



**C D A O**

**Chief Digital & Artificial  
Intelligence Office**

# **Accelerating AI Adoption for DoD Decision Advantage**

Dr. William Streilein, Chief Technology Officer

**The overall classification of this brief is: UNCLASSIFIED**

# Which do you Agree with?

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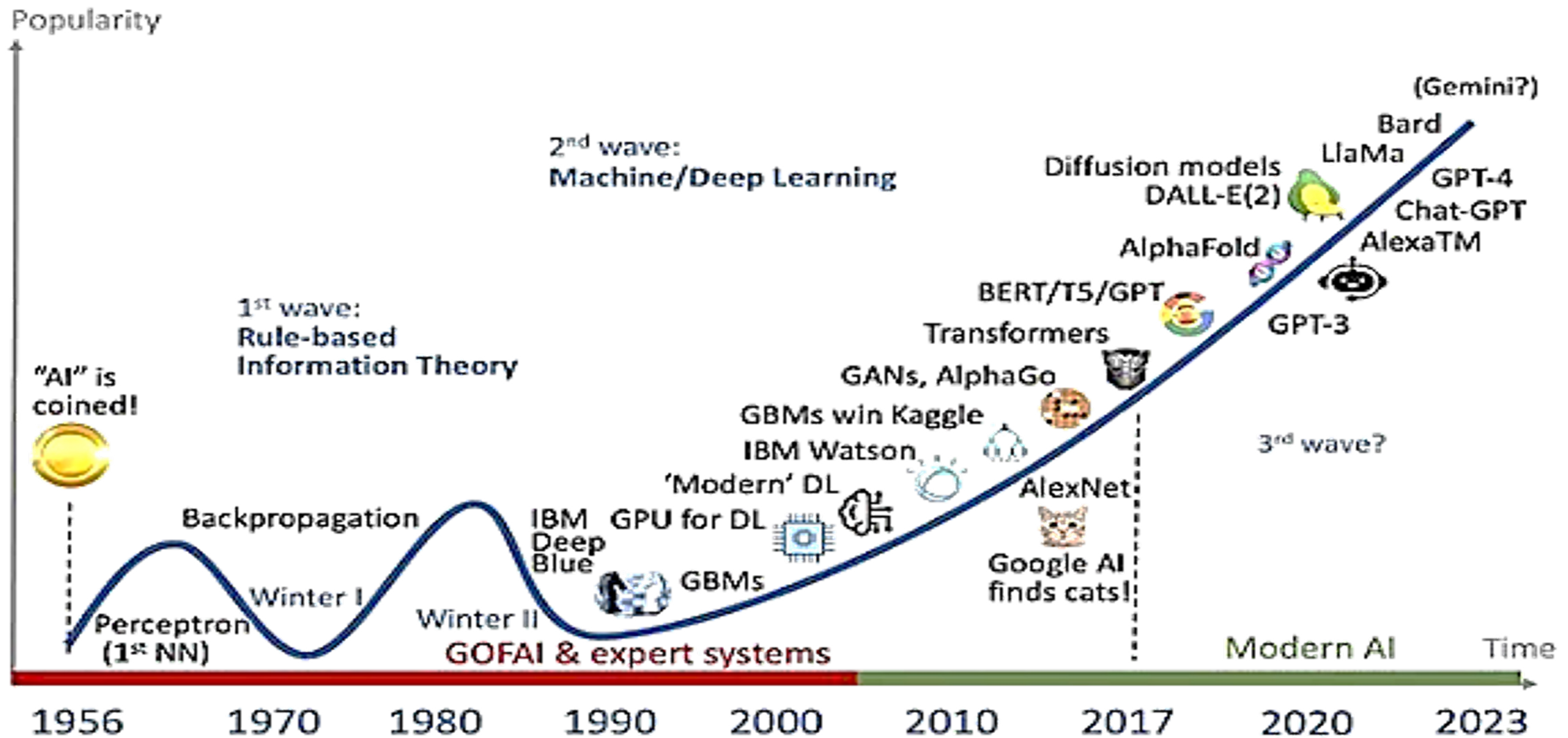
- **“AI is truly amazing.** Its potential to transform society and the world by automating tasks, making better decisions, personalizing experiences and generally making life better for all mankind make it the most important invention since the printing press.



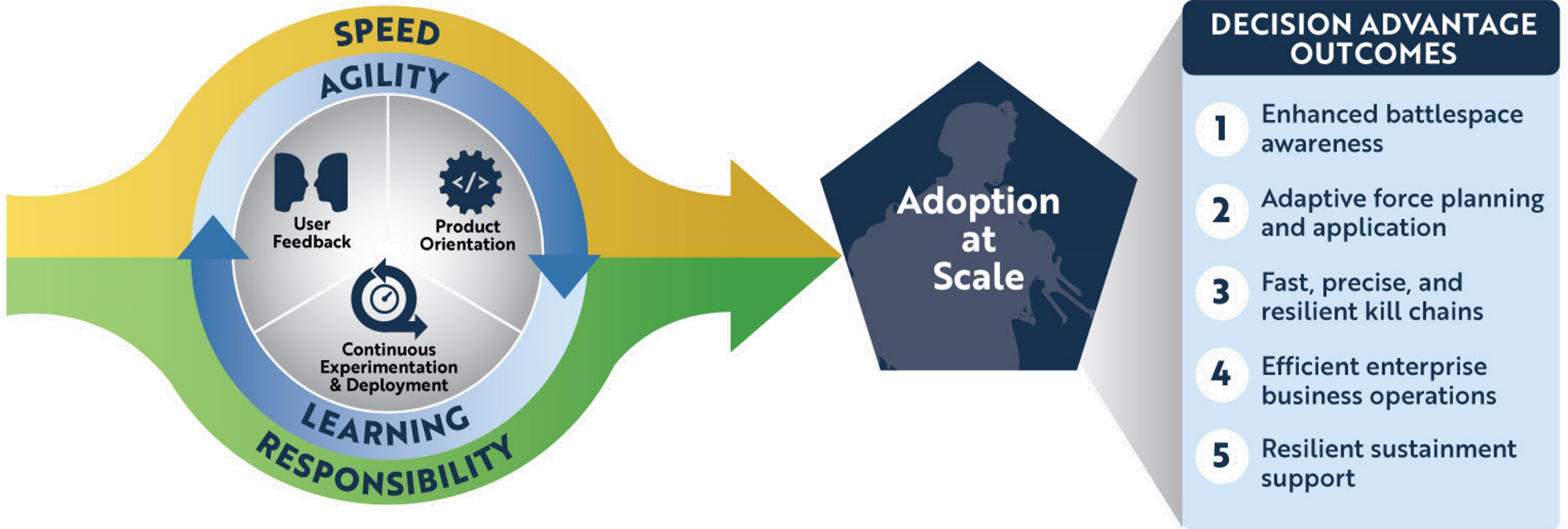
- **“AI is nothing more than hype.** Recent advances in AI are narrow, only incremental and it is far from being as intelligent as humans. Progress is driven by corporate interests rather than societal benefit and rarely impact daily life in a positive way.



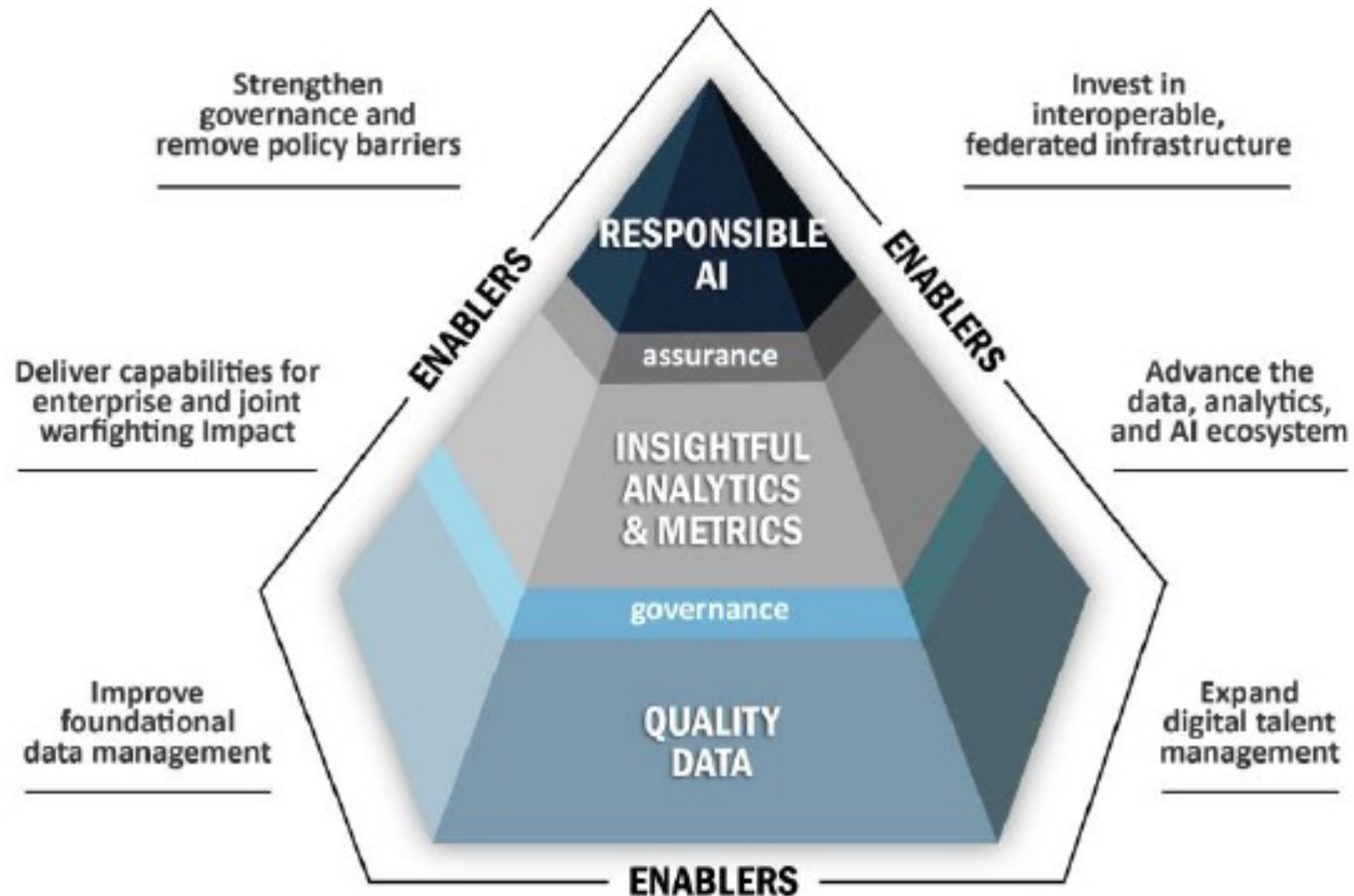
# History of AI



# DoD: Employing an Agile Approach to Adoption at Scale



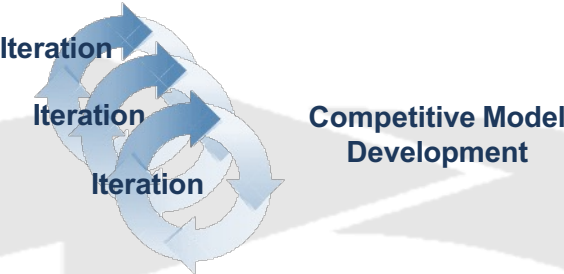
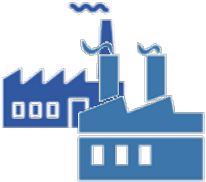
# DoD AI Hierarchy of Needs



# A Digital Ecosystem Supports DoD AI Goals

**DEVELOPMENT**

*Industry / Labs*



**Optimal Models**

**SECURITY**

**Model Assurance**

*Trusted Partners*



**RAI Tool Kits**

**Sanitized Data**



Test Data



**T&E**

**OPERATIONS**



**Mission Data**

**Containerized, Assured, Models**

*DoD*

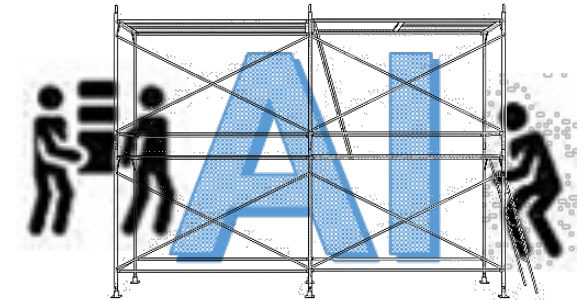
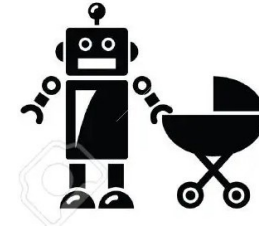


**Feedback**



# AI Scaffolding

- CDAO is developing AI scaffolding to support the adoption of AI across the DoD
- Through scaffolding CDAO will provide, broker, and advise on the creation of platforms, apps, and services needed by DoD customers to enable the development and adoption of AI
- We seek Industry partnerships in support of AI scaffolding



# AI Scaffolding Services

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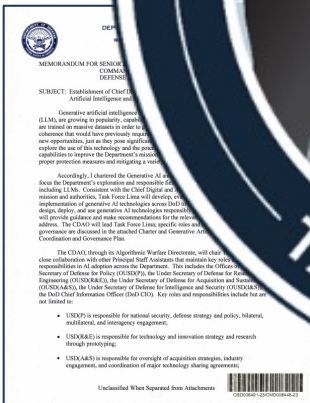
- Data services
  - Discoverability, transport, storage, conversion, labeling, ontologies, standards
- MLOPs services
  - Dev environments, federated model catalogs, pre-approved code & AI packages
- Instrumentation services
  - Model performance monitoring, user interactions
- AI Assurance services
  - T&E harnesses, methodologies, data partitioning
- Acquisitions services
  - Access to contract vehicles, contract language review
- Legal services
  - Data usage agreements, classification determinations
- AI Consulting



# Task Force Lima



- **Accelerate** promising generative AI initiatives and joint solutions;
- **Federate** disparate developmental and research efforts into a DoD community of practice to accelerate innovation and implementation;
- **Evaluate** solutions across Doctrine, Organization, Training, Materiel, Leadership, Personnel, Facilities, and Policy;
- **Drive** education and build a culture of responsible implementation and use; and,
- **Ensure** coordinated DoD engagement with interagency, international, educational, civil society, and industry partners regarding responsible development and use of generative AI.



August 10, 2023

We seek a *maturity model* that enables us to map LLMs to DoD use cases

# Towards an LLM Maturity Model

- ✓ **Understand potential LLM use cases and the level of capability required across several relevant LLM dimensions**
- ✓ **Help organizations assess the maturity of LLM solutions with respect to their application to mission use cases and workflows**
- ✓ **Identify areas where LLM capabilities need to improve to be useable in given mission use cases and workflows**

Use Case	Conversation / ChatBot	Summarization	Question / Answer	Analysis	Classification	Insight Generation
Governability	Orange	Orange	Yellow	Orange	Yellow	Orange
Completeness	Yellow	Green	Orange	Green	Yellow	Green
Accuracy	Yellow	Green	Yellow	Green	Orange	Green
Equitability	Orange	Green	Yellow	Yellow	Green	Yellow
Consistency	Yellow	Orange	Orange	Green	Orange	Yellow
Traceability	Orange	Green	Green	Green	Orange	Green
Novelty	Orange	Yellow	Orange	Green	Yellow	Green
Fluency	Green	Orange	Orange	Yellow	Orange	Orange
Interactivity	Green	Yellow	Yellow	Orange	Yellow	Green
...	Orange	Orange	Yellow	Orange	Yellow	Green

LLM Characteristics

Notional Maturity Model

To be discussed at CDAO's Advantage DoD 2024 Symposium: Feb 20-22  
 Submit Proposals here: <https://www.tradewindai.com/opportunities/cln26it8j0002mf083nyhw98r>



# SBIR/STTR – Small Business Innovation

- Enable CDAO to broaden its small business vendor base
- Leverage small business innovation while attacking CDAO mission challenges:
  - Data Mesh
  - AI Scaffolding
  - JADC2 / GIDE
  - Talent Management
- Managed out of CTO's office
  - Will execute \$23M in FY24



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# Thank You!