# Dossier: CEREBRAS SYSTEMS INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,800,000.00

**Award Date:** 2023-09-07

**Branch:** SOCOM

## AI-Generated Intelligence Summary

**Company Overview:**

Cerebras Systems Inc. is a computer hardware company that designs and manufactures specialized computer systems for artificial intelligence (AI) and high-performance computing (HPC) workloads. Their core mission is to dramatically accelerate AI computation by rethinking fundamental chip and system architecture. Cerebras aims to solve the bottleneck created by traditional processor architectures when processing complex AI models with massive datasets, specifically addressing the limitations of GPU-based AI training. Their unique value proposition is the Wafer Scale Engine (WSE), a single, massive silicon chip, and subsequent WSE generations, designed to accelerate training by minimizing latency and maximizing compute density, offering potentially faster training times and lower power consumption compared to conventional solutions.

**Technology Focus:**

* Wafer Scale Engine (WSE):\*\* The WSE is a single chip fabricated from an entire silicon wafer. The latest generation, the WSE-3, contains 4 trillion transistors and 900,000 AI-optimized compute cores.
* CS Systems:\*\* Cerebras develops full-stack AI systems (CS-2 and CS-3) centered around the WSE. These systems are designed for AI model training and inference, offering significant performance advantages on large language models (LLMs) and other demanding AI workloads.

**Recent Developments & Traction:**

* WSE-3 Announcement (April 2024):\*\* Cerebras unveiled the WSE-3, claiming a 2x increase in performance compared to its predecessor. This announcement also included the introduction of the CS-3 system.
* G42 Partnership (January 2023):\*\* Cerebras announced a partnership with G42 to build Condor Galaxy, a network of interconnected AI supercomputers designed for LLM training.
* Series F Funding (November 2021):\*\* Cerebras raised $250 million in a Series F funding round led by Alpha Wave Ventures, valuing the company at over $4 billion.

**Leadership & Team:**

* Andrew Feldman (CEO):\*\* A serial entrepreneur with a background in processor design and previous successful startups, including SeaMicro (acquired by AMD).
* Sean Lie (CTO):\*\* Formerly the VP of Hardware Engineering at SeaMicro, bringing extensive experience in system architecture and hardware development.

**Competitive Landscape:**

* Nvidia:\*\* Nvidia, through its GPUs and AI software stack, remains the dominant player in the AI accelerator market. Cerebras differentiates itself by offering a fundamentally different architecture (wafer-scale computing) designed for extreme AI workloads, potentially offering advantages in performance and scale that may be challenging for GPU architectures to achieve.
* AMD:\*\* AMD's Instinct MI series GPUs offer another competing approach to AI acceleration. Cerebras, again, attempts to differentiate through architecture focused around large monolithic chips with lower latency.

**Sources:**

* [https://cerebras.net/](https://cerebras.net/)
* [https://www.nextplatform.com/2024/04/29/cerebras-wse-3-chip-and-cs-3-system-up-the-ai-compute-ante/](https://www.nextplatform.com/2024/04/29/cerebras-wse-3-chip-and-cs-3-system-up-the-ai-compute-ante/)
* [https://www.reuters.com/technology/cerebras-launches-chip-aimed-cutting-ai-training-times-2024-04-29/](https://www.reuters.com/technology/cerebras-launches-chip-aimed-cutting-ai-training-times-2024-04-29/)
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