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CONSUMER PROTECTION

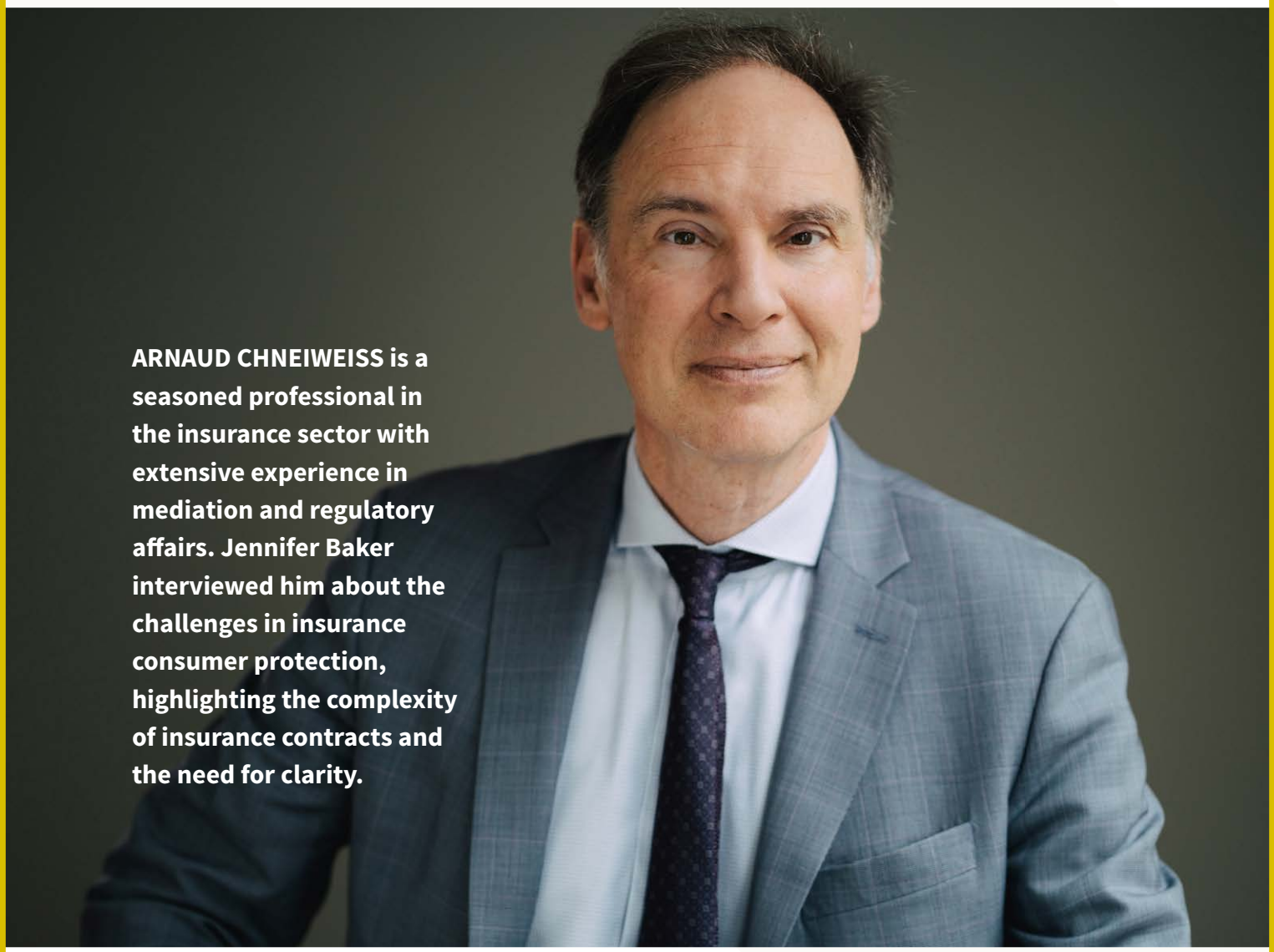
need for clarity

AAE ACTUARIAL ASSOCIATION OF EUROPE

INTERVIEW

BY **JENNIFER BAKER**

MAN IN THE MIDDLE
MAKING SENSE OF MEDIATION IN INSURANCE



ARNAUD CHNEIWEISS is a seasoned professional in the insurance sector with extensive experience in mediation and regulatory affairs. Jennifer Baker interviewed him about the challenges in insurance consumer protection, highlighting the complexity of insurance contracts and the need for clarity.

You work closely with disputes between insurers and consumers. What are the most common pain points today, and how should actuaries help address them?

'It's very difficult for actuaries. Let's talk about French insurance mediation, we have now more than 40,000 claims per annum, coming from everywhere and everything. Most often people do not understand their insurance contracts. >

Most often people do not understand their insurance contracts

They have difficulties with the vocabulary. For instance, let's talk about the notion of 'accident.'

In daily life, if you say, I have had an accident, something unfortunate or something that you didn't want has happened. For instance, I fell on the stairs in my house, or I was climbing a ladder and I fell , then it's an accident. It seems obvious. But in the insurance contract, you have a lot of definitions. So people often talk about 'small print' in insurance contracts. But I say, no, fortunately, there is no more small print in an insurance contract. It is written normally or even in bold characters to make sure that people look at it. But particularly with exclusions you have a lot of definitions. And to take this example of an accident, in French insurance contracts, usually an accident will require at least four boxes to be ticked.

First of all, you didn't participate. Second, you didn't wish the accident to happen. Third, it has been sudden. But what does 'sudden' mean? Next, you need an external cause. Again what exactly is an external cause? You could debate for hours. So this gap between the common language and the definition in an insurance contract is a source of a lot of incomprehension, sometimes revolts or at least frustration by the insured saying, I have been duped by the insurer. Nobody explained this to me and I must get something. I must get compensation. So this is a question of the clarity of the contracts. The contracts are very long, 60 pages, 80 pages. Of course, we should read all the pages of the contract, and especially the definition section. But nobody wants to look at that because you trust your advisor in the insurance company, and you trust the brand.'

With the rise of big data and AI in underwriting and pricing, how do you see the balance between personalisation and discrimination risk? What is the regulator's role here?

'I think it's very important to preserve the mutualization of the risks. It is really at the heart of insurance. Insurance is the fact that you mutualize portfolios. With the new technologies, there could be a temptation, both for insurers and for the insured to try to get more personalized insurance. Because you can say, after all, I am young, I am not sick, why should I pay in order to show solidarity with people who are sick? Or for instance, my house is on a hill, and therefore the risk of floods is much less. Why should I show any solidarity with people living close to the river?

So on an individual basis, more and more, technology can allow us to be more personalized. For example, while driving there are apps that can get information about the quality of the driving. There are also devices that can gather more information about individual health risks or environmental risk around a specific house. And so the temptation is clear. We already see some insurance companies withdrawing from the most risky part of the territory. In Martinique and Guadeloupe you now have only five insurers, because of the risk of hurricanes. And that's a big risk for the future of the industry. In my opinion, insurance is accepted and the private insurance sector flourishes because there is this mutualization. If private insurers say, no, we only take the best risk, because new technologies allow us to select in a much more clever way, there would be a revolt. In Western Europe at least, I think it would be unacceptable. So insurers should resist the temptation to go too far with individualization.' >

I think it's very important to preserve the mutualization of the risks

You mentioned trust earlier – what would you expect from the actuarial profession when it comes to improving trust in the insurance industry from a policyholder's perspective?

'You're right. The matter of trust is at the heart of insurance. What is the job of insurance ? What is the insurance profession? It's a promise. The insurer makes a promise to the insured. It says, you can trust me. You can trust me for decades. I will take care of you, not only in the next few months if you have a car accident, but it depends on the contract. Let's take the example of long term care. If you have health complications when you are old I will be there in the last few years of your life. I will provide an organization, an environment, or I will provide a financial means in order for you to pay for retirement or hospital needs. So in order to believe someone telling you that, you need a lot of trust because you must be sure that this company will not go bankrupt. It makes a promise for decades to come. So indeed, you must be very confident it is financially solid, and the promises made will be honoured.

So that's the job of an insurer. It is totally dependent on the trust of the public and your personal trust. So actuaries, of course, have a key role to play. To help provide this confidence that the company is solid and is well managed, it will not go bankrupt. And the promise that has been made, for instance, for a monthly revenue when you retire, has been made on correct calculations. We have seen, unfortunately and also in France, some examples where customers have provided their savings to the insurance companies, and then a few years before retirement, the insurance company says 'actually the markets have been difficult and we have been obliged to revise our assumptions and what we will be able to provide is a little bit smaller than expected.' When that happens, of course, it's a hit on the trust relationship not only for these companies but it affects the insurance industry as a whole.'

France has a well-established mediation system for insurance. Should Europe move towards a more unified Alternative Dispute Resolution framework? What lessons could the rest of Europe learn from the French model?

Yes, without being arrogant, I believe that we can draw some interesting conclusions. From our experience, first, we look at the whole insurance sector. I am not the mediator or the ombudsman for only AXA or only Credit Agricole, or only Covea. A full sector overview is key in order to tell this or that individual player, that their clause is too hard or restrictive. Because if you know only one company, you can believe it's normal or a standard practice. But if you have the overview of the whole market, you can say this clause is so restrictive that I have not seen it in any other contract on the market. I remind you I am not a judge, I am not a regulator. Our mission is to try to appease the relationship between the insurer and the insured and we ombudsmen have to make proposals drawing from the lessons that we see.

It comes from the European Directive about us (2013) and the French law in my case.

We make an annual report. And in this report, we make proposals to improve the consumer-commercial relationship and the commercial >

> ***But you also have some players ranked much higher than their market share***

practices of the sector. So I make proposals to improve the commercial practices of the insurance sector. And sometimes insurers don't like it. But I try to deliver my messages being constructive and helpful always in order to implement the law or jurisprudence, or to help policyholders better understand their contracts. Over the last few years disputed clauses about exclusions, censured by our High Court and still in the contracts have disappeared, so I am proud of that. I think I helped the insurance industry, because it was terrible for the image of the sector. But it requires some courage to address it and to tell it to the insurers.

This being said, it is a collective success. The insurers understood it was in their best interest to follow my advice. Again, I have no more authority than providing advice.'

Do you have a ranking of insurers per mediation demand?

'Yes, it is published in my annual report. I publish the rankings of my best clients. For instance, AXA is my 'best client' in 2024 with 10% of the total of the files. But of course, let's take some precautions because if you are a big player with a big market share it is normal that you would have a lot of claims, and therefore mediation claims. So it is logical that AXA, CNP, which is an important life insurance in France, Credit Agricole, etc, would be the biggest clients for our mediation scheme. But you also have some players ranked much higher than their market share. So it's up to the public to look at it, and maybe draw some conclusions.'

Are there any lessons from recent insurance disputes – such as around COVID-19 or natural catastrophes – that should influence future product design and policy wording? And if you could change one thing in European insurance regulation to improve outcomes for consumers and the market, what would it be?

'From COVID 19 we have learned that very often, the contracts were not clear enough. There was a lot of room for interpretation and disputes over what was covered and what was not covered, and what was at stake was financially very, very important. So I don't know if we need a change of regulation. There are so many already. But my main message is that the clarity of the contract is paramount as well as the understanding between the insured and the insurer.

I think the clearest message we get from the 40,000 claims per annum, is that people do not understand their contracts. Sometimes they pretend, but most often, people are in good faith. They just do not understand what is written because it's too complicated. There are too many rules, so it is very difficult to understand what will be reimbursed. In health insurance, for example, the complexity depends on both state regulations, and decisions taken by the insurer. The actuaries have to make their contribution, and the legal experts must try to design contracts as clearly as possible and to write contracts with as much clarity as possible. People are confused at the crucial moment whether or not the insurer will be on their side. So if I have one wish, it is for simplicity, and clarity of the contracts. I have seen many insurers undertake efforts over the last few years to go in this direction. So I am confident that altogether, each one in his or her responsibility, we will make progress.' <

DRIVING COMPUTING EFFICIENCY

IN ACTUARIAL VALUATION AND ANALYSIS

BY **COREY GRIGG, CHAD SCHUSTER** AND **JIM BRACKET**

Actuaries choosing software platforms must juggle performance targets, cost limits, and rapid delivery schedules. New regulations, frequent re-forecasting, and cloud-usage fees all raise the stakes, requiring coordination with IT, software and cloud vendors, and/or internal development teams. This synopsis, derived from a longer article that will be published in The Actuary, highlights key software and hardware trade-offs to help actuaries with that decision-making process.

WHAT SOFTWARE DEVELOPMENT ISSUES SHOULD YOU CONSIDER?

Programming language dictates both attainable speed and long-term maintainability. Compiled languages (C, C++, C#, Java) deliver raw speed and low-level control but require more programming knowledge to utilize; interpreted or just-in-time-compiled options (Python, Julia, Rust) trade some performance for faster development, automatic memory management, and portability. As an example, the table below shows benchmarking comparison of runtimes in milliseconds for a simple variable annuity simulation implemented in different programming languages:[1] >

COREY GRIGG

[1] For more details, see 'An actuary's guide to Julia: Use cases and performance benchmarking in insurance.'

TABLE 1: BENCHMARKING COMPARISON OF RUNTIMES IN MILLISECONDS FOR A SIMPLE VARIABLE ANNUITY SIMULATION IMPLEMENTED IN DIFFERENT PROGRAMMING LANGUAGES

WINDOWS	C#	C++	JULIA	PYTHON	RUST
Min	4,405	1,754	1,838	30,661	14,153
Mean	4,491	1,775	1,910	45,637	14,301
Max	4,565	1,800	2,132	88,259	14,425

Regardless of the language, code refactoring and optimization can increase performance dramatically, with actuaries adding efficiencies an engineer alone may not realize. For example, using identities from actuarial and financial mathematics, such as put-call parity, or caching of yield curve basis transformations can lead to more efficient code. Actuaries who understand the interdependence of model calculations can help design more efficient processing flows that take advantage of reusable data and parallelism.

WHAT HARDWARE FACTORS SHOULD YOU CONSIDER?

Actuarial workloads vary: some are data-heavy, others calculation-heavy, and many are both. Optimal hardware differs accordingly.

For data-heavy tasks, memory, storage, and networking capabilities must be considered. Ample, low-latency memory can keep full datasets in-process; high-bandwidth SSDs and locality-aware file layouts avert I/O stalls; and high-bandwidth and fast network connections minimize transfer time when source data or results must make their way to the processing machine.

For calculation-heavy tasks, the CPU's clock speed, cache hierarchy, and microarchitecture are paramount. Higher clock speeds achieved through dynamic boosting can lead to faster computations, but they must be balanced with power and heat considerations. Many recent advances in high-performance processing hardware have been focused on reducing memory access latency, particularly by increasing cache sizes and optimizing their design, alongside other architectural enhancements. This minimizes delays from fetching data from slower main memory, which is crucial in computation-heavy scenarios. Modern microarchitectures are designed to optimize parallelism, execute complex instructions more effectively, and reduce latencies faced during multithreaded operations. However, challenges like cache thrashing—where excessive data swapping between cache and main memory degrades performance—can undermine these benefits.

Mixed or scalable tasks require a balanced high-performance computing (HPC) environment. HPC nodes blend large amounts of RAM, many cores, fast SSDs, and high-speed interconnects (e.g., InfiniBand) to support fast calculations, data I/O, and scalability. Single order-of-magnitude performance improvements of actuarial models simply from switching from commodity to HPC hardware are possible.

For calculation tasks that can be massively parallelized, graphics processing units (GPUs) can also prove useful. A GPU is designed for processing multiple similar calculations >

simultaneously, and to some extent can be thought of as a specialized computer with its own RAM, thousands of processors, onboard cooling, and power supply. A GPU relies on a CPU to orchestrate its calculations and to transfer data between the system memory and GPU memory. Thus, a GPU is subject to the constraints of both CPUs (clock speed, memory access patterns, heat/power management) and storage devices (bandwidth, capacity, latency, and input/output access patterns). Some of these constraints can be mitigated through specialized hardware techniques; for example, DMA (Direct Memory Access) or RDMA (Remote Direct Memory Access) can be exploited with CUDA to reduce transfer latency by bypassing CPU participation. Nevertheless, the dependency on a host device can present significant operational and software design challenges. Accordingly, some modeling tasks such as simulation of simple equity-linked products can benefit from GPU if they involve parallelizable calculations driven by simple arithmetic, but for others with features that lead to interdependency of calculations (with-profits products or other asset-liability linkages), large memory requirements (complex policy state tracking for long-term care or management of stateful random number generators), or branching logic (trigger-based policy features, transition-based behavioral models) GPUs may not deliver meaningful performance improvements, or may require modifications to actuarial model logic.

HOW DO YOU OPTIMIZE HARDWARE AND SOFTWARE?

Software that leverages hardware-specific optimizations such as parallelism, vector instructions (SSE/AVX), and GPU off-loading can shrink runtimes dramatically, and modern compilers can often automate much of this. Hardware selection can drive language selection and vice versa. For example, GPU access is simplest in higher-level ecosystems (e.g., Python with Numba) but offers finer tuning in CUDA or OpenCL with C/C++. Hardware-specific tuning boosts speed but reduces portability; thus, payback horizons can be evaluated to justify an investment. For quick wins, consider adjusting firmware via UEFI settings (hyper-threading, memory interleaving, power profiles) or experiment with pre-designed hardware profiles provided by cloud infrastructure vendors to identify out-of-the-box improvements aligned to each model's mix of data and compute.

CONCLUSION

Aligning language choice, hardware profile, and actuarial insight is now essential for delivering faster, more economical valuation and risk analytics. Close collaboration among actuaries, IT, and vendors ensures that each technology layer—code, firmware, and infrastructure—is tuned to workload, sustaining a competitive edge as computational paradigms evolve. <

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OPERATIONAL RISK MANAGEMENT

BY **MALCOLM KEMP**

Actuaries are involved in many areas of risk management. They are perhaps best known for their involvement in financial risk management (e.g. encompassing market, credit and insurance risk) in insurance and pensions, but their work can also encompass operational risks in a wider range of fields.

In recent years, groups in some national actuarial professional bodies have been quite active in developing research and thought leadership to help actuaries involved in operational risk management. For example, the IFoA's Operational Risk Working party has published a good practice guide to setting inputs for operational risk models (2016) and papers on operational risk dependencies (2020) and validating operational risk models (2024).

The Actuarial Association of Europe has also been active in this space and in July 2025 published a second edition of its discussion paper Actuaries and Operational Risk Management.

This paper provides an overview of various skills and techniques actuaries can bring to operational risk management. It argues that actuaries are well placed to assist with operational risk management, in both traditional actuarial >

fields such as insurance and pensions and in wider fields. To justify this contention, it sets out disciplines and techniques that are (or could be) used in operational risk management (and likely near-term trends in these disciplines). It brings out the merits of multi-disciplinary implementation of these activities but also highlights how individuals with actuarial skill-sets and expertise are particularly well suited to assist in several of the targeted discipline areas. Whilst it particularly illustrates these topics by articulating the roles, responsibilities and skill-sets that might apply to an individual operational risk manager in an insurance company, its discussion also covers other industries and economic sectors. It has appendices that cover a wide range of topics, including:

- **A comparison of operational risk aspects of Own Risk and Solvency Assessments (insurers) versus Own Risk Assessments (Pension Fund);**
- **How to facilitate operational risk workshops and other ways of capturing the wisdom of experts;**
- **Ways of quantifying operational risk, including loss distribution approaches;**
- **Stress testing, scenario analysis and coping with limited data;**
- **Setting operational risk appetite and identifying key risk indicators;**
- **Operational resilience, including issues raised by the Digital Operational Resilience Act; and**
- **The impact of risk culture in the insurance industry and in other sectors involving actuaries.**

This wide range of topics is indicative of the many roles typically encompassed by operational risk managers within e.g. an insurer. Roles within regulated organisations are of course to some extent influenced by the regulatory environment in which the organisation operates. The paper brings this out by referring to parts of the EIOPA guidelines on system of governance for insurers, EIOPA-BoS-14/253, that relate to operational risk. The overall picture is that operational risk should not be underappreciated and should be managed accordingly.

So what sorts of skills does someone wanting to develop further in operation risk management need? The AAE's discussion paper argues that managing a risk effectively generally involves at least some measurement of it, so a necessary underpin will be a suitable level of quantitative expertise and understanding of the risks involved. These skills are often considered a core element of any actuarial skillset. Ability to leverage the insights of others is also typically important, as no one can expect to be an expert in everything!

Also important to the overall success of a firm's operational risk management is the extent of buy-in from the firm's senior management and board. Without leadership from the top, only lip service may be placed on the benefits of effective risk management. This is as true for operational risk as for other types of risk the firm may face. More senior risk professionals tasked with getting this buy-in will therefore typically also need a range of softer influencing skills.

The range of skills that an operational risk manager should ideally possess is therefore quite broad, see Table 1. The good news for actuaries is that, with a suitable level of business understanding, actuaries may often stack up well versus this ideal picture. Elsewhere the paper also paints a picture of how the ideal operational risk manager skill suite might evolve in the near term, and again actuaries seem typically relatively well positioned. This skills picture is fundamentally similar outside the insurance and pensions sector. >

TABLE 1: DESIRABLE SKILLS THAT A GOOD (OPERATIONAL) RISK MANAGER SHOULD IDEALLY POSSESS

QUALITATIVE SKILLS IN	QUANTITATIVE SKILLS IN	SOFTER SKILLS
Risk and Control Self-assessment (RCSA)	Risk capital modelling	Challenging skills
Risk maps (risk identification attributing a level of concern on probability and severity)	Loss data collection (internal and external)	Leadership
Business Continuity, Disaster Recovery and operational resilience	Defining loss frequency and severity distributions (with data quality as a challenge) based on techniques such as extreme value theory, simulation, fuzzy logic, neural networks, predictive modelling, …	Fostering dialogue
Risk Appetite / tolerance and Key Risk Indicator (KRIs) definition	Stress testing and scenario analysis	Crisis management
Quality management (such as COSO, ISO, Six Sigma, Sarbanes-Oxley …)	Risk-adjusted return analysis	Communication
Scoreboards		Broad knowledge of the company, its processes and systems
Information security management		Industry/sector knowledge
Anti-fraud management		Having easy access to people and information
Management of insurance taken		Agility
Health and safety management		Project management
		Controlling and auditing
		Vigilance
		Change management
		Networking skills

So, if you are an employer looking for an operational risk manager, or an actuary seeking a new risk management challenge, do please reflect on the likely good overlap between the actuarial skill-set and the desirable skills that a good operational risk manager should ideally possess. Do also feel free to reference the AAE's research and thought leadership. And if you are helping expand out such research in national contexts, please keep up the good work! <

MALCOLM KEMP is Managing Director of Nematrian, a lecturer in Enterprise Risk Management at Imperial College, London, and a member of the AAE Board.

COLUMN

RESEARCH AND NETWORKING

As I have mentioned previously in columns in *The European Actuary*, the AAE is very keen to promote actuarial thought leadership. Recent publications listed in the Papers page of the AAE's website include discussion papers on Navigating Europe's AI Act: Insights for Actuaries and the Insurance Sector and on Actuaries and Operational Risk Management. Articles based on these papers are included in the previous and current editions of *The European Actuary*. The AAE has also recently published a Study on Potential Updates on Local Accounting Towards IFRS17 in Europe as well as some AI-themed podcasts (see AAE Media) for those who prefer visual rather than written material. Perhaps the publication area where the AAE has been most active recently is in responding to consultations from e.g. EIOPA and the EU Commission. These can be found on the AAE responses to stakeholder consultations page of the AAE's website. Again, please can I say a big thank you to all contributors to and authors of these materials, particularly to the AAE staff, Stephanos Hadjistyllis, Siegbert Baldauf, Monique Schuilenburg and Annette Aragones, who coordinate their preparation and publication.

If you enjoy an interactive and networking-based opportunity to present or receive thought leadership, please can I encourage you sign up to the forthcoming European Congress of Actuaries, scheduled to take place on 18 and 19 June 2026 in Paris. Hosted by the AAE with the Institut des actuaires, this prestigious on-site event is expected to bring together more than 350 leading experts and decision-makers from across Europe and beyond. Building on the success of previous congresses, ECA 2026 should once again offer outstanding networking opportunities and a platform for knowledge exchange within the European actuarial community. Under the theme 'United in Diversity', the congress programme will feature a compelling mix of keynote speeches by renowned experts and parallel sessions covering a wide spectrum of actuarial topics, ranging from innovation and sustainability to data science and regulation.

Of course, the congress programme will be even more compelling if you offer to contribute your own thought leadership to it! Full details are available at the Call for Speakers - European Congress of Actuaries 2026, with a deadline of 15 October 2025. It would really help the organisers (and yourselves, as a way of starting to collect your thoughts), to respond early, if you are wanting to propose a presentation or paper to this event!

Malcolm Kemp is *AAE Board Member and AAE Liaison on the Editorial Board of the European Actuary Magazine.*

COLOPHON

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