



# ACTUARIAL ASSOCIATION OF EUROPE

## Update on the AI-DS Working Group to the AAE Board

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# Challenges in the use of AI

- Competence gap – recently qualified actuaries have data science included into their education but older actuaries need to catch up
- The new models can be complex – but so are many traditional models like generalised linear models (GLMs)
- Models based on machine learning – challenges in model risks, model validation, limitations and conditions, changes and reversion of changes
- When using AI models extreme care is needed
- But also, the use of actuaries is recommended and they are subject to extensive professional standards – and, after all, actuaries have in their history done most of the mistakes and can make sure they are not repeated

## From the Terms of Reference

The Working Group will consider, from the point of view of the actuarial profession, all matters relating to artificial intelligence (AI) and data science (DS) from a European perspective, report to the AAE Board and make proposals on actions required. In particular, the Working Group will:

1. present through the AAE the views of the actuarial profession in Europe on matters of concern to the profession in the fields of AI&DS to the European Institutions, particularly the European Commission, EIOPA and the European Parliament, and, where appropriate, to other organisations in Europe;
2. encourage and promote the development, maintenance and enhancement of professional actuarial practice in Europe;
3. where appropriate, inform and collaborate with different Committees of the AAE in considering issues of joint concern, to ensure a coordinated approach, in particular when making submissions to the European Commission and other external organisations;
4. develop position papers on AI&DS issues for submission to interested organisations, including the European Insurance and Occupational Pensions Authority (EIOPA);

## ToR Continued

5. consider issues relating to the professional conduct of actuaries and the provision of actuarial services in Europe, including the need for ESAPs or EANs to be developed, and make recommendations to the PC as appropriate;
6. promote and encourage the development of actuarial skills in AI&DS within the actuarial profession in Europe, having regard to the AAE's Core Syllabus for Actuarial Training in Europe, and make recommendations, wherever appropriate, to the AAE's Education Committee on subjects relating to AI&DS;
7. promote the AAE as a natural and credible professional association for (actuarially oriented) data scientists;
8. provide a meeting and discussion platform for actuaries and other professionals working in the relevant areas;
9. liaise with the Data Analytics Forum of the International Actuarial Association especially in topics deemed to be more in the "scientific" area;
10. proactively identify new opportunities and relevant areas of interest.



# Forum to exchange views

## Forum to exchange views

1. The Working Group has had meetings about once a month
2. Active discussion among participants to exchange views





Educate the profession

# Educate the profession

1. First paper on AI and insurability
2. On final stages a paper on 'What should an actuary know on AI'
3. Continuation coming – Board views?
4. Generally on education – no direct connection to those involved in education





**Promote the role of the AAE among data scientists**

# Promote the role of the AAE among data scientists

1. Data challenge in preparation
2. Presentations, EAD, OECD



# Influence regulation



# Influence regulation

1. The Working Group has prepared a couple of AAE responses to EIOPA and Commission
2. Much of the regulation horizontal (GDPR, AI Act) -> need for lower level sector-specific guidance from Commission/EIOPA
3. Discussion in June with EIOPA on XAI (Explainable AI -> topic for our next paper)
4. But is the Working Group representative of the membership of the AAE (e.g., IFoA missing...)?

# Transparency and Data Protection in GDPR and AI Act

## **Transparency:**

GDPR: Article 13 and 14 outline the right to be informed, which includes providing transparent information about the processing of personal data.

AI Act: Article 52 emphasizes transparency obligations for high-risk AI systems, including providing clear and accessible information to users.

## **Data Protection:**

GDPR: Articles 5-32 contain various provisions related to data processing, storage, and management, including data minimization, storage limitation, and data security.

AI Act: While not explicitly focused on data protection, the AI Act complements GDPR by ensuring AI systems adhere to data protection principles.

# Accountability and Fairness in GDPR and AI Act

## **Accountability:**

- GDPR: Article 5(2) establishes the principle of accountability, which requires organizations to be responsible for and able to demonstrate compliance with GDPR principles.
- AI Act: Article 14 highlights the need for organizations to have a comprehensive and up-to-date risk management system in place for high-risk AI systems.

## **Fairness and Non-discrimination:**

- GDPR: Article 9 prohibits the processing of special categories of personal data, which can be related to fairness and non-discrimination. Recital 71 highlights the need to prevent discriminatory effects in automated decision-making.
- AI Act: Article 10 addresses the requirements for AI systems to be unbiased and nondiscriminatory, ensuring equal treatment of users.



# Professionalism

# Professionalism

Do our code of conduct and standards really get along with what is happening with AI?

## Responsibilities of an actuary (From the membership criteria of the AAE)

- An actuary shall perform professional services with integrity, skill and care
- An actuary shall act in a manner that fulfils the profession's responsibility to the public
- An actuary shall perform professional services only if the actuary is competent and appropriately experienced to do so
- An actuary shall, in communicating professional findings, show clearly that the actuary takes responsibility for them



# European Standard of Actuarial Practice (ESAP 1) on General Actuarial Practice – Model Governance

The actuary involved in using models should

- Be satisfied that the model risks have been identified, assessed, and that there are appropriate actions to mitigate these risks
- Be satisfied that an appropriate model validation has taken place: The model reasonably fits its intended purpose, meet's its specifications, the full or partial results of the model can be reproduced or any differences can be explained
- Understand the model, the conditions under which it is appropriate for the model to be used including any limitations of the model for the intended use, the context in which the model will be used, how model inputs will be provided, and how the actuary expects the results of the model will be used
- Be satisfied that there is adequate documentation and that the model is subject to appropriate controls (e.g., no unauthorized changes, and changes can be reversed)

## Are there dangers with AI – Henry Kissinger, Economist, May 17th, 2023

“[We live] in a world of unprecedented destructiveness,” Mr Kissinger warns. Despite the doctrine that a human should be in the loop, automatic and unstoppable weapons may be created. “If you look at military history, you can say, it has never been possible to destroy all your opponents, because of limitations of geography and of accuracy. [Now] there are no limitations. Every adversary is 100% vulnerable.”