



# Advanced Presence Sensing: What It Means for the Smart Home

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# Advanced Presence Sensing: What It Means for the Smart Home

- **2023: the year presence detection becomes present?**
- **Main topics of discussion:**



- How is “presence detection” defined?
- Technologies/protocols enabling presence detection
- Consumer demand and potential use cases
- Long-term outlook for presence detection

# Advanced Presence Sensing: Solution Types

Intelligent  
Understanding

Ambient computing; the “Holy Grail”

Persistent Awareness

Mostly automatic adjustments room-to-room

Differentiated  
Detection

Distinguish people/pets from objects

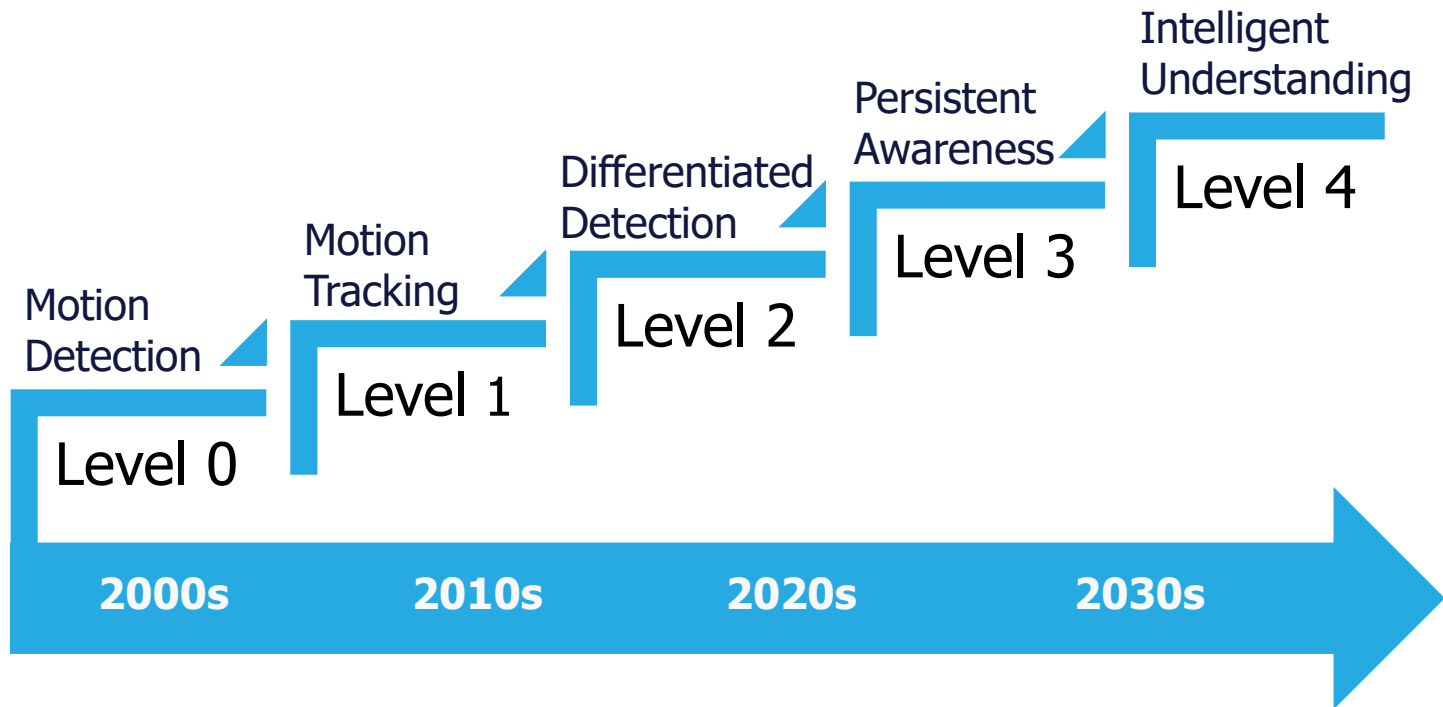
Motion Tracking

Follow detected objects across field of view

Motion Detection

Basic, binary detection; “yes” or “no”

# Advanced Presence Sensing: Timeline



# Advanced Presence Sensing: State of the Market Today



## **Bluetooth: Fast and simple with a catch or two**

- Familiar and ubiquitous; limited range and signal strength



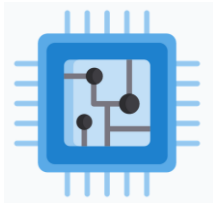
## **Wi-Fi: Almost everywhere; coverage issues linger**

- Utility-like service; mesh Wi-Fi to the coverage rescue?



## **GPS: Enhanced accuracy with a few caveats**

- Trusted, familiar; power-hungry, not as effective indoors



## **Emerging solutions: not just science fiction**

- Radar, sonar and other audio processing, thermal

# Advanced Presence Sensing: Cameras are Key to the Future



## Enhanced facial and person recognition

- Rapid improvement; soon to be a default offering?



## Contextual awareness once presence is detected

- Combine embedded components with cloud analytics



## Autonomous collaboration with other devices

- Tracking throughout the home; Matter plays a role here



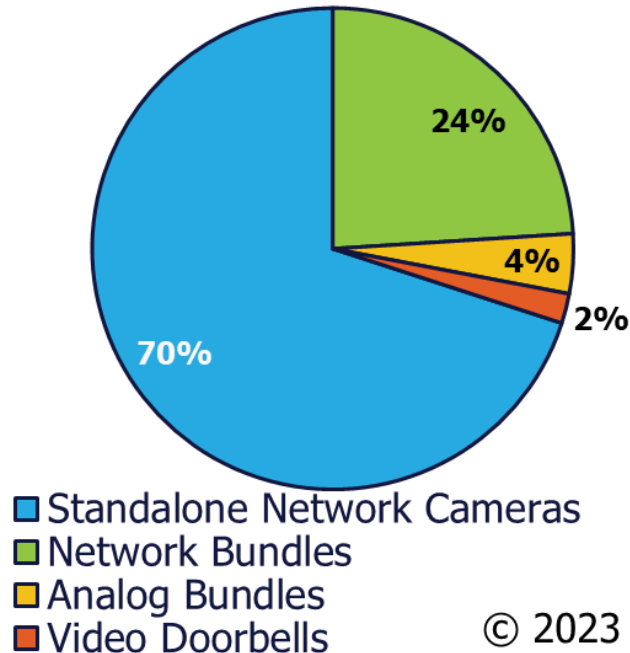
## Emerging solutions: not just science fiction

- Personalized smart rooms based on who is detected

# Advanced Presence Sensing: Starting Points

- Self-installed consumer cameras purchased from retailers are the foundation of any presence sensing solution
- Solutions provided by communications service providers (ISPs, telcos, interactive security providers) will have more prominent roles over the next 10 years

Consumer and DIY Video Surveillance Equipment: % of Global Units Shipped

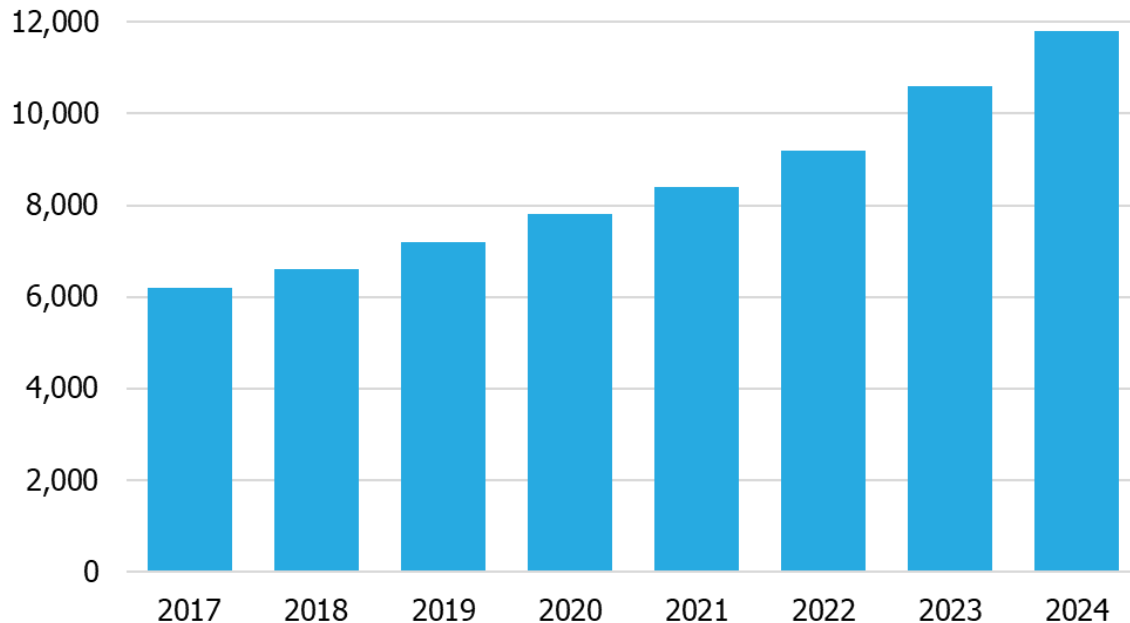


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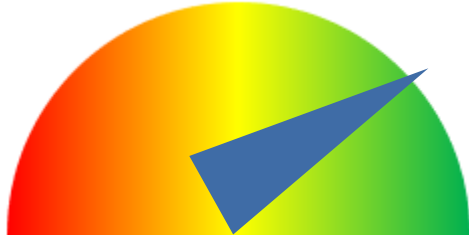
# Advanced Presence Sensing: Aging-in-Place Emerges as a Potentially Perfect Use Case

- Discreet, camera-free presence detection of motion (including gait, stability) and lack of motion are in demand
- Working with patient information and privacy regulations will be a challenge

World Market for Consumer Independent Living Monitored Accounts (in thousands)

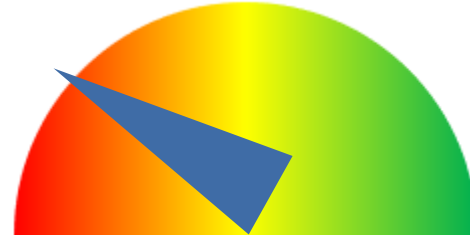






## Presence detection drivers

- Consumers desire more context from smart home alerts and notifications
- Brands eager to create subscription-based services



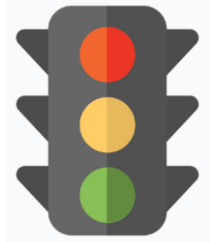
## Presence detection inhibitors

- Complex solutions weaken consumer interest
- The “smart home as a service” finish line is far, far away



## **Presence detection is the start of ambient computing**

- Binary (occupied/empty, open/closed) sensors and solutions will rapidly evolve into intelligent endpoints
- Context is king for consumers
  - More meaningful notifications, less spammy alerts



## **Buckle up, software developers and component makers**

- The speed at which presence detection will enter the market will be impressive
- Companies facilitating or enhancing presence detection need to be careful to not implement tech for tech's sake

**Thank you – enjoy the rest of the summit!**

## **Recent Smart Home Research by Omdia**

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[Calendar 1Q23 update on Matter](#)