



**Notes: May 26, 2020 - Contract award increased to \$11.2 Million**

## **Multibeam Unveils Anti-Counterfeit IC Initiative**

### **E-Beam Direct Write Project Funded by \$8.2 Million Defense Contract**

**SANTA CLARA, CA - October 8, 2019 - Multibeam Corporation** today confirmed it has a major project underway to thwart the counterfeiting of integrated circuits (ICs). The project centers on technology to verify the identity, authenticity and provenance of each chip at any point in the supply chain. "The rampant forging of ICs remains a serious industry problem", said Dr. David K. Lam, Chairman and CEO of Multibeam. "Our multicolumn e-beam lithography (MEBL) technology provides a most effective solution to embed a secure, unique identity (ID) into each IC cost-efficiently. Our proprietary method succeeds in doing what neither optical, EUV nor any other mask-based litho technology can do." The MEBL system application is funded by an \$8.2 Million contract awarded by the Air Force Research Laboratory (AFRL) under the Assured and Trusted Microelectronics Solutions (ATMS) program. Multibeam will expand the capability of its MEBL system, concurrently being built under a separate Defense contract, to embed a unique ID into each chip.

#### **Hard Coding Ensures Unique and Secure Chip ID**

Centerpiece of Multibeam's approach is "hard coding" a unique ID deep inside each IC during its fabrication. This makes the ID secure and tamper-proof. Hackers attempting to alter the ID would end up destroying the chip itself. Applying MEBL to thwarting IC counterfeiters offers compelling benefits:

- IDs are extremely small, with virtually no impact on die size
- Process has no impact on IC functionality and practically no change in fab production flow
- Process requires no extra mask steps, no special packaging, and no costly read-out equipment
- IDs can be electronically linked to a secure database to store chain-of-custody records
- Supply-chain members and end-users can readily verify authenticity and origin of each IC

"We recognize the demanding work ahead," added Dr. Lam. "We are excited about the opportunities afforded by this anti-counterfeiting application that cuts across many markets such as automotive, medical, financial, manufacturing, power distribution, transportation, communication, and defense." He expects Multibeam to launch its first commercial MEBL anti-counterfeit system in two years.

#### **About Multibeam Corporation**

Based in Santa Clara, CA, Multibeam Corporation is a leader in multicolumn electron-beam lithography (MEBL). The company is currently building MEBL systems under a U.S. Government contract. The MEBL technology has evolved into a versatile platform with many potential applications, including

embedding secure, unique ID into each chip during fabrication. The company continues to identify and target major applications in which MEBL has unmatched competitive advantages, within and outside traditional lithography. The company's robust and expanding IP portfolio includes 38 patents awarded by the USPTO. Multibeam is led by Dr. David K. Lam, the founder and first CEO of Lam Research. Widely recognized as a key contributor to the growth of the semiconductor industry, Dr. Lam was inducted into the Silicon Valley Engineering Hall of Fame in 2013.

For more information, visit [www.multibeamcorp.com](http://www.multibeamcorp.com).

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