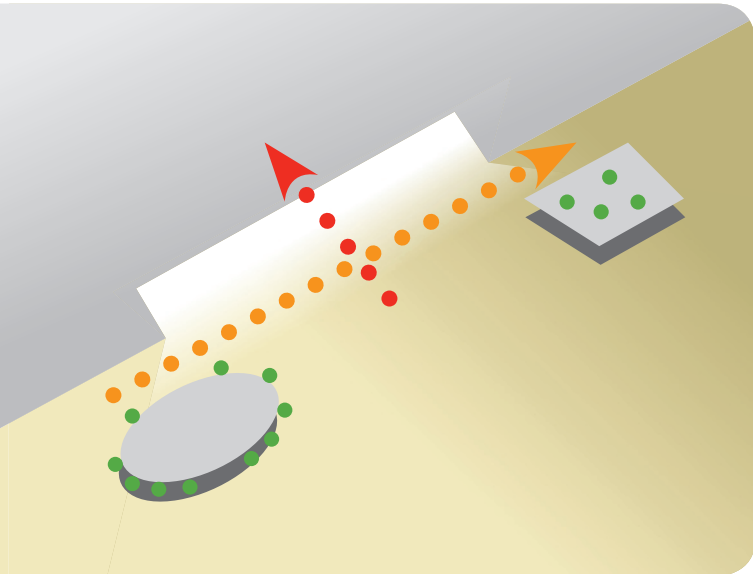


# Checkpoint's Unique, Patented Technology: Delivering Unprecedented Accuracy

RFID is characterized by long read ranges. RFID tags can be read at a distance, as far away as 20 feet. On the positive side, this provides powerful capabilities for identifying and tracking items in a "read zone", enabling a retailer to know exactly what merchandise is located, and where. However, the trade-off to long read ranges is the risk of stray reads. A reader at the exit door of an apparel store, for example, can read tags on merchandise on racks and shelves inside the store, rather than alarming only on items moving through the door.

Checkpoint now changes the rules of the game.



Wirama Radar distinguishes between items merchandised near the door, items moving along the door, and items moving through the door, and only alarms in case of a potential theft event.

Checkpoint's RFID-based solutions are powered by a unique combination of patented hardware and software technology called *Wirama Radar*<sup>™</sup>, which ensures data integrity critical to the solution's effectiveness:

**Wirama Hardware** identifies the location and directionality of a tag.

**OAT Filtering Software** eliminates unwanted reads from tags that are not moving through the door, so should be ignored.

Wirama Radar uniquely enables Checkpoint to deliver unprecedented accuracy and context in reporting the location and directionality of movement of tagged merchandise in a three-dimensional view, while adhering to all industry standards for networking and consumables.

Wirama Radar is able to determine if an apparel item is simply hanging nearby an exit door, or potentially being stolen. In addition, it can even recognize which way an item is moving, whether into the store, out of the store, or along the door. Wirama Radar ensures excellent alarm integrity, enabling store associates to take appropriate action when the alarm does sound.



# WIRAMA RADAR

## THE HERITAGE OF OAT AND WIRAMA

Wirama Radar's underlying technology is deeply rooted in cutting-edge science undertaken at leading research universities by researchers whose mission was to deliver world-class solutions to innovative retailers.

### OAT

The heritage of OAT goes back to research undertaken at the Auto-ID Lab at the Massachusetts Institute of Technology well over a decade ago. Its co-founders are credited with numerous RFID industry milestones, including:

- Defining and developing many of the standards and technologies that form the foundation of the commercial RFID industry
- Co-founding EPCGlobal, the worldwide RFID standards body
- Co-founding MIT's Auto-ID Center
- Developing early standards for RFID
- Managing early Auto-ID center field trials

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The software engineers who developed and continue to improve upon the OAT Foundation Suite bring world-class knowledge and insights to developing a solution that enables apparel retailers to track inventory movement accurately, enabling them to optimize supply chain and store operations.

### Wirama

Wirama Radar and its underlying patents tracks back to The University of California Berkeley and Santa Barbara, where innovative research by pioneers in wireless communication and signal processing led to the development of the industry's first 3D locationing of passive RFID tags. Prior to this development, locationing was possible only with more expensive active tags that run on batteries, which cost significantly more than passive tags and limit broad adoption for retail applications.

### Combination of OAT and Wirama

Each of these technologies itself provides retailers with unmatched benefits. Taken together, and adding Checkpoint's 40+ years of RF engineering and EAS experience, Wirama and OAT redefine the meaning of value from RFID for retailers. For the first time, the joint efforts of leading hardware and software researchers in California and Massachusetts are now at the core of the industry-leading solution that will deliver powerful benefits for apparel retailers seeking to optimize their inventory and shelf availability while at the same time enhancing loss prevention.

Only Checkpoint delivers this unique combination.

