Microsoft

5 years to 2030

The challenges, solutions and emerging opportunities

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WEF
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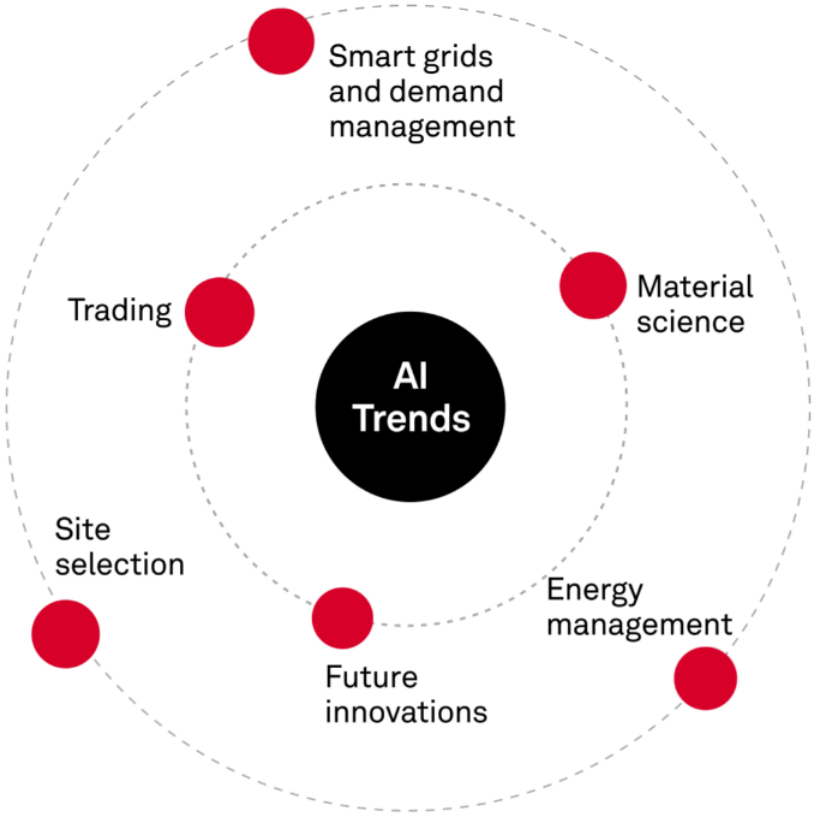
UK Government

Britain's clean power mission is now underway..

- Whole system & data driven
- Flexible & adaptable
- Accelerated & efficient
- Improved collaboration & enhanced coordination
- Pioneering & first of its kind

"Accelerated AI adoption and transformative innovation need to be prioritised to align with the government's plan for clean power by 2030.."

Source: IDC Business Value of AI Survey, September 2023



Source: S&P Top Cleantech Trends for 2025, Feb 2025

Removing roadblocks

Focus Area1 Planning & consenting for new energy infrastructure

Focus Area2 Networks & connections

Focus Area3 Renewable & nuclear project delivery

Focus Area4 Reforms to electricity markets

Focus Area5 Short-duration flexibility

Focus Area6 Long-duration flexibility

Focus Area7 Supply chains & workforce

Data & AI Impact

Focus Area1	Planning & consenting for new energy infrastructure
Focus Area2	Networks & connections
Focus Area3	Renewable & nuclear project delivery
Focus Area4	Reforms to electricity markets
Focus Area5	Short-duration flexibility
Focus Area6	Long-duration flexibility
Focus Area7	Supply chains & workforce

That tech that go us here…..won’t get us to the future

Planning & consenting for new energy infrastructure

Robust public and community engagement

Gen-AI for stakeholder engagement; AI enabled stakeholder and sentiment analysis

Enhanced data driven consenting

Ecological Digital Twins; Long range climate modelling and site selection (Planetary computer)

Accelerated permitting

Gen-AI for clean energy permitting and regulatory review; AI enabled multi-vector spatial and temporal planning

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Networks & connections

Improved connections and queue management

Gen-AI for Connections queue management (Connections copilot); Network digital twins and medium-long range requirements modelling

Accelerating grid asset build and delivery

Gen-AI for project and portfolio management; Digital Twins for build, design and operations optimisation

Comprehensive system level modelling

Sector open data platforms; Whole system Digital Twins (SSEP); Advanced weather / generation forecasting and multi-asset orchestration; Intelligent customer flex

That tech that go us here…..won’t get us to the future

Renewable & nuclear project delivery

Data driven capital and investment decisions

AI powered investment modelling and decision support; Generation forecasting and site selection

Enhanced engineering and accelerated delivery

AI-based automated design and engineering; Engineering Digital twins; Digital construction and completions

Disciplined project and cost management

Gen-AI for project and portfolio management; AI driven forecasting and project controls; Intelligent Project Data Environment

That tech that go us here…..won’t get us to the future

Supply chains & workforce

Robust supply chain management

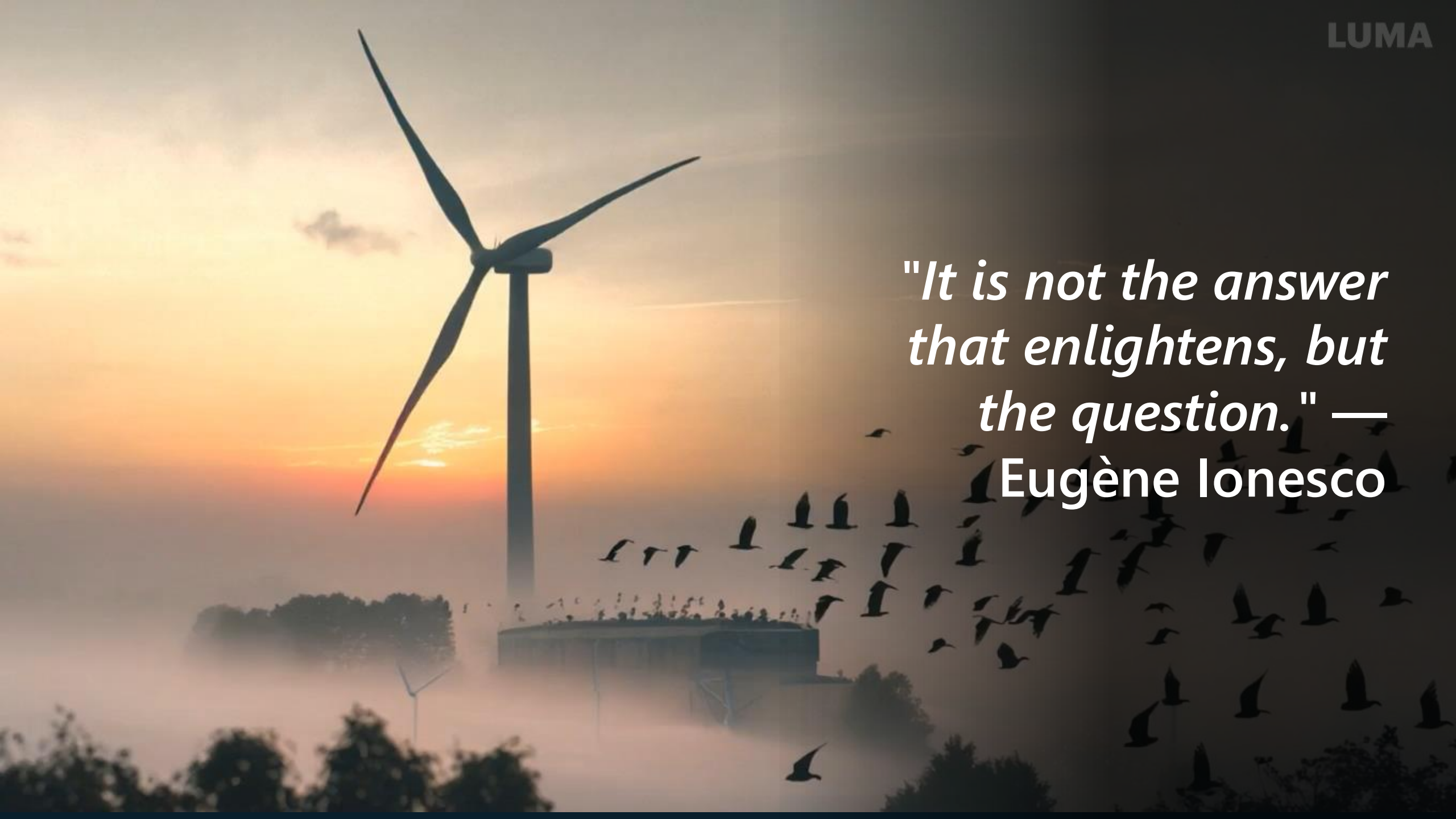
Advanced long range supply chain forecasting and de-bottlenecking; Supply chain visibility and project / portfolio management

Empowering the workforce of the future

Gen AI in knowledge retention and management; AI powered spanner to code learning and certification programmes

Driving domestic economy and growth

Sector and region development modelling and action planning; National and regional economic development


LUMA
"It is not the answer that enlightens, but the question." —
Eugène Ionesco