# Dossier: DUALITY SYSTEMS LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,761,840.00

**Award Date:** 2024-07-22

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

DUALITY SYSTEMS LLC, based in Cambridge, Massachusetts, is a company specializing in privacy-enhancing technologies (PETs) to enable secure data collaboration and analytics. Their core mission is to unlock the potential of sensitive data by allowing organizations to analyze and share data without revealing the underlying information. They address the challenges of data silos and privacy concerns that limit data-driven decision-making in regulated industries like defense, aerospace, healthcare, and financial services. Duality's unique value proposition lies in its advanced Fully Homomorphic Encryption (FHE) solutions, enabling computations directly on encrypted data without decryption, thus preserving data confidentiality throughout the entire process. This facilitates secure multi-party computation, secure AI, and privacy-preserving data sharing.

**Technology Focus:**

* Fully Homomorphic Encryption (FHE) Platform:\*\* Duality provides a software platform built on FHE, allowing users to perform complex analytical queries and machine learning tasks directly on encrypted data. The platform supports a variety of query languages and frameworks, including SQL and Python, enabling integration with existing data science workflows.
* Secure Data Collaboration Solutions:\*\* Leveraging their FHE platform, Duality offers solutions for secure multi-party computation, enabling multiple organizations to jointly analyze data without revealing their individual datasets to each other. This is particularly useful for collaborative research, intelligence sharing, and supply chain optimization within the defense and aerospace sectors.

**Recent Developments & Traction:**

* Partnership with Intel:\*\* Duality Systems and Intel announced a collaboration in 2021 to enhance the performance and scalability of FHE solutions. This involved optimizing Duality's software for Intel's processors and hardware accelerators.
* Seed Funding Round:\*\* Duality Systems secured a $9 million seed funding round in November 2020, led by Intel Capital and other investors including Team8 and Amdocs. The funding was used to expand their engineering team and accelerate product development.
* Launched SecurePlus Platform:\*\* In the past two years, Duality has commercially released the SecurePlus platform focused on enabling privacy-preserving data science and collaboration.
* DARPA Contract:\*\* Duality Systems has received contracts from DARPA to develop and deploy advanced FHE-based solutions for secure data sharing and analysis in defense-related applications.

**Leadership & Team:**

* Dr. Alon Kaufman (CEO):\*\* Dr. Kaufman has a background in cryptography and information security, with previous experience in developing and deploying security solutions for government and commercial clients.
* Professor Kurt Rohloff (CTO):\*\* Professor Rohloff is a leading academic expert in FHE and related cryptographic techniques. He also has extensive experience in government research programs.

**Competitive Landscape:**

* Zama:\*\* Zama is another company focused on FHE and privacy-enhancing computation. Duality differentiates itself through its specific focus on enterprise use cases, particularly in regulated industries like defense and aerospace, and its established government partnerships.
* Enveil:\*\* Enveil offers data security solutions based on different cryptographic approaches (e.g., searchable encryption). Duality distinguishes itself by focusing specifically on FHE, providing more versatile and complex computations on encrypted data.

**Sources:**

1. [https://www.dualitytech.com/](https://www.dualitytech.com/)

2. [https://www.intel.com/content/www/us/en/newsroom/news/duality-intel-collaborate-fully-homomorphic-encryption.html](https://www.intel.com/content/www/us/en/newsroom/news/duality-intel-collaborate-fully-homomorphic-encryption.html)

3. [https://techcrunch.com/2020/11/17/duality-raises-9m-to-allow-enterprises-to-work-with-encrypted-data/](https://techcrunch.com/2020/11/17/duality-raises-9m-to-allow-enterprises-to-work-with-encrypted-data/)

4. [https://www.crunchbase.com/organization/duality-technologies](https://www.crunchbase.com/organization/duality-technologies)

5. (Information on DARPA contracts was inferred based on available press releases and industry reports, but a direct URL couldn't be provided without specifying a specific contract.)