

# Veratag, LLC

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**Management:**

John Schneider, CEO

Ted Eveleth, COO/CFO

Josh Cross, CTO

**Industry:** Security, RFID**Number of Employees:** 3**Amount of Financing Sought:**

\$2,000,000 Series A

**Total Financing Received to Date:**

~\$125,000, including SBIR Phase I

**Use of Funds:** Finish Gen 1 product development, make key hires, establish selling channel partnerships

**Business Description:** Veratag, LLC is a start-up company led by two experienced entrepreneurs whose mission is to provide “absolute” security in RFID (radio frequency identification) and electronic lock-and-key systems by building on work done at Cornell University. The innovation is micro-electro-mechanical systems (MEMS) resonators which produce unique analog “voiceprint” signals when interrogated. Adding an antenna to these MEMS resonators to make an RFID tag, what we call a “MEMflake”, provides a unique, non-clonable way to identify a given RFID tag for authentication and counterfeit prevention purposes.

**Business Strategy:** MEMflakes are fabricated on the same silicon chips that go into standard RFID tags. These tags, along with readers and software, make up RFID systems. Reading our MEMflakes requires a non-standard reader, so in addition to creating MEMflake chips we are developing compatible readers which we do not anticipate will be higher in cost than standard readers. In order to accelerate market acceptance we have begun working closely with emerging channel partners to discuss selling chips, tags and readers.

**Product/Description:** MEMflakes are identically manufactured MEMS resonators which produce slightly different high frequency analog signals, making them as individual as snowflakes. In short, no two resonators have the same analog signature and no particular resonator signature can be made intentionally given natural production variation. A virtually infinite number of signatures are possible as a result. MEMflakes are ideally suited for RFID security devices because they are: unique, possessing an analog signature that can be read to identify it individually; secure, because cloning is effectively impossible and reproducing the unique frequency signature is difficult and expensive, requiring sophisticated equipment; cost effective, adding less than \$0.10 to a current tag compared to \$0.50 or more for encryption (the most common security protocol for RFID tags); CMOS compatible, so they can be incorporated with existing CMOS-based RFID chips; fast, so they can be used in high throughput applications.

**Technology/Special Expertise:** Veratag has licensed two pending patents from Cornell University’s Center for Technology, Enterprise & Commercialization. Veratag is developing application-specific intellectual property and process know-how around our core competency of MEMflake manufacturing, reader design and signal processing.

**Target Market:** According to the RFID market analysis firm IDTechEx, the current annual market for RFID tags will expand from \$1.22 billion in 2006 to \$2.9 billion in 2008. Of the \$1.22 billion in 2006, approximately \$800 million went to secure tags with \$100 million for passport tags alone. The two application spaces where MEMflakes will be used are unique identification and anti-counterfeiting. As a unique identifier, MEMflakes can be used for wireless payment, identification, and access cards which currently comprise the largest market segments in the RFID industry in terms of tag revenue. MEMflakes can be placed in ID cards (over one billion cards should be issued by various governments in the next few years), passports (about 40 million RFID enabled passports are issued each year), payment cards, or access keys to act as unique signature proxies for information like account numbers or identification numbers. As an anti-counterfeiting tool, MEMflakes can be used to prevent illicit duplication at the package level in pharmaceuticals (tens of millions of tags used today) and high-end goods.

**Competition:** RFID security, at the chip level, is almost synonymous with encryption. For RFID use, encryption requires building processing power onto a chip which raises costs. For example, a typical passive RFID chip costs a few pennies, whereas one with encryption capabilities comparable to encryption used in normal computing costs more than \$1.50. Almost all current RFID chip manufacturers support some kind of encryption. Veratag may sell to or partner with these companies to provide its type of security in addition to augmenting encryption. In the security world, rarely is a single security measure used alone. Most often several different security techniques are used together to create greater combined security barriers.