# Dossier: KNOWLEDGE BASED SYSTEMS INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $150,000.00

**Award Date:** 2024-08-05

**Branch:** MDA

## AI-Generated Intelligence Summary

**Company Overview:**

Knowledge Based Systems, Inc. (KBSI) is a US-based engineering and technology company specializing in the development and application of advanced software solutions, decision support tools, and modeling & simulation technologies to improve engineering design, manufacturing processes, and operational efficiency, primarily within the aerospace and defense sectors. Their core mission is to provide innovative, knowledge-based solutions that empower organizations to make better decisions, reduce costs, and accelerate product development cycles. KBSI's unique value proposition lies in their ability to integrate disparate data sources, apply artificial intelligence and machine learning algorithms, and create user-friendly interfaces that enable subject matter experts to effectively leverage complex information for optimized performance and process improvement. They particularly focus on areas such as digital twins, predictive maintenance, supply chain optimization, and model-based systems engineering (MBSE).

**Technology Focus:**

* Model-Based Enterprise (MBE) and Model-Based Systems Engineering (MBSE) Solutions:\*\* KBSI offers a suite of software tools and services for implementing MBSE methodologies, enabling clients to create and manage digital models of complex systems throughout the product lifecycle. This includes tools for requirements management, system architecture design, simulation, and verification & validation.
* AI/ML-Driven Decision Support:\*\* KBSI develops customized AI and machine learning solutions for predictive maintenance, supply chain optimization, and other critical decision-making processes. This often involves integrating sensor data, historical performance data, and domain expertise to create models that can predict failures, optimize resource allocation, and improve operational efficiency. They have a demonstrable ability to handle complex, real-time data streams.

**Recent Developments & Traction:**

* U.S. Air Force SBIR Awards (Multiple):\*\* KBSI has received multiple Small Business Innovation Research (SBIR) awards from the U.S. Air Force over the past several years, demonstrating their ability to secure government funding for innovative research and development projects. These awards typically focus on areas such as advanced manufacturing, predictive maintenance, and AI-powered decision support.
* Partnership with Major Aerospace Companies:\*\* Evidence suggests KBSI has ongoing partnerships with major aerospace companies for the implementation of their MBE/MBSE solutions, although specific details are not publicly available beyond the company website referencing successful implementations.
* Expansion of AI/ML Capabilities:\*\* Public announcements and job postings suggest a recent focus on expanding their AI/ML team and developing new AI-powered products and services, indicating a strategic shift towards incorporating more advanced AI capabilities into their existing offerings.

**Leadership & Team:**

* Dr. David Ben-Arieh (President):\*\* As president, Dr. Ben-Arieh brings extensive experience in manufacturing systems, automation, and knowledge-based engineering. His leadership drives the company's strategic direction and technological advancements. Prior to joining KBSI, Dr. Ben-Arieh held faculty positions at Purdue University and Kansas State University.
* Core team:\*\* While specific names and titles beyond Dr. Ben-Arieh are not prominently displayed online, the company's website and job postings indicate a strong team of engineers, software developers, and domain experts with experience in aerospace, defense, and advanced manufacturing.

**Competitive Landscape:**

* No Magic (Now part of Dassault Systèmes):\*\* No Magic offers a suite of MBSE tools that compete directly with KBSI's MBE/MBSE offerings. KBSI differentiates itself through its deep expertise in knowledge-based systems and its ability to customize solutions to meet the specific needs of its clients.
* PTC (ThingWorx):\*\* PTC offers a platform capable of MBE but isn't solely focused on the defense sector. KBSI stands out by tailoring its models and expertise to defense sector applications, particularly for clients requiring highly regulated and secured solutions.

**Sources:**

1. [https://www.kbsi.com/](https://www.kbsi.com/) - KBSI's official website, providing information about their products, services, and company history.

2. [https://www.sbir.gov/](https://www.sbir.gov/) - SBIR database to find awards received by KBSI, allowing inferring areas of technological focus based on descriptions of funded projects.

3. [https://www.sam.gov/](https://www.sam.gov/) - Official U.S. Government website for contract opportunities and information. Search for KBSI to gather information on contracts and partnerships.