



# AI in Energy

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# AI - The Cerebral Disruption

## Predictive AI

LOGIC

PROBABILITIES

PATTERNS

PREDICTIONS

Algorithms that can study Patterns, categories, assign probabilities and support decision making

## Generative AI

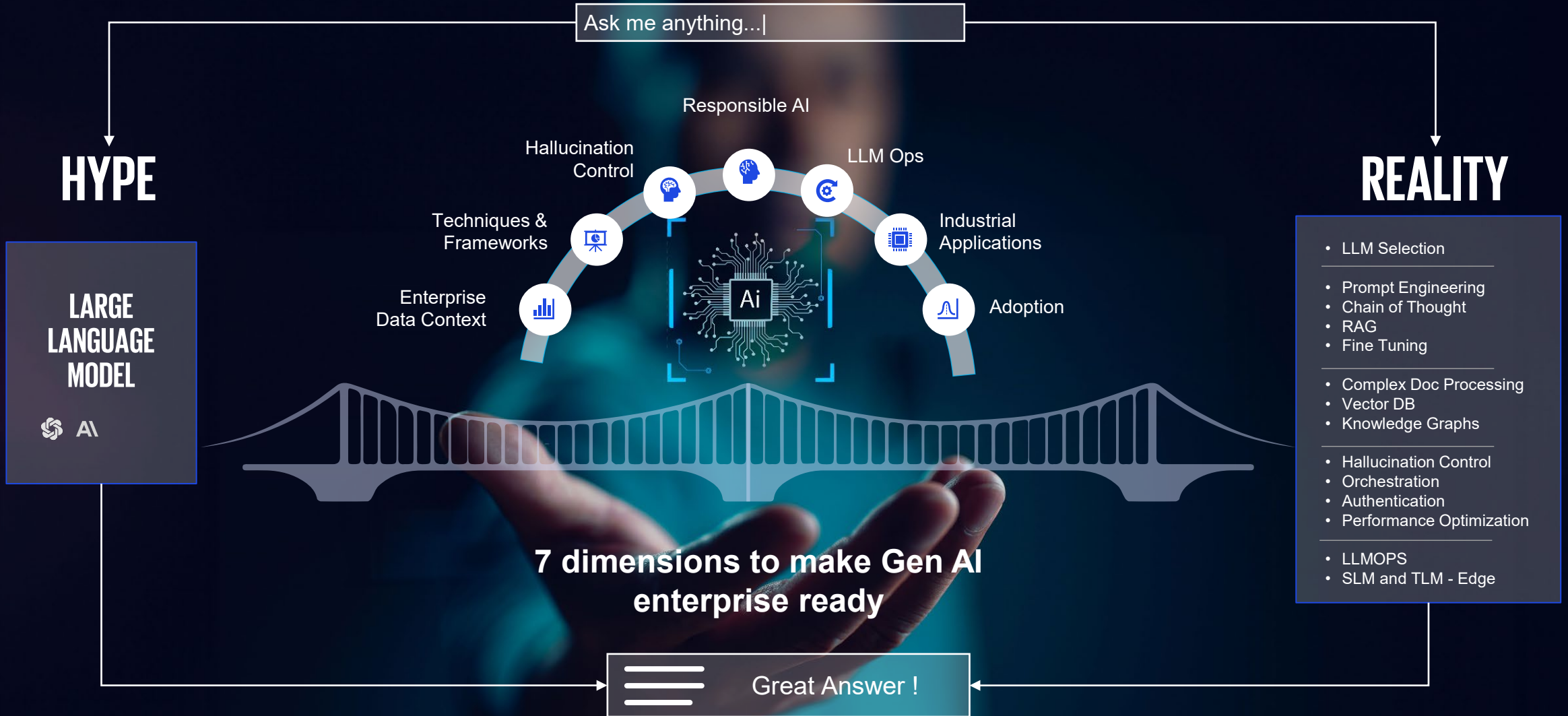
CREATIVITY

GENERATIVITY

Algorithms that can create content like text and images of human like quality in response to prompts or requests for synthesis

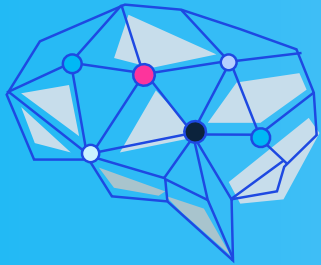
Hacking knowledge of the world and yours through conversations

# What does it take to get an Enterprise GEN AI ready – Hype vs Reality



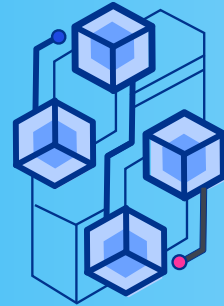
# Understanding the Animal/Solutioning

## Four stages of AI/Gen AI solutioning



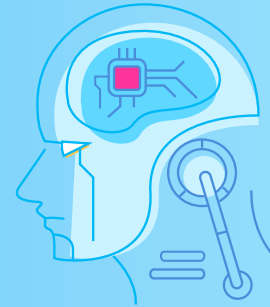
### Ideation

Initial data collation and interpretation



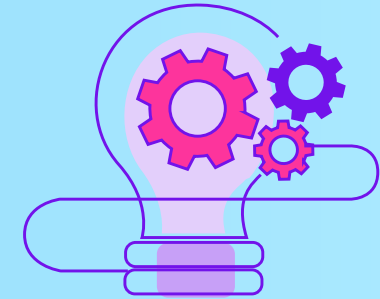
### Scenario Building

Quantify effects of tweaked parameters in a scenario



### Recommendation

Generate scenario specific business strategies



### Supervised Execution

Choose the 'best' strategies from recommendations and action them. Integrate in workflows

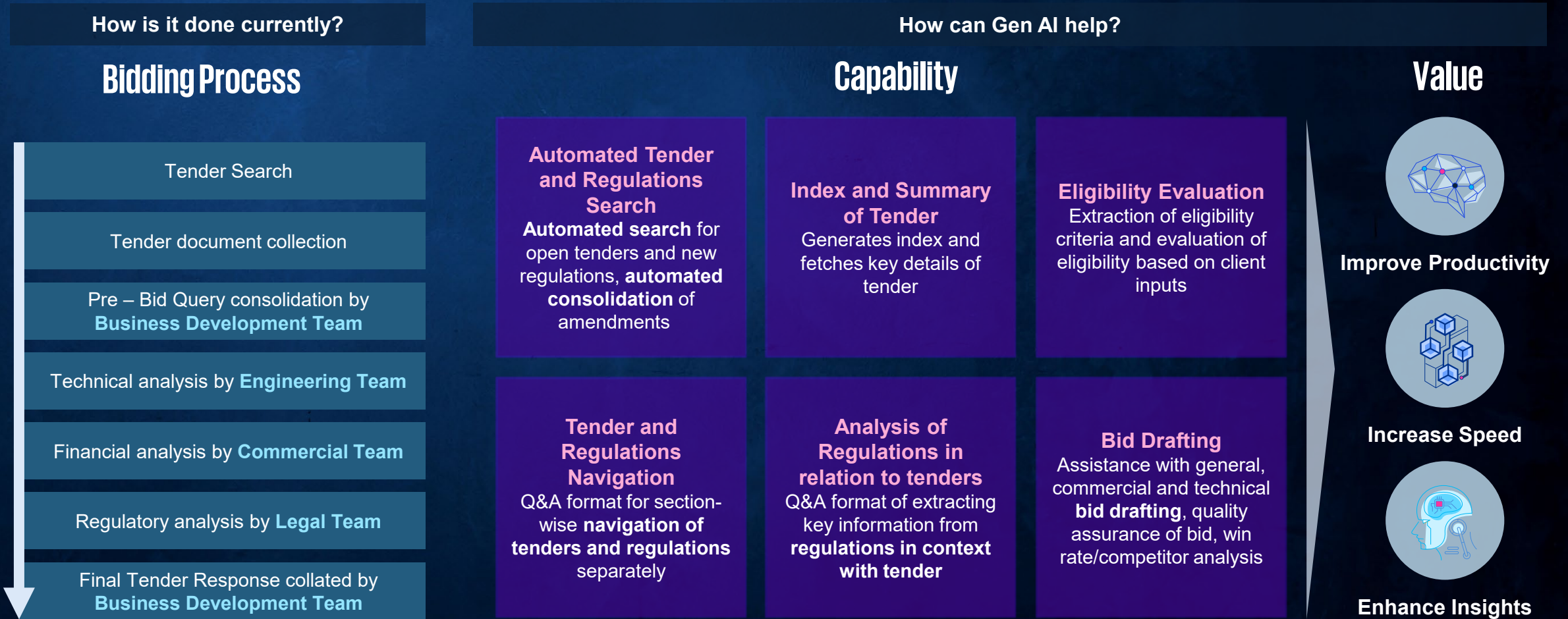
A large scale hard to solve business problem is a great place to assess the applicability of AI/Gen AI



**“We spend 90 percent of the time for basic documentation of a tender response. There is so little time for serious management decision making”**



# Bidding and Regulatory Assistant as an example



# Organising for outcomes

(and avoiding toys)



# Functional View of organization and applicability of AI and Gen AI

Capacity Augmentation	Land & Resource	Resource Studies	Land procurement	Permitting	Interconnection				
	Asset Development	Optimal design (incl storage, BOS)	Equipment selection	Siting and layout	Detailed Engineering	Financing	Procurement & SCM	Construction	Installation & Commissioning
	Commercial	Utility/C&I Tender Resp	Power Market Sales	Green Attribute Sales	Reg & Compliance				
Optimal Energy	Asset Ops	Asset perf visibility	Asset control	Maintenance Optimization	Maintenance management				
	Operations Support	Inventory management	Workforce management	Safety management	Quality Management	Technical support			
Revenue Max	Commercial Management	MT/ST portfolio design	Contracting	Contract management	REC/CER Optimization	Carbon Credit Sales	Carbon contract mgmt	Reg & Compliance	
	Market Operations	Demand Forecasting	Resource Forecasting	Scheduling	Imbalance Management	Settlement	Customer management	Reg & Compliance	
Corporate functions	Finance & Corp Affairs	FP & A	Financial Reporting	Insurance	Treasury Management	Internal Controls	Contracts & Claims	Taxation	Secretarial / Inv relations
	HR and other corporate	Recruitment	Payroll & HR Ops	Learning & Development	Corporate IT				



# 7 essentials principles for driving (affordable) outcomes

**Efficient data management and governance** to reduce compute time/costs and enhance accuracy

**Principles of Trusted and Responsible AI** to ensure that the solutions are responsive to security, IP, provenance and other considerations

**Rich and capable interfaces** to ensure user adoption and become vehicles of transformation, where applicable. This will also potentially enhance security by containing attack/risk surfaces

**Extendibility to adjacencies** to harness common platforms for adjacent use cases instead of having disparate or bespoke platforms for each use case.

**Use of per-configured copilots** to make usage easy and effective and reduce build or configuration time

**Ability to handle large data volumes to ensure efficacy** and, in the case of optimization solutions, ability to converge the solutions.

**Amenability for delivery as Managed Services** for scale, efficiency and continuous innovation



# Use case selection

Evaluate sub-steps on across 6 key considerations

<b>Current process</b>	Status quo, cost contribution, pain points, tech usage
<b>Data environment</b>	Intensity, availability, reliability
<b>Amenability to Gen AI</b>	Current use, amenability, data sources (training and operation)
<b>Governance</b>	Synthetic data, transparency and trust, security and privacy
<b>Cost</b>	Capital and operating cost implication
<b>Business</b>	Value to client, extendibility to other use cases



Priority areas for use case development

Prioritise use cases that are scalable, replicable and extendable to adjacent application areas



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