Research Report

Adapting to Change:
How Evolving
Workforce Demands
in Life Sciences Are
Reshaping Talent
Supply Strategies

www.skillsallianceenterprise.com

Table of Contents

Executive Summary

Skills Alliance Enterprise's research explores the AI-driven fast-evolving workforce needs of the Life Sciences industry, the current sectoral blend of employee and external worker deployment and the steps that progressive organisations are taking to obtain visibility and control of the total talent landscape.
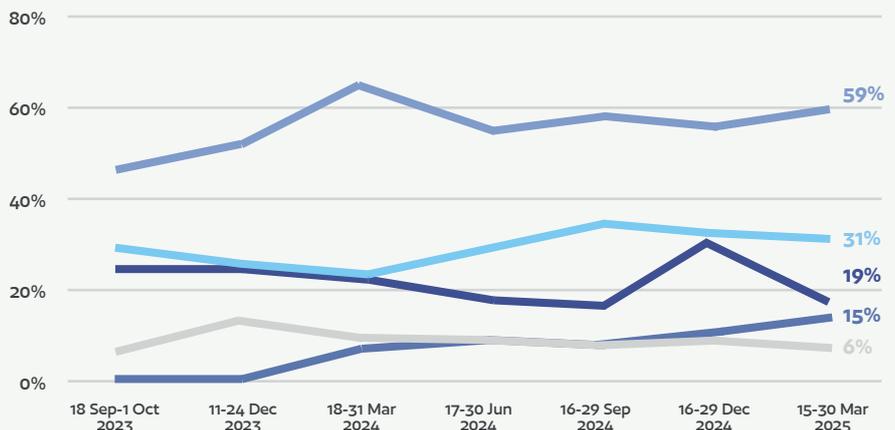
AI's Potential is Swiftly Changing Workforce Needs within the Life Sciences Sector

Whilst **use cases for AI within the Life Sciences sector are mostly focused on improving business operations – which may result in some headcount reductions - there are healthy levels of interest in applications that have the potential to drive headcount growth**, including new product or service development and - increasingly - exploring new markets. The net impact of these combined opportunities has been estimated by McKinsey Global Institute (MGI) at $60 - $110 billion per annum in economic value for the pharma and medical-product industries [1], which VCs are acutely aware of and investing accordingly – facilitating some counterbalancing start-up workforce demand.

Professional, Scientific & Technical industries: use cases for existing AI adoption, Sep 2023 - Mar 2025

Legend:
- ■ Develop a new product or service
- ■ Explore a new market
- ■ Improve business operations
- ■ Provide, or personalise, products or services to customers
- ■ Other

Source: Skills Alliance Enterprise analysis of UK ONS data

Chart values (15-30 Mar 2025): 59%, 31%, 19%, 15%, 6%

X-axis: 18 Sep-1 Oct 2023, 11-24 Dec 2023, 18-31 Mar 2024, 17-30 Jun 2024, 16-29 Sep 2024, 16-29 Dec 2024, 15-30 Mar 2025

For both established Life Sciences players and start-ups alike, however, AI's potential is causing **a complete rethink about which skills they need and where to find them – resulting in concurrent needs to upskill existing employees, establish the organisational agility to allocate and reallocate the right talent to the appropriate priorities and source external talent with new skills (in a highly competitive environment).**

As a backdrop to this AI-driven workforce transformation, the average organisation (which utilises external talent) has as many contingent and/or external workers as internal permanent employees.

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In late 2023, two thirds (66%) of organisations globally were utilising contingent resources – including 93% of the largest enterprises (5,000+ employees).[2] Moreover, **an average of half (49%) of these companies' total workforce was comprised of external talent – up from 20% in 2016 and 2017.[2]** Part of this exponential proportional rise may lie in the fact that there has been **a greater level of understanding of the term 'extended workforce' which, in essence, includes all those who work on behalf on an organisation rather than being employed by it.**

66%
Two thirds of organisations globally were utilising contingent resources.

93%
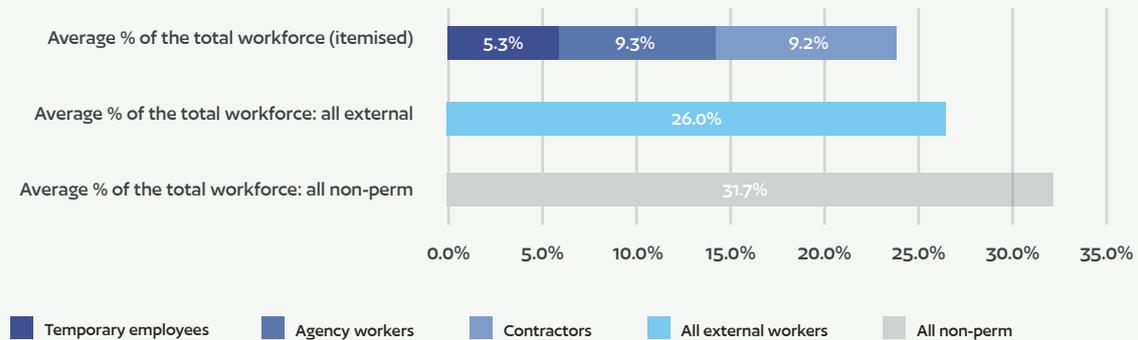This includes 93% of the largest enterprises (5,000+ employees).[2]

49%
An average of half of these companies' total workforce was comprised of external talent.

Research by Skills Alliance Enterprise in December 2024 determined that, as there is no statutory obligation to do so (just a GRI Index recommendation on disclosure), **just 21% of global Life Sciences organisations made any quantified reference to 'workers who are not employees' in external 2023/24 publications. And, amongst those that did,** they reported an external worker population in the region of c.24%-26% and a total contingent workforce (including temporary employees) of 31%-32%.

As such, **most are excluding reference to employees of Clinical Research Organisations (CROs), Functional Service Partners (FSPs) and Contract Development & Manufacturing Organisations (CDMOs), other forms of onsite outsourced service provision and individuals and project teams delivering on a Statement of Work (SOW) basis (NB: not a category within the GRI disclosure recommendations).**

Average percentage of the total workforce reported by

Category	Value
Average % of the total workforce (itemised)	5.3% / 9.3% / 9.2%
Average % of the total workforce: all external	26.0%
Average % of the total workforce: all non-perm	31.7%

Legend: Temporary employees · Agency workers · Contractors · All external workers · All non-perm

Source: **Skills Alliance Enterprise** analysis of the most recently published Company Annual, Integrated and/or Sustainability reports

The challenges of even obtaining visibility of the full extended workforce – never mind control – are significant, however, with management of 'Contingent Workforce management' – and likely similar for full 'Extended Workforce management' - within most organisations spread across a broad range of functions who, in turn, are utilising a broad array of technologies.

Technological evolutions, which enable visibility and control of the extended enterprise, are crucial. Only when systems are able to interoperate, capture and manage all categories of external labour – and connect with employee management systems – can organisations view, analyse and make decisions around their total talent pool. However, we are on the brink of this opportunity.

Life Sciences organisations are building internal talent marketplaces at pace — and realising the potential of supplier optimisation for orchestrating access to external talent. And in the most innovative organisations, these two capabilities will soon interoperate enabling agile, informed decision-making across their total talent landscape.

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Companies like Novartis have spent the last few years **building internal talent marketplaces through which to present opportunities (for project involvement, internal moves, upskilling, mentoring, etc.) to their employed workforce – with a view to extending this further to additionally capture the external workforce.** Similarly, companies like AstraZeneca have been **embracing technologies potential to overlay numerous systems of record for employees and the broad array of workers that comprise the extended workforce.** And with their emerging visibility of their total talent landscape, these organisations are now able to look further into **the potential of supplier optimisation and establish true strategic partnerships** for orchestrating access to external talent - and capitalise upon the Staffing sector's expanding wealth of expertise.

Moreover, these organisations are leveraging the unique capabilities of Total Talent Acquisition /MSP external workforce partners – honed by working across industries, occupations, geographies and all stages of organisational maturity – to deliver on their strategic goals. Notably, they are leveraging external partners' capabilities to:

Source, establish and maintain a compliant extended workforce:

With the fast-evolving global legislative landscape continuing to shine a spotlight on **how workers should legally be engaged across contingent, outsourcing and project support scenarios** – and with significant ramifications for misclassification - employers are now i**ncreasingly relying on the expertise of the staffing sector to guide them and provide compliant solutions.**

Harness services procurement spend (SOW) potential:

Bringing existing SOW projects into the overarching external workforce programme and **resourcing new project needs from the talent pools that the staffing industry nurtures.**
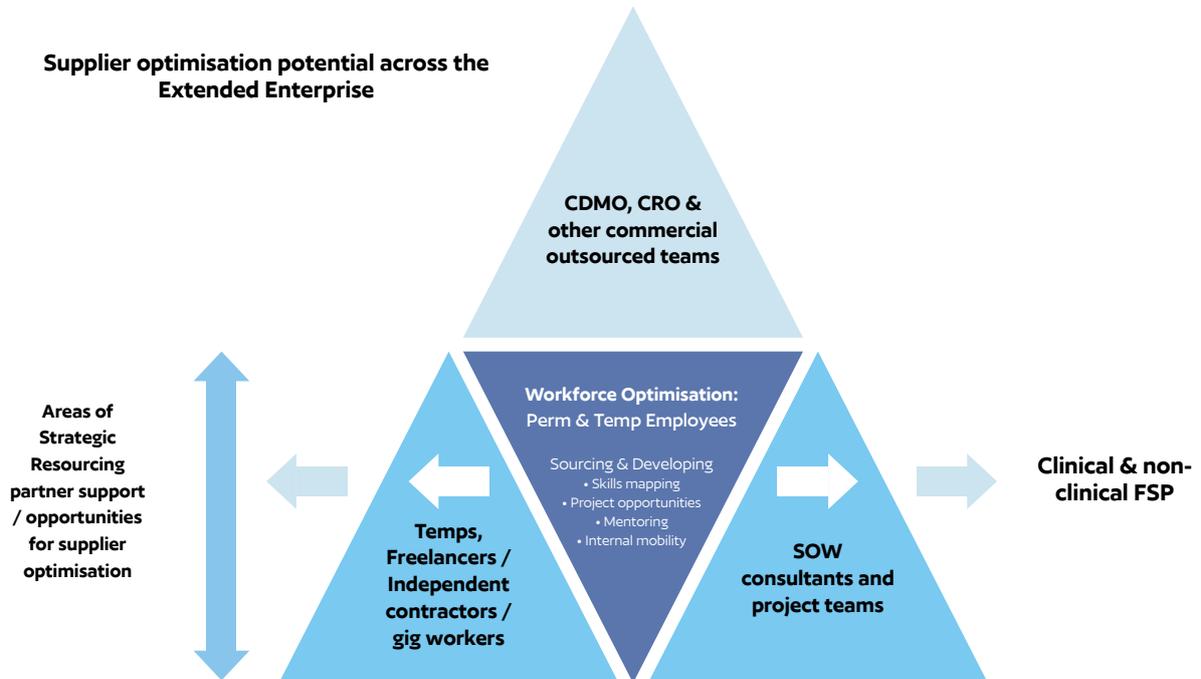
Develop and deliver new, innovative resourcing models:

The employed consultant model - which emphasises continuity, risk reduction, and cost certainty - **is gaining traction, as is the evolution of the Staffing sector into delivery of Functional Service Provision (FSP via SOW)** – notably within non-clinical functions. As the challenges of sourcing the new external skills that Life Sciences organisations require increase due to competitiveness (and legacy shortages), **the value of the sector's nurturing of these niche candidate pools is rising exponentially.**

And, crucially, **from whichever point of entry into a relationship with a strategic resourcing partner, the capabilities now exist (from both a technology, knowledge and experience perspective) to enable organisations to expand the solution deep into the extended enterprise space and accelerate delivery on strategic total talent objectives.**

Supplier optimisation potential across the Extended Enterprise

CDMO, CRO & other commercial outsourced teams

Areas of Strategic Resourcing partner support / opportunities for supplier optimisation

Workforce Optimisation:
Perm & Temp Employees

Sourcing & Developing
• Skills mapping
• Project opportunities
• Mentoring
• Internal mobility

Temps, Freelancers / Independent contractors / gig workers

SOW consultants and project teams

Clinical & non-clinical FSP

Footnotes:

The McKinsey Global Institute, Generative AI in the pharmaceutical industry: moving from hype to reality (Jan 2024): https://www.mckinsey.com/industries/life-sciences/our-insights/generative-ai-in-the-pharmaceutical-industry-moving-from-hype-to-reality

Workday, Contingent Workforce Management: The Key to an Adaptive HR Strategy: https://forms.workday.com/en-us/whitepapers/contingent-workforce-management-key-to-adaptive-hr-strategy/form.html?step=step1_default

Chapter 1. The fast-evolving skill requirements within the Life Science sector

When PWC predicted, in 2019, that more than a quarter of jobs within the Professional, Scientific & Technical industry, and up to half within the Manufacturing sector had high potential automation rates, many people turned a blind-eye to the suggestion - notably those at the professional end of the skills spectrum.[1] Fast-forward five years to 2024 – two years after the public gained mainstream access to Generative AI (GenAI) tools – and there is a realisation that this research was, indeed, prescient.
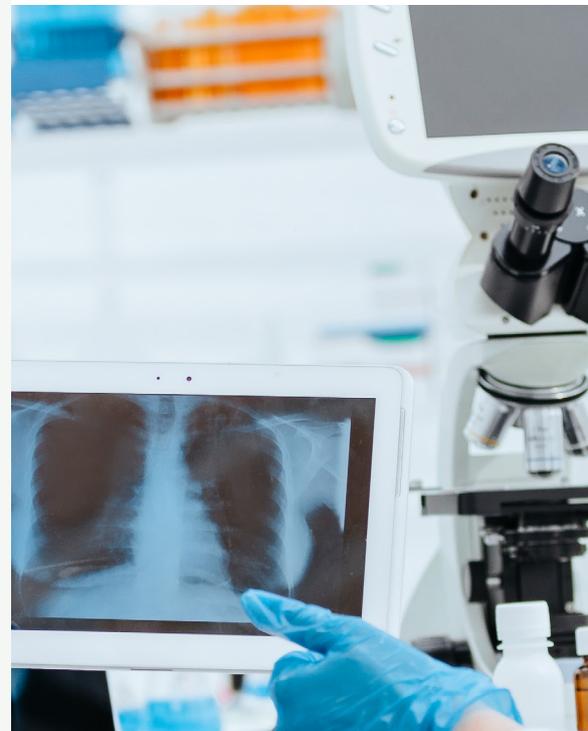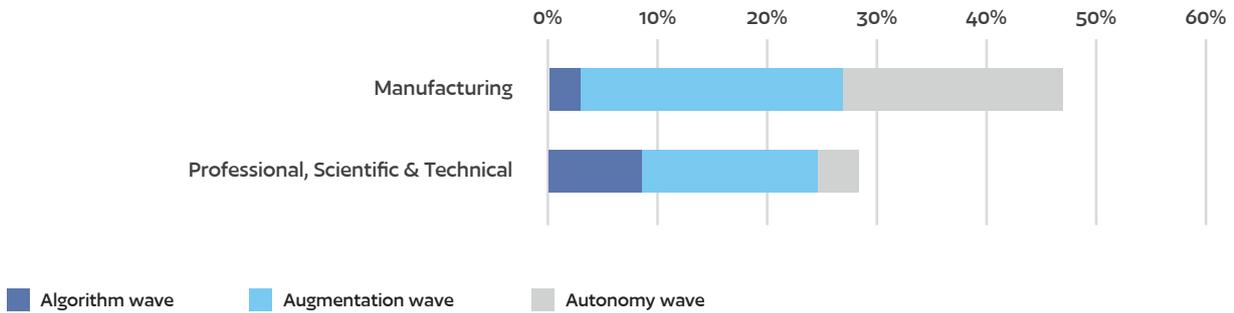
Potential jobs at high risk of automation
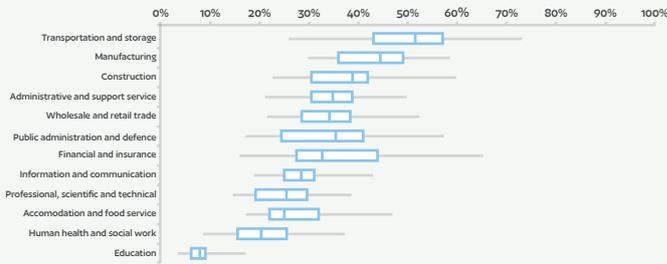
Source: **PIAAC data, PwC analysis**
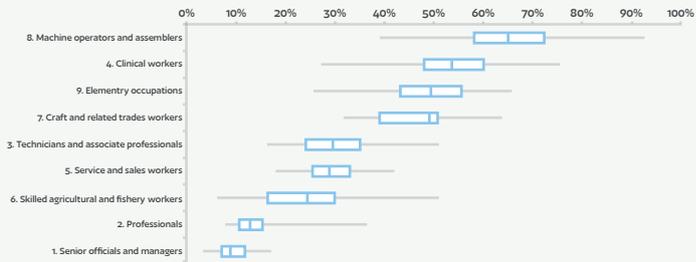
Source: **PIAAC data, PwC analysis**

Potential jobs at high risk of automation

Algorithm wave   **Augmentation wave**   **Autonomy wave**

Source: PWC, **Will robots really steal our jobs? (2019) (NB: wave definitions²)**

Crucially, however, whilst 'risk of automation' need not necessarily correlate with wholesale loss of jobs, recently published academic research evidences that, within months of the open release of ChatGPT in November 2022, there was a sharp decline in the proportion of open job ads for 'automation-prone jobs'³. And whilst – as 2023 played out to be another challenging year, economically - not all of the decline in advertised opportunities can be exclusively attributed to AI's potential, the downward trajectory which ran in parallel to early mass exploration of the potential of GenAI is hard to ignore.

Change in number of posts for automation-prone jobs, compared to manual-intensive jobs

Relative to launch of ChatGPT
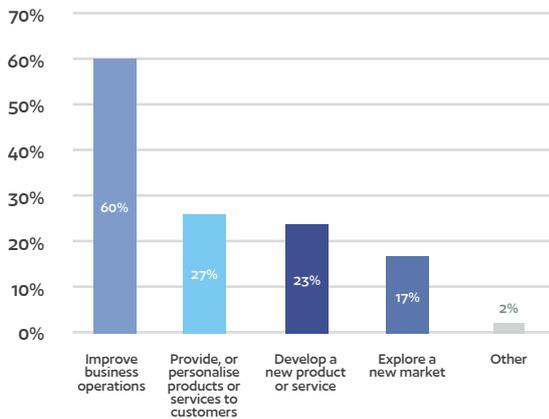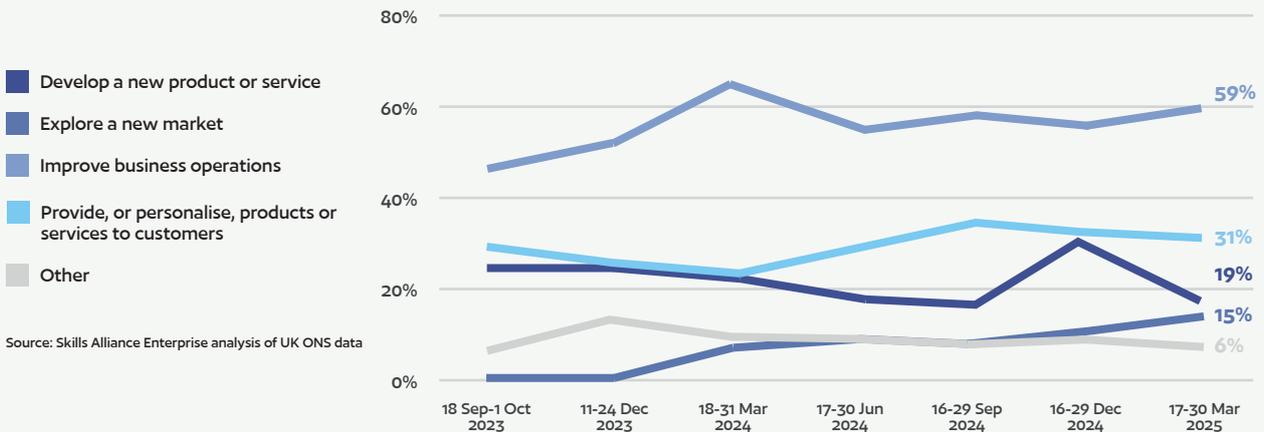
Source: Harvard Business Review, **How GenAI is already impacting the labour market**
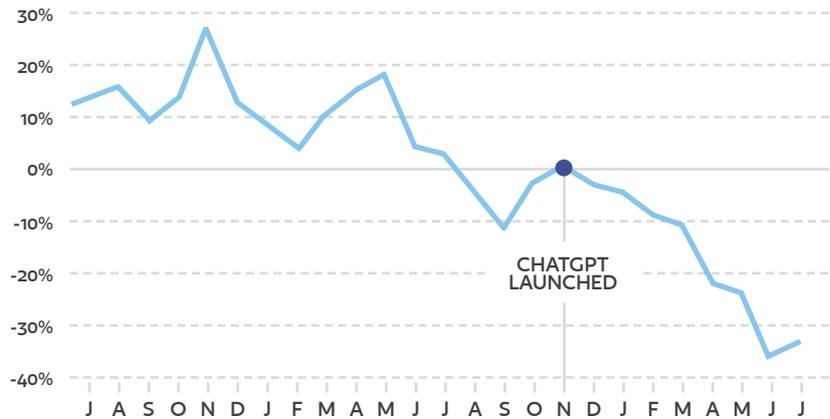
Much of the early suppression of demand may, however, have been caused by companies pausing to explore the potential of investing in the transformational AI applications rather than simply continuing to invest in more humans to deliver on legacy operational models.

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Ongoing research by the UK Office for National Statistics is usefully charting the **use cases for AI which have already been adopted within Professional, Scientific & Technical industries** – and those of the next wave of companies planning to implement in Q2 2025. And whilst, unsurprisingly, most interest is in improving business operations – which may result in some headcount reductions - there are healthy levels of interest in applications that have the potential to drive headcount growth, including new product or service development and - increasingly - exploring new markets.

Professional, Scientific & Technical industries: use cases for existing AI adoption, Sep 2023 - Mar 2025

Legend:
- Develop a new product or service
- Explore a new market
- Improve business operations
- Provide, or personalise, products or services to customers
- Other

Source: Skills Alliance Enterprise analysis of UK ONS data

(Line chart values at 17-30 Mar 2025: 59%, 31%, 19%, 15%, 6%)

X-axis: 18 Sep-1 Oct 2023, 11-24 Dec 2023, 18-31 Mar 2024, 17-30 Jun 2024, 16-29 Sep 2024, 16-29 Dec 2024, 17-30 Mar 2025

Professional, Scientific & Technical industries: use cases for existing AI adoption in Q2 2025

Source: Skills Alliance Enterprise analysis of ONS data

(Bar chart values)
- Improve business operations: 60%
- Provide, or personalise products or services to customers: 27%
- Develop a new product or service: 23%
- Explore a new market: 17%
- Other: 2%

These data points also mirror what is being witnessed by organisations such as EY: "GenAI in this early stage is boosting productivity, but the use cases are expansive. It has the potential to spur new business models that will give rise to new products, new ways to engage customers and new ways to get these products in the hands of these customers". [4]

> ❝
>
> "GenAI in this early stage is boosting productivity, but the use cases are expansive. It has the potential to spur new business models that will give rise to new products, new ways to engage customers and new ways to get these products in the hands of these customers. As has been the case in the past, transformative business models require both different and new ways of working.
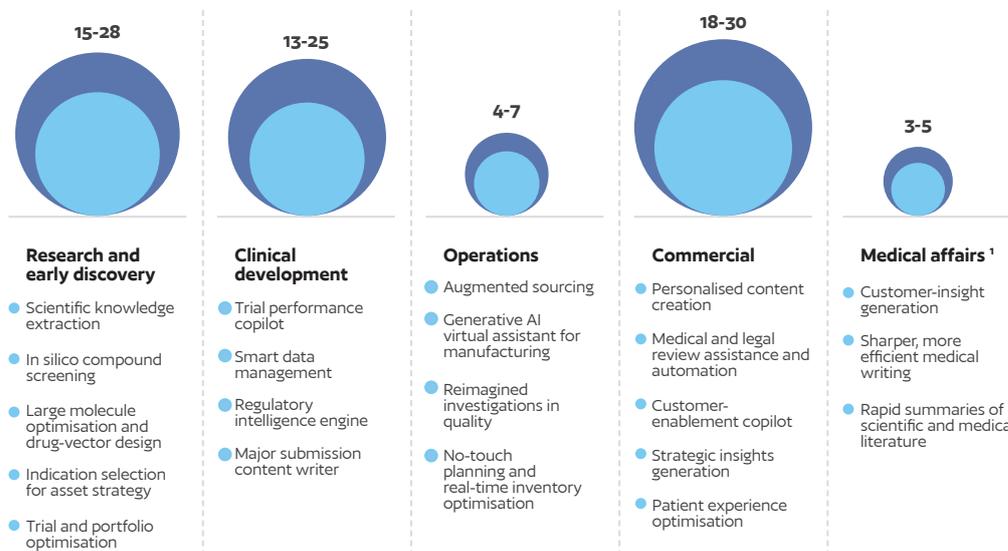>
> **Dr. Khalid A. Khan**
> EY Americas Strategy and Transactions AI Leader
> Gen AI impact on the labor market, Feb 2024

Further notable research by the McKinsey Global Institute (MGI), published in 2024, estimated that "the technology could generate $60 billion to $110 billion a year in economic value for the pharma and medical-product industries, largely because it can boost productivity by accelerating the process of identifying compounds for possible new drugs, speeding their development and approval, and improving the way they are marketed" – citing countless use cases already in deployment. [5]

Generative AI could propel holistic results in the life sciences sector in a number of ways.

Expected value annually (not exhaustive), $ billion

15-28	13-25	4-7	18-30	3-5
Research and early discovery	**Clinical development**	**Operations**	**Commercial**	**Medical affairs** [1]
● Scientific knowledge extraction	● Trial performance copilot	● Augmented sourcing	● Personalised content creation	● Customer-insight generation
● In silico compound screening	● Smart data management	● Generative AI virtual assistant for manufacturing	● Medical and legal review assistance and automation	● Sharper, more efficient medical writing
● Large molecule optimisation and drug-vector design	● Regulatory intelligence engine	● Reimagined investigations in quality	● Customer-enablement copilot	● Rapid summaries of scientific and medical literature
● Indication selection for asset strategy	● Major submission content writer	● No-touch planning and real-time inventory optimisation	● Strategic insights generation	
● Trial and portfolio optimisation			● Patient experience optimisation	

Source: McKinsey Global Institute, **Generative AI in the pharmaceutical industry: moving from hype to reality (Jan 2024)**

These use cases are far from just the preserve of existing industry players to adopt, however. Much of the current Life Sciences venture capital funding is being ploughed into companies that are being born out of AI's potential – facilitating notable demand for talent. This included the largest individual U.S. biotech deal since 2021, when Xaira Therapeutics secured a $1.0 billion funding round in April.

The company uses AI-based approaches to drug development, operating at the intersection of AI and life sciences—an expanding area of interest.

Their headcount grew 131% in the year to December 2024 – from 52 to 120 – and the company has a further 20 open jobs.

Crucially, however, McKinsey notes that "the accelerated pace of change that Gen AI promotes will require organisations to think differently about which skills they need and where to find them—**recruiting new people, upskilling existing employees, or dynamically allocating the right talent to the appropriate priorities**".

McKinsey also highlighted that "external recruiting will not be easy. Since ChatGPT's release, in late 2022, the number of AI-related job listings has quadrupled. **In biopharma alone, the number of AI-related job postings has grown by 43 percent annually across the top ten pharma companies since 2018**". Moreover, **key Life Sciences talent – regardless of their engagement status – will need to be equipped with an evolving range of skills requirements.**

Life sciences employee capabilities, present and future

	Present:	Future:
Must know:	● Have knowledge of pharmaceutical/medical products and industry landscape ● Proficient in traditional data analysis techniques (eg, using Microsoft Excel)	● Employ generative AI (gen AI) to produce insights from various sources of information ● Proficient in gen AI tools (eg, natural-language processing, prompt engineering)
Must be:	● Compliant by following regulatory requirements and guidelines ● Collaborative with cross-functional teams	● Data-driven: make data-driven decisions that enhance their effectiveness ● Effective communicator: convey complex gen AI insights to nontechnical stakeholders in a clear and concise manner
Must do:	● Employ iterative methods, experiment to refine approaches, and invest time in creating documents	● Use gen AI for automated report and documentation generation, focus on strategic tasks and goals, and dedicated significant time to mentoring junior colleagues

Source: McKinsey Global Institute, **Generative AI in the pharmaceutical industry: moving from hype to reality (Jan 2024)**

In this context, in the next chapter we explore organisational dependency on internal versus external resources and the strategic involvement of the latter - and their facilitators - in helping the sector to evolve at pace.

Chapter 2: Internal versus external resource reliance in the global Life Sciences sector
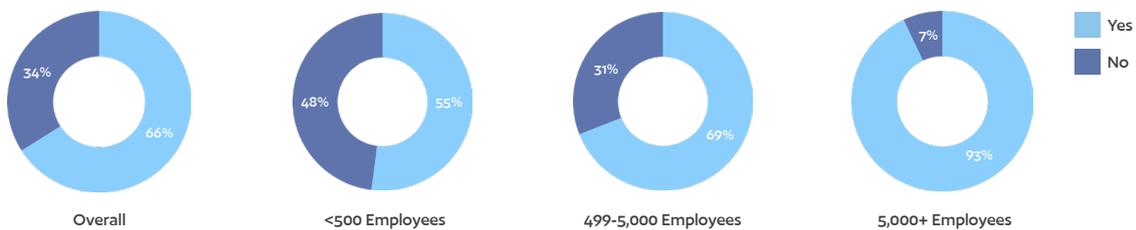
66% According to research conducted by Sapient Insights Group in late 2023, two thirds (66%) of organisations globally utilise contingent resources
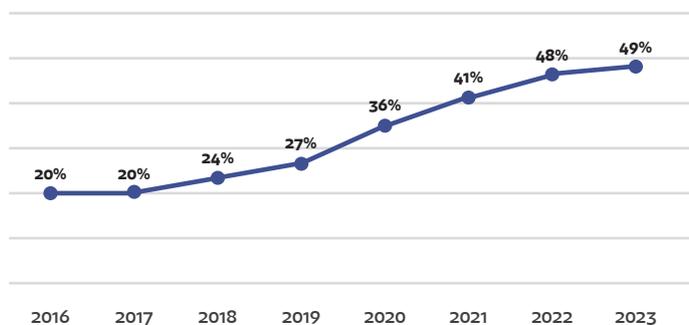
93% including 93% of the largest enterprises (5,000+ employees).[6]

Percentage of organisations with contingent workforces.

34%
66%
Overall

48% 55%
<500 Employees

31%
69%
499-5,000 Employees

7%
93%
5,000+ Employees

Yes
No

Average percentage of workforce identified as contingent

20% 20% 24% 27% 36% 41% 48% 49%

2016 2017 2018 2019 2020 2021 2022 2023

Source for both: Workday, *Contingent Workforce Management: The Key to an Adaptive HR Strategy*

Ardent Partners and Future of Work Exchange have been charting what they refer to as "the meteoric rise of the contingent workforce" since 2016 and note that "what we now refer to as the 'extended workforce' to encompass the agility, flexibility, and extended talent sources inherent in non-employee talent, has reached an apex of sorts". In 2023, their research found that "49% of the average company's total workforce (was) comprised of external, extended talent." [6]

> "The meteoric rise of the contingent workforce, what we now refer to as the "extended workforce" to encompass the agility, flexibility, and extended talent sources inherent in non-employee talent, as reached an apex of sorts. In 2023, Ardent Partners and Future of Work Exchsnge research (found) that 49% of the average companiy's total workforce (was) comprised of external, extended talent."

The Continued Rise of The Extended Workforce, Ardent Partners and Future of Work Exchange, February 2023.

Part of this exponential proportional rise may also lie in the fact that there has been a greater level of understanding of the term 'extended workforce'. Notably, this includes a widening realisation that it does not just extend to agency workers and independent contractors – those traditionally associated with 'contingent work', alongside temporary employees - but goes way beyond into Services Procurement (consultants and Project / SOW delivery), platform-based gig workers, outsourced service providers (e.g. CROs, FSPs (clinical and non-clinical (e.g. IT Help Desk, external sales and recruitment teams)), CDMOs, franchise and Joint Venture teams).

In essence, the extended workforce includes all those who work on behalf of an organisation rather than being employed by it. When considered in this context, it then becomes less surprising that organisations are reporting that almost half of their workforce is contractually engaged by an external organisation.

In this context, Skills Alliance Enterprise explored the extent to which Life Sciences organisations had awareness of the extent of their extended enterprise and – moreover – were prepared to report publicly on their reliance on external versus internal resources.

21%

From analysis of the latest set of published Annual, Integrated and/or Sustainability reports of 220 Life Sciences organisations, just 47 (21%) made reference to any form of contingent workers. Crucially, the key reason why more reference is not made to contingent and/or external resources is that there is no statutory obligation to do so.

Most of those who do identify contingent and external resource volumes do so under disclosure 2-8 ('workers who are not employees') of the GRI Sustainability Reporting Standards (GRI standards).[7]

The cohorts that this measure is seeking to encourage disclosure of are those where the company controls the work of the worker who is not an employee.[6] These include:

- Employees of high-control outsourcing operations (e.g. contract manufacturing, CROs, FSPs)
- Employees of on-site service providers
- Agency and third-party contractors
- Independent workers
- Volunteers

Those that the reporting is not intended for include independent consultants and consulting teams, typically working on a Statement of Work basis, to a defined outcome.

Of those that did disclose numbers, a quarter (26%) just mentioned temporary employees, another quarter (26%) referenced temporary employees and a broad category of 'external workers' and one in five (20%) referenced temporary employees, agency workers and/or contractors. The remainder just made reference to cohorts of external workers.

26%
Mentioned temporary employees

26%
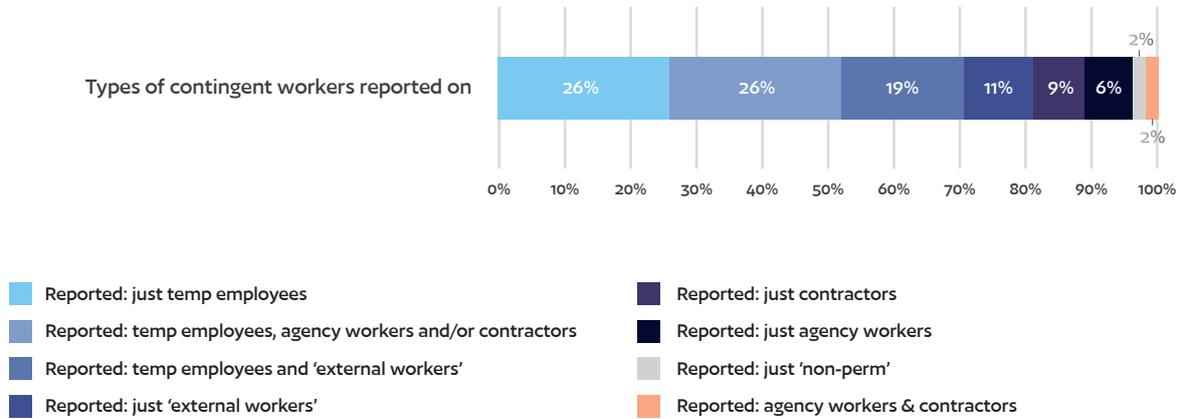Referenced temporary employees and a broad category of 'external workers'

20%
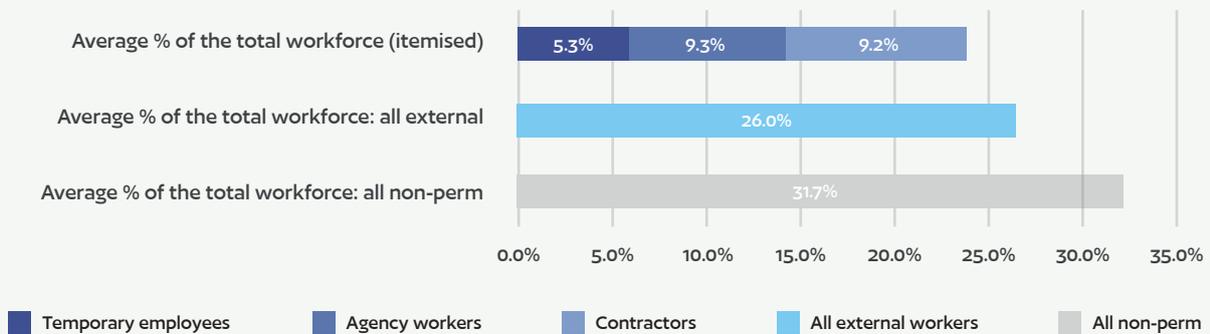Referenced temporary employees, agency workers and/ or contractors

Types of contingent workers reported on by Life Sciences companies who provide visibility (21%)

Types of contingent workers reported on

| 26% | 26% | 19% | 11% | 9% | 6% | 2% |
| 2% |

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

- Reported: just temp employees
- Reported: temp employees, agency workers and/or contractors
- Reported: temp employees and 'external workers'
- Reported: just 'external workers'
- Reported: just contractors
- Reported: just agency workers
- Reported: just 'non-perm'
- Reported: agency workers & contractors

Source: **Skills Alliance Enterprise analysis of the most recently published Company Annual, Integrated and/or Sustainability reports**

In terms of the proportional representation of these individual worker types in context of the total visible workforce, Life Sciences companies report a 5.3% temporary employee rate, a 9.3% agency worker and 9.2% contractor rate. Amongst those who just made reference to 'external workers', however, the average proportion was 26.0% - whilst the average for those reporting 'non-perm' increased to 31.7%. As such, **Life Sciences companies are reporting an external worker population in the region of c.24%-26% and a total contingent workforce (including temporary employees) of 31%-32%.**

Average percentage of the total workforce reported by

Average % of the total workforce (itemised)

| 5.3% | 9.3% | 9.2% |

Average % of the total workforce: all external

| 26.0% |

Average % of the total workforce: all non-perm

| 31.7% |

0.0% 5.0% 10.0% 15.0% 20.0% 25.0% 30.0% 35.0%

- Temporary employees
- Agency workers
- Contractors
- All external workers
- All non-perm

Source: **Skills Alliance Enterprise analysis of the most recently published Company Annual, Integrated and/or Sustainability reports**

This is likely to be a significant underestimate, however as there is little differential between the proportion levels of those who report on just agency workers and contractors (26%) and those who report on all non-permanent workers (32%). **This suggests that the practice of including the employees of Clinical Research Organisations (CROs), Functional Service Partners (FSPs) and Contract Development & Manufacturing Organisations (CDMOs) and other forms of onsite outsourced service provision has yet to be embraced.**

The Life Sciences sector is highly reliant on the support of CROs, FSPs and CDMOs. Whilst these organisations also work on a deliverables and/or service agreement basis, their ringfenced nature of the work that they undertake for the Sponsor renders their delivery teams part of the full extended workforce, GRI argues. And the scale of these support segments is both notable and growing:

Moreover, whilst Services Procurement – often a vast spend category comprised of the individuals and project teams delivering on a Statement of Work (SOW) basis – is not a category for GRI disclosure 2-8, those delivering on these services will likely view themselves, and be viewed, as external members of the organisation(s) they are providing services to.

Rise to US$276bn

The global pharmaceutical CDMO market size was estimated at US$146bn in 2023 and, based on a compound annual growth rate (CAGR) of 7.3% from 2024 to 2032, is forecast to rise to US$276bn. [8]

Rise to US$175.5bn

The global CRO market was estimated as US$ 79.5bn in 2023 and is forecast, based on a CAGR of 9.3% between 2024-2032, to rise to US$ 175.5bn.[9]

### Expand to US$ 27.8 bn

By 2023, the global FSP market had grown to an estimated US$ 14.3bn. And, based on a CAGR of 8.7% during 2024-2032 – and fast evolving into the SMB arena and into non-clinical functions - the market is forecast to expand to US$ 27.8 bn.[10]
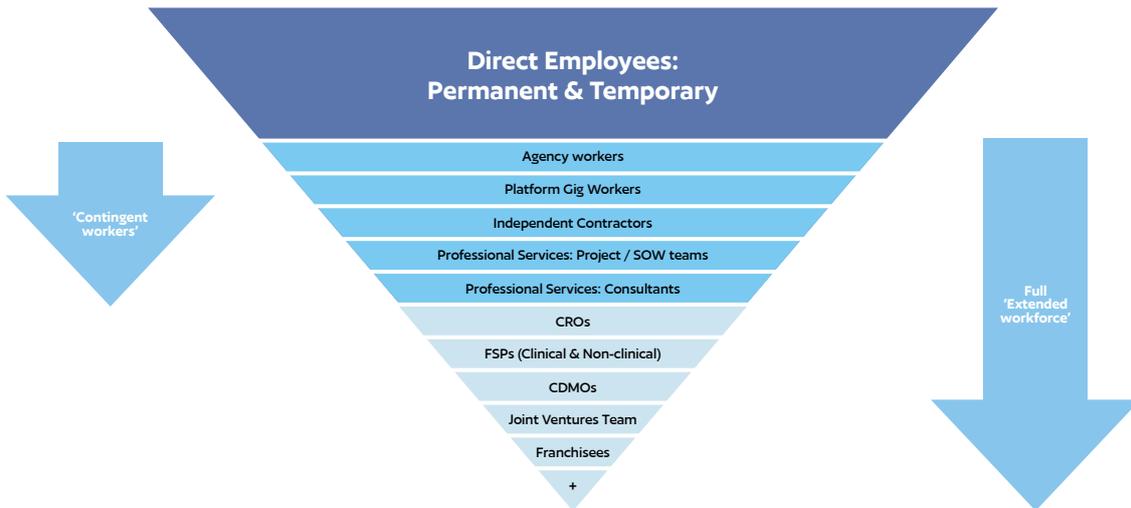
Research by Sapient Insights Group evidenced that 'Contingent Workforce management' – and likely similar for full 'Extended Workforce management' - within most organisations is split across a broad range of functions.[11] This then goes on to explain why there is also such a broad array of technologies being used to manage the Extended Workforce – and the challenges associated with gaining visibility and control of all facets of external labour.

Who is primarily responsible for overseeing contingent workforce management (WFM) processes/decisions?
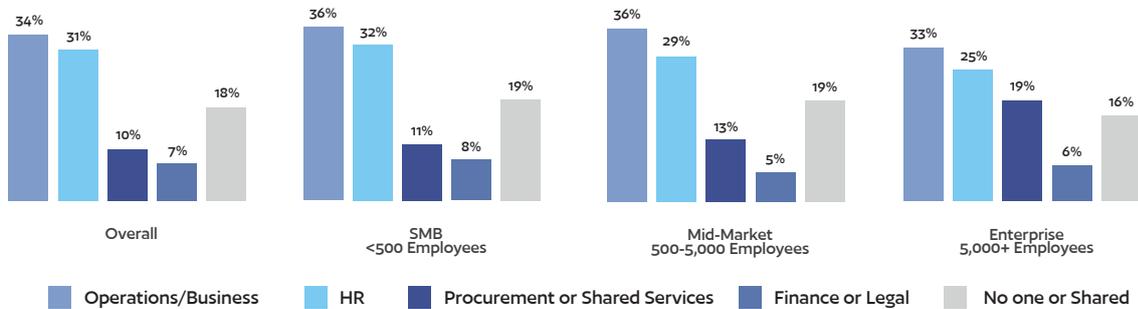
One of the most startling revelations from this research is that only 12% of organisations are utilising a procurement or Vendor Management Systems (VMS) to manage even their contingent and/or Gig Workers. To counter this challenge – or, moreover, to realise the huge potential opportunity - VMS solution providers have been expanding beyond facilitating traditional fields of contingent labour spend – notably into enabling Service Procurement, direct sourcing and access to external Talent Marketplace capabilities. There has also been a notable acquisition spree across all three types of VMS contenders, notably with the purpose of expanding out their capabilities across the Extended Workforce spectrum.
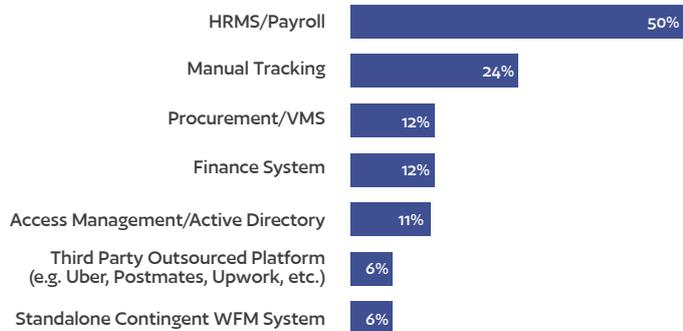
Pureplay VMS provider Beeline notably acquired Upmost in 2022 – which now underpins it's Beeline Acuity offering. This aggregates data from multiple systems (VMS, HRIS, procurement, finance, etc), enabling organisations to view real-time employee and non-employee data.

Beeline also announced a partnership with UpWork in August 2024, enabling access for all current and future customers to the notably gig-worker platform.

MSP affiliated VMS Magnit (rebranded from ProUnlimited) made multiple acquisitions in 2021-2023.

ERP / HRMS provider Workday moved into the vendor management space via the acquisition of VNDLY in 2021.

Systems used to manage organisation's contingent/gig workers

HRMS/Payroll	50%
Manual Tracking	24%
Procurement/VMS	12%
Finance System	12%
Access Management/Active Directory	11%
Third Party Outsourced Platform (e.g. Uber, Postmates, Upwork, etc.)	6%
Standalone Contingent WFM System	6%

Source for both: Sapient Insights Group research, quoted in Workday, **Contingent Workforce Management: the Key to an Adaptive HR Strategy**

These technological evolutions, which enable visibility and control of the extended enterprise, are crucial, however, as only when these systems are able to interoperate, capture and manage all categories of external labour – and connect with employed talent systems - will organisations be able to view, analyse and make decisions around their total talent pool.

As technology and/or technology interfaces advance, organisations have the potential to truly understand the extent and complexity of all talent pools – permanent and non-permanent – that power their enterprise. And once they have visibility, they can map the skills that they are currently accessing against their fast-evolving needs.

In the next chapter, **we explore a current area of focus for many Life Sciences organisations – establishing an internal employee Talent Marketplace.** We also explore **case study examples of recruitment supplier optimisation - and the developing sophistication of strategic resourcing partner providers who are managing increasing proportions of the extended workforce and tapping into the internal talent marketplace on the journey towards Total Talent Acquisition.**

Chapter 3. Work in progress: the journey towards dynamic Life Sciences organisations

In the model that Josh Bersin describes as the new Dynamic Organisation, "companies are essentially architected for continuous change and have implemented the post-industrial talent mode: shifting from jobs and roles to skills and work".[12]

"

"Most companies are stuck in the industrial model of legacy job structures, rigid hierarchies, top-down management models, and relying on recruiting as the sole source of their growth. There is a better, more impactful way to work: dynamic organisations proactively anticipate changes in the business environment and continuously transform at speed and scale to drive exponential business, people, and innovation outcomes. People are strategically moved to new roles, improving productivity and competitiveness in tandem.

These companies are essentially architected for continous change and have implemented the post-industrial talent model: shifting from jobs and roles to skills and work."

The Josh Bersin Company
Building a Dynamic Organisation

And, in context of the pharmaceuticals industry, McKinsey similarly flags the need for "organisations to think differently about which skills they need and where to find them".[5]

> "The accelerated pace of change that gen AI promotes will require organisations to think differently about which skills they need and where to find them - recruiting new people, upskilling existing employees, or dynamically allocating the right talent to the appropriate priorities."
>
> **The McKinsey Global Institute,**
> Generative AI in the pharmaeutical industry: moving from hype to reality
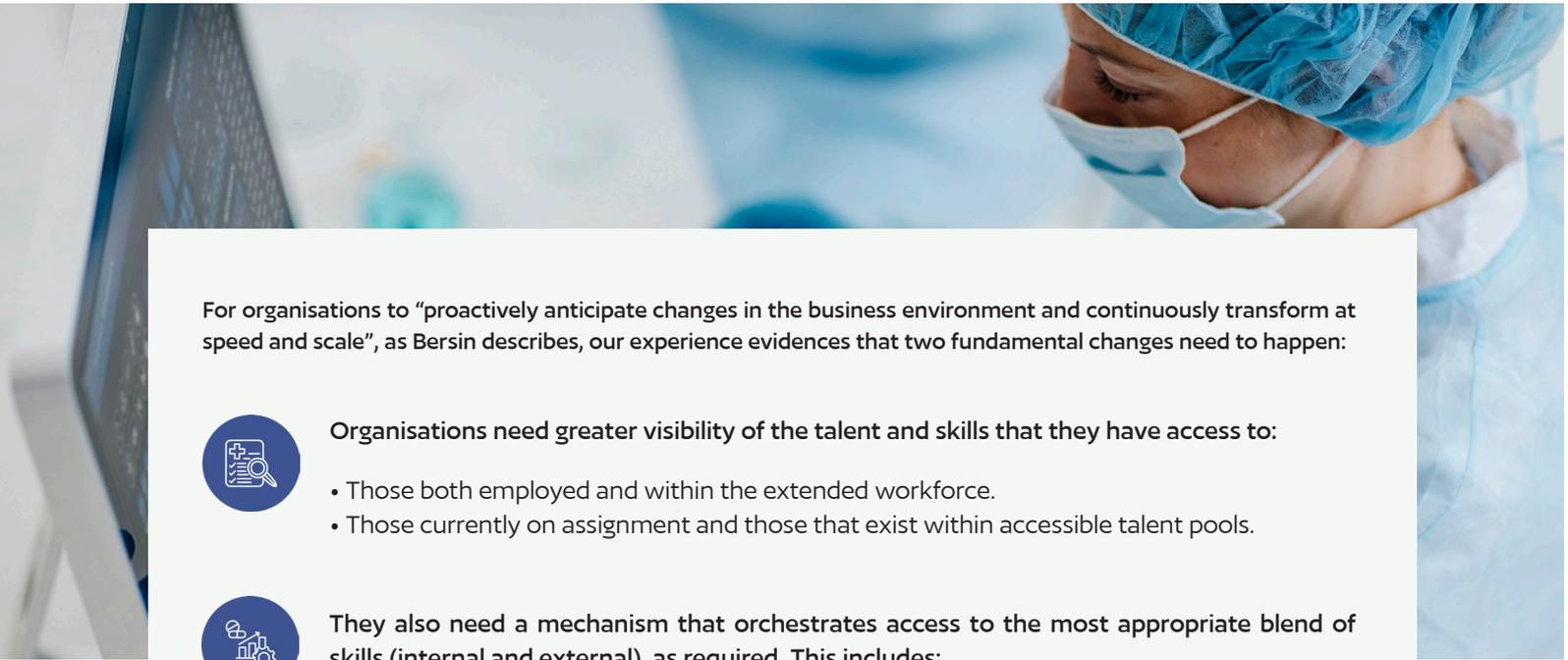
For organisations to "proactively anticipate changes in the business environment and continuously transform at speed and scale", as Bersin describes, our experience evidences that two fundamental changes need to happen:

Organisations need greater visibility of the talent and skills that they have access to:

- Those both employed and within the extended workforce.
- Those currently on assignment and those that exist within accessible talent pools.

They also need a mechanism that orchestrates access to the most appropriate blend of skills (internal and external), as required. This includes:

- **Harnessing the potential of technology** (notably internal talent marketplace, advanced VMS and 'overlay' technologies, as we evidence below with case studies) to provide visibility of the total talent landscape.
- **Harnessing the potential of supplier optimisation**, moving away from resourcing in silos to working with strategic resourcing partners who have the potential to act as a single source of talent acquisition (to be tapped into as required).

Case study: developing a talent marketplace at Novartis

In 2018, Novartis had the highest number of full-time employees in its history, at over 125,000. At the end of 2023, the company's employed workforce had dropped to c.78,000 FTEs due to the spin-off of generic drug division Sandoz.[13] Just prior to the spin off, it was operating with c.110,000 permanent employees and c. 50,000 contractors and temporary workers – a c. 31% contingent worker dependency.[14]

In order to address what he describes as "a real shortage of talent with specific skills sets", Markus Graf, Global Head of Talent at Novartis noted: "we need to do even more for the people that we have so that we can really develop and retain them".[15] Their solution – one of five 'big bets' in Novartis' talent strategy - was to invest in developing an AI-enabled internal global 'talent marketplace' that would provide "open-access for everyone to navigate their careers as part of the talent and skills ecosystem" and boost the number of internal moves that take place within the organisation.

31%

Contingent Worker Dependency

The resulting Talent Match platform - which has seen more than 30,000 employees voluntarily populate the system with their skills profile – is generating numerous benefits for both the organisation and its employees. By pairing existing staff to work and development opportunities around the organisation, based on their skills and interests:

It delivers enhanced engagement of employees and greater retention.

> It gives staff the opportunity to review their current skills and - based on their ambitions - the AI will tell them what training and skills they still need to acquire before they can achieve their dream jobs.
>
> Wider opportunities take the form of new jobs, projects to become involved with, access to mentors and learning content.

51%

More likely to be promoted

73%
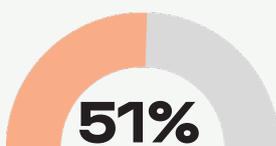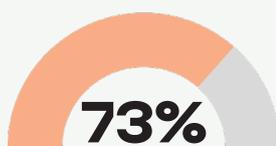
Less likely to leave the organisation

2-year real-life outcome: employees active on Talent Match and assigned to projects are 51% more likely to be promoted and 73% less likely to leave the organisation.[16]

It is delivering tangible savings.

> 2-year real-life outcome: it had helped staff more than 500 projects, generating savings of more than €15m on external resourcing costs.[16]

It enables swift redeployment.

> Graf notes: "as we see that things are changing really quickly in how we operate, we can also post opportunities in new parts of the organisation and reallocate people more quickly."[15]

128%

2-year real-life outcome: employees active on talent match and assigned to a project are 128% more likely to make a lateral move.[16]

Whilst the talent marketplace is underpinned by one system (Gloat), interoperability with an extensive range of other systems also had to be established to enable success. Moreover, as the marketplace is currently only populated with the employed workforce, there remains huge potential to build further integrations to incorporate access to all members within the extended workforce.

Graf acknowledges this potential: "currently for us, we use it mainly to surface candidates internally, but in principle, you could also then use it externally. I think these are steps in the evolution of how a company can bring it to life, and I think the technology can also help to find candidates externally over time. I think that's very relevant for companies."[15]

The current priority focus is clear, however:

"from my point of view, there's a need to really develop talent within the organisation because if there's the perception that it's easier to find a job outside than inside, that's not helpful to retain the best people. So, for us, I think we really wanted to focus first on making sure that there is a lot of good internal mobility. Then I think there are absolutely opportunities also to tap into this data externally."

Internal mobility up 6% in the year to August 2023

Moreover, with this new visibility of skills that are in the most demand, if there is a shortage of skills and it is not possible to fill them internally, it is extremely valuable for the talent acquisition teams to see that data.

Skills Alliance Enterprise

Case study: gaining visibility and control of the extended workforce at AstraZeneca

In March 2022, AstraZeneca established a partnership with technology providers Utmost to help it manage its external workforce which, at the time, included 34,000 contingent workers and outsourced service provider workers across 100 countries.[17] This move provides a notable insight into how the company planned to further optimise use of its external workforce.

> "Our externally managed resources continue to play a crucial role in meeting the organisation's strategic objectives and ultimately, fulfilling our purpose - to push the boundaries of science to bring life changing medicines to patients,"
>
> **Will Dempsey**
> AstraZeneca's Global Talent Acquisition Director at the time

"Utmost now gives us a scalable solution to manage this extended workforce whilst also increasing the visibility of our total workforce in over 100 countries and supporting the business in securing the talent we need to get work done." So, in essence, Utmost provided the connectors between key technologies such as Fieldglass (an additional VMS), its core HR Management Systems (Workday & ServiceNow) and other systems.

And with visibility of its total talent landscape, it could also look further into the potential of supplier optimisation which, in 2022, included two managed service providers located in key geographies (UK & U.S.), RPO Providers located in the U.S., Sweden and Japan, a raft of outsourced service providers, a PSL of suppliers for contingent recruitment and Executive Search and other strategic suppliers (e.g. LinkedIn and background checking companies).[18]

In October 2022, Utmost was acquired by Beeline and now forms the backbone of its Acuity offering:

▌ Technologies like Beeline seamlessly connect and overlay existing systems like VMS, HRIS, and eProcurement, gathering all employee and non-employee data into one central location.

▌ These platforms connect businesses, RPOs, MSPs, talent suppliers, and workers in a secure, centralised environment, fostering increased productivity.

▌ Crucially, they enable the commencement of supplier optimisation across the total talent spectrum.

$821m

in Series D funding

Case study: strategically sourcing employee and non-employee talent at high-growth Sana Biotechnology

Launched in early 2019, Sana Biotechnology, Inc. is focused on creating and delivering engineered cells as medicines for patients. With operations in Seattle, Cambridge, and South San Francisco, they are working to create an enduring company that changes how the world treats disease.

In June 2020, the company received $821m in a Series D funding round. Proceeds would "support IND-enabling and initial clinical studies for multiple therapeutic candidates, buildout of manufacturing capabilities, and expansion of the company's portfolio of enabling technologies. They (would) also support the continued addition of top talent to Sana's team". [19]

They now required the ability to scale rapidly while accessing extremely specialised talent in multiple functional areas and required a partner who could support this effort. As its new talent acquisition partner, Skills Alliance Enterprise deployed a total talent solution (TTS) – combining an RPO and MSP offering - that met the client requirements for flexibility by including the ability for both rapid scale-up and contraction while maintaining service excellence.

As a new company operating in the highly dynamic biotechnology sector, Sana required high levels of flexibility: the capability to both scale and contract quickly based on changing demands and market dynamics.

The Sana team required a solution that would allow it to optimise its talent engagement across its direct and extended workforce, and ensure their workforce was fully compliant.

The Sana leadership team needed support that would allow them to make informed strategic decisions in a high growth environment.

Recruitment technology was required to support the process for both their permanent and contingent workforce.

Key to the success of the initiative was the direct delivery support for contingent labour, leveraging Skills Alliance Enterprise specific expertise in the cell therapy market to boost access to talent within the cell therapy market, driving quality of hire. And the multifaceted solution was unified with a cohesive Project Management Office (PMO) team, providing them with one point of contact for all of their talent acquisition requirements, boosting administrative support and simplifying the experience for the Sana team.

Skills Alliance's proactive and partnership-led approach delivered on Sana's objectives:

50% FTE growth of over 230 full-time employees (FTEs), with a time-to-hire improvement of 50%.

80% From a contingent labour perspective, Skills Alliance is delivering a direct sourcing fill rate of over 80% - the high candidate quality resulting in 30% of direct delivery placements converting to FTEs.

19% Overall cost savings of 19%.

Enhanced reporting and access to data, enabling informed client decision making.

Improved efficiency and experience for client talent acquisition and hiring managers.

Crucially, as is required by dynamic, high growth companies, the programme successfully scaled up and contracted multiple times to support changing market dynamics and client strategy, while maintaining service standards and continuity.

Where next for talent supplier optimisation?

The fast-evolving global legislative landscape continues to shine a spotlight on how workers should legally be engaged within varying outsourcing and project support scenarios. With significant ramifications for misclassification, employers are increasingly relying on the expertise of the staffing sector to guide them and provide compliant solutions.

The 2025 Economic Report published by the World Employment Confederation (supported by research by Staffing Industry Analysts) published in April 2025 estimated that, in 2023, MSP programmes around the world captured €200bn (c. US$ 225bn) spend - marginally down on its near-term peak in 2022. Moreover, an increasing proportion of this spend was being delivered directly by the MSP talent solutions providers, however – rising to 45% (€90m) in 2023 – driven by **an increase in both the direct sourcing of contingent workers and Statement of Work delivery (up 17% year-over-year in nominal terms).**[20]
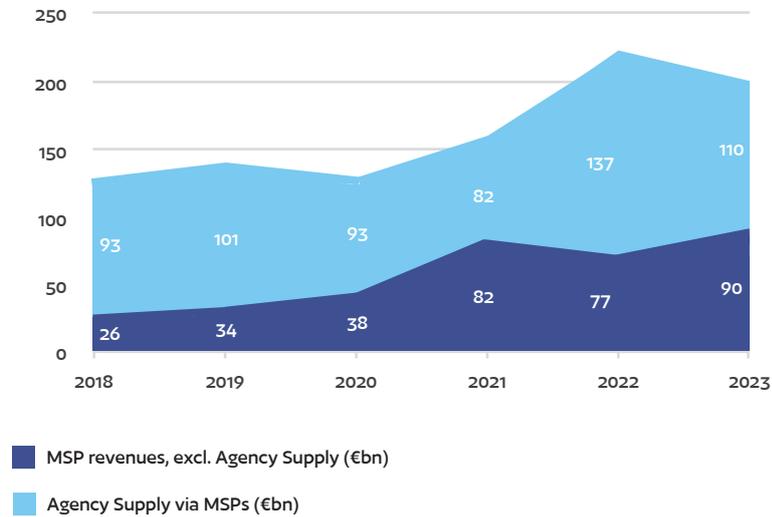
€200bn
Global MSP programme spend

Rising to 45%
Rising to 45% (€90m) in 2023

Up 17%
an increase in the direct sourcing of contingent workers and Statement of Work delivery

Global spend (€bn) captured through MSP programmes, 2018-23

Legend:
- MSP revenues, excl. Agency Supply (€bn)
- Agency Supply via MSPs (€bn)

Source: World Employment Confederation, **Economic Report 2025** (data from WEC members and calculations by Staffing Industry Analysts)

The employed consultant model - which emphasises continuity, risk reduction, and cost certainty - is gaining traction, as is the evolution of the Staffing sector into delivery of Functional Service Provision (FSP via SOW).

As strategically sourcing and managing SOW labour is extremely complex, three prevalent models are now dominating market activity.

Managed Service Providers and Total Talent Management companies who are increasingly sourcing for and managing SOW activity.

This includes specialised STEM sector recruitment business - notably UK- and US-centric operations - who have expanded into functional outsourcing of STEM-based activities through Statement-of Work (SOW) programmes.

Project-orientated resourcing spacialists, delivering on outcomes-based SOWs.

Although FSP is not typically a term that they use, their model is based on providing access to consultants with scarce skills to manage and work on business-critical projects - many of which last a number of years.
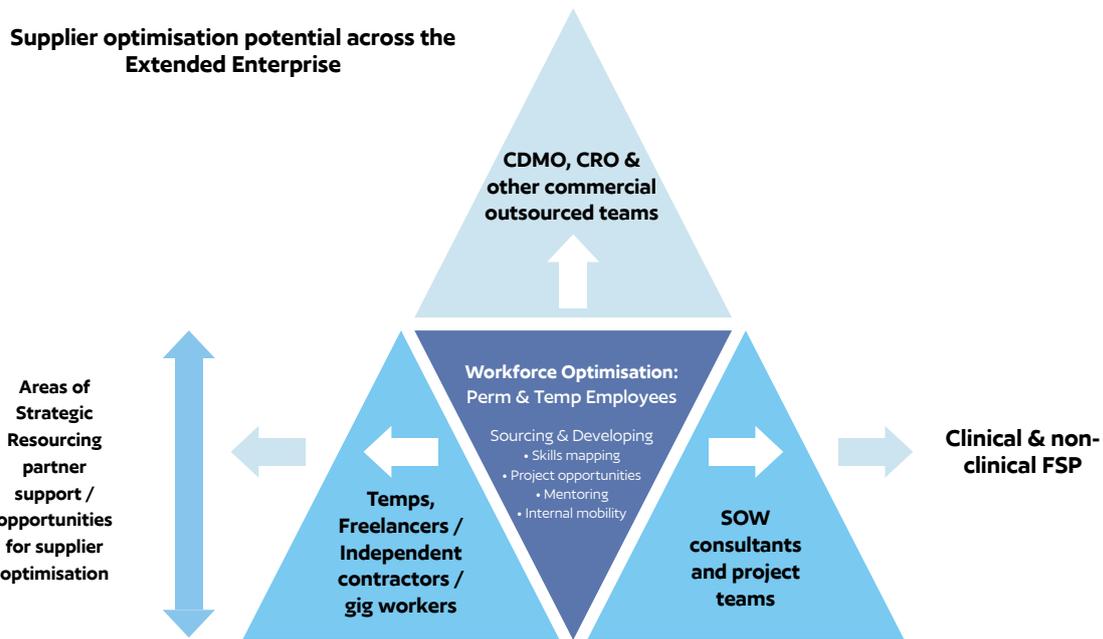
Skills Alliance Enterprise

In terms of the use cases for these types of FSP models delivered by strategic workforce partners, they are proving most appealing to sponsors in the three key scenarios:

As an alternative to an FTE or, notably, the FTC internal headcount model.

This includes components of clinical trials / R&D management – notably in scenarios where organisations have brought trials back in house – and targeted project support (including talent acquisition, talent intelligence and employer branding support).

Where resource continuity is critical, but the demands of the role are quite static.

This includes static requirement Clinical, R&D and support functions (e.g. IT Support)

Where scarce skills individuals best operate with their own project team.

These are the individuals that specialist resourcing firms nurture relationships with and connect to organisations requiring their individual or collective skills – and is another notable example of where strategic workforce partners can deliver teams to provide functional service provision through new and innovative models.

Supplier optimisation potential across the Extended Enterprise

CDMO, CRO & other commercial outsourced teams

Workforce Optimisation:
Perm & Temp Employees

Sourcing & Developing
• Skills mapping
• Project opportunities
• Mentoring
• Internal mobility

Areas of Strategic Resourcing partner support / opportunities for supplier optimisation

Temps, Freelancers / Independent contractors / gig workers

SOW consultants and project teams

Clinical & non-clinical FSP

Footnotes:

The McKinsey Global Institute, Generative AI in the pharmaceutical industry: moving from hype to reality (Jan 2024): https://www.mckinsey.com/industries/life-sciences/our-insights/generative-ai-in-the-pharmaceutical-industry-moving-from-hype-to-reality

Workday, Contingent Workforce Management: The Key to an Adaptive HR Strategy: https://forms.workday.com/en-us/whitepapers/contingent-workforce-management-key-to-adaptive-hr-strategy/form.html?step=step1_default

And, crucially, from whichever point of entry into a relationship with a strategic resourcing partner, the capabilities now exist (from both a technology and experience perspective) to enable organisations to expand the solution deep into the extended enterprise space.

Summary and Considerations

AI's potential — both for established Life Sciences companies and start-ups - is swiftly changing workforce needs

The critical needs of establishing the organisational capability to continuously upskill existing employees, developing the organisational agility to allocate and reallocate the right talent to the appropriate priorities and sourcing external talent with new skills in a highly competitive environment are running on parallel tracks.

Whilst **use cases for AI within the Life Sciences sector are mostly focused on improving business operations – which may result in some headcount reductions - there are healthy levels of interest in applications that have the potential to drive headcount growth**, including new product or service development and exploring new markets. The net impact of these combined opportunities has been estimated by McKinsey Global Institute (MGI) at $60 billion to $110 billion a year in economic value for the pharma and medical-product industries5, which VCs are acutely aware of and investing accordingly – facilitating some counterbalancing start-up workforce demand.

For both established Life Sciences players and start-ups, however, AI's potential is causing **a complete rethink about which skills they need and where to find them – resulting in upskilling existing employees, establishing the organisational agility to allocate and reallocate the right talent to the appropriate priorities and sourcing external talent with new skills (in a highly competitive environment).**

$60bn to $100bn
a year in economic value

As a backdrop to this AI-driven workforce transformation, the average organisation has as many contingent and/or external workers as internal permanent employees

Gaining visibility and a full understanding of the interoperability of the whole extended enterprise is an essential pre-requisite to developing the agility to orchestrate rapid workforce change

In late 2023, two thirds (66%) of organisations globally were utilising contingent resources – including 93% of the largest enterprises (5,000+ employees).[6] Moreover, an average of half (49%) of these companies' total workforce was comprised of external talent – up from 20% in 2016 and 2017.[7] Part of this exponential proportional rise may lie in the fact that there has been **a greater level of understanding of the term 'extended workforce' which, in essence, includes all those who work on behalf on an organisation rather than being employed by it.**

Research by Skills Alliance Enterprise in December 2024 determined that, as there is no statutory obligation to do so (just a GRI Index recommendation on disclosure), just 21% of global Life Sciences organisations made any quantified reference to 'workers who are not employees' in external 2023/24 publications. And, amongst those that did, they reported an external worker population in the region of c.24%-26% and a total contingent workforce (including temporary employees) of 31%-32%. As such, most are excluding reference to employees of Clinical Research Organisations (CROs), Functional Service Partners (FSPs) and Contract Development & Manufacturing Organisations (CDMOs), other forms of onsite outsourced service provision and individuals and project teams delivering on a Statement of Work (SOW) basis (NB: not a category within the GRI disclosure recommendations).

The challenges of even obtaining visibility of the full extended workforce – never mind control – are significant, however, with management of 'Contingent Workforce management' – and likely similar for full 'Extended Workforce management' - within most organisations spread across a broad range of functions who, in turn, are utilising a broad array of technologies.

Technological evolutions, which enable visibility and control of the extended enterprise, are crucial, however, as only when systems are able to interoperate, capture and manage all categories of external labour – and connect with employee management systems – can organisations view, analyse and make decisions around their total talent pool. However, we are on the brink of this opportunity, however.

> Life Sciences organisations are building internal talent marketplaces at pace — and realising the potential of supplier optimisation for orchestrating access to external talent. And in the most innovative organisations, the two capabilities will soon interoperate enabling agile, informed decision-making across the total talent landscape.

From whichever point of entry into a relationship with a strategic resourcing partner, the capabilities now exist (from both a technology and experience perspective) to enable organisations to expand the solution deep into the extended enterprise space.

Companies like Novartis have spent the last few years building internal talent marketplaces through which to present opportunities (for project involvement, internal moves, upskilling, mentoring, etc.) to their employed workforce – with a view to extending this further to additionally capture the external workforce. Similarly, companies like AstraZeneca have been embracing technologies potential to overlay numerous systems of record for employees and the broad array of workers that comprise the extended workforce. And with the emerging visibility of their total talent landscape, these organisations are now able to look further into the potential of supplier optimisation and establish true strategic partnerships for orchestrating access to external talent - and capitalise upon the Staffing sector's expanding wealth of expertise.

Project Involvement   Internal Moves   Upskilling   Mentoring

Skills Alliance Enterprise
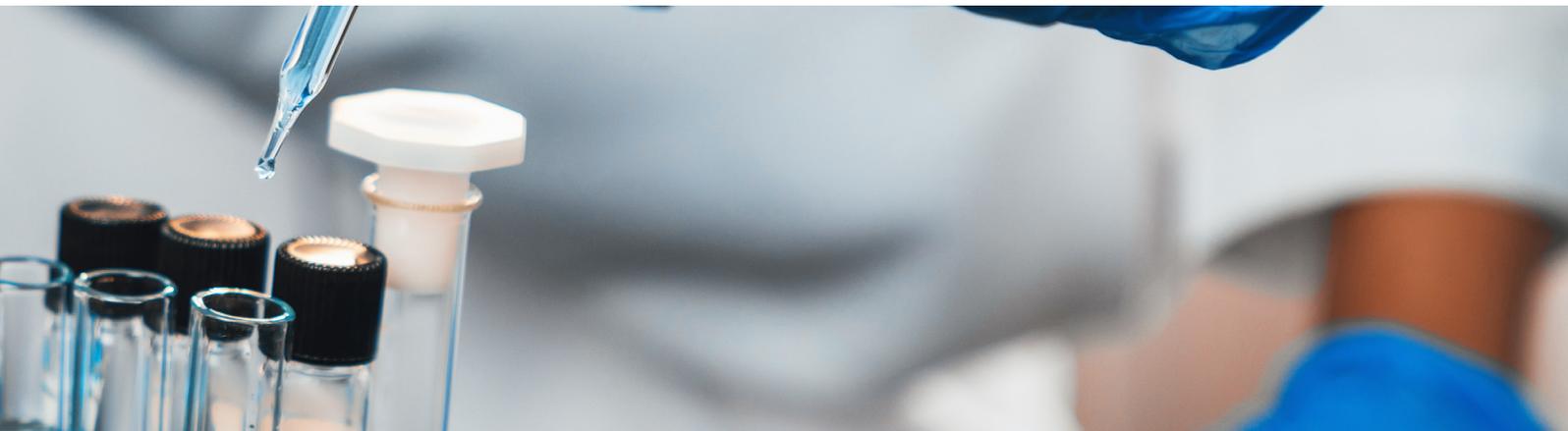
These organisations are leveraging the unique capabilities of their Total Talent Acquisition / MSP external workforce partners – honed by working across industries, occupations, geographies and all stages of organisational maturity – to deliver on their strategic goals. Notably, they are leveraging these external partners' capabilities to:

Source, establish and maintain a compliant extended workforce:

With the fast-evolving global legislative landscape continuing to shine a spotlight on how workers should legally be engaged across contingent, outsourcing and project support scenarios – and with significant ramifications for misclassification - employers are now increasingly relying on the expertise of the staffing sector to guide them and provide compliant solutions.

Harness services procurement spend (SOW) potential:

Bringing existing SOW projects into the overarching external workforce programme and resourcing new project needs from the talent pools that the staffing industry nurtures.

Develop and deliver new, innovative resourcing models:

The employed consultant model - which emphasises continuity, risk reduction, and cost certainty - is gaining traction, as is the evolution of the Staffing sector into delivery of Functional Service Provision (FSP via SOW) – notably within non-clinical functions. Moreover, as the challenges of sourcing the new external skills that Life Sciences organisations require increase due to competitiveness (and legacy shortages), the value of the sector's nurturing of these niche candidate pools is rising exponentially.

Footnotes

1. PwC, Will Robots really steal our jobs?

2. NB: Algorithm Wave: Automation of simple computational tasks and analysis of structured data, affecting data-driven sectors, such as Financial and Life Sciences Augmentation Wave: Dynamic interaction with technology for clerical support and decision making. Also includes robotic tasks in semi-controlled environments such as moving objects in warehouses. Autonomy Wave: Automation of physical labour and manual dexterity, and problem solving in dynamic real- world situations that require responsive actions, such as in transport and manufacturing.

3. Harvard Business Review, How GenAi is already impacting the labour market

4. EY, GenAI Impact on the labour market

5. The McKinsey Global Institute, Generative AI in the pharmaceutical industry: moving from hype to reality (Jan 2024)

6. Blog, GRI Reporting: the case of the invisible employees

7. Workday, Contingent Workforce Management: The Key to an Adaptive HR Strategy

8. BioSpace, Pharmaceutical CDMO Industry is rapidly rising (April 2024)

9. Fortune Business Insights, CRO Services Market (Nov 2024)

10. Market Research Future, Global Functional Service Providers Market Overview (Jan 2024)

11. Future of Work Exchange, The Continued Rise of the Extended Workforce

12. The Josh Bersin Company, Building a Dynamic Organisation

13. MIT Management Review, How AI changes your workforce (March 2024)

14. FT Working it, Recruitment is broken – what are businesses doing to fix it? (November 2024)

15. Gloat, How Novartis used skills to become a dynamic organisation (February 2024)

16. Sara Steiner, Making 'skills' happen: how to navigate a skills transformation (March 2024)

17. Press release

18. Articulation by Will Dempsey, Global TA Director

19. Sana Biotechnology press release

20. World Employment Confederation, Economic Report 2025