Application of AI to Energy Networks – Consideration of a Shared Centre of Excellence.

ENA Basecamp EIP153.

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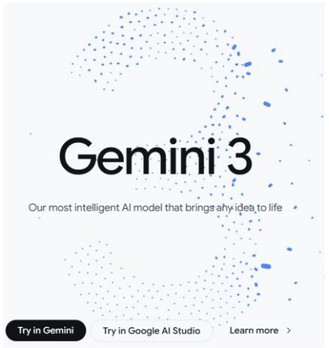
The Inspiration – The Thinking Game



- Sir Demis Hassabis received the 2024 Nobel Prize in Chemistry, shared with John M. Jumper and David Baker. For developing an AI system to solve the protein folding proble,.
- Big challenges required a coordinated program of research and development.
- The lesson is use AGILE approach in solving smaller problems to promote learning from distinct use case development in a journey to the overall vision.

CONTEXT: Some challenges required a coordinated research program and the pooling of resources across the energy network. This is the purpose and approach of the Energy Networks Innovation Taskforce (ENIT)

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The Big Idea

- Coordinate a program of research for application of AI in the energy industry
- The questions are:
  - How should we maximise the potential of AI, while also recognising the risks?
  - Should we pool resources and skills in the UK to solve the really big and significant challenges?
  - How do we avoid duplication of effort between networks?
  - What practical use cases can we develop today that bring early benefits of AI while also progressing learning and experience to fully maximise the potential?
  - Can we make the UK a world leader in the application of AI to the energy industry?

CONTEXT The UK is well positioned with academia and research institutes to develop AI solutions. For example, Deep Mind solved the protein folding problem. The energy industry should leverage best practice from other industries

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What Next – A white Paper and Consultation

- We are looking for **proposals to develop a white-paper to**:
  - Understand stakeholder needs
  - What is happening already in the UK and globally?
  - What are the lessons to be learned from past UK initiatives for collaboration in AI and High-Performance Computing?
  - Is there a need for collaboration? If so, at what level?
  - What are the options for pooled research and resources?
  - What are the alternative strategies for fully realising the potential of A(G)I in the energy industry?
  - Who needs to be involved?
  - What are the risks?
  - What are the next steps?