Global Actuary of the Future Survey

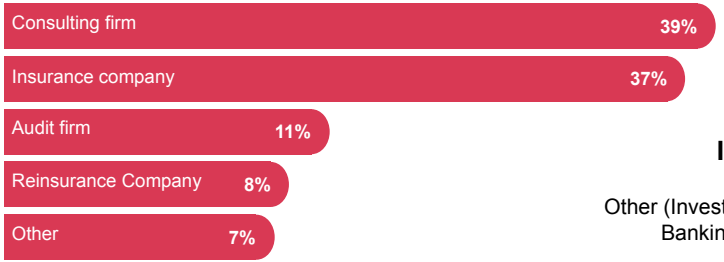
May 2022

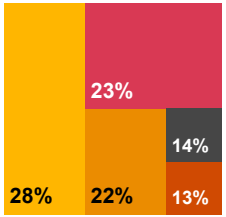
Survey Overview

PwC recently completed a global Actuary of the Future survey. **198** respondents from around the world participated in the survey. The survey focused on the following topics:

- Skills of the future (technical and human-centric)
- Upskilling programs
- Tools used across the industry

Company Type:

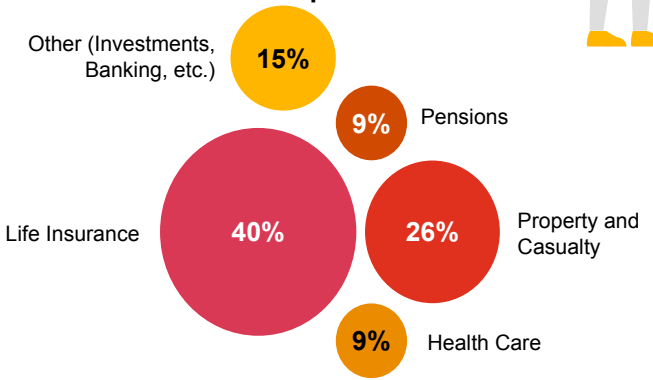




Years of experience

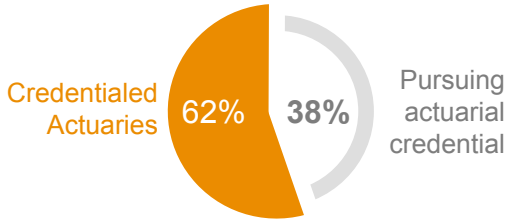
- Less than 2 years
- 2–5 years
- 6–10 years
- 11–20 years
- 21+ years

Industries Represented



Regions Represented

- Europe 55%
- North America 21%
- Asia 15%
- Australia 5%
- Other 4%



Key Takeaways

The results of the 2022 Actuary of the Future Survey produced a number of compelling insights around the tools, proficiencies, and priorities of today's actuaries and highlights that there is ample opportunity for individuals and employers to support the actuary of the future through upskilling across a number of skill sets and tools.

01

Survey respondents recognize a clear need for the actuary of the future to master **both technical and human-centric skills**. Current levels of proficiency vary widely, but (perhaps unexpectedly) most respondents rated themselves as **more proficient in key human-centric skills than key technical skills**.

02

Actuarial functions are leveraging advanced tools including R, SQL, Python and visualization tools; however there is a **gap in respondent's perceived current proficiency** in these tools when compared with that of the actuary of the future.

03

Actuaries taking this survey do not spend nearly as much time upskilling as their perceived skill gaps would indicate is necessary. This is driven not by a lack of interest or perceived benefit, but by a **lack of time**—whether personal time or on-the-job upskilling provided by employers.

04

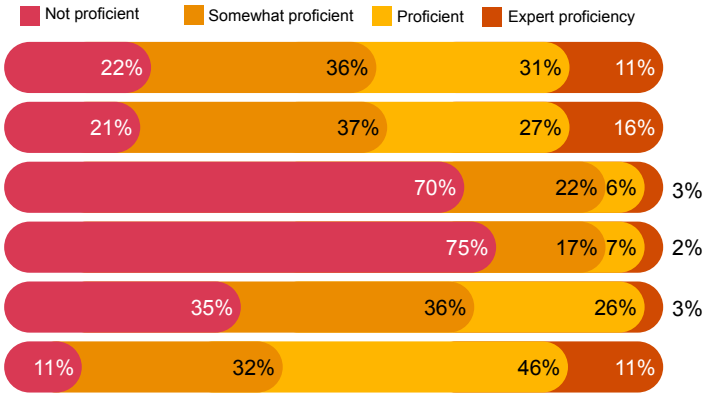
Respondents feel a **strong sense of personal responsibility for upskilling**, while also placing some responsibility on their employers and professional bodies. Employers and professional bodies have an **opportunity to capitalize** on this interest by providing actuaries with the resources and time to upskill themselves.

Actuaries recognize the importance of emerging technical skills in their current roles, but in many cases lack proficiency in these skills

Respondents' perceived level of importance for each key emerging technical skills

	Not Important	Somewhat Important	Highly Important
Coding Languages	17%	52%	31%
Predictive Analytics/Modeling	14%	31%	55%
AI/Machine Learning	51%	40%	9%
Robotic Process Automation (RPA)	50%	40%	9%
Data Visualization	8%	32%	59%
Data Management/Cloud	23%	39%	38%

Respondents' perceived level of proficiency for each key emerging technical skills



- **There is a gap** between the perceived need for emerging technical skills in current actuarial roles and the technical skills of the actuaries filling those roles.
- Most respondents perceive emerging technical skills such as data visualization and predictive analytics to be **highly important skills for their current role**. Despite this, **fewer than half of respondents** rate themselves as being at least proficient in these technical skills.
- Surprisingly, over half of respondents did not identify **RPA** and **AI/Machine learning** as key technical skills for their role, yet these are often identified* across the insurance industry as leading skills for actuaries of the future.

*2020 PwC's Global Actuarial Modernization survey

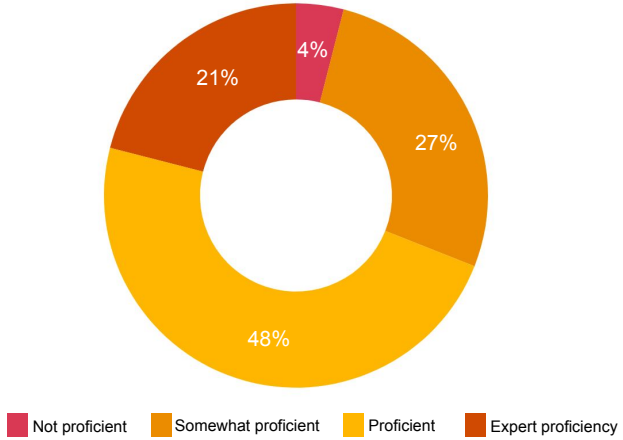
Human-centric skills are universally recognized as key for success by actuaries

- Most respondents perceive human-centric skills such as adaptability and communication to be highly important skills for their current role.
- Over two-thirds of respondents identified themselves as **proficient or higher in these human centric skills**- contrary to the prevailing perception of actuaries.
- Nearly all respondents see themselves as at least **somewhat proficient in most human-centric skills**, including less experienced staff (one-third of respondents had fewer than 5 years of experience).

Human-centric skills, ranked by importance:

1. **Communication**
2. **Adaptability**
3. **Business acumen**
4. **Leadership**
5. **Project management**

Level of proficiency of human-centric skills:

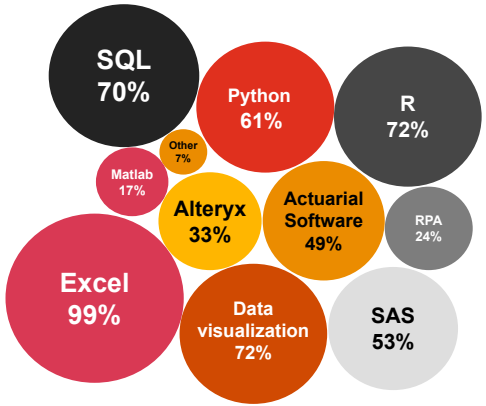


Our Take

While there is a perception that actuaries are technical experts who lack in human-centric skills, these responses make it clear that actuaries value these skills and see themselves as proficient leaders, strong communicators, and savvy business people. This creates an opportunity for actuaries to ensure they're integrated with their stakeholders and are aligned on the value they can bring.

New tools are being integrated into the actuarial function, but not all actuaries are quick to adopt them

Tools used within actuarial departments:

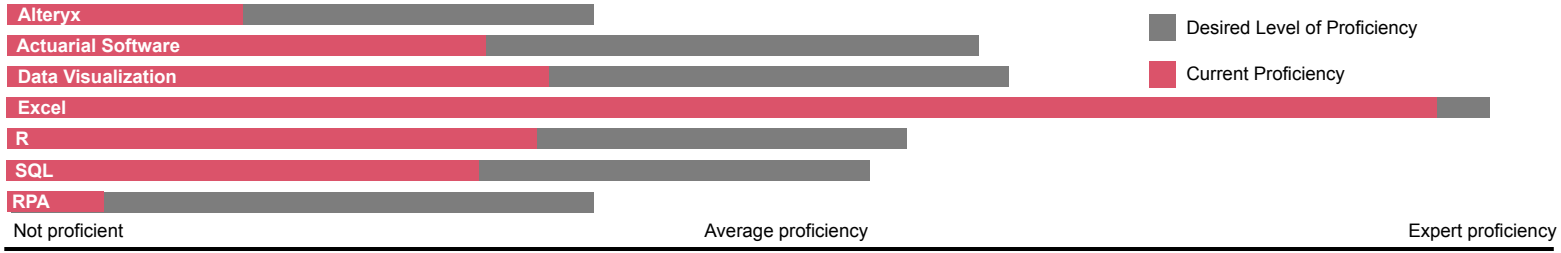


- Despite the fact that many advanced technical tools are being used by actuarial functions across the industry, knowledge of these skills appears to be **concentrated to a few key users** within a team/function.
- For each of the tools listed in the survey, there is a **compelling gap** between the existing proficiency level of respondents and their desired proficiency level.
- Nearly all participants indicated that **Excel is a key tool** in their current role—despite other, more advanced tools being available.
- Actuaries are embracing the **benefits of visualization/BI tools**, with 33% of respondents utilizing these tools weekly and nearly 75% of actuarial departments using them in some capacity.

Our Take

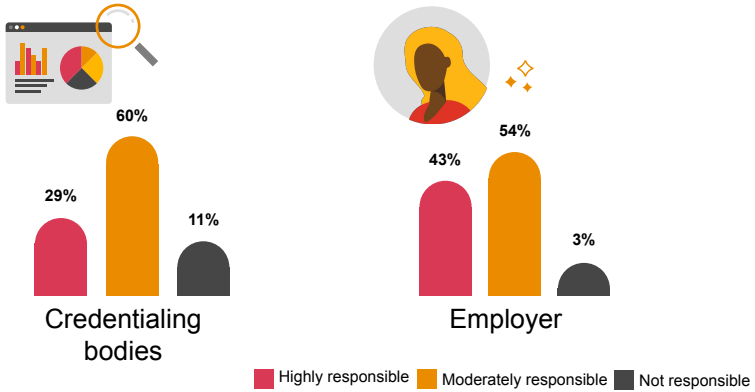
Excel remains the cornerstone tool of the profession over other alternatives (e.g., Alteryx, R, Python). On the one hand, this highlights that Excel plays an important role as part of the actuarial toolkit. On the other hand, better tools are available for many tasks, such as data management and analysis. Actuarial leaders should consider focusing on the appropriate usage of Excel among their teams, while also advocating for innovation and adoption of more modern tools where possible. In many cases, this will require a cultural shift and significant upskilling.

Proficiency Level for key tools:

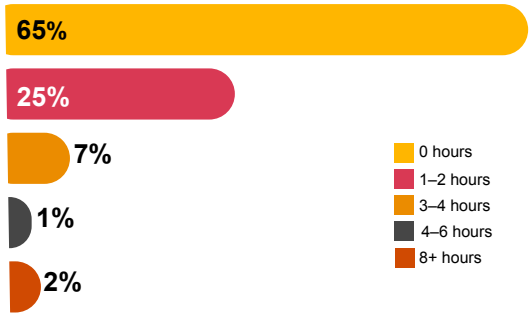


Employers have an opportunity to embrace more formalized upskilling programs to prepare their actuaries for the future

Responsibility for the upskilling of actuaries:



Time allotted for upskilling per week:



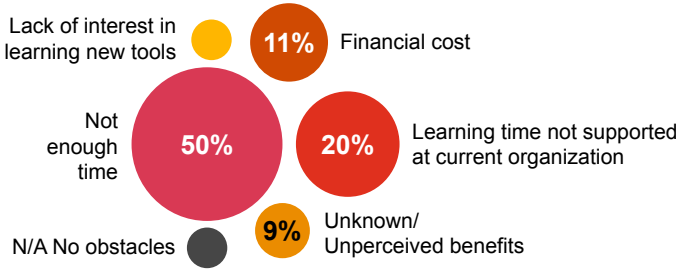
- Respondents indicated while **upskilling is a personal responsibility, professional bodies and employers are also responsible** for upskilling. Despite this opinion, **only half of organizations** have a formal upskilling program.
- 25% of individuals surveyed **spend 1- 2** hours per week upskilling in skills required for their job while **65% report spending no time upskilling**.
- When asked which one upskilling program respondents would chose to attend, a majority selected **coding languages, AI/machine learning or predictive analytics**.

Our Take

Perhaps individuals are taking responsibility for upskilling themselves, as they are not getting what they need from their employers and credentialing bodies to stay relevant. Employers can differentiate themselves by providing designated time and resources for upskilling.

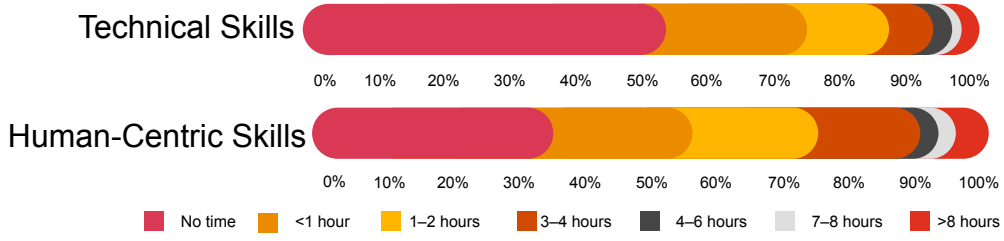
Many hurdles exist inhibiting actuaries from developing actuarial skills of the future

Obstacles preventing respondents from upskilling:

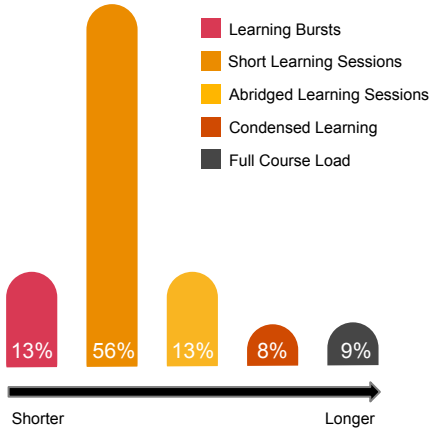


- The survey revealed a lack of emphasis on taking time to upskill, despite the time required to be proficient in the skills of the future.
- Over **half of respondents** indicated “not having enough time” as the largest obstacle preventing them from upskilling.
- If provided by the employer, **internal resources for upskilling are heavily utilized** (over a quarter of respondents preferred this method of upskilling).
- Two-thirds of respondents **prefer to learn in learning bursts or short learning sessions**, as opposed to longer sessions of 5+ hours.

Time spent per month, on average, upskilling each of the following skills:



Preferred length of learning:



For a deeper discussion

- There exists an opportunity for today's actuaries to be proactive and prepare themselves to be well rounded practitioners, equipped with the skills necessary for the Actuary of the Future. Employers and credentialing bodies should consider supporting this initiative by embracing more formalized upskilling programs to prepare their actuaries for a new generation of skills and technologies.
- The word cloud above emphasizes the wide array of tools and skills necessary to stay relevant in the actuarial profession going forward. While technical skills may be at the forefront of the actuarial profession, there is still a need for actuaries to be proficient in human-centric skills.

We welcome a deeper discussion to better understand your actuarial upskilling journey and share our perspectives with you. Please reach out to the Actuary of the Future Contact for your region.

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