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the
Future™**

2025 ADC IIF

Leveraging Technology to Optimize Installation Management

Agenda

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QUESTIONS
FROM
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Abstract Review & Panel Member Intro

With the availability of new and innovative methods, processes and tools, installation management professionals now have access to advanced analytics, automation, artificial intelligence and next-generation systems engineering like digital twins. This session explores some of the latest ways installations can and are leveraging technology to improve efficiency and effectiveness.



Colonel Travis Pond
Deputy Commander,
88th Air Base Wing
Wright-Patterson AFB, OH



Mr. Kevan Dilworth
C2 Modernization
Program Manager
88th Air Base Wing



Mr. David Canestrare
Air Force Research Laboratory
Advanced Planning &
Autonomous C2 Systems
Branch Chief



Mr. Pete Michaelson
Chief Technology Officer
U.S. Army Installation
Management Command



Ms. Allison Long
Program Manager, Army
Installations Modernization Pilot
Program, Army Engineer
Research and Development
Center

Installation Management Tech to Consider



Internet of Things (IoT) Sensor Integration



Digital Twins



AI Predictive Data Analytics



AI Data Analytics Automation

Considerations for Implementing New Tech



Workforce Skills Development



Data Security



Scalability



Interoperability

❖ **Question #1**

Colonel Pond and Mr. Dilworth please describe the intent of the C2 Modernization program at Wright-Patterson AFB and discuss how it is progressing?



88 ABW C2 Modernization



Mr. Kevan Dilworth
Program Manager
C2 Modernization Branch
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**“We must accelerate change or lose” –
General Charles Brown, USAF**

Landscape

- WPAFB is one of the largest Air Force bases in the world
 - Over 115 mission partners
 - 35,000+ personnel
 - 700+ facilities
 - ~\$400M support to lethal, ready Airmen for worldwide contingency operations
- Mutual aid agreements with 101 departments across 4 surrounding counties
- ~25% of total responses are mutual aid
- Only swift water dive team in 5 county area
- Concurrent jurisdiction roadways surrounding nearly 8,000 acres of land in 2 counties



Challenges

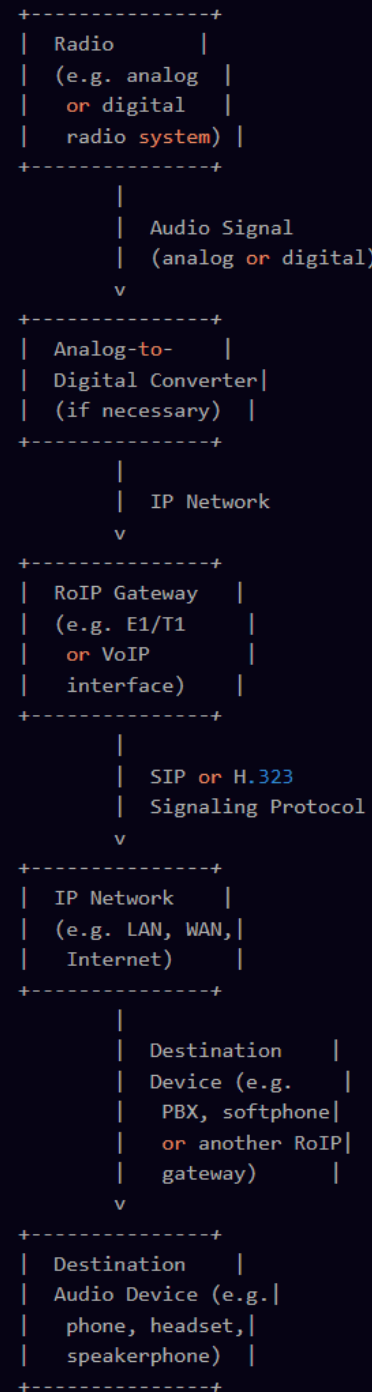
- Lack of interoperability
 - Multi-agency radio communications limitations
 - Multiple, disparate common operating pictures
- Lack of resilient infrastructure
 - Cellular degradation – reliance on OTP applications (Signal, WhatsApp, etc.)
- Lack of a Computer-Aided Dispatch (CAD)



2019 EF4 tornado

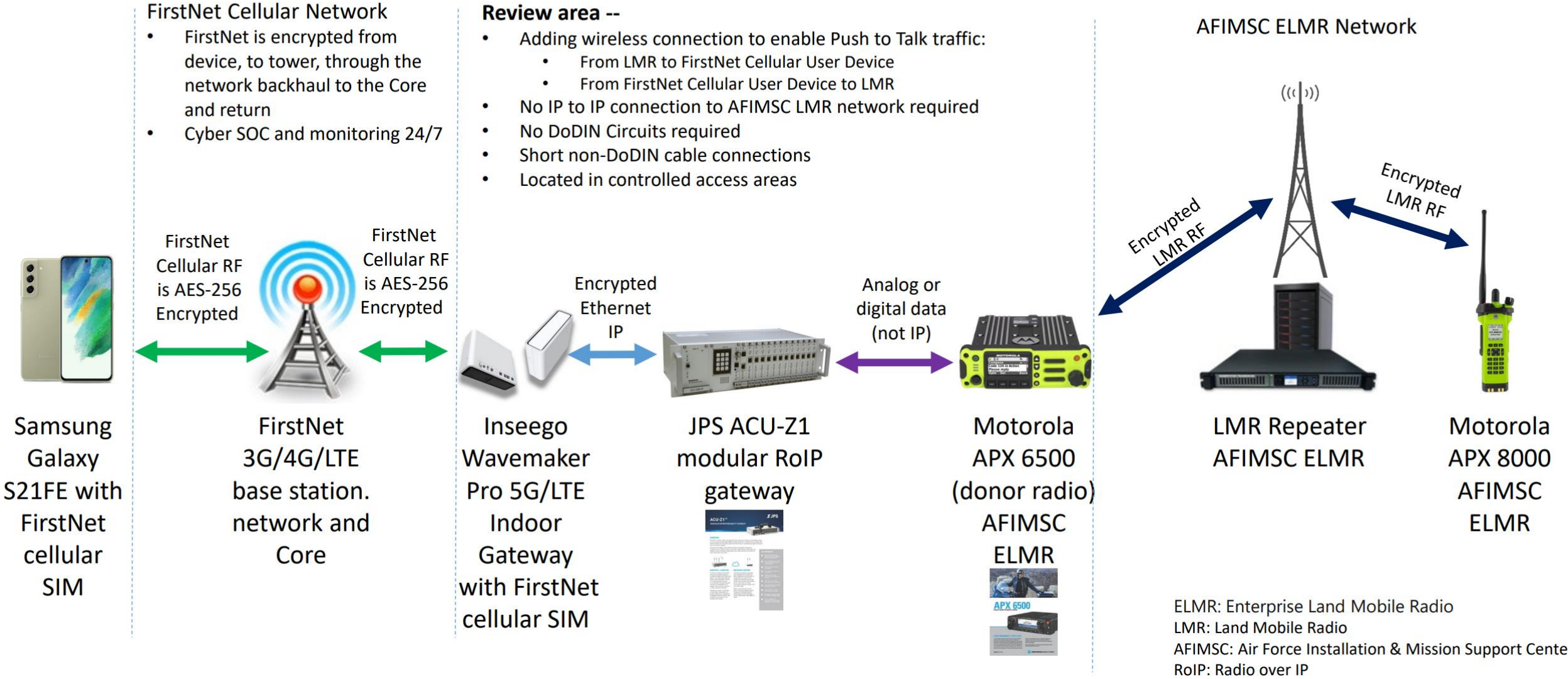
ROIP

- Many states MARCS is funded by tax-exempt administrative building fund bonds - IRS limited for federal users to 10%
- Mix of APX 6/7/8000 series LMR's
 - Costly procurement
 - Sub-optimal LOGDET (logistics detail – serviceable/ state of the art)
- Over 150 deployed EUD's locally
 - EPTT app/ capability
 - DISA DMUC app store
 - Pre-configured talk groups
 - Concurrent jurisdiction (LE)
 - Mutual aid (FD)
- Compliance
 - **No cyber ATO required**
 - Joint Interoperability & Test Command (JTIC) & LMR PMO review completed
- Low-dollar barrier to entry

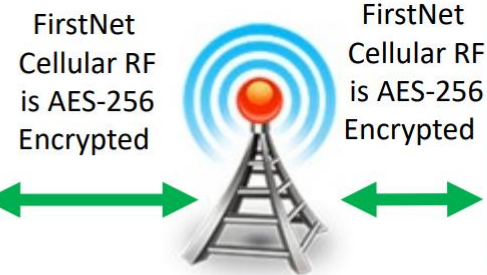


Wright Patterson: Enabling of LMR to FirstNet Cellular LTE

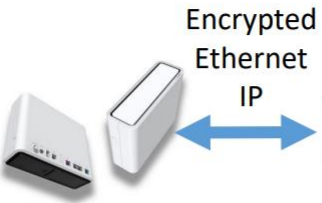
There is not a DoDIN connection
 Is there a need for JITC to further review?



Samsung Galaxy S21FE with FirstNet cellular SIM



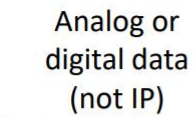
FirstNet 3G/4G/LTE base station. network and Core



Inseego Wavemaker Pro 5G/LTE Indoor Gateway with FirstNet cellular SIM

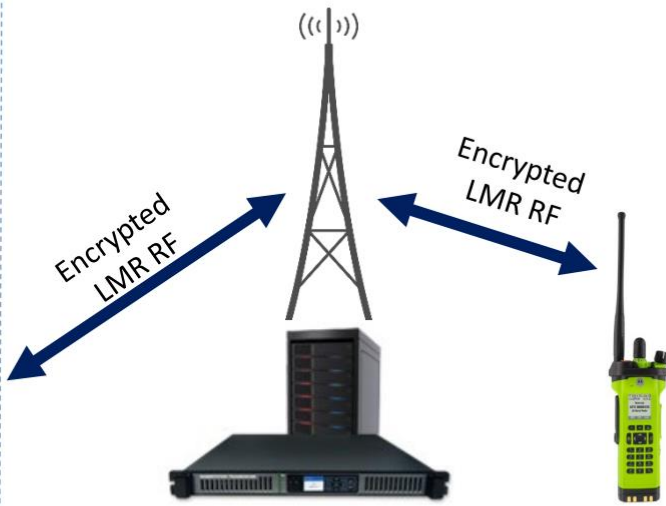


JPS ACU-Z1 modular RoIP gateway



Motorola APX 6500 (donor radio) AFIMSC

ELMR



LMR Repeater AFIMSC ELMR

Motorola APX 8000 AFIMSC ELMR

All Roads Lead to TAK



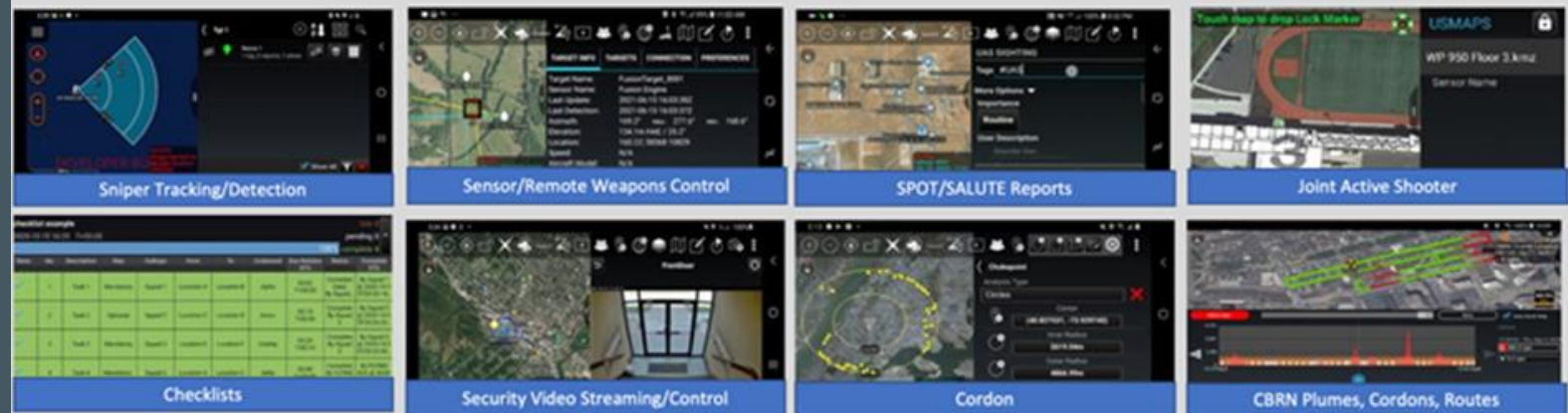
Team Awareness Kit (TAK)

- The central hub of our ecosystem
- Scalable, dynamic, & interoperable
- Joint program of record in use across DoD since 2010
- Over 400k users including FBI, ATF, USSS, FEMA, Texas DPS, COTAK, US Forest Service & USDA
- 230+ plug-ins
- GOTS – Zero licensing

WPAFB use case

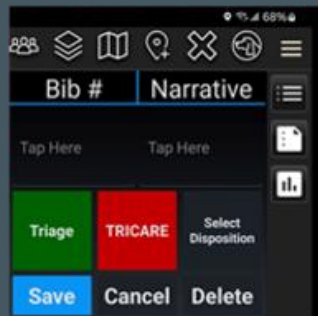
- Total ABW solution supporting all base defense operations and beyond

Software downloadable at TAK.gov

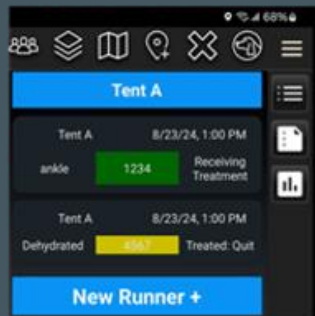


USAF Marathon 2024

- 20-25,000 annual attendees
- Server federation with FBI & Army
- Non-federal mission partners
 - Beavercreek PD
 - Vandalia PD
 - Xenia EMS
 - Premier Health (contracted medical)
 - Fairborn RTA
- Onboarded with QR code, BYOD capable
- >250 EUD's & sensors, 95+ users, >60 camera feeds



Athlete Intake and Triage



Aid Station Management

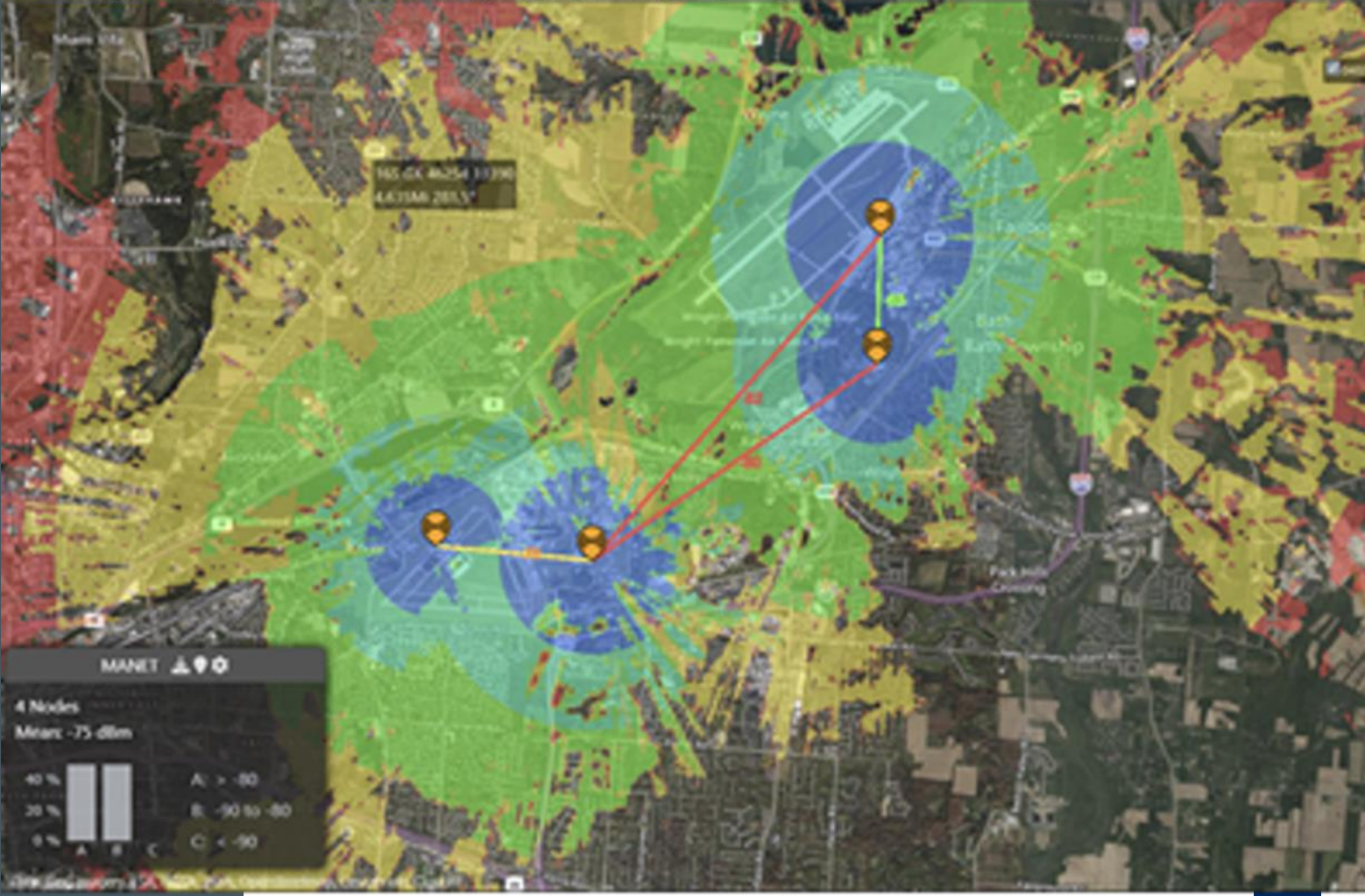


Incident Command Triage Reporting



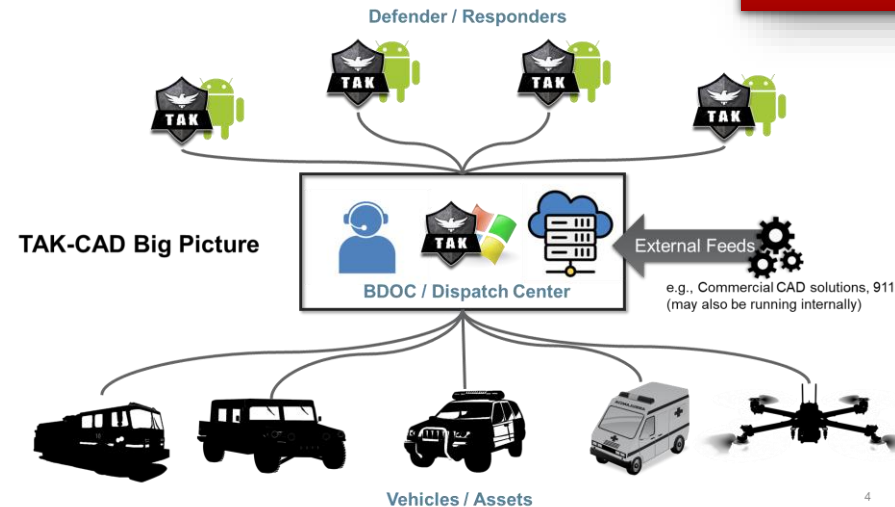
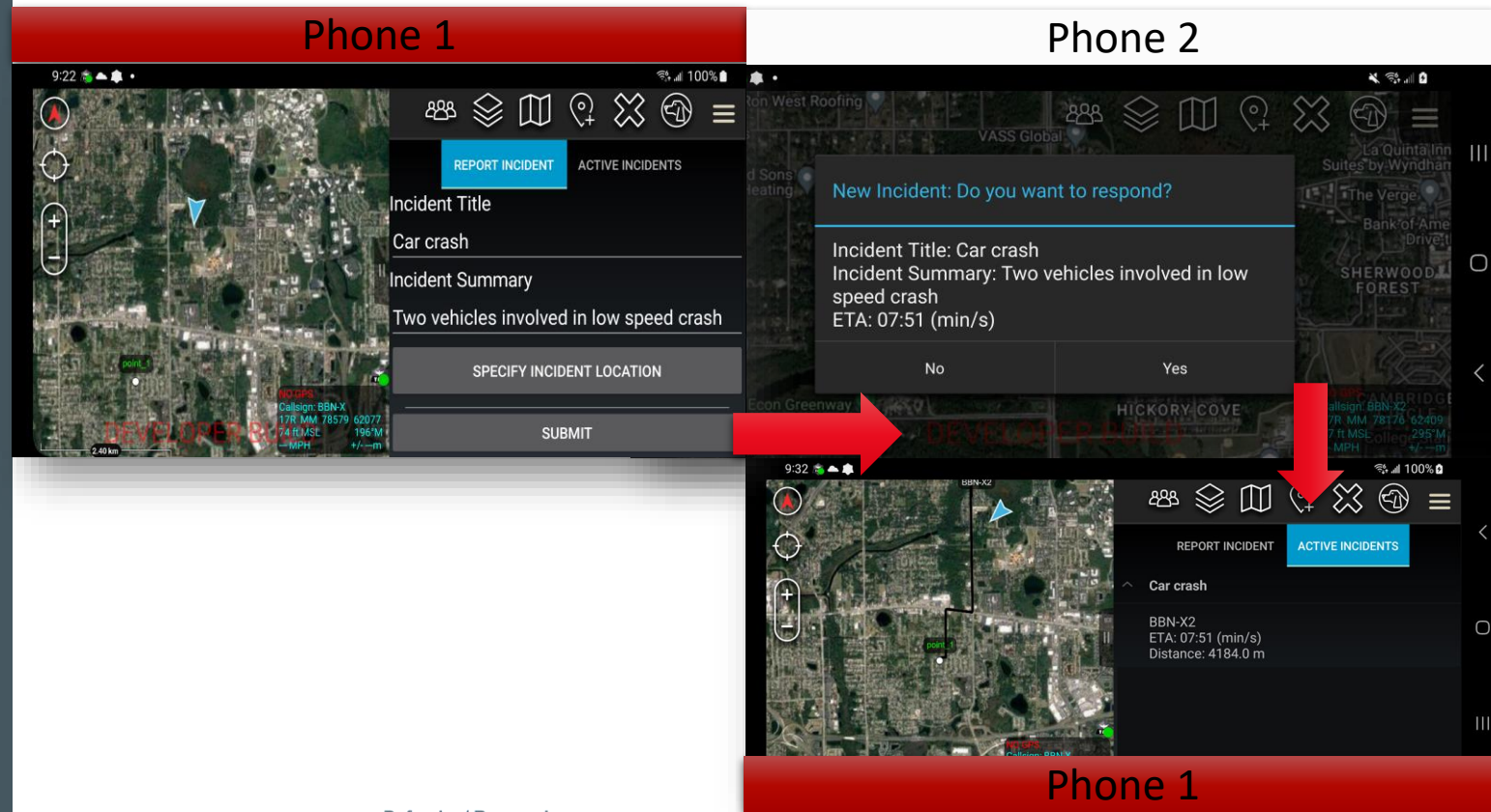
Communications

- During major events, recurring OTP application disruption
 - 15+ minute delays in messaging
 - Failed or dropped calls
- All base defense operations converted to First Net in 2020
 - >150 EUD's across SF, Fire, EOD, & key leadership positions
 - Coordinated with FNA, 4 new band 14 towers off base + 7 cell signal boosters on base (no cost)
 - Limited sustainment tail for devices
- Fielded low power RF Mesh
 - Many DoD training sites & ranges with little to no coverage
 - Terrain
 - Interference
 - Location (water, contingency, etc.)
 - Users traveling in and out of cantonment
 - Benefits
 - Solar powered relays
 - PLI, messaging, + data packages
 - VHF or UHF (programmable)
 - Surge device connectivity



CAD

- Tool for dispatchers and responders (WinTAK and ATAK)
 - Enable incident entry, response management and information sharing
- Incident data entry
- Realtime SA of responders, their routes + on - scene ETAs
- Vehicle status + availability
- SA for responders: what to expect upon arrival
 - Streetview/satellite imagery of scene
 - History of prior responses
 - List of who else is responding and their ETA



Question #2

Allison and Pete, looking at this technology from the Army enterprise perspective: what are your initial thoughts? How do you ensure that innovative technological solutions like this are being leveraged to support all of your installations?

IMCOM Overview

We are the Army's Home

Mission: IMCOM integrates and delivers installation support in order to enable Quality of Life for People and Readiness of the Army.

Vision: Modern, resilient, sustainable Installations, enhancing Strategic Readiness, while providing Quality Facilities, Services, and Support to our Soldiers, their Families, Army Civilians and Soldiers for Life.

IMCOM Core Competencies

- Provide Soldier & Family services
- Manage the Regular Army's infrastructure
- Support Warfighter Readiness & Deployability
- Provide & Integrate Base Operations Services



Soldier/Family Services



Infrastructure



Readiness/Deployability



Base Operations



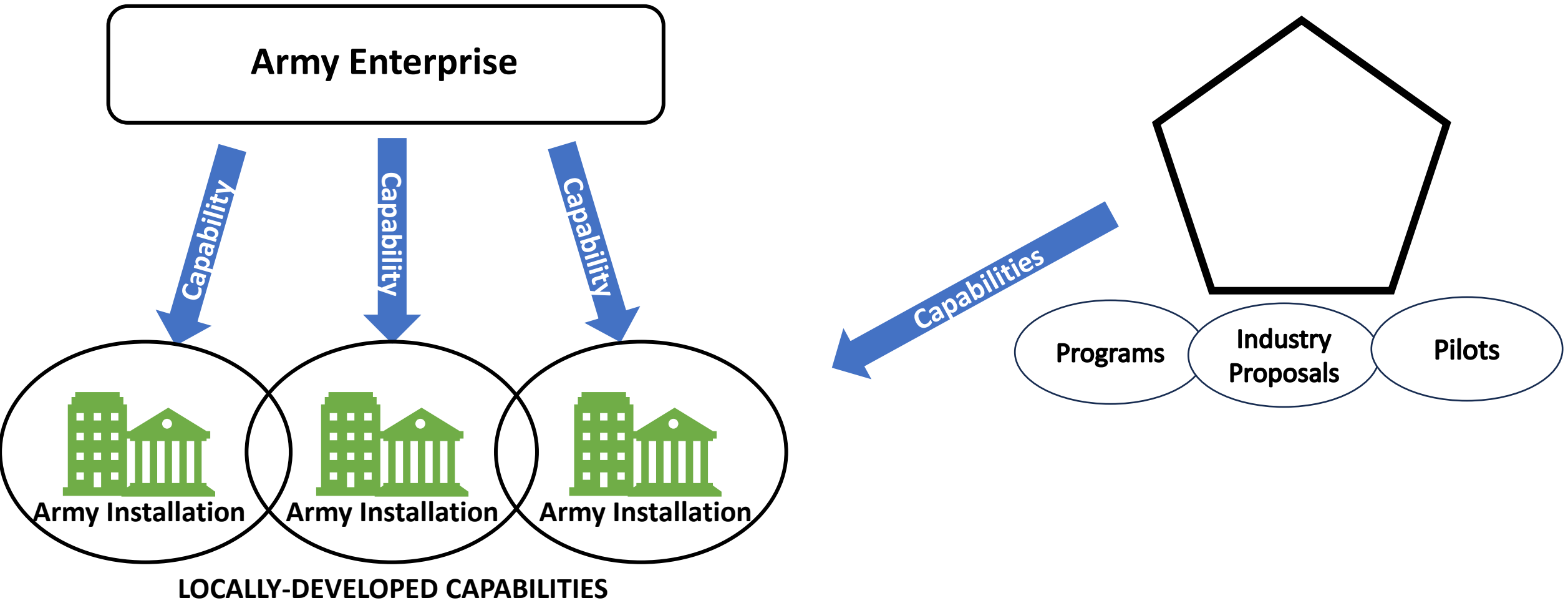
Army Installations Modernization Pilot Program Overview

- The Army Installation Modernization Pilot Program (**AIMP2**) is the **Army's Installation's of the Future Program**.
- Funded annually from the Office of the Assistant Secretary of the Army for Installations, Energy and Environment (**ASA IE&E**), Supported through the US Army Corp of Engineers Engineer Research and Development Center (**ERDC**).
- Began in 2017 and continues to define and identify projects within industry, partner cities or installations.
- Completed the first Installations Capability Based Assessment in 2024, to align defined capabilities and identify initial requirements.

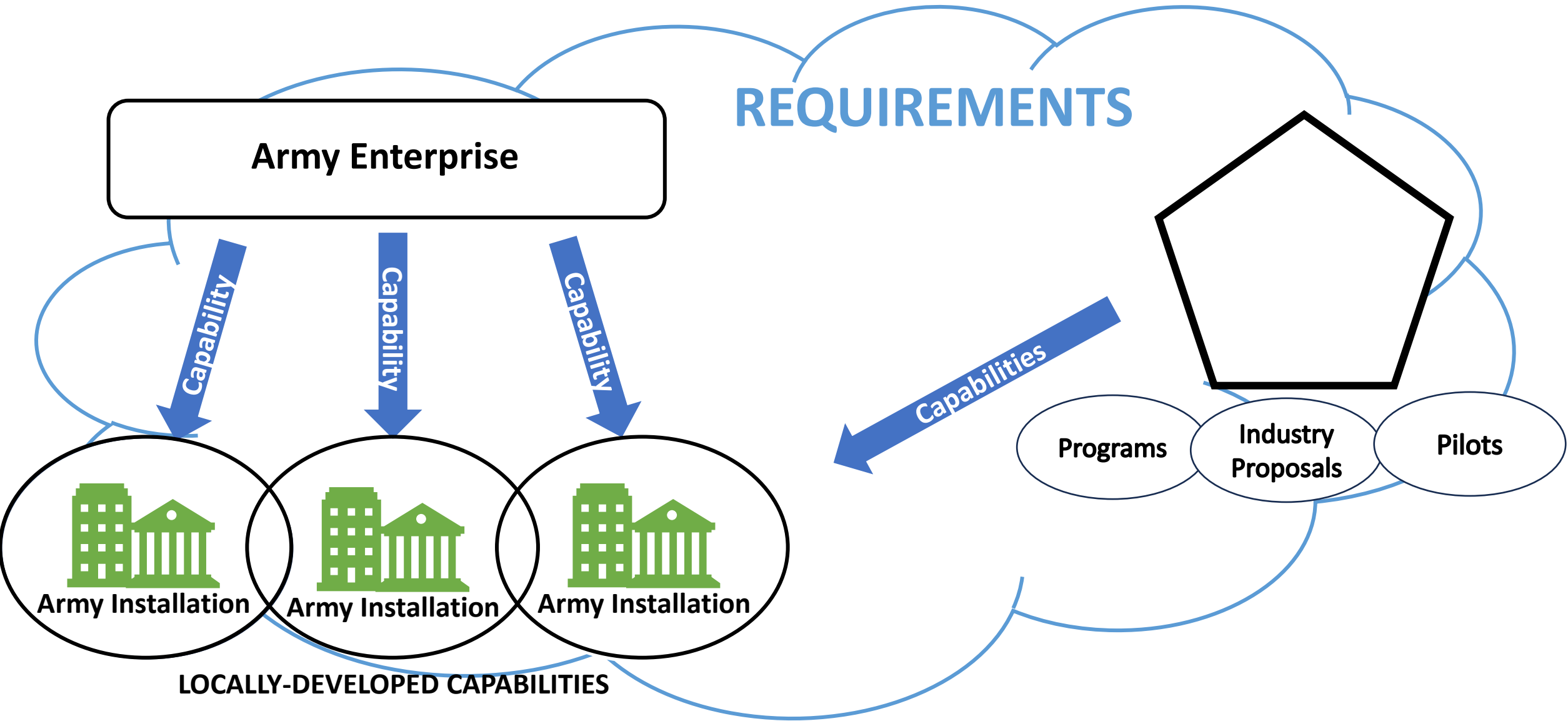
Moderator Question (Remove Slide)

- (After USAF technology presentation) Allison and Pete, looking at this technology from the Army enterprise perspective: what are your initial thoughts? How do you ensure that innovative technological solutions like this are being leveraged to support all your installations?

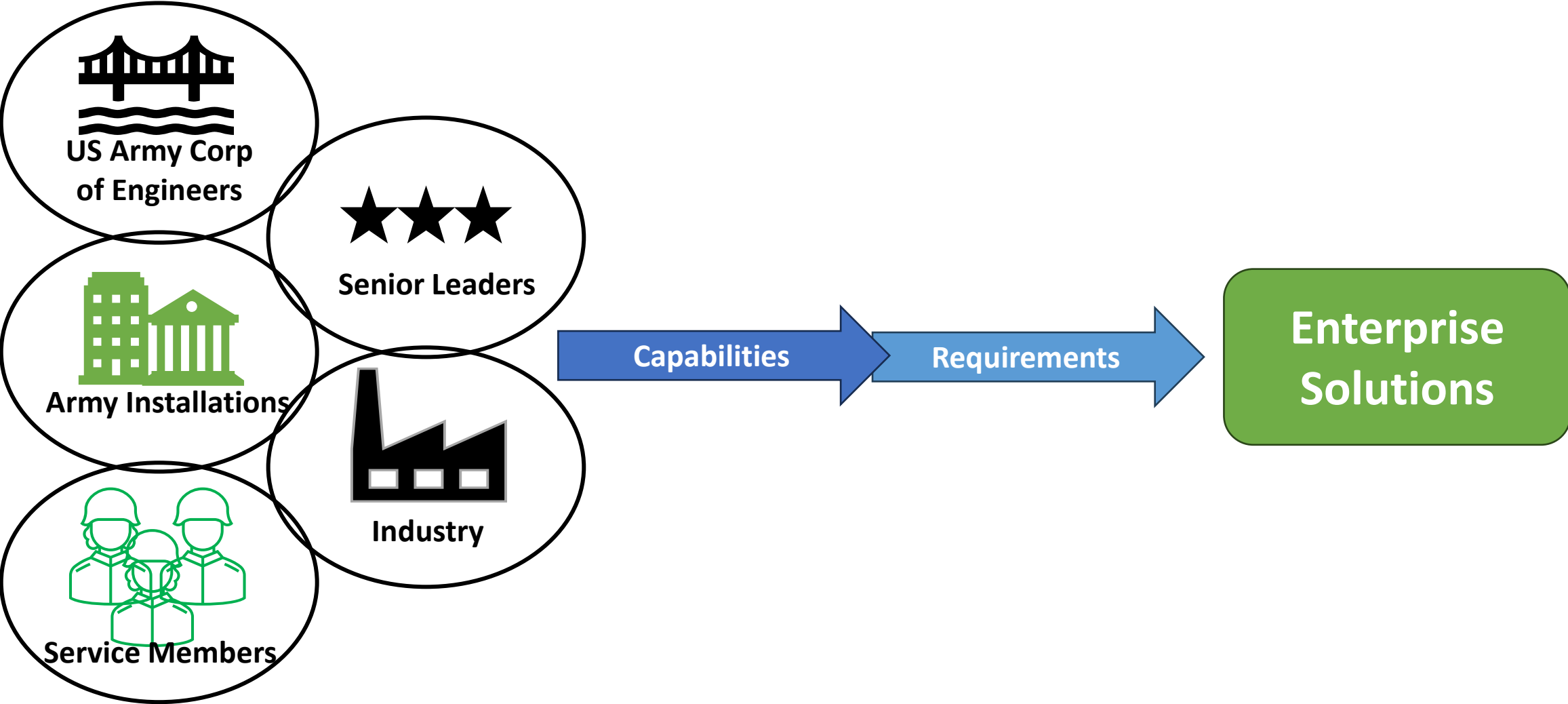
Historical Status of Modernization Process



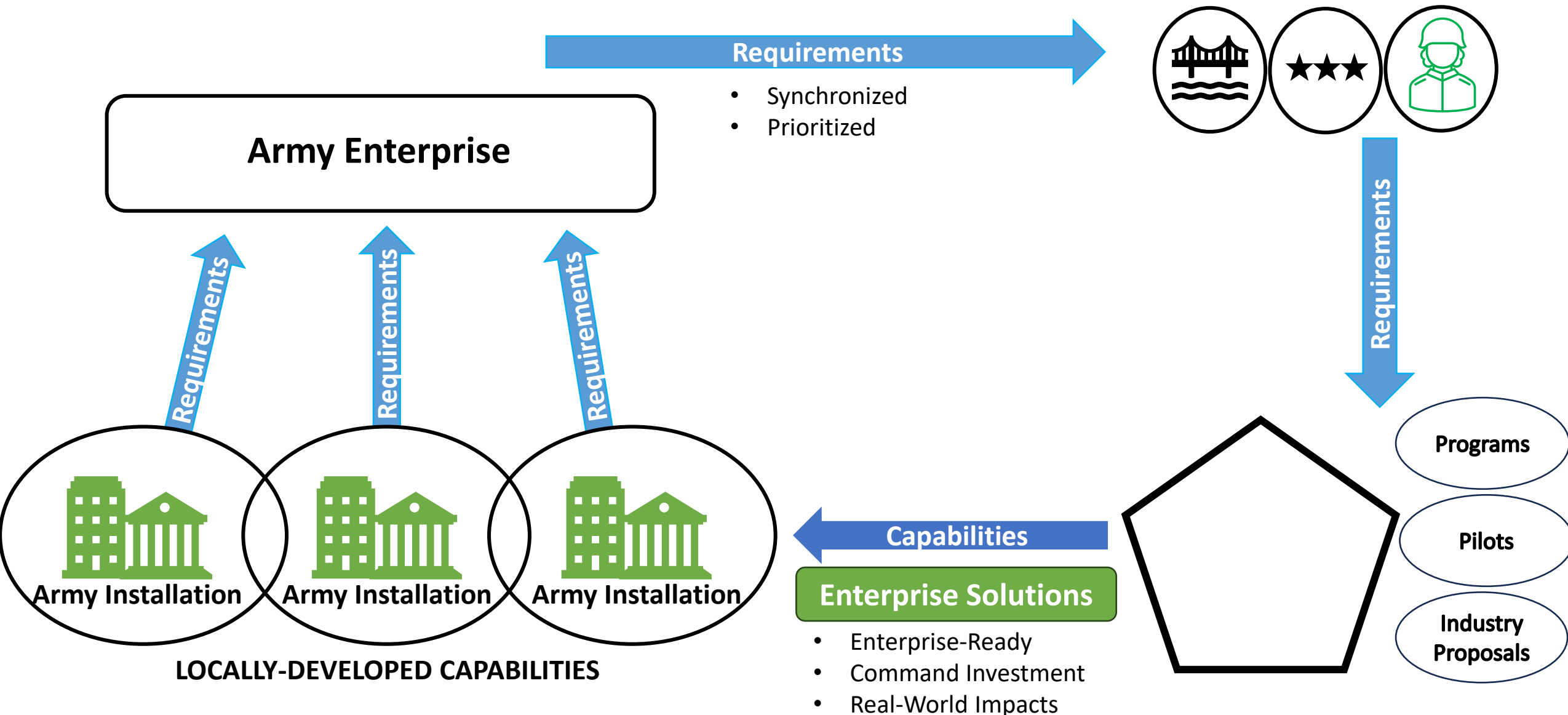
Historical Status of Modernization Process



Crowd-Sourcing Modernization



Crowd-Sourced Modernization Process



Question #3

Mr. Canestrare, what technologies is the Air Force currently or planning on pursuing to improve assured base operations?



Q&A

