

Using simulations to derisk the transition to AI data centres



Simulating for innovation with EkkoSim



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MODEL | PREDICT | DEPLOY

Things are changing faster than ever

Generative AI is changing the 'anatomy of work'*

Potential productivity benefits unlocked by Generative AI annually...

\$4.4Tn

McKinsey

Capex spending increased by Meta in last financial year with significant portion on new data centres and AI servers...

\$37Bn

Meta

NVIDIA data centre hardware year-on-year sales increase...

409%

NVIDIA

Expected growth in global data centre power requirements due to AI applications over the next three years...

50%+

NVIDIA

Potential power consumption of latest AI compute racks...

100 kW

Deloitte

Percentage of organisations requiring more AI skills in their workforce...

55%

Deloitte

* According to McKinsey

But what does all this actually mean for your centres?

What will things look like in practice?

Organisations want a piece of the AI action

Businesses looking to gain market advantage

AI coding development moving quickly

Is your infrastructure ready to support GenAI apps?

Pressure to get things right

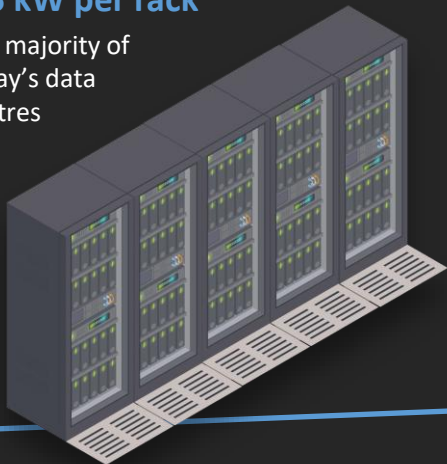
**We're all talking
about Gen AI
deployments,
but how ready
are we really?**

Data centre cooling approaches

Where workloads are now and where they're going

3-5 kW per rack

The majority of today's data centres



Workload

Growing strongly at 20% pa

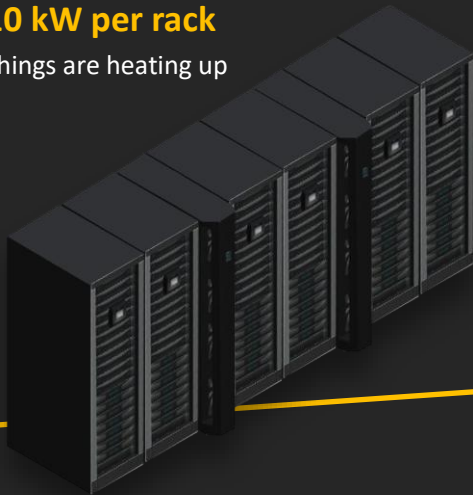


Cooling

Traditional Air Cooling

10 kW per rack

Things are heating up



Workload

High-density loads hit 10 kW per rack

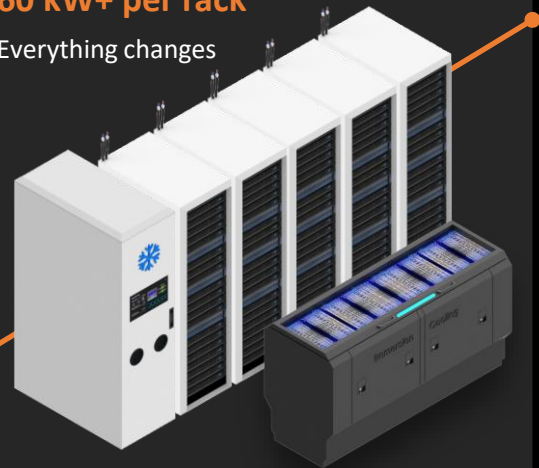


Cooling

Enhanced Air Cooling

60 kW+ per rack

Everything changes



Workload

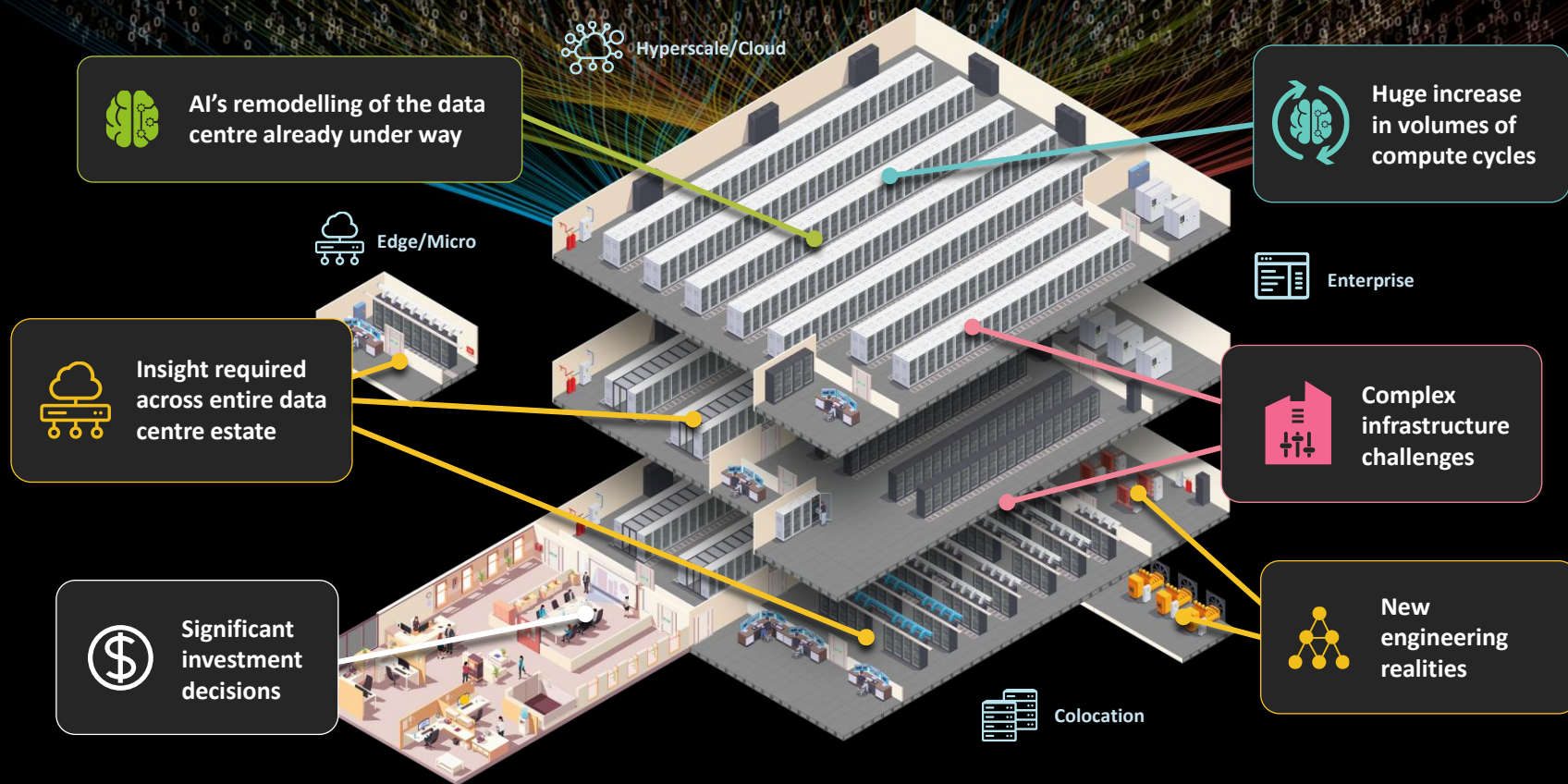
AI workloads at 60 kW+ per rack



Cooling

Liquid Cooling
Direct-to-chip
Immersion Cooling

Need for absolute real-time grey space visibility
Workloads, ESG demands, infrastructure assumptions!





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Full end-to-end data center infrastructure modelling and simulation

Some key questions

- How can I maintain optimal performance across my facilities?
- What spaces can I use for high density loads such as AI?
- What is my best cooling strategy for handling increased heat loads?
- What equipment will I need to replace? And when?
- Where are my capacity bottlenecks for increasing IT loads?
- What impact could changing environmental conditions have?

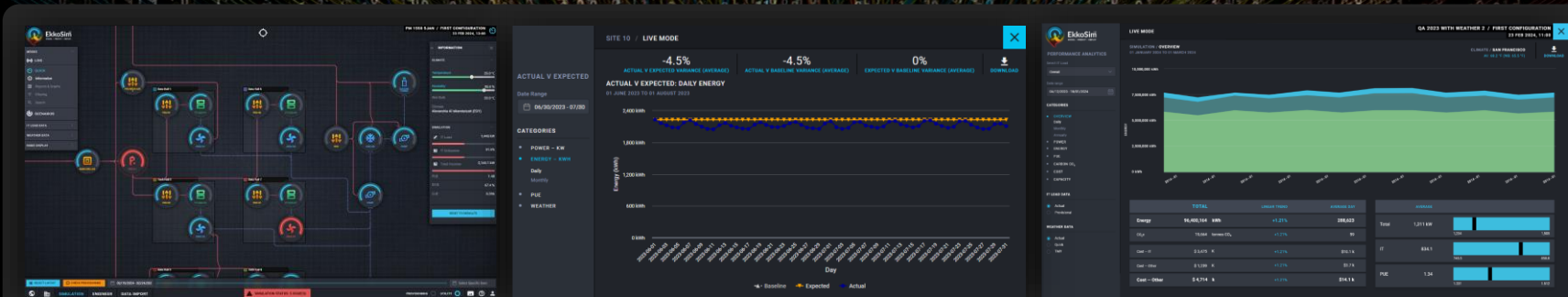


Simulating for innovation

- Rapidly respond to AI infrastructure challenges with comprehensive grey space modelling
- Carry out 'what-if' analysis and create scenarios
- Track performance of current capital investments
- Simulate extensions to existing capacity or plan for new builds
- Democratise the simulation across internal teams and external consultants

Model, predict, deploy with confidence

Rapidly simulate data centre change in response to AI deployments



- Take the guesswork out of data centre planning and solve ultra-high density AI compute deployments
- Discover what's achievable with your current infrastructure
- Build precise infrastructure simulation models including cooling, power and capacity simulations with accuracy
- Analyse and predict the most suitable designs, map metered data against predictive models, and triage those data centre assets that would benefit most from configuration assessments
- Understand when you need to start thinking about extending existing facilities or begin work on a new build
- Derisk your AI journey and deliver the AI compute your organisation needs as cost-effectively as possible
- Underpinned by complex first principles mathematics and physics models and the power of the EkkoSense 50 billion point data lake

Proven 99.5% accurate for one of the largest global financial institutions



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Questions?

Continue the conversation - talk through your high-density challenges and learn how EkkoSim can help



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to AI compute benefits

