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ARC View on Messaging of the Applied Computing Demo Day 2026

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Executive Summary

At its 2026 Demo Day in London, Applied Computing presented a vision for industrial AI that extends well beyond traditional analytics, machine learning, and generative AI. The company's flagship platform, **Orbital**, is positioned as a foundation model specifically designed for energy operations, combining physics-based reasoning, engineering knowledge, time-series data, operational context, and AI within a single platform.

Applied Computing argues that the physical world speaks a fundamentally different language than the digital world. Industrial assets communicate through process variables, equipment conditions, physical laws, and operational constraints rather than human language. As a result, applying generic AI models to industrial environments is often insufficient. Instead, the company believes industrial operations require models specifically designed to understand and reason about physical systems.

From an ARC perspective, Applied Computing represents an emerging class of industrial AI vendors focused on building foundation models for physical systems rather than enterprise productivity applications. The company's strategy aligns with broader industry trends around physics-based AI, contextualized decision support, agentic architectures, and industrial autonomy.

Industrial AI requires a different approach than the large language models that have gained widespread adoption in enterprise applications!

The company is gaining increasing market traction. During Demo Day, Applied Computing highlighted commercial deployments across upstream, refining, and petrochemical operations, while also announcing a $20 million funding round led by KBR. Databricks Ventures joined the round as a strategic investor, reflecting growing confidence that industrial foundation models could become a critical intelligence layer across energy operations. Applied Computing also announced its expansion into the United States through a new office in Houston, complementing its existing operations in London and Bengaluru.

Context

The Industrial World's Untapped Intelligence

Applied Computing opened the event by challenging a long-standing assumption regarding the focus of AI development. Over the past two decades, the majority of AI innovations have targeted the digital economy. The company argues that the larger opportunity lies elsewhere. Industrial systems that power modern civilization continuously generate vast streams of operational information. Refineries,

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petrochemical facilities, gas processing plants, wind farms, power stations, and industrial infrastructure produce enormous quantities of sensor data every second. Temperature, pressure, flow rates, equipment conditions, process variables, and operational events collectively form a rich data environment describing how physical systems behave.

According to Applied Computing, approximately 90 percent of this information remains largely unanalyzed despite being collected for years. This creates what the company views as one of the largest untapped opportunities in artificial intelligence. Machines have already been communicating. The challenge is building systems capable of understanding what they are saying.

The company's thesis is that even modest improvements in industrial productivity, energy efficiency, and asset performance could generate significant economic and environmental benefits while also improving safety and operational reliability. Rather than focusing on optimizing digital interactions, Applied Computing is focused on optimizing the physical world itself.

Orbital: A Foundation Model Built for Energy Operations

At the center of Applied Computing's strategy is Orbital, which the company describes as the first foundation model purpose-built for energy operations. Unlike conventional large language models that largely operate on textual information, Orbital was designed to reason across multiple dimensions simultaneously. The model combines time-series operational data, engineering context, physical principles, process behavior, chemistry, and language-based reasoning into a unified architecture.

The company's belief is that industrial operations do not generate isolated datasets. Physical systems are inherently interconnected. Equipment behavior influences process conditions. Process conditions affect energy usage. Energy consumption influences product quality, emissions, economics, and operational decisions. Understanding industrial systems therefore requires reasoning across multiple layers of information simultaneously.

Applied Computing describes Orbital as a platform capable of combining operational data with contextual information in a manner that mirrors the way physical systems actually function. The objective is not merely to detect anomalies or generate predictions but to help operators and engineers understand relationships, identify opportunities, and make better decisions in real time. The long-term ambition is to create an intelligence layer capable of supporting operations across upstream, downstream, petrochemical, and broader energy environments.

Physics Is Not a Differentiator - It Is a Requirement

One of the most notable messages delivered during the event was that physics has become a prerequisite rather than a competitive differentiator for industrial AI. Chief AI Officer Dr. Samyakh Tukra argued that industrial users inherently trust explanations grounded in physical laws and engineering principles. Engineers make decisions based on thermodynamics, chemistry, process relationships, and operational constraints. AI recommendations that cannot be connected to these realities struggle to gain acceptance.

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As a result, Applied Computing has embedded physics-based reasoning directly into Orbital. However, the company was careful to note that incorporating physics does not automatically create value. Physics alone does not solve the industrial AI problem. Instead, it establishes the foundation upon which trust can be built. The company's broader approach combines physics, explainability, operational context, and industrial workflows. Together, these components allow Orbital to generate recommendations that align more closely with how engineers and operators approach real-world decision-making. This reflects a broader market trend in which industrial AI is increasingly converging with engineering simulation, process knowledge, and domain-specific expertise.

The Real Challenge Is Trust

Perhaps the most insightful discussion during Demo Day centered on trust. Applied Computing explained that its early assumption was that explainability and physics-based reasoning would automatically generate confidence among engineers and operators. Real-world deployments revealed a more complicated reality.

Technical trust and operational trust are not the same thing. Technical trust comes from model performance, validity, and accuracy. Operational trust emerges when engineers repeatedly interact with a system, understand its recommendations, and see those recommendations consistently deliver value.

The company discovered that trust cannot be engineered as a single software feature. It is developed incrementally through daily operational use. As a result, Orbital embeds engineering workflows into its reasoning processes rather than attempting to replace them. By generating evidence trails that resemble the investigative processes engineers already follow, the platform seeks to create recommendations that users are more likely to trust and act upon.

Agent-Based Architectures and Contextual Intelligence

Applied Computing argues that even advanced AI models struggle when presented with all this information simultaneously. To address this challenge, Orbital uses an agent-based architecture. Rather than relying on a single monolithic model, specialized agents perform individual analytical tasks. These agents gather relevant information, generate evidence, identify relationships, and filter noise before passing results into a central reasoning engine.

This architecture allows Orbital to focus on the information most relevant to a specific decision while maintaining traceability and context. The company demonstrated that this approach improves the quality of recommendations by concentrating AI attention on the factors most likely to influence outcomes. From an ARC perspective, this reflects the broader movement toward agentic AI architectures, where specialized agents collaborate to solve complex operational problems.

KBR Partnership Accelerates Industrial Scale

One of the most significant developments announced by Applied Computing involves its relationship with KBR. KBR led Applied Computing's recent $20 million Series A funding round and has entered into a multi-year partnership to develop AI solutions for the energy sector.

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This relationship extends well beyond a traditional technology partnership. Applied Computing brings AI research and foundation-model expertise. KBR contributes decades of engineering knowledge, process expertise, and one of the largest installed technology footprints in the process industries.

The collaboration has already resulted in the launch of INSITE 3.0, KBR's digital delivery platform powered by Orbital. The platform combines operational data, engineering expertise, and AI-driven reasoning. The significance of the partnership lies in the integration of engineering intelligence directly into AI workflows.

As KBR's technologies support large portions of the global refining, petrochemical, and ammonia industries, by embedding KBR's operational knowledge into Orbital, Applied Computing gains access to decades of engineering experience. The partnership provides Applied Computing with an important path to industrial scale and market adoption.

Databricks Addresses the Deployment Challenge

Applied Computing also announced an expanded partnership with Databricks. Databricks Ventures joined the company's funding round and is becoming a strategic partner for industrial deployment. Applied Computing selected Databricks because of its broad adoption across energy and process industries. Orbital will be available through the Databricks Marketplace, enabling customers to deploy the model directly within existing Databricks environments while leveraging current security, governance, and data management frameworks.

From an ARC perspective, this is a strategically important development. The industrial AI platforms that achieve scale are increasingly those that integrate into existing enterprise and operational environments rather than requiring entirely new infrastructure architectures. Databricks helps provide the data foundation, while Orbital serves as the intelligence layer operating on top of that infrastructure.

Objective Formation: The Next Frontier of Industrial AI

The most forward-looking concept discussed at Demo Day was what Applied Computing calls objective formation. Most AI systems today are designed to optimize predefined objectives. Human users define the goal, and the AI attempts to maximize performance within those constraints. Applied Computing argues that this model is ultimately limiting, as market dynamics create new operational constraints. As a result, the objective that matters today may not be the objective that matters tomorrow.

Applied Computing envisions AI systems capable of continuously redefining their objectives based on changing environments while learning from previous outcomes. The company acknowledges that Orbital is not yet operating at this level. However, objective formation represents one of its primary long-term research initiatives and reflects a broader industry movement toward more autonomous industrial intelligence systems.

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Conclusion

From an ARC perspective, Orbital reflects several important trends that are beginning to shape the next generation of industrial software. These include the integration of physics-based AI, contextual reasoning, agentic architectures, industrial workflows, decision intelligence, and increasing levels of operational autonomy.

Perhaps the most important message from Applied Computing is not that AI can generate more accurate predictions, but that industrial AI must support better operational and engineering decisions. This focus represents a shift from predictive analytics toward systems that can provide context, evidence, and actionable recommendations within established workflows.

Applied Computing's emphasis on trust, explainability, contextual understanding, and engineering decision processes addresses several of the barriers that have historically limited industrial AI adoption. While these challenges are not unique to the oil & gas and energy sectors, they are particularly important in environments where safety, reliability, and operational performance are critical.

The ecosystem developing around Orbital is also noteworthy. KBR contributes domain expertise, engineering knowledge, and industry reach, while Databricks provides an established data and AI infrastructure platform. Together, these partnerships may help accelerate deployment and address some of the practical integration challenges that often slow industrial AI initiatives.

In addition, Demo Day 2026 demonstrated the growing interest in AI systems that combine operational data, engineering knowledge, and contextual reasoning to support decision-making in complex industrial environments. More broadly, the event reflected a wider industry movement beyond standalone machine-learning models toward AI systems that are more deeply integrated into operational and engineering workflows.

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