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# Building Applications with Neuromorphic Sencors

## The Future of Vision Technology

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## The Future of Vision Technology

### Event-Based Vision Inspired by the Retina

- A bio-inspired vision system captures dynamic, motion-driven data with ultra-fast, low-power processing
- Sub-millisecond latency (0.5 ms) | >120 dB dynamic range | No motion blur | 0.1 W power consumption
- Reduces data load by capturing only changes - ideal perfect for edge AI and lembedded systems

### Key Benefits:

- Ultra-efficient and fast processing for real-time applications
- Robust performance in extreme lighting and motion conditions
- Privacy-first data model with minimal bandwidth usage

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**defence@infili.com**

## Applications and Solutions

### Defence and Aerospace

- Drone and UAV detection and tracking in cluttered or GPS-denied environments
- High-speed obstacle avoidance for autonomous drones in complex terrains
- Multimodal fusion (RGB + Event-based Vision) for enhanced drone detection

### Automotive and Mobility

- Real-time driver monitoring and fatigue detection
- High-speed object tracking and low-light navigation
- Essential technology for autonomous vehicles

### Industrial Automation and Robotics

- Ultra-fast motion analysis for predictive maintenance
- Precise object tracking and counting at 1,000+ objects/sec
- Energy-efficient AI vision for real-time automation

### Healthcare and AI-driven Medical Technologies

- AI-powered eye tracking for assistive devices and diagnostics
- Microfluidic analysis for biotech and pharma
- Next-gen vision restoration and neural prosthetics

### Smart Cities and Security

- Crowd monitoring and movement analysis for urban environments
- Gesture-based interfaces for touchless control and AR/VR
- Privacy-first AI surveillance with minimal data storage