



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Forthcoming Events

- Tuesday 09 Feb (09:00) The Tortoise & The Hare – The Continued Importance Of The Bond Market
- Thursday 11 Feb (18:00) "Life Is Wonderful: Mandela's Unsung Heroes" - The Rivonia Trial
- Friday 12 Feb (11:00) Socially Progressive Corporations - The Historic London Rubber Company
- Monday 15 Feb (15:00) The Post Pandemic Office – Legal Rights And Responsibilities
- Tuesday 16 Feb (10:00) Financial Centres Of The World 2021: Focus On Luxembourg

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