RISING ABOVE THE NOISE | ADDENDUM

Purpose-led, truly global AI

Challenges, priorities and opportunities

CONTENTS

FOREWORD

This addendum to ISS's *Rising Above the Noise* white paper takes a step back from the built environment to consider the development and implementation status of Artificial Intelligence (AI) and Machine Learning (ML) during a crucial period. It moves on to explore potential leadership roles and opportunities for global stakeholders, governments and regulators, industry sectors, business leaders, and unique organisations like the NHS.

INTRODUCTION

Almost 12 months ago, ISS's *Rising Above the Noise* white paper considered advances in the fields of Artificial Intelligence (AI) and Machine Learning (ML), including their potential applications in the built environment. This addendum has purposefully taken a step back, offering a considered view of the broader AI landscape and recent developments at an organisational, national and global level.

A time for reflection

Fears that unregulated AI would mean the 'end of humanity' or the obsolescence of almost every worker have not disappeared, but they have been eased as AI becomes more widely used and understood, and regulatory interventions slow the pace of development.

"AI will not replace us because the future of civilisation resides in building a world fit for humans to live in; a world that values and embraces our cognition, our creativity and our neoteny. This cannot be achieved by computerised cognition because it comes from engaging our physical body, that is biologically connected to every living thing that exists."

Inma Martinez, AI expert

It would be incorrect to characterise this as a stoppage, or a change in direction, although some governments and organisations are reevaluating AI strategies and budgets. AI is still in the advent. It will still play a part — a large part — in humankind's future. Rather, there is a sense that international institutions, governments, regulators and businesses are taking a moment to think and reach consensus about what AI is, and what it isn't.

These stakeholders are using this time to take an objective look at the real risks posed, and the significant opportunities offered, by AI. Now is the time to re-evaluate the transformational role AI will play in all our futures, and map out how we can shape that role together.

Second mover advantage

This addendum to our original report begins by reviewing the potential roles of international organisations, governments and regulators to develop purpose-led, truly global AI. It then considers a role for business leaders, asking what they can most usefully do today, as boards and executive committees demand AI strategies and implementation plans.

"Cooperation is not an option, it is a necessity."

Lee Jong-Ho, Minister of Science and ICT, South Korea ⧉

Currently, there is no one, clear and/or safe path through this complex, evolving landscape, nor are there definitive answers. Businesses, like other stakeholders, will make their own decisions based on what is right for them. Yet, while global communities, regulators and national governments seek to resolve fundamental questions about sustainability, cultural viewpoint and trustworthiness, steps can be taken by professionals to stay abreast of best practice, and prepare for the moment AI begins to impact their industry in earnest:

- **Participate.** Take part in consultations, industry panels and focus groups.

- **Educate yourself.** Be better informed than anyone in your industry.

- **Be objective.** Make risk-informed, but optimistic, choices.

More engaged and informed stakeholders can only drive enhanced AI solutions. Dedicating time to even some of the above, some of the time, supports a better future where humankind lives, works and grows alongside truly global, trustworthy and purpose-led AI partners.

THE GLOBAL PERSPECTIVE

At a macro level, debate around AI has progressed and deepened. Themes including safety, capacity and ownership have been superseded by broader concepts like trustworthiness, sustainability and representation.

The global community has refocused its efforts, calling for the development of purpose-led, truly representative AI, including generative AI (gen AI), to satisfy humankind's increasingly sophisticated data and technology needs, without costing the earth.

What is generative AI?

"Generative AI, sometimes called GenAI, is artificial intelligence (AI) that can create original content — such as text, images, video, audio or software code — in response to a user's prompt or request."

IBM ⤤

AI and sustainability

AI has an inexhaustible hunger for data, and an unshakeable thirst to boot.

Training AI models is incredibly costly (a one billion parameters model costs about $1 billion to train). Moreover, it uses massive amounts of energy and requires abundant water supplies to sustain and cool the data centres required for such an endeavour.

"Microchip maker Nvidia is designing a chip that will use a lot less energy — albeit its journey to market is taking a little longer than expected. The market reaction to this news demonstrates the appetite for more energy efficient technology. The fact remains that, if AI is to become more widely used, it will have to become more sustainable."

Inma Martinez, AI expert ⤤

"In 2023, 61 notable AI models originated from US-based institutions, far outpacing the European Union's 21 and China's 15."

AI Index Report 2024, Stanford University ⤤

Forecast demands on the grid; the water table and national and business finances have already driven retrenchment of AI development and deployment strategies. The consequential change of pace has potentially impacted the extent to which models today represent a truly holistic world view.

A US-centric lens

Generative AI has almost exclusively been created in North America (US and Canada) in the English language. This means the overwhelming majority of the data that is being used to train AI reflects a "North American" cultural mindset (to the extent that such a thing exists), and the global majority is inheriting technology with associated conscious and unconscious biases.

When these AI models seek to interpret other human languages and negotiate different cultural connotations, the real meaning of what they are being asked to perform can be lost in translation. Many nations that do not use English or offer alternative cultural perspectives are keen to, and should be encouraged to, develop their own language models.
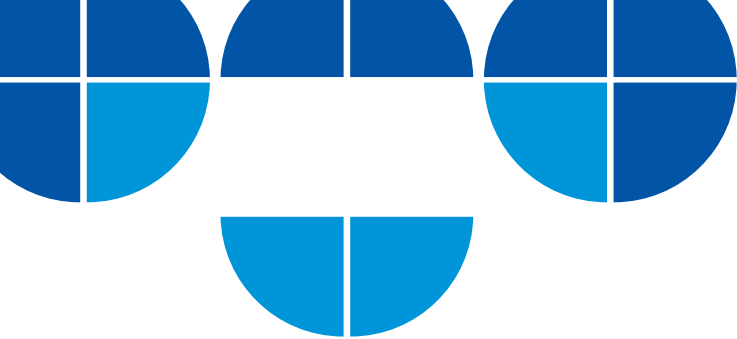
What are large language models?

"Large language models (LLMs) are a category of foundation models trained on immense amounts of data making them capable of understanding and generating natural language and other types of content to perform a wide range of tasks."

IBM ⤴

A collaborative, truly global approach to train GenAI is the only way to build meaningful, purpose-led models that represent a diverse global community.

Commitments, like that of the Government of the Netherlands to contribute an additional c. €220 million in Dutch and European large language models (LLMs), are promising. But a significant investment of time, money and other resources across the planet is required to create AI that is truly global in its construction, learning and outlook.

"…at present, the Netherlands is largely dependent on language models from non-European countries, which could negatively affect the country's innovative position, and the long-term earning capacity of the Netherlands."

Government of the Netherlands ⤴

Meaning-making

There is perhaps no better example of this than in the field of ethics.

In 2023, concepts of ethical AI centred around safety — that is, what it means for AI to be a safe and positive force for good in society. Unfortunately, and reflecting the concerns about LLMs above, the global community realised in 2024 that 'safe' did not mean the same thing to every nation.

Regulators have begun the process to define a new taxonomy. This would cover a wide range of terms, including what safety means in Germany versus what it means in the US, for example. It is a crucial area of focus, reflected by its place on the agenda of the next AI Action Summit, which will take place in France in 2025.

Beyond safety, stakeholders have begun to consider the concept of 'trustworthiness' (something also pertinent to this addendum's section on 'certification' below). In essence, this debate asks whether users can trust this new, evolving technology: if one builds and embeds generative AI, is it going to work for, or against them?

The global community may be some way away from a definitive answer to such questions. But every conversation, every consideration, deepens and enriches shared understanding of how to build AI models with integrity.

"On the political stage, we have begun to see how AI has either allowed, or propagated misinformation in incredibly powerful and unpredictable ways. If AI models can be used to create convincing, fake information that changes political behaviour, what could the same technology do in your business sector?"
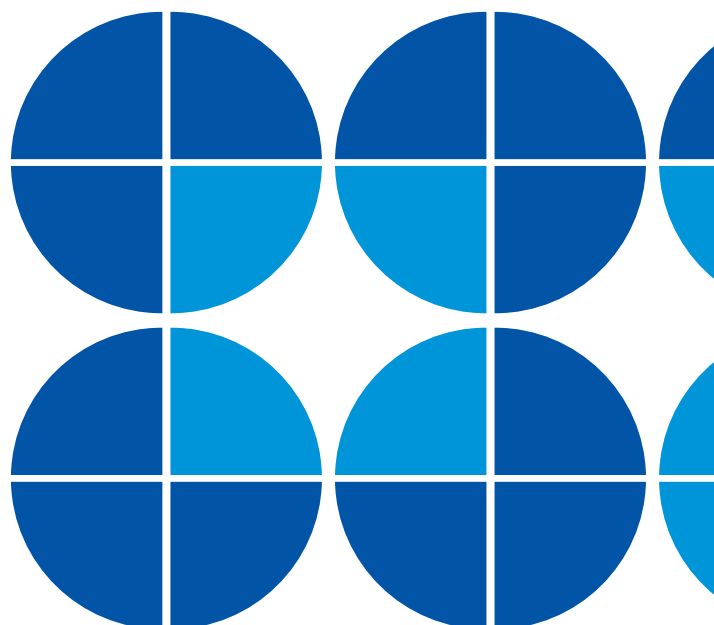
Inma Martinez, AI expert

"Political deepfakes are already affecting elections across the world…"

AI Index Report 2024, Stanford University ⧉

LEADING ROLE FOR THE UK

The US and China have led the world in terms of research and development budgets, including investment in the development of GenAI models, with private investment of €67.2 billion and €7.8 billion in 2023, respectively.* But there is still much work to be done, and many opportunities to influence, shape and lead the development of the evolving AI landscape.

At a global level, the AI Summit and actions from organisations like the Council of Europe, have continued to improve collaboration, build consensus and encourage engagement and shared accountability. Important roles could be played by governments and business leaders too.

*Source: AI Index Report 2024, Stanford University ⬀

UK: a global lead on AI

To date, the UK has taken a proactive stance on AI-development, seeing it as a lever for economic development and a support to public sector services in areas such as healthcare and transport. At the same time, it has long been recognised as a country that tries to strike the right balance between opportunity and risk.

This approach has emphasised the importance of fostering an environment where AI can be developed but also where it can be strategically organised and audited. Rather than being dissuaded by the potential risks, the UK has advocated taking a risk-informed approach to harnessing opportunities.

The way government has formulated, and continues to formulate, clear targets and mandates shows the benefits of a pro-innovation approach in this crucial area.

Through pioneering institutions like the AI Safety Institute (AISA), which is expanding to open its first international office in San Francisco and forming partnerships with like-minded organisations, it is championing research and building infrastructure to test the safety of advanced AI and measure its impact on people and society.

"Becoming a global leader in AI means understanding it has to be human-centric: it has to be safe, and it has to be innovative, but it must also reinforce individual, national and global concepts of purpose."

Inma Martinez, AI expert

"Previous and current UK governments estimate the value of the UK market to be around $21 billion today, with an anticipated increase to more than $1 trillion by 2035."

US International Trade Administration, "United Kingdom Artificial Intelligence Market 2023" ↗

Working with the wider research community, AI developers and other governments, its aim is to affect how AI is developed and to shape global policymaking on this issue (Source: The AI Safety Institute ↗).

The UK has a unique opportunity to build these theoretical and practical leadership platforms and carve out a role in thought leadership and as a global arbitrator — as it has done with other transformational innovations in both internet adoption across government, society and businesses, and advances in AI, for example the development of deep learning and networks. At the same time, efforts to ensure it creates an innovative national AI sector that clearly understands the nuances, risks and opportunities, could pay dividends.
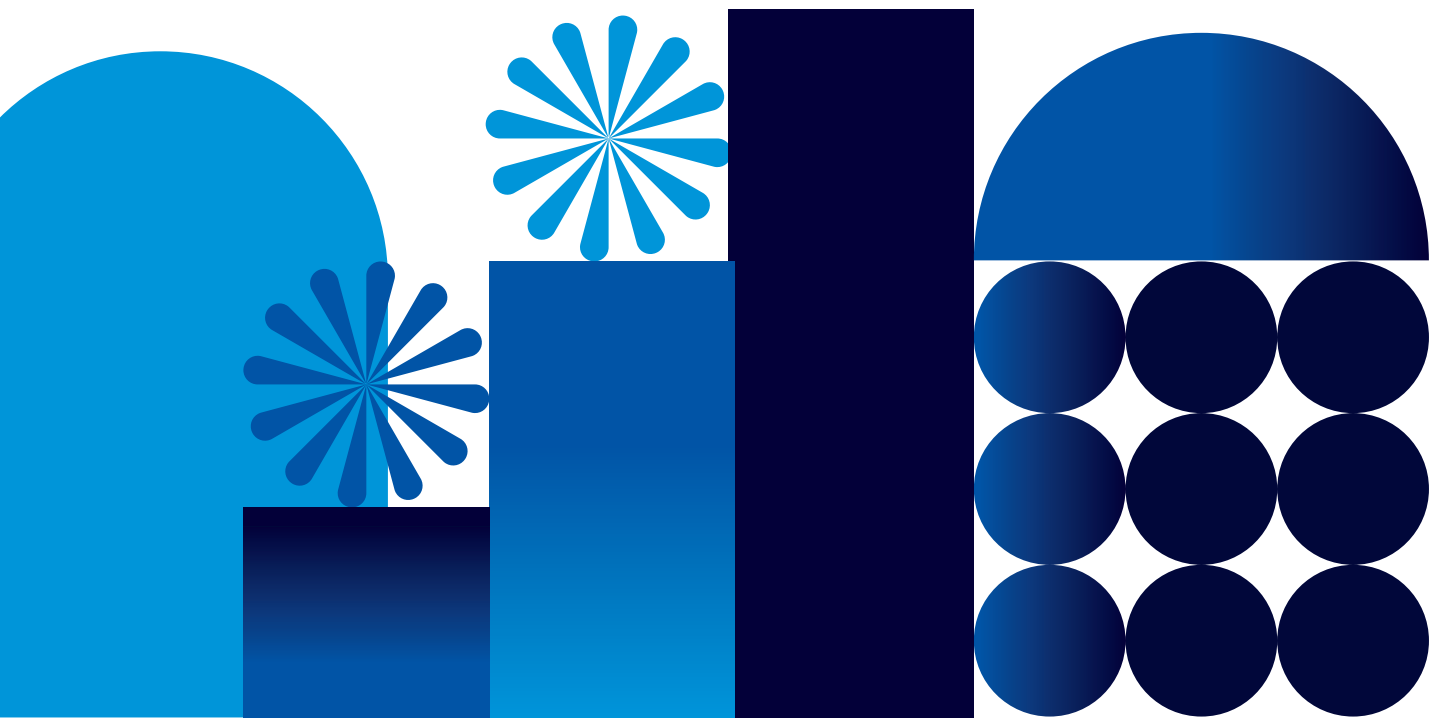
Certification not regulation

For business and industry, future risk focus will be about certifying AI. Just as you wouldn't buy a pharmaceutical product that was not approved by the relevant medical bodies, AI platforms should be certified so that every leading company in the world will be able to purchase and build on them with confidence — because if an AI tool is giving businesses answers that are not correct, then the technology is potentially creating a systemic and lasting business risk.

Certification work will be key to answering whether the outputs provided by generative AI are correct. To achieve this, AI companies will increasingly need to prove exactly how they have obtained their data, the origin of the data and how the data has been divided into testing and training functions.

> "AI is going down the path that other innovative technologies in the sciences and engineering have gone down: certification."
>
> **Inma Martinez, AI expert**

As the UK does not have a central AI regulator, government has relied on sector-specific regulations, paving the way for a potential regulatory environment that will evolve with its respective industry. In the AI world, this has been referred to as a "vertical approach to AI regulation". Experts around the globe have applauded this very sensible approach — it is not unduly stringent, and provides the bespoke knowledge and flexibility to accommodate innovation.

During 2024, the UK took the lead in key areas. For example, it analysed all the outputs in models in AISA and proved 'mechanistic interpretability', which refers to the study of neural networks to explain the inner workings of machine-learned models. In its expansion of organisations like AISI, and the development of international partnerships with like-minded organisations, the UK can position itself at the vanguard of developments in this crucial field.

In August 2024, a Californian federal judge ruled that a class action suit by a group of visual artists, claiming a number of companies used their copyrighted images to train their AI models without permission can proceed.

This case is going to trial, and the ruling will likely change the foundations of AI discussions as we know them.

Source: Computerworld ⬀

ECONOMIC AND SOCIETAL BENEFITS

The UK was a pioneer when it came to demonstrating what the internet could do for humankind. It was the most digitised country in the world at the start of the century. Yet, recent developments in AI may have been considered too cerebral, too theoretical, or too philosophical to be applied to UK plc.

In fact, as a thriving digital nation, everything the country has learned stands its business decision-makers in good stead to support a national drive to lead global AI transformation for the benefit of all.

What next for UK plc?

There are already areas of business strategy and operations — from supply chain to customer service — that AI can and does support. The automotive industry, for example, has deployed AI for years to manage everything from the supply chain, to the production line and the electrical systems within the engine that ensure driving safety.

"Work is not just about going to a place 9am to 5pm and performing rote tasks — it's about how I prove my intelligence , how I can support myself or my family, and it gives my life meaning."

Inma Martinez, AI expert

In future, the application of AI in the workplace will shift to look at how it can impact culture, discretionary effort, and purpose. This brings with it challenging, existential questions. In a world where super-intelligent machines deal with certain aspects of thinking and decision-making, what is left for humans to do? Will they champion emotional and social aspects of work? Will such a contribution continue to be valuable?

ASKING OURSELVES THE BIG QUESTIONS...

Why do people come to our company and work? Where are we going to find that uplift, that purpose for coming to work?

How can AI support and augment human creativity and the pursuit of purpose? And how can AI help my company nurture talent and hold on to our best people?

Honest, open engagement with these and other questions could present a real opportunity to improve the working environment and bring people and technology together for the benefit of individuals, business and wider society.

Creative solutions

One of the areas where these questions can be interrogated and have the potential to deliver significant benefits is in the UK's thriving creative industry. Here, there is a clear opportunity for business and government to align to leverage the UK's position as a powerhouse for creatives to build a global blueprint on how purpose-led, AI can work alongside creative roles to augment fundamental human drives to live and work with purpose and find real meaning in what they do.

All this will happen by working with AI, not by competing against it. If anything, the advent of technological intelligence will elevate the criticality of more 'human' aspects of intelligence — including EQ and leadership qualities.

After all, machines are servient, not sentient. It is their purpose to meet our needs. It is perhaps as important for humankind to consider how it can harness this purpose as it is to look at how this technology supports its own.

"The introduction of AI is asking us to reconsider what the purpose of work is. Work is not just labour; it is how we prove to ourselves that we contribute to the world, our wellbeing, our company and wider society."

Inma Martinez, AI expert

THE UK CREATIVE INDUSTRY
By the numbers...

£108 billion
Generated each year

2.3 million
People employed across the UK

1.5x growth
Compared to the wider UK economy

Source: UK Government

AI and the NHS

In 1948, the UK led the world with the creation of a free national health service. In the decades since, it has pioneered exploration of what the internet can do for its citizens. Now, as an organisation that seeks to navigate around 1.6 million patient interactions every day (Source: NHS Confederation ⬀), the NHS has a unique opportunity to bring those two legacies together at unprecedented scale.

Deploying AI in the NHS based on huge stores of patients' data could offer transformative experiences that support best practice. For example, data (including scans and other visual data from its radiologists) could be gathered to build up a ready-trained open-source model for the entire NHS, not just one hospital or trust. That can help put NHS employees across the UK in a fantastic position to benefit from AI in detecting chronic illnesses earlier, improving patient outcomes.

> "…an AI in health care strategy must be developed under the guiding principle of responsibility to ensure the use of AI by the health service is not only legal and ethical but also works for the greater social good."
>
> **"Priorities for an AI in health," The Health Foundation. ⬀**

These targeted applications of AI technology not only support the NHS's longer-term aim of excellent safety outcomes, but also a range of additional factors, including patient experience and the unique role the NHS plays in UK society. By deploying AI to triage injuries and illnesses and ensure only those who need treatment access services, the NHS could reduce waiting times, allowing practitioners — the backbone of the service — to expend their efforts where they are needed most.

CONCLUSION

The original *Rising Above The Noise* report lasered in on the built environment to conceptualise how stakeholders in the FM industry might begin to think about some of the applications of AI in their industry. This addendum has panned out to look at some of the wider, existential issues that continue to confound some of the best minds in industry, regulation and government.

The potential applications of artificial intelligence across every aspect of human life are profound and transformational. Truly strategic thinking recognises this potential is there to be harnessed in ways that can enhance our lived experiences — as individuals, as colleagues and as citizens.

This moment of reflection is an opportunity for constructive engagement to ensure that AI models are developed with integrity, an inclusive world view, and a purpose that supports something as fundamental as humankind's raison d'être. Whatever form it takes, AI will play a part — a significant part — in every sphere of human existence. This addendum advocates continued participation, engagement and collaboration in this most important of areas.

"The mystery of human existence lies not in just staying alive, but in finding something to live for."

Fyodor Dostoyevsky

ABOUT ISS

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