

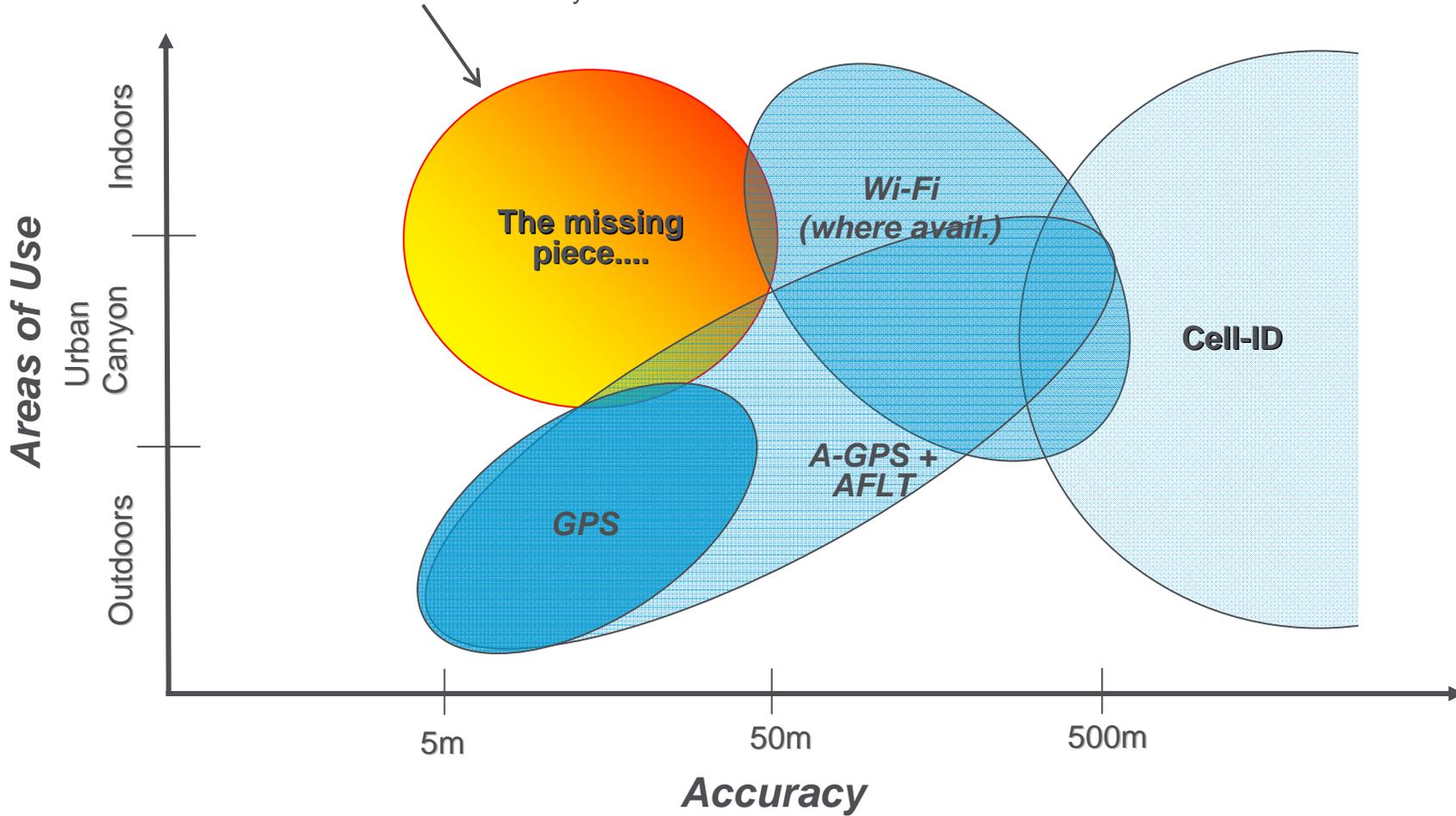
NextNav, LLC

Urban and Indoor Positioning Services

October 24, 2012

Positioning Technology State of Affairs

The challenge is a reliable high-precision solution indoors where mobile devices are used today



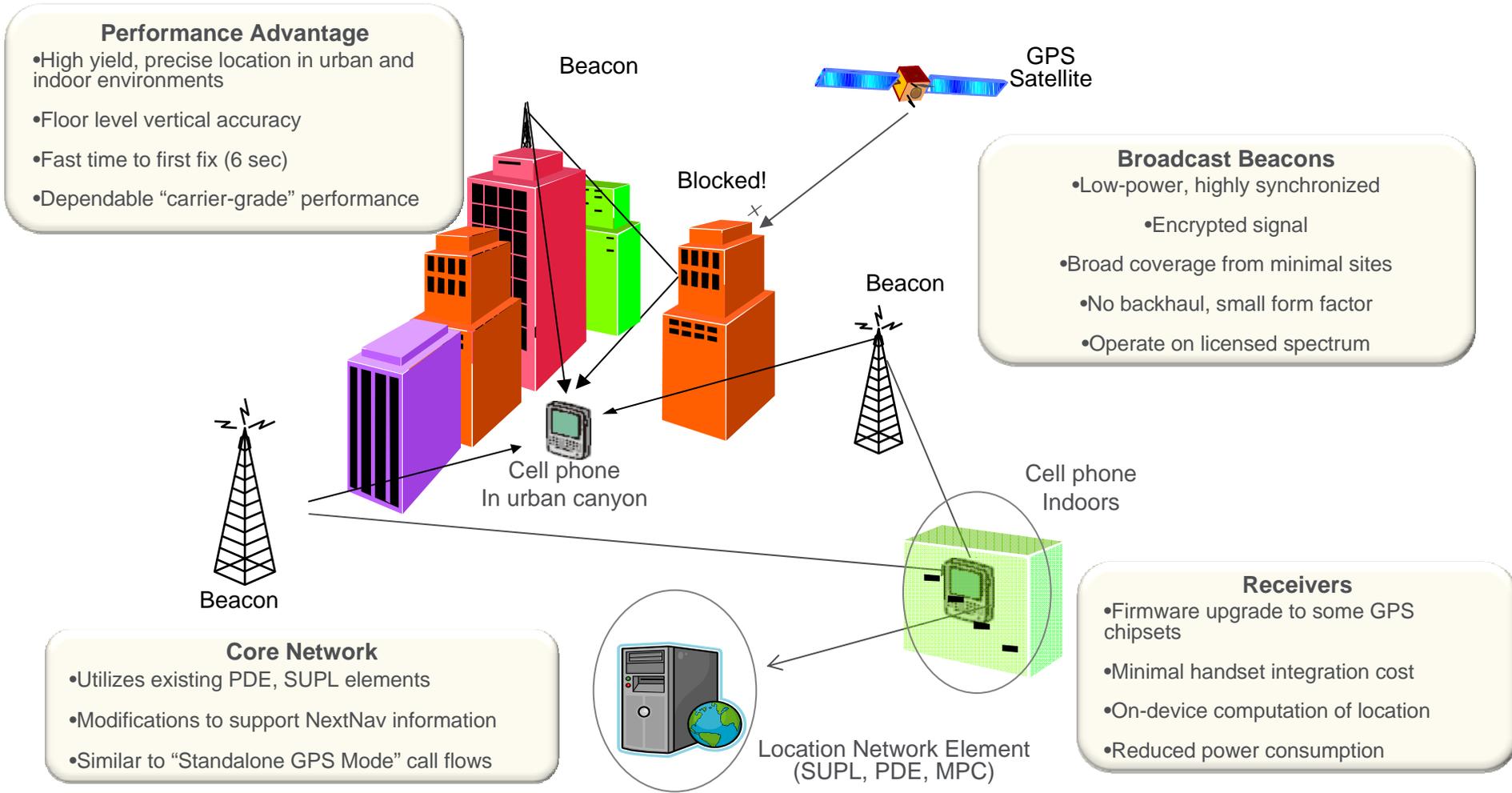
What Is The Ideal Solution?



- High accuracy in urban and indoor environments
- High reliability, high yield and pervasive coverage (ubiquitous scale)
- Low time to first fix and reduced power drain
- On-device location computation (personal privacy)
- Minimal device, core network impact and application impact

A terrestrially-based positioning constellation, compatible with GPS, would satisfy all of these requirements

NextNav Metro Overlay Deployment



Performance Advantage

- High yield, precise location in urban and indoor environments
- Floor level vertical accuracy
- Fast time to first fix (6 sec)
- Dependable “carrier-grade” performance

Broadcast Beacons

- Low-power, highly synchronized
- Encrypted signal
- Broad coverage from minimal sites
- No backhaul, small form factor
- Operate on licensed spectrum

Core Network

- Utilizes existing PDE, SUPL elements
- Modifications to support NextNav information
- Similar to “Standalone GPS Mode” call flows

Receivers

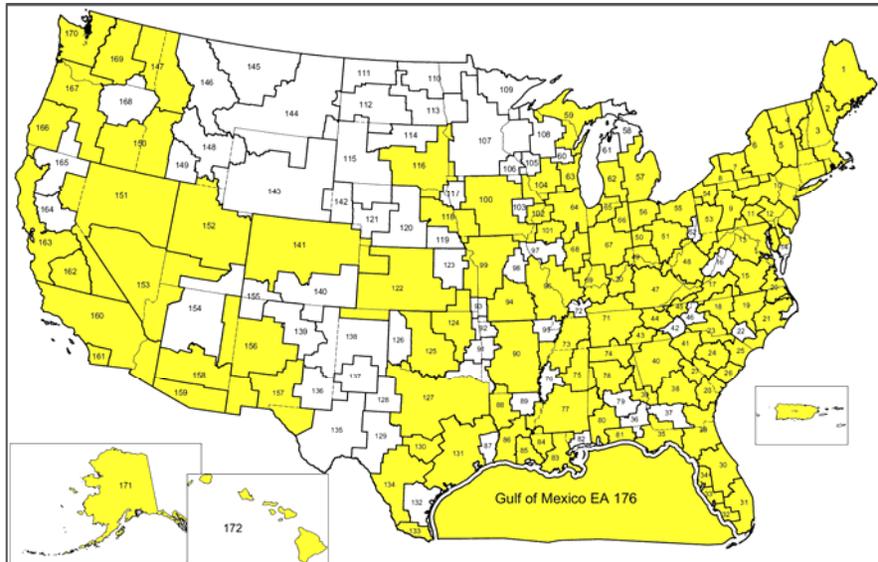
- Firmware upgrade to some GPS chipsets
- Minimal handset integration cost
- On-device computation of location
- Reduced power consumption

Location Network Element (SUPL, PDE, MPC)

Fully Managed Location Network



Licensed Spectrum

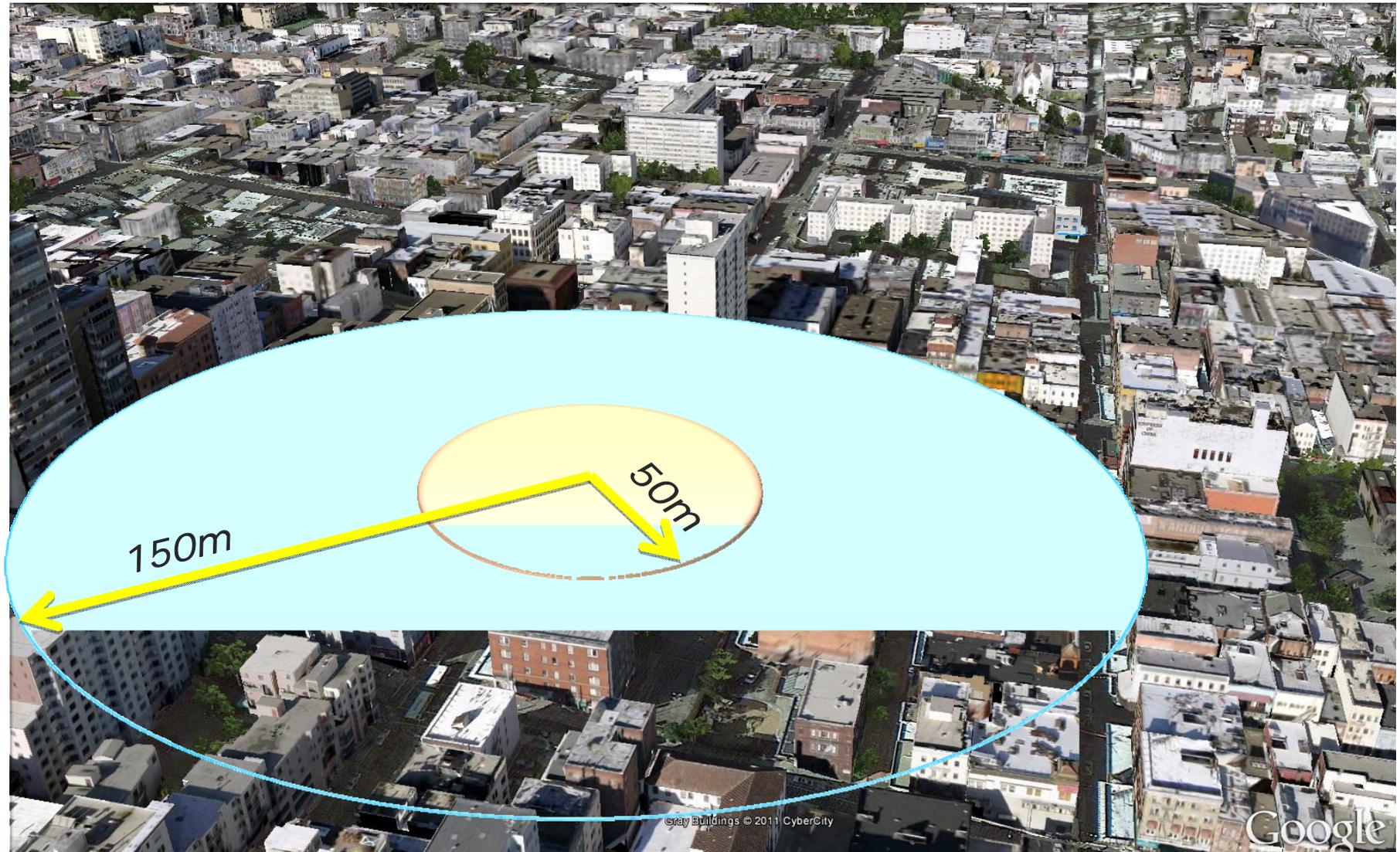


- Approximately 93% POP coverage (near total urban coverage)
- Spectrum designated for location services in attractive 900 MHz band

Managed Location Network

- Every network element owned, operated and managed by NextNav
- Broadcast beacon locations selected to optimize location precision
- Use of owned assets and licensed spectrum ensures performance
- Accuracy and dependability suitable for public safety applications (e.g., E911)
- National network deployment underway

Existing E911 Rules (Outdoor)



In-Building Requires High Performance Location – and Height

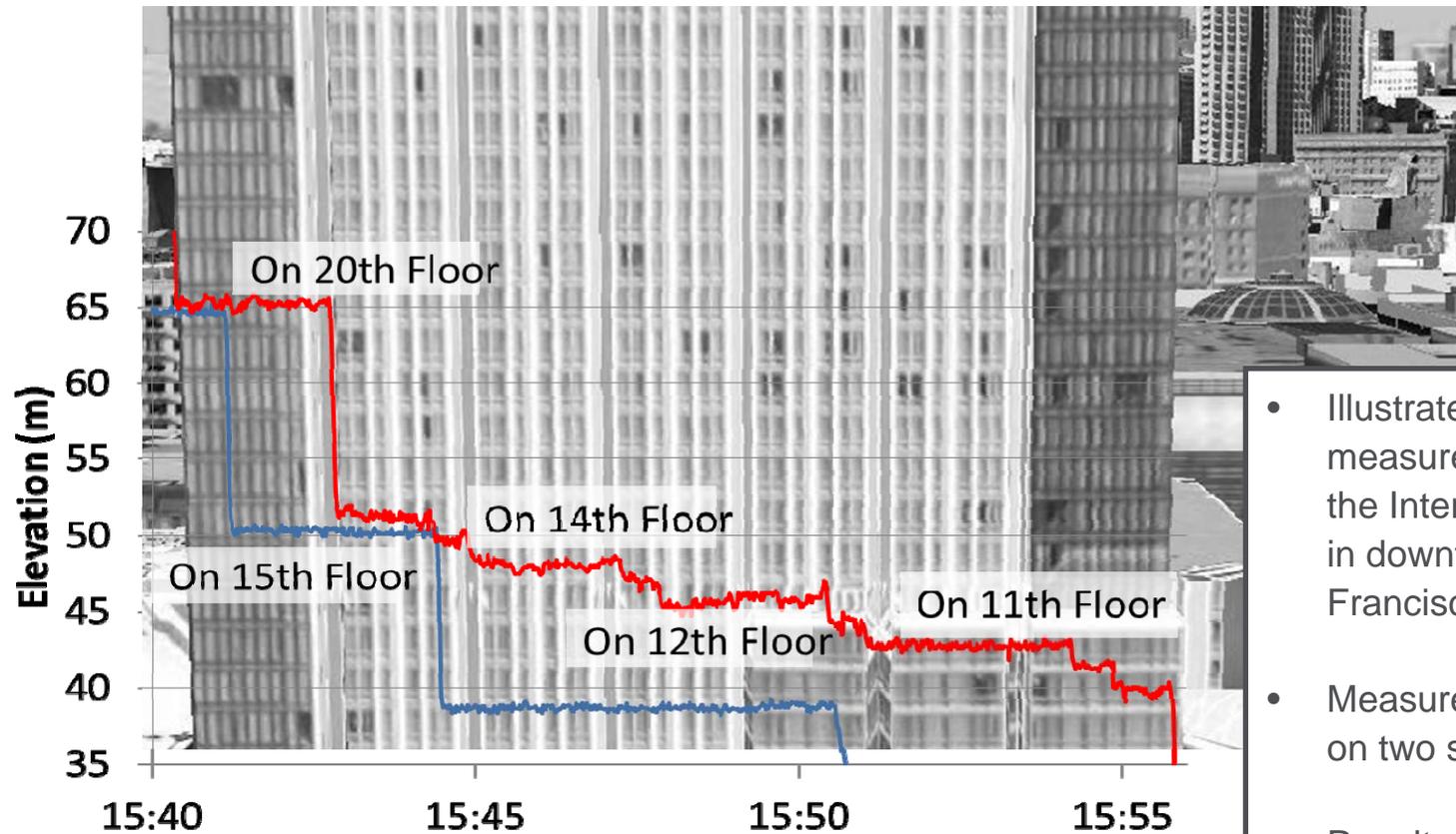


- NextNav's wide area testing demonstrates building-level (26m) performance 67% of the time – and consistent floor-level height accuracy



Note: building image is illustrative only, and does not represent an actual floor plan.

Floor-Level Height Accuracy



- Illustrates live height measurements made in the Intercontinental Hotel in downtown San Francisco
- Measurements recorded on two separate days
- Results replicated in dozens of urban buildings

Summary



- **NextNav is deploying a nationwide indoor positioning system**
 - Fully managed nationwide network brings high-precision, reliable location indoors
 - Delivers floor-level height information across entire coverage area
 - Underlying technology requires minimal chipset and device integration
 - Encrypted signals allow management of access to technology and prevents spoofing
 - Complementary with GPS and as fail-safe urban alternative in event of GPS outage/degradation
- **NextNav is participating in the CSRIC test-bed trials to demonstrate that high-yield, high accuracy, horizontal and vertical location capability can become a near-term reality for E911 and public safety**