![Creative ITC logo]

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MULTI AWARD WINNING
CLOUD SERVICES PROVIDER

AEC TECHNOLOGY TRENDS & INNOVATION

Post Meeting Report

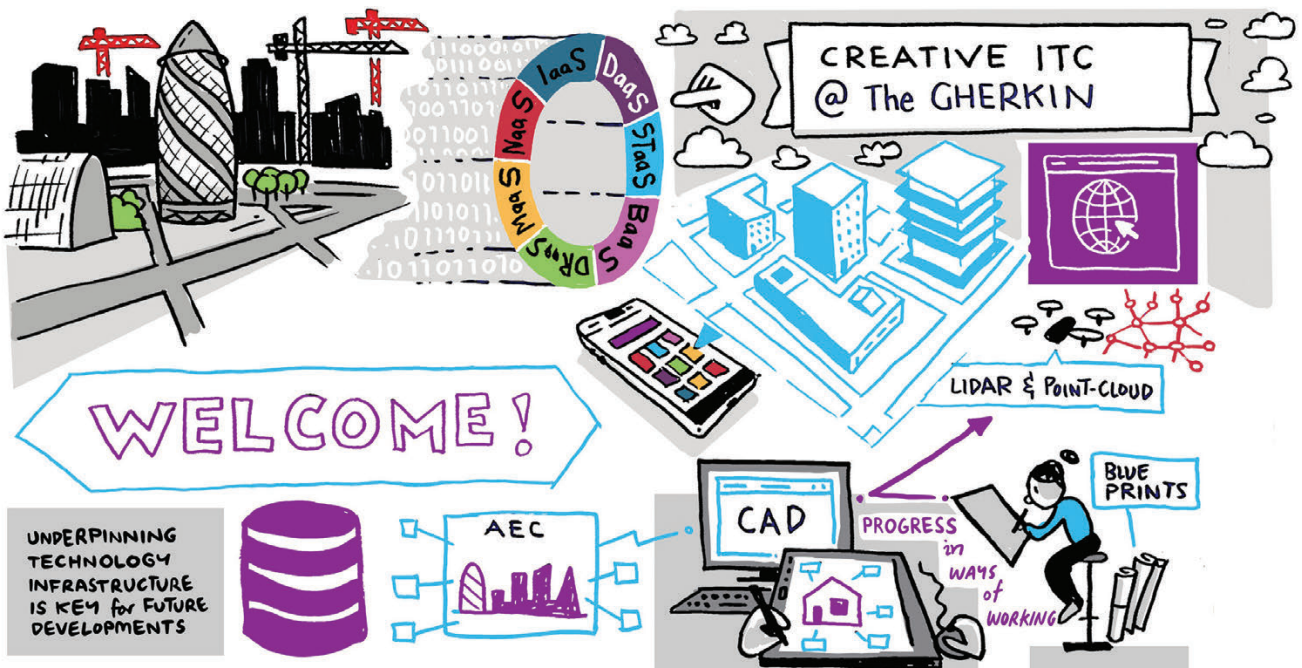# Greater competition in a disruptive battleground

The extent and pace at which AEC firms innovate determines their competitive strength.

Emerging technologies are driving greater efficiency in construction processes and helping architects, engineers and designers keep abreast of advanced workflows. For those who can harness their potential collaborative design, advanced visualisation, artificial intelligence (AI) and augmented reality (AR) are set to transform the industry.

Fittingly overlooking the London skyline in the cloud-like setting of The Gherkin, this year's event tackled issues head-on with real-life experiences from AEC leaders and IT experts. Read on to get the full inside track.
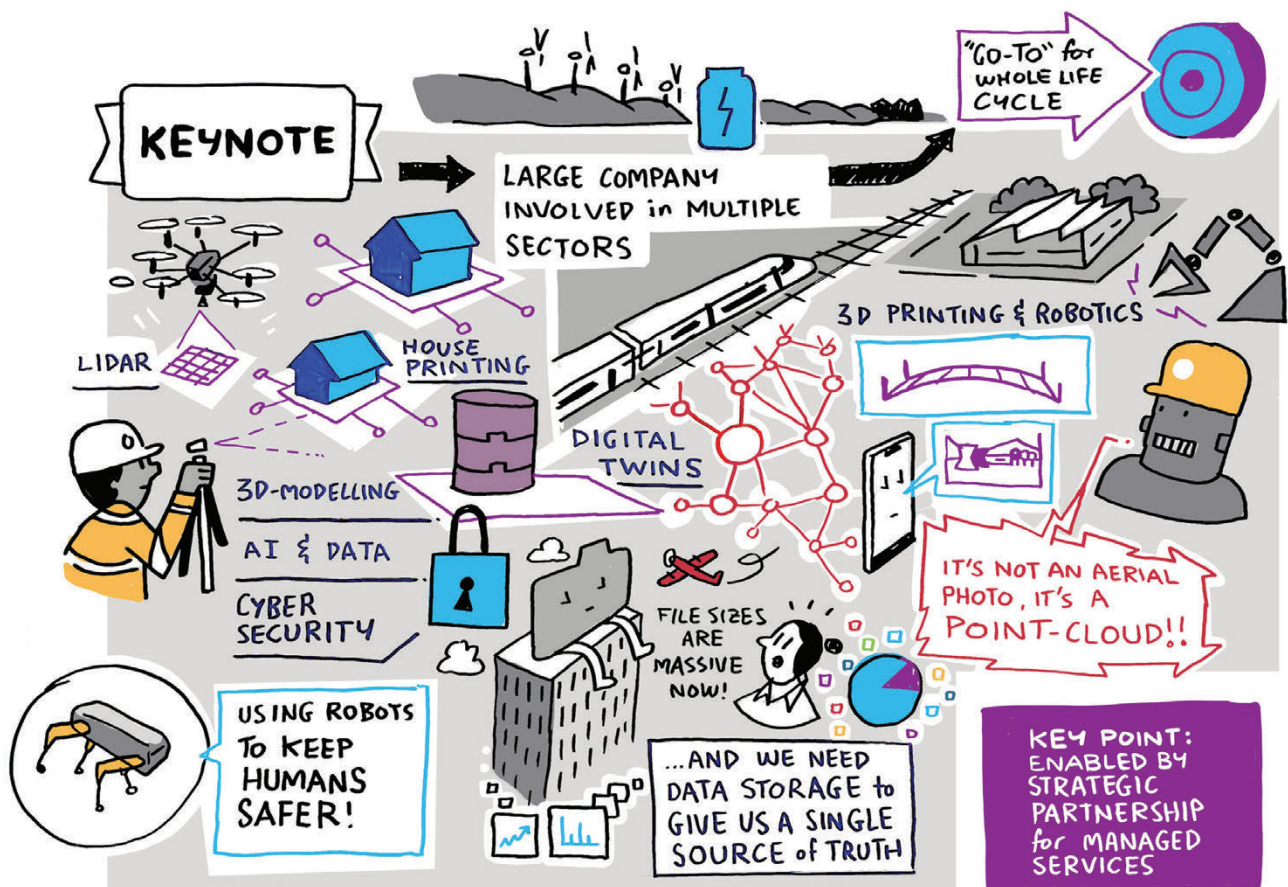
In 2022, as global IT spend passes £12 billion, hot technologies and use cases are emerging

The first guest speaker described the realities of being a global CIO in a rapidly-expanding construction firm shifting to a full engineering, design, and technology practice. Their digital strategy has four distinct pillars: data collection, engineering, site delivery, and operations and management. Complemented by drone aerial data capture, 3D laser scanning and photogrammetry, digital twin modelling, and robotic operations – all of which is additional to keeping the lights on and managing M&A integration projects.

INSIGHT

**Among the game-changing use cases launched,
or being developed were:**

Laser cutting to safely dismantle and store plutonium
waste materials

Robots travelling around nuclear plants taking
radiation readings (reducing the risk of suit rips and
staff being off work for up to 10 weeks)

Digital twin visualisation platforms to aggregate data
and increase its value to support the whole project
lifecycle (from design through to decommissioning)

Immersive virtual reality visualisation enhancing
engineering design, delivery and operations by
providing spatial context to data and assets

The arrival of
as-a-service models

Being a top AEC innovator requires the capacity and flexibility to process high data volumes, while avoiding the need to own and maintain massive on-prem IT resources that sit idle throughout quiet periods.

INSIGHT

Data's exploding everywhere. 85% is never looked at after six months but it's still kept. Most BIM models are now between 2.5GB and 10GB in size. Trying to scale IT (networks, servers, storage, security, disaster recovery, and so on) using the old build and buy approach is exhausting and, frankly, no longer sustainable.
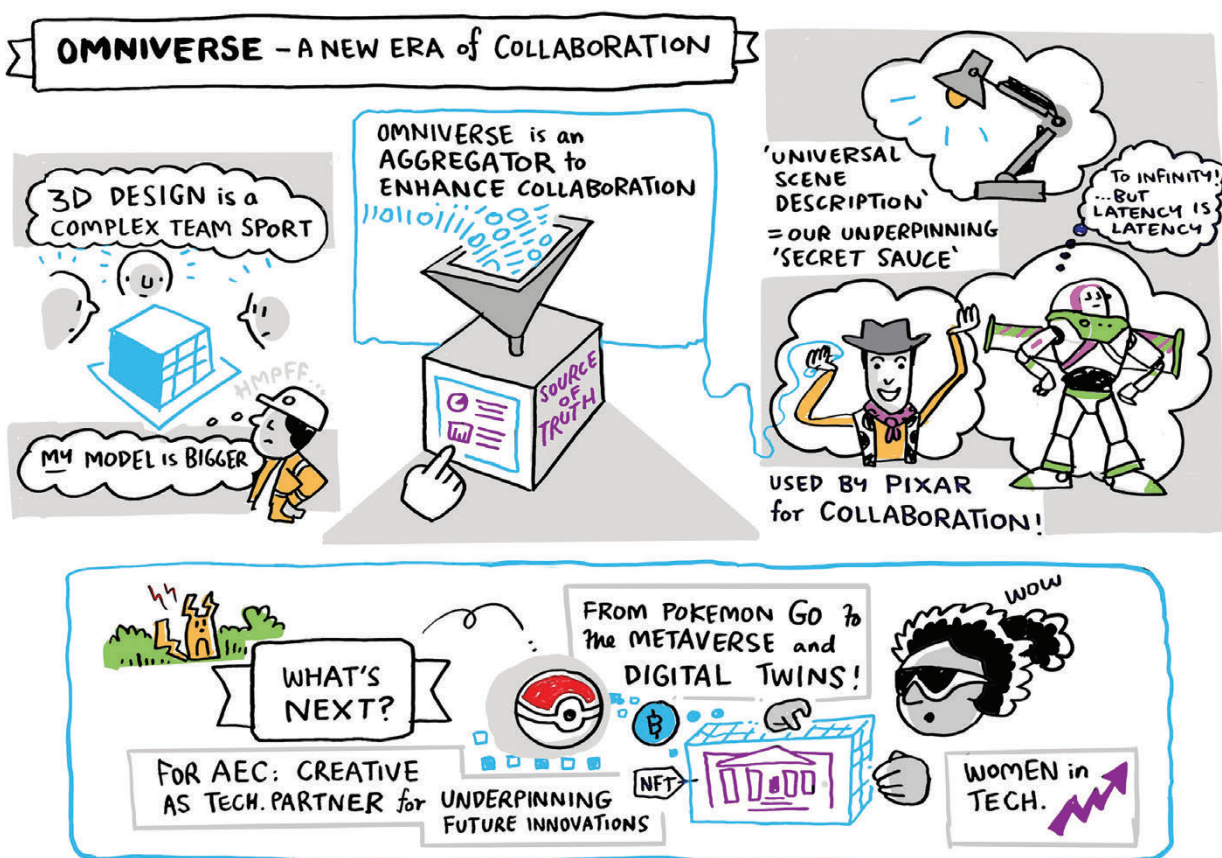
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As a result, many AEC firms are turning to Infrastructure-as-a-Service models. In an industry playing revenue catch-up and operating on thin margins, IT savings on networks, data centre space, licensing, support, and headcount also offer a welcome balance sheet boost.

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Infrastructure-as-a-Service models provide the missing piece – an affordable digital-ready IT foundation that allows AEC firms to tackle capacity problem with agility while passing hardware costs and upgrade burdens to a managed service provider.

AEC is a complex team sport with linear processes and apps that don't always play nicely together

Design workflows still involve tedious data import and export. Once again, adding to IT workloads and increasing the need for open APIs and solutions like Nvidia Omniverse for 3D design simulation and collaboration.

Built on Pixar Universal Scene Descriptor, Omniverse is in effect the HTML of 3D worlds. Its open-source 3D scene description and file framework simplifies content creation pipelines and the interchange of assets between different industry software tools that huge teams would work across.

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Nvidia Omniverse is becoming widely adopted across all visual industries, including architecture and engineering, manufacturing, product design, and robotics.
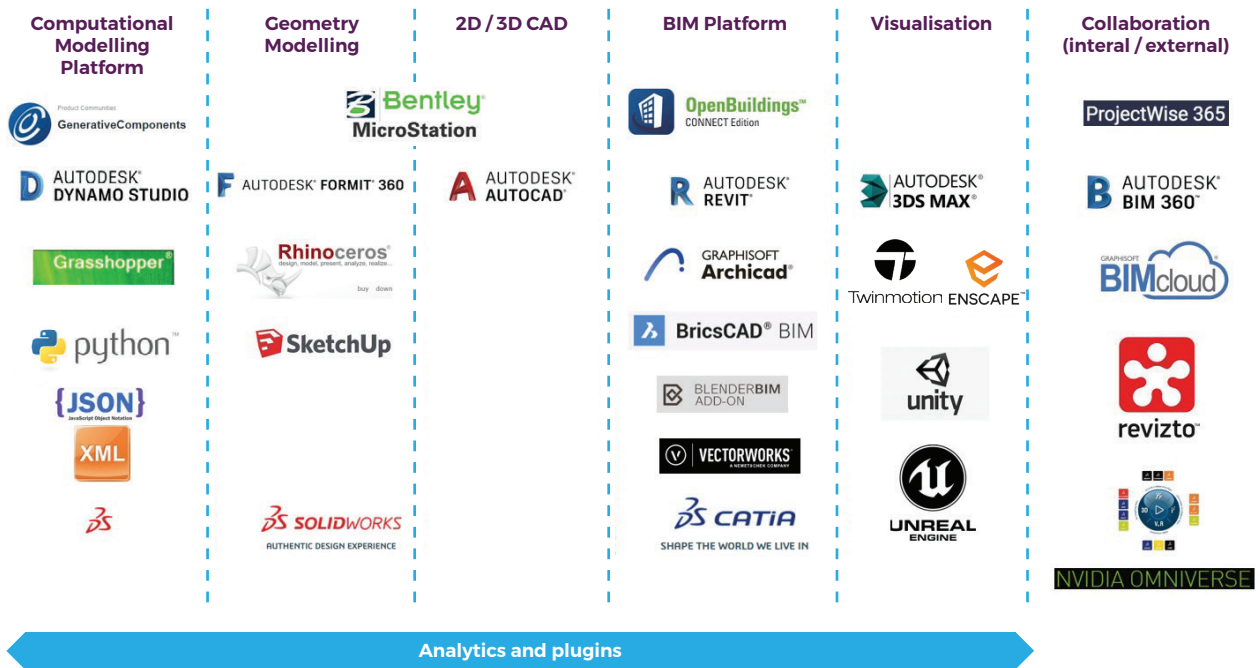
Practical steps
with due diligence

These practical coalface experiences were underlined by our next speaker, a former AEC company partner and successful architect, now regularly engaged as a respected industry consultant.

IT had emerged from the pandemic with more credibility at board level with the CIO being seen as a business partner driving culture change. Yet, greater leadership and governance was needed to address supply chain failures and increasing political and geo uncertainty. That was also pertinent when it came to trying to police and standardise AEC solutions, which are proliferating at pace as illustrated.

Over the last five years the growth in AEC applications, file sizes and software requirements has accelerated dramatically. BIM modelling is a classic case in point. These trends show no signs of abating and are set to continue over the next five years, adding further stress and strain to firm's supporting desktop and IT infrastructures.

Digital solution examples… and that's just for design

Computational Modelling Platform	Geometry Modelling	2D / 3D CAD	BIM Platform	Visualisation	Collaboration (interal / external)

Analytics and plugins

Similarly, in today's digital AEC firm quality assurance and information systems should become the go-to place for extracting best practice, rather than a tick-box exercise.

Maximising AEC innovation means identifying promising ideas and quickly scaling projects
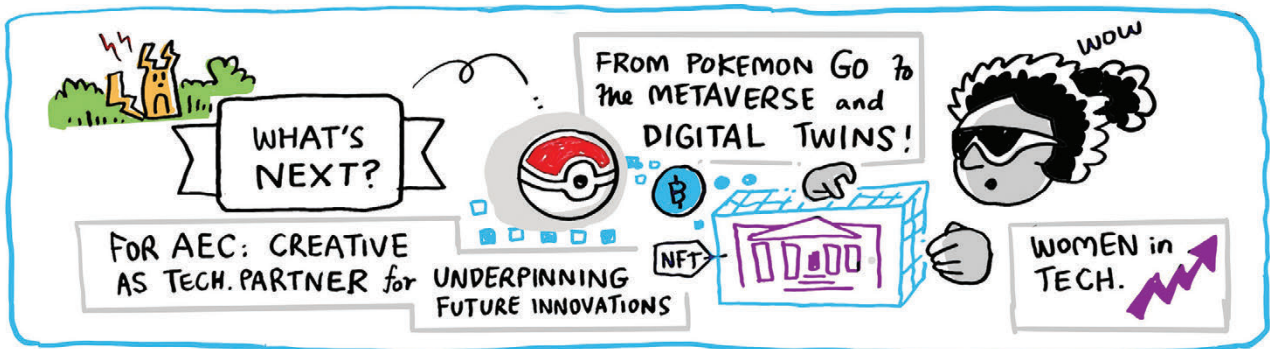
Executing swiftly means delivering all the power and integrated data services that the business needs, from proof of concept to pilot to production. However, without the right IT infrastructure these projects face a much higher risk for failure. Poor user experiences and sub-optimal collaboration soon follow.

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Choosing the best emerging tech is only part of the puzzle. Much of that effort and investment will be wasted if you don't have a solid or a managed services mindset. It's also about using existing tech better.

Looking from outside in while staying close to AEC

Creative ITC is proud to work with 60% of the top ten UK architects and three of the largest construction companies in the world. At the helm, chairperson Eamon Murchan and MD Keith Ali both bring vast experience gained from senior roles within AEC. Likewise, many of our engineers have worked client-side as buyers of IT services. Drawing on recent customer engagements, CTO, Rob Smith, explained how Creative continues to closely align its technology vision to AEC trends and newly-surfacing needs.

Over the last 12 months Creative further expanded its managed services portfolio, helping AEC customers plug skill, knowledge, and capability gaps. While also continuing to attract and retain top industry talent.

Creative strengthened its award-winning technical support team, increasing overall headcount by 22%. One in three employees are women, significantly higher than the industry average.

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Five more data centres were opened in Toronto, Calgary, Denver, Boston, and Singapore – moving Creative cloud services even closer to its AEC clients' international offices.

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Having full end-to-end expertise makes a difference – from devices, connectivity and cloud to storage, security, and the user experience. Creative engineers have the deepest understanding of virtualisation and legacy infrastructure issues. So, when it comes to delivering AEC projects, we know how to get the best out of emerging techs and maximise business outcomes.

INSIGHT

Creative was the first cloud provider in the UK to be awarded all seven VMware Master Services Competencies, joining only a handful of elite partners worldwide to earn that distinction.

To discuss these topics or support for AEC digital projects further, please contact:

hello@creative-itc.com