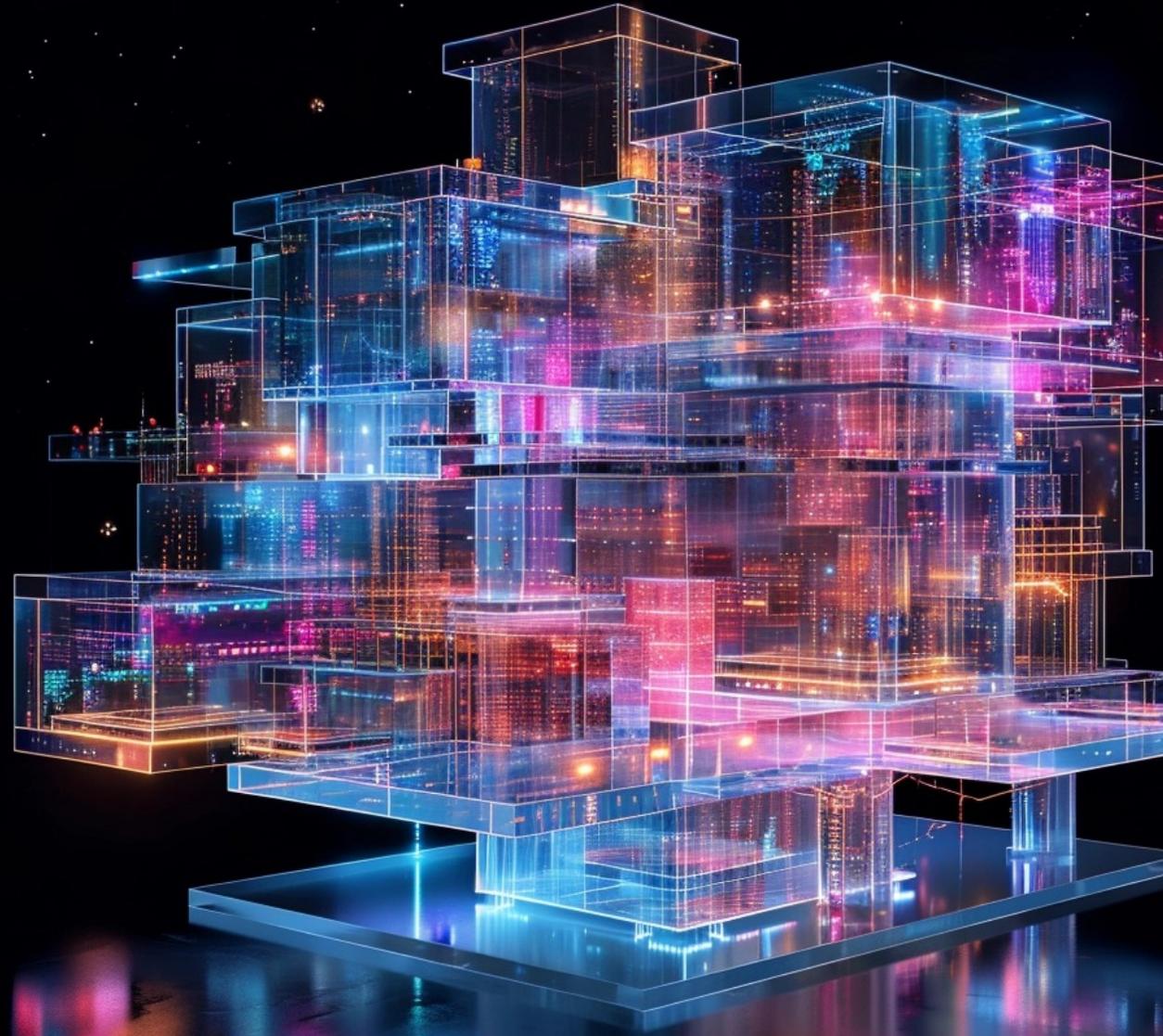


APRIL 2024

The disruptive impact of Generative AI on the AEC industry

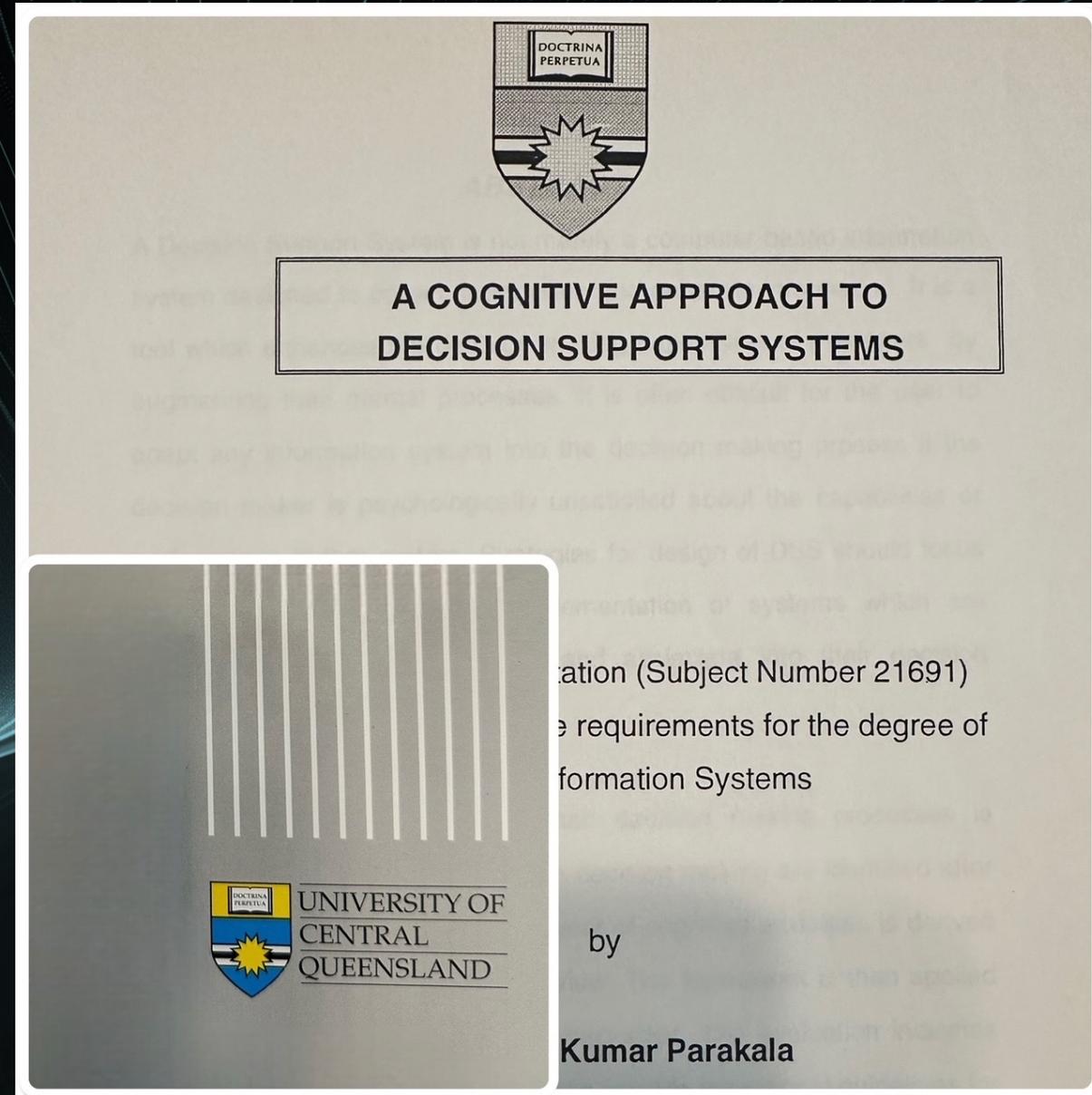
KUMAR R PARAKALA
PRESIDENT, GHD DIGITAL



The evolution of AI



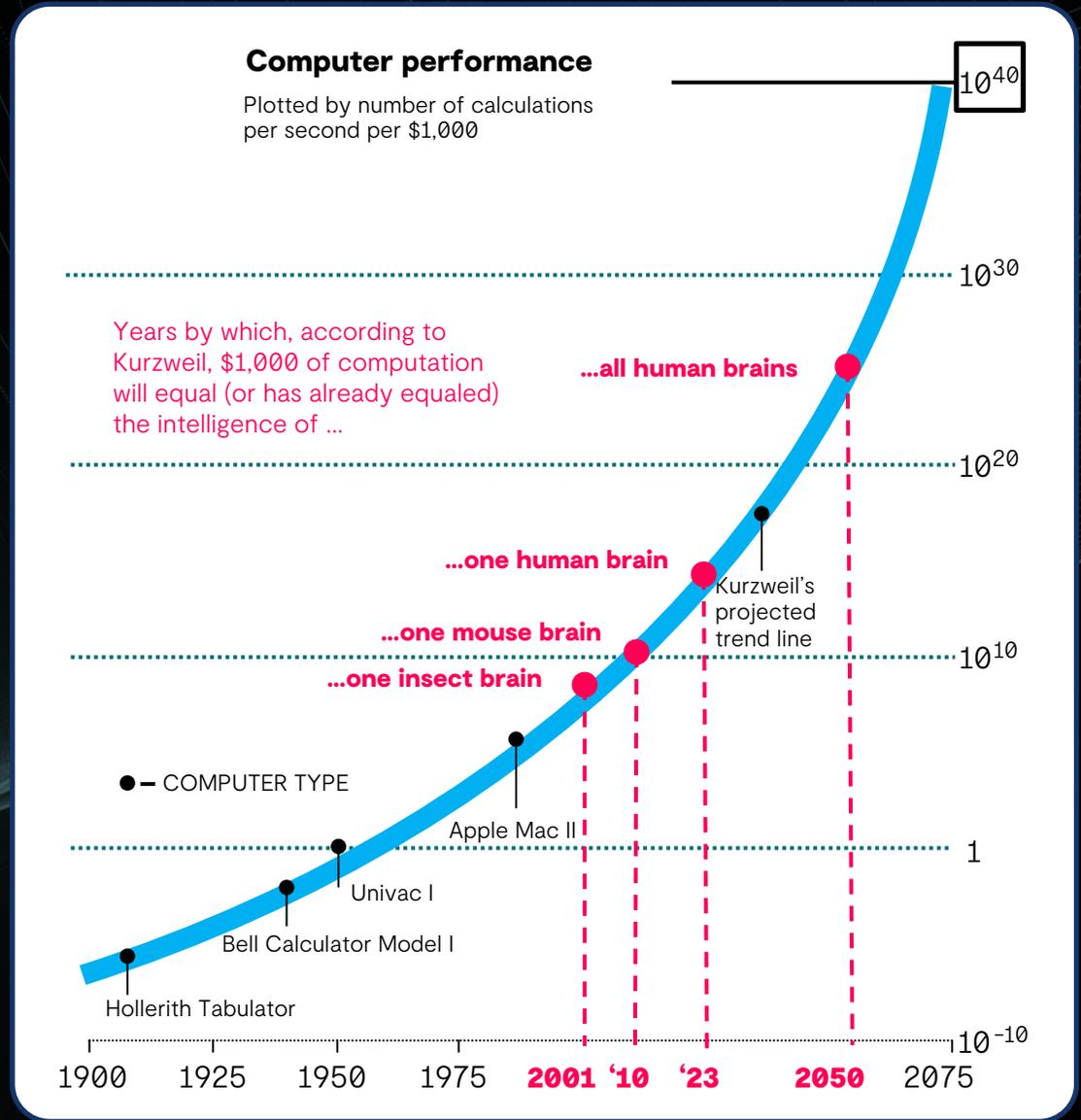
Cognitive Science and Computer Science



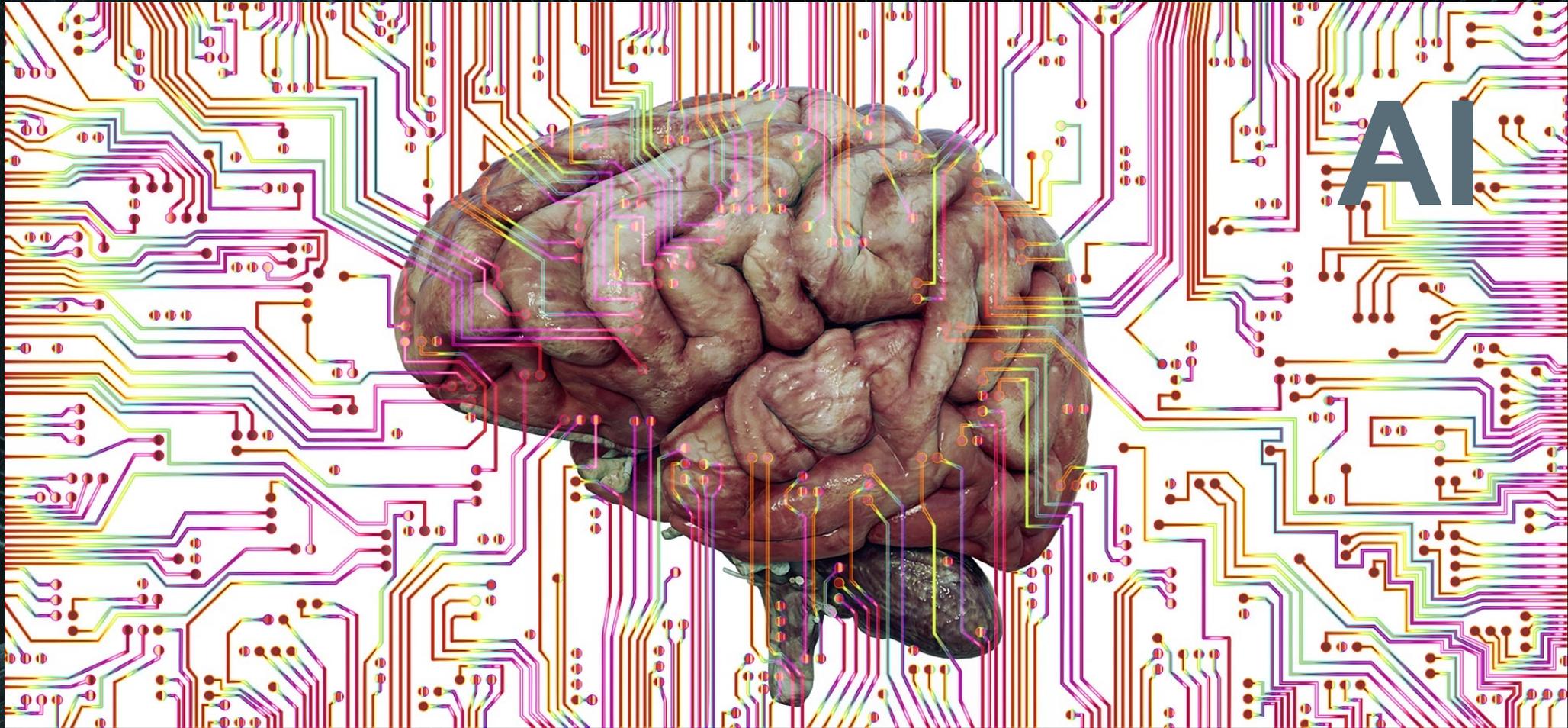
Technology acceleration curve

THE KURZWEIL CURVE

Moore's Law is just the beginning. The power of technology will keep growing exponentially, says Kurzweil. By 2050, you'll be able to buy a device with the computational capacity of all mankind for the price of a nice refrigerator today.



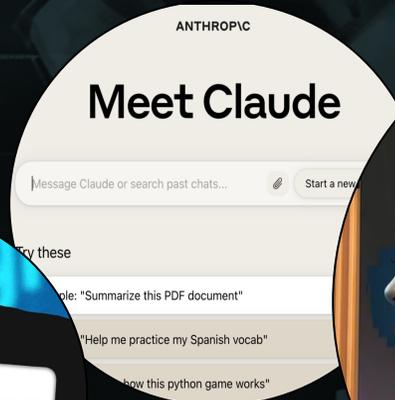
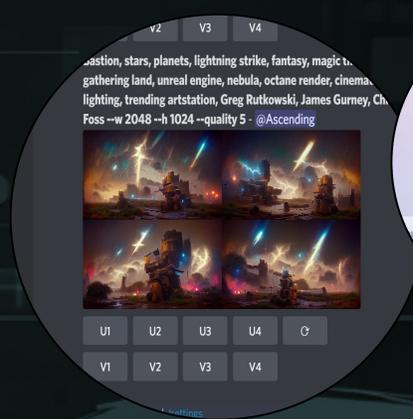
From human intelligence to AI

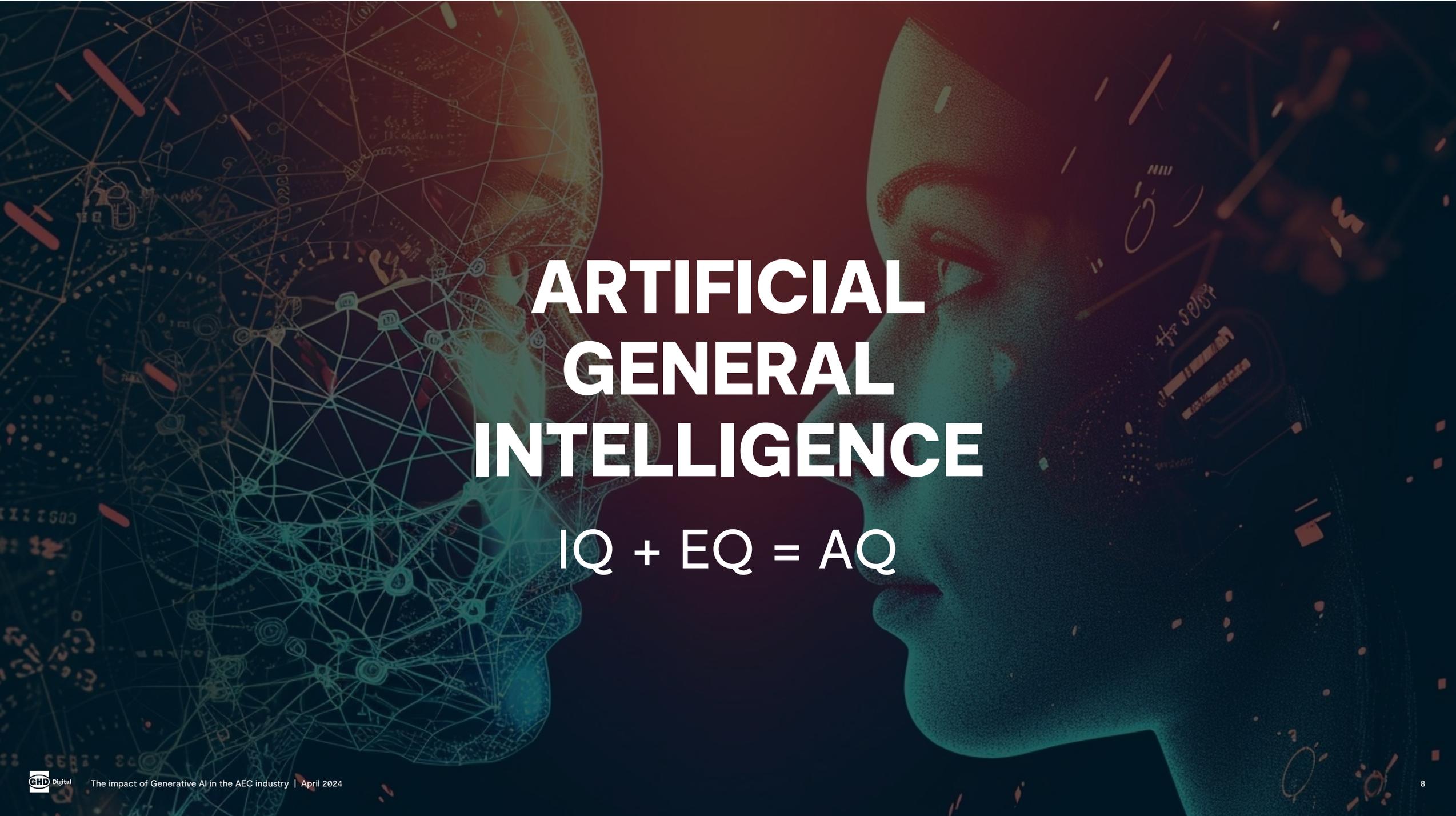


Unforeseen advancements



Gen AI models have taken the world by storm

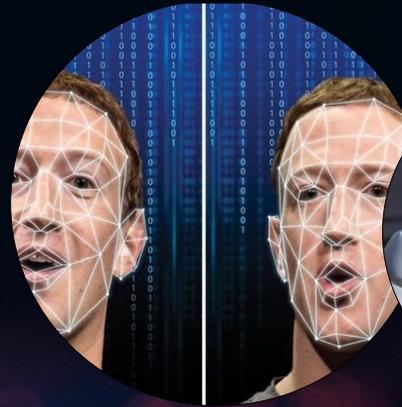




ARTIFICIAL GENERAL INTELLIGENCE

$IQ + EQ = AQ$

Future implications of AI



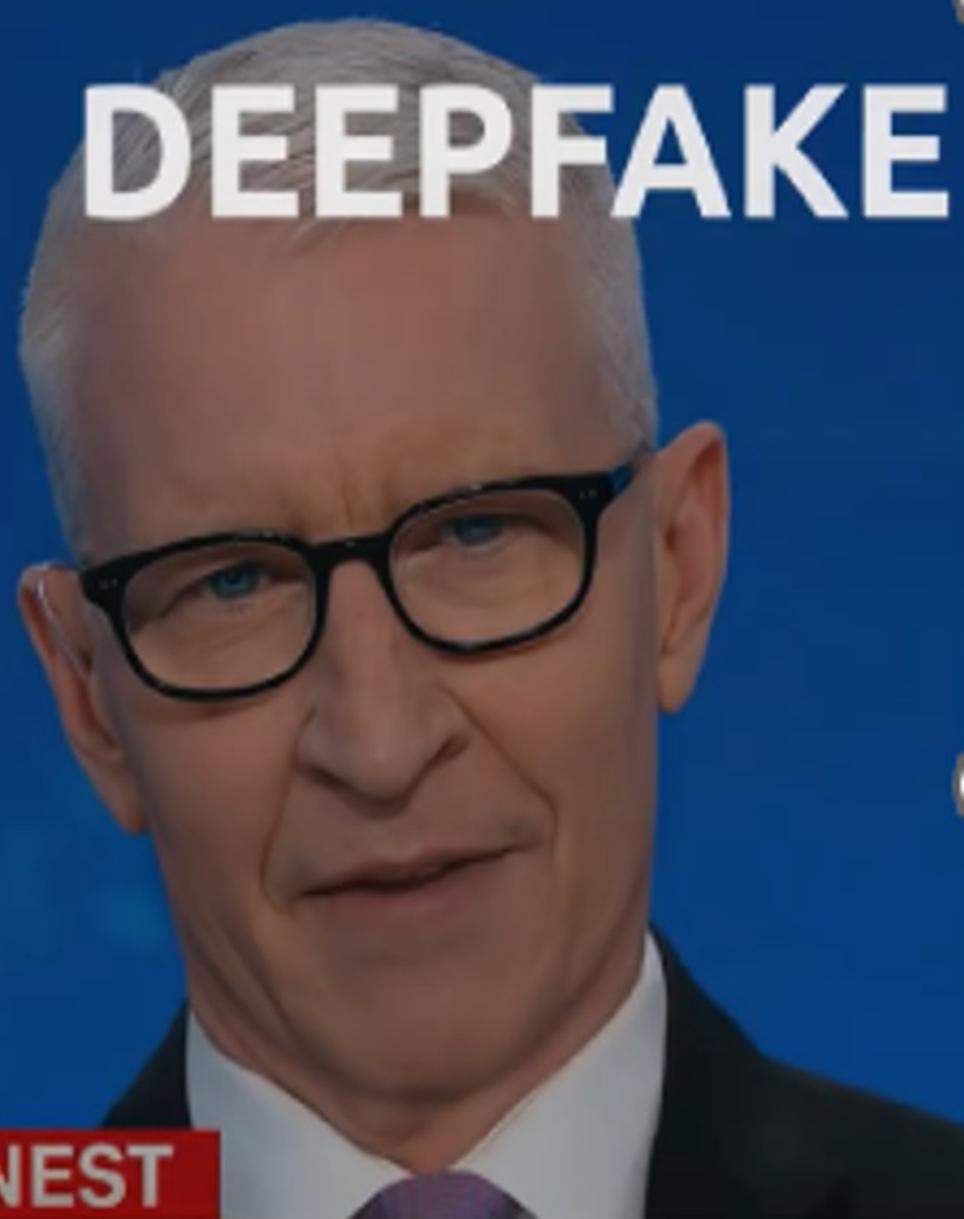
ORIGINAL



EM HONEST

Y *THIS* ONE

DEEPFAKE



EM HONEST

Y *THIS* ONE

The Future of Life Institute

Pause Giant AI Experiments: An Open Letter

We call on all AI labs to immediately pause for at least 6 months the training of AI systems more powerful than GPT-4.

[View this open letter online.](#)

Published	PDF created	Signatures
March 22, 2023	May 5, 2023	27565

AI systems with human-competitive intelligence can pose profound risks to society and humanity, as shown by extensive research¹ and acknowledged by top AI labs.² As stated in the widely-endorsed [Asilomar AI Principles](#), *Advanced AI could represent a profound change in the history of life on Earth, and should be planned for and managed with commensurate care and resources.* Unfortunately, this level of planning and management is not happening, even though recent months have seen AI labs locked in an out-of-control race to develop and deploy ever more powerful digital



Anthony Aguirre

Signatories

The below is a sample of the most prominent signatories. View the full list of signatories [here](#).

Yoshua Bengio, Founder and Scientific Director at Mila, Turing Prize winner and professor at University of Montreal

Stuart Russell, Berkeley, Professor of Computer Science, director of the Center for Intelligent Systems, and co-author of the standard textbook "Artificial Intelligence: a Modern Approach"

Bart Selman, Cornell, Professor of Computer Science, past president of AAAI

Elon Musk, CEO of SpaceX, Tesla & Twitter

Steve Wozniak, Co-founder, Apple

Yuval Noah Harari, Author and Professor, Hebrew University of Jerusalem.

Emad Mostaque, CEO, Stability AI

Andrew Yang, Forward Party, Co-Chair, Presidential Candidate 2020, NYT Bestselling Author, Presidential Ambassador of Global Entrepreneurship

John J Hopfield, Princeton University, Professor Emeritus, inventor of associative neural networks

Valerie Pisano, President & CEO, MILA

Connor Leahy, CEO, Conjecture

Jaan Tallinn, Co-Founder of Skype, Centre for the Study of Existential Risk, Future of Life Institute

Evan Sharp, Co-Founder, Pinterest

Chris Larsen, Co-Founder, Ripple

Craig Peters, Getty Images, CEO

Tom Gruber, Siri/Apple, Humanistic.AI, Co-founder, CTO, Led the team that designed Siri, co-founder of 4 companies



**Changing
available
intelligence**



**Changing
how we live
and work**

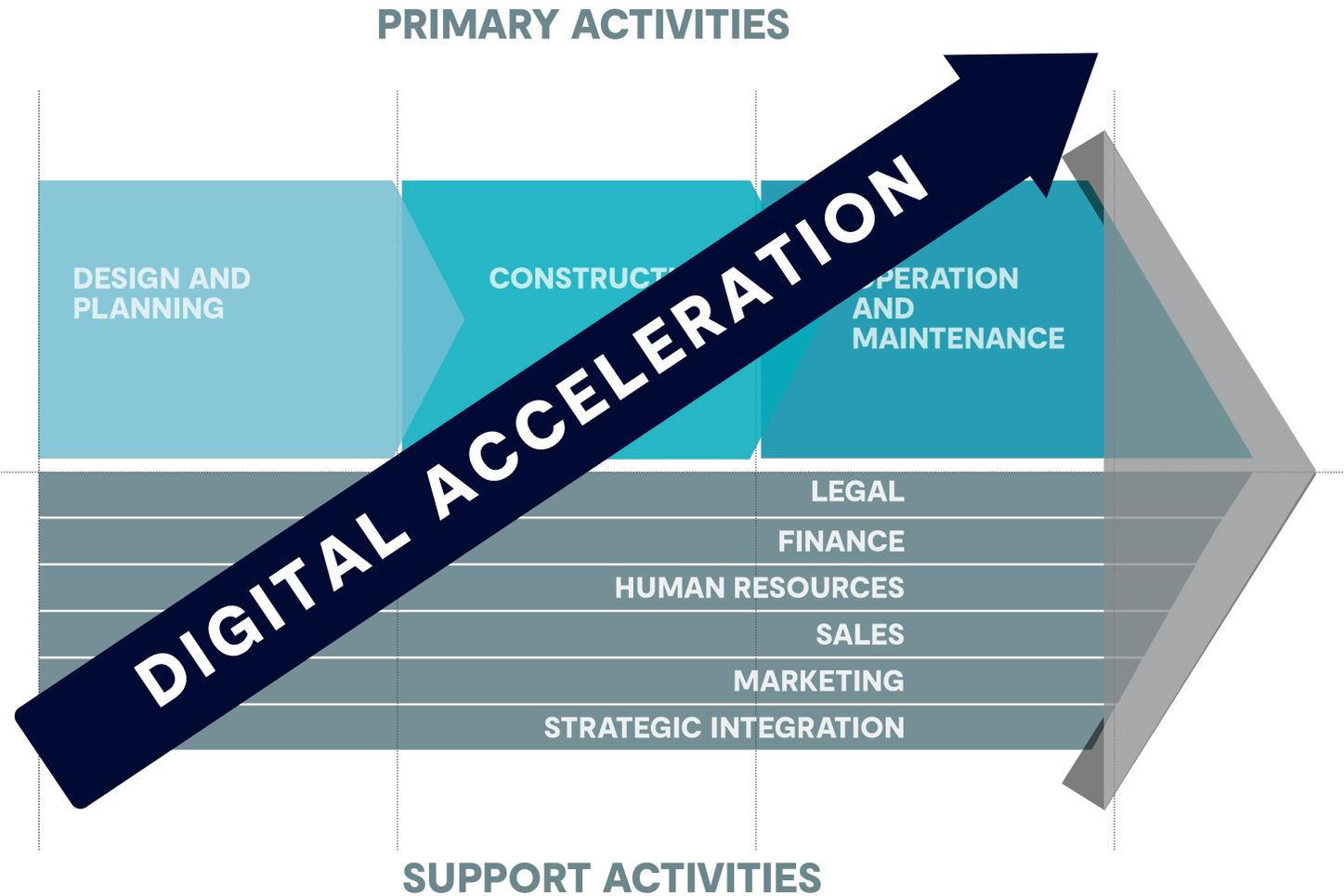


**Changes in
social
structures**

The background image shows two construction workers in profile, facing each other. They are wearing hard hats and high-visibility safety vests. They appear to be reviewing a set of blueprints or documents together. The scene is set on a construction site, with scaffolding and structural elements visible in the background. The lighting is dramatic, with a strong blue and yellow color palette. The text 'Impact on the AEC Industry' is overlaid in large, white, bold letters across the center of the image.

Impact on the AEC Industry

The current AEC value chain



Gen AI is changing the AEC industry



TIME & COST SAVINGS

01



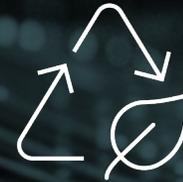
INNOVATION

02



DECISION MAKING

03



SUSTAINABILITY

04



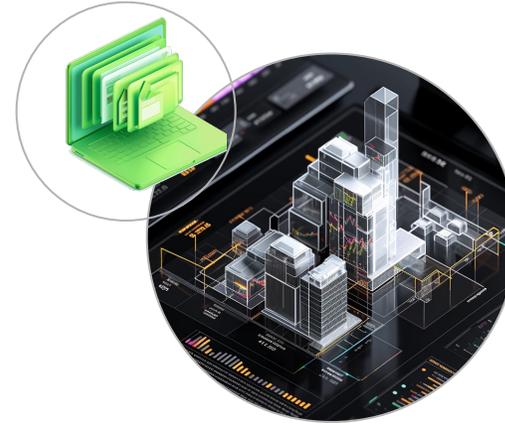
SAFETY

05

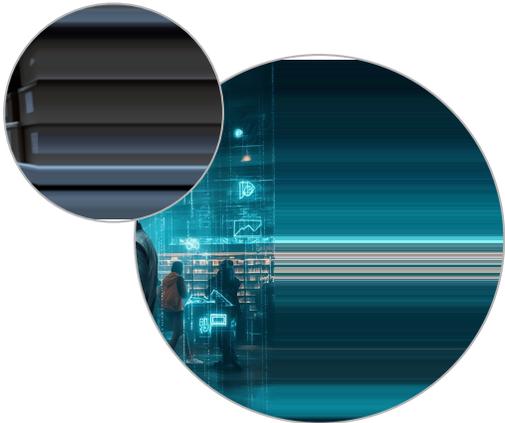
How we are utilizing Gen AI to help GHD clients



Trailblazing road safety with multiple world firsts



CitiBot: A Govstack™ customer service assistant, similar to the ChatGPT experience for government agencies



Our team have created a gen AI 'librarian' capable of processing and analyzing vast amounts of document data



Generative design takes digital urban planning to new heights near Abu Dhabi

AI-powered tools for AEC

Planning & Programming	 TESTFIT  Archistar  delve  AIRWORKS  AURIVUS
Schematic Design	 Midjourney  VERAS  ARCHITECTURES  PLANALOGIC  maket
Design Development	 HYPAR  Augmenta
Construction Documentation	 SWAPP  BLUEPRINTS ^{AI}
Bidding & Negotiation	 TOGALAI  workorder
Construction	 OPENSOURCE  Kwant  CUIPIX  nyfty.ai  SMARTVID.IO  HOLO BUILDER  CANVAS  DUSTY ROBOTICS  BUILT ROBOTICS
Post-Construction	 SightPlan  spaceti

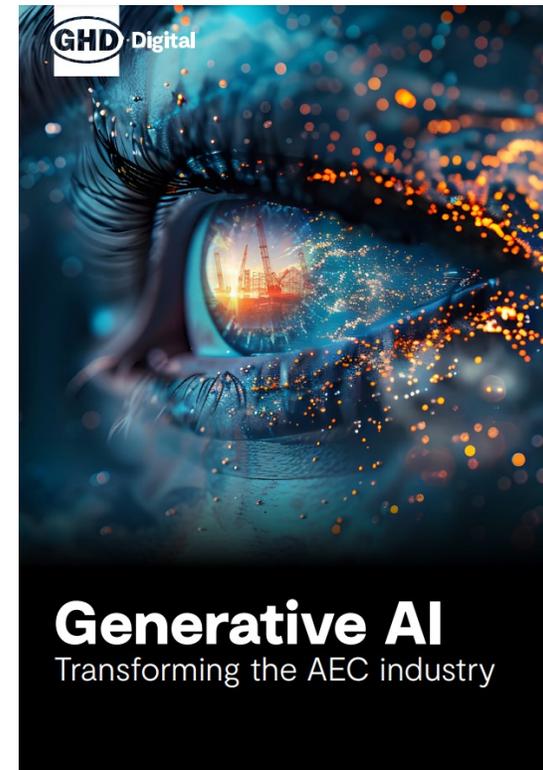
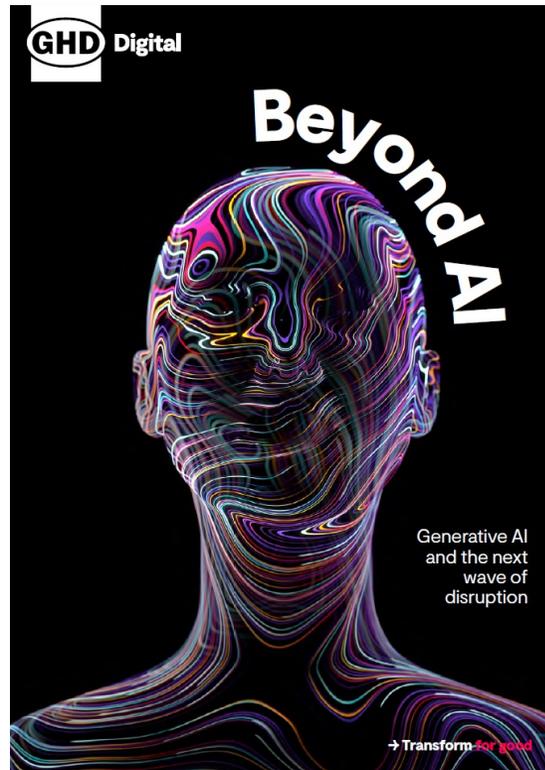
Learn more: www.aecplustech.com

The way forward

Download our thought leadership

Beyond AI: Generative AI and the next wave of disruption

A GHD DIGITAL PUBLICATION 2023



Generative AI: Transforming the AEC industry

A GHD DIGITAL PUBLICATION 2024



THANK YOU!

Kumar R Parakala

kumar.parakala@ghd.com

