Navigating AI in RTLS

Separating True Value from Marketing Hype

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Introduction

Artificial intelligence (AI) is a complex and rapidly evolving technology with many unknowns, but its potential impact is undeniable. Organizations have embraced the innovation and started to incorporate AI in different ways to achieve benefits ranging from improving patient outcomes to lowering healthcare costs.

However, not all AI is created equal, and much is still unknown about the technology. According to the Pew Research Center, while 90% of Americans have heard a little about AI, only one in three say they've heard a lot about it. Further, many report they don't fully understand how AI is currently being used and can't identify specific uses of the technology. To leverage AI tools to their fullest potential, potential buyers must be able to look critically at new technology to separate its true value from marketing hyperbole.

In the realm of real-time location system (RTLS) technology, AI can be used in multiple applications, but hospital leaders must carefully evaluate the value those applications deliver.

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The Role of AI in RTLS

Understanding the role of AI within an RTLS platform is crucial for recognizing its benefits, limitations, and overall value.

AI is predominantly used in RTLS for data analytics and reporting. After aggregating data, an AI platform can extract insights from extensive datasets.

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However, the value of AI insights directly correlates to the quality of the location data. Consistent and accurate data are essential. This presents a problem for many RTLS solutions. When the RTLS platform fails to achieve consistent room level data, the value derived from its insights is diminished. Additionally, AI as a reporting platform does not address the foundational issues of reducing infrastructure expense, maintenance, and enterprise scalability.

In another application, AI as the location engine can offer revolutionary value. AI has the potential to produce more accurate data without extensive hardware, installation, and maintenance expenses.

Evaluating Alternative Technology Options

To decipher the potential value of AI in RTLS, it's important to understand the limitations of traditional technologies, including infrared (IR), ultrasound, and Bluetooth (BLE). Each set of technologies has its own strengths and tradeoffs, but none check all the boxes for most customers.

→ **IR** and **ultrasound** have demonstrated to be reliable and accurate. However, to accomplish that accuracy, they require extensive hardware, which is expensive to purchase, install, and maintain. Consequently, healthcare providers often compromise coverage or accuracy to accommodate their budget, which leaves data gaps and diminishes the ROI potential.

→ **BLE** technology tends to be less expensive to install than IR and ultrasound, but the tradeoff for that lower cost is diminished accuracy. Most BLE platforms are limited to near-room accuracy without supplemental hardware. Without reliable in-room accuracy, the platform use case scalability is limited and hinders ROI potential.

In the end, none of these options meaningfully reduce infrastructure expenses, maintain accurate data, and provide the ability to scale — except AI.

Some RTLS providers have resorted to combining technologies to address different accuracy needs. However, a hybrid approach may require new or additional hardware to allow the different technologies to communicate. In the end, none of these options meaningfully reduce infrastructure expenses, maintain accurate data, and provide the ability to scale — except AI.

Technology	Infared	Blue Tooth (BLE)	Ultrasound	Artificial Intelligence
In-room Accuracy	●	◔	●	●
Implementation Disruption	●	◔	●	◔
Maintenance	◐	●	◐	○
Cost	$$$	$$	$$$	$

Maximizing the Value of RTLS with AI

AI used directly as location intelligence addresses the shortfalls of traditional RTLS technologies and maximizes their value. AI as the location intelligence provides consistent room-level accuracy with an ultralight hardware infrastructure, which has a domino effect that addresses many other traditional RTLS shortcomings:

- Alleviates the majority of hardware, installation, and maintenance expenses, allowing for faster ROI

- Enables outdoor coverage, a capability that has long eluded traditional RTLS technologies

- Harnesses machine learning and continuous accuracy improvement

- Campus-wide coverage from day one, without extensive and costly hardware to deploy

- Eliminates costly upgrades when the physical environment is changed

- Scalable to nearly all RTLS use cases without additional infrastructure

AI as the location intelligence provides consistent room-level accuracy with an ultralight hardware infrastructure

Hospital RTLS: Separate True Value From Marketing Hype

Cognosos is the first and only RTLS provider that uses AI as its location intelligence, differentiating itself in the marketplace with distinct capabilities that overcome the limitations of older RTLS technologies:

- → Room-level accuracy
- → Ultra-lightweight infrastructure to reduce hardware, installation, and maintenance expenses
- → Physical installation that can be completed in just days
- → No reliance on Wi-Fi network to reduce burden on IT

To learn more about how AI can increase efficiency, improve safety, and elevate care for hospitals, download our eBook, "How AI Changed the RTLS Game." In it, you will learn how AI can overcome traditional RTLS shortcomings, optimize asset management, and keep frontline workers safe.

The best way to learn how hospitals and health systems can harness the power of AI is to see it for yourself. **Contact us** today to schedule an on-site demo.

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