

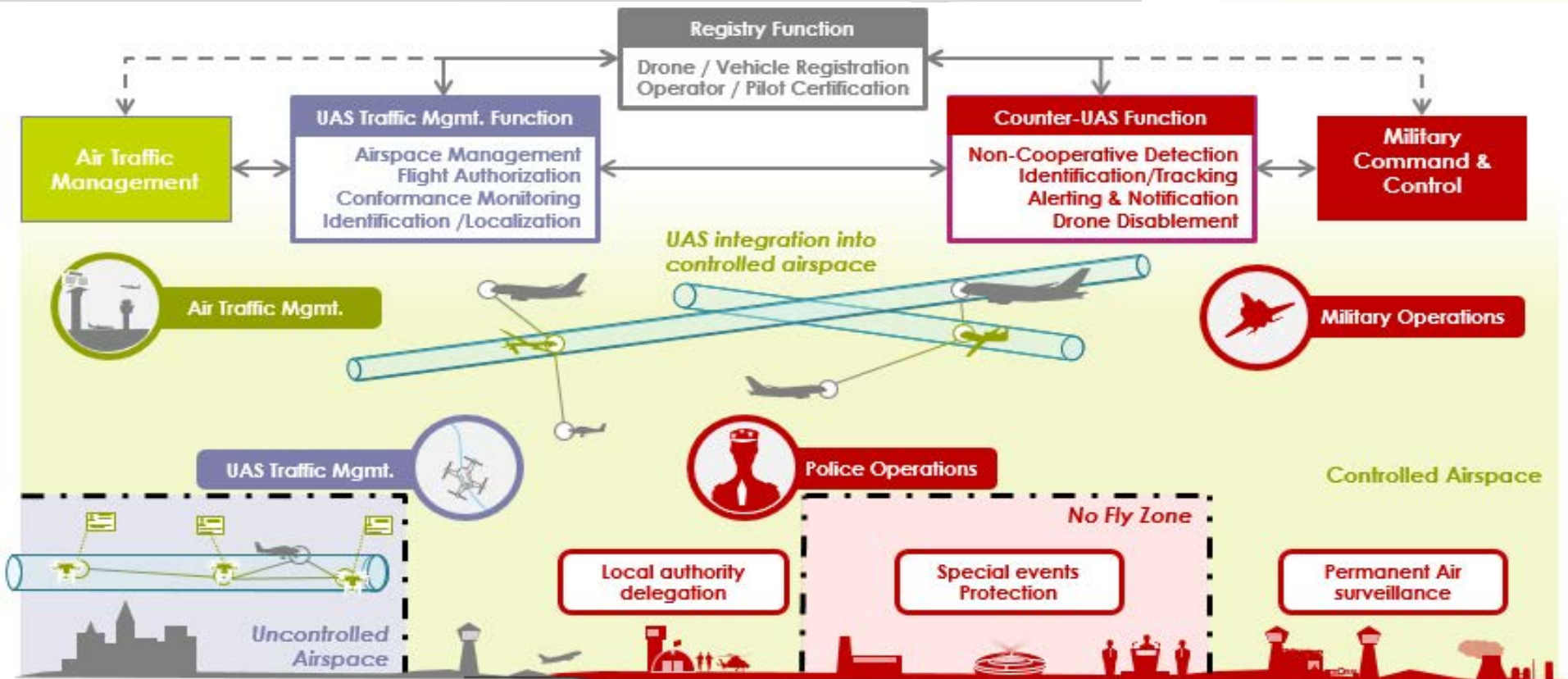
THALES

# Low-Altitude Airspace Management

Drone Enable 2018  
Brenden Hedblom



# UAS Operating Environment



# As density & risk increase, so does the need for structure and controls

## Low Density & Low Risk



- Limited Regulation
- Limited Enforcement

## High Density & High Risk



- Structured Access (ex. Lanes)
- Mandated Rules (ex. speed limits)
- Vehicle Standards (ex. tail lights)
- Enforcement (ex. traffic cameras, police)
- Centralized Control (ex. traffic lights)

Operational Density & Risk

# Need An Incremental, Pragmatic and Feasible Approach

Limited Operations (U.S. Part 107)  
Segregated Test Sites

Today

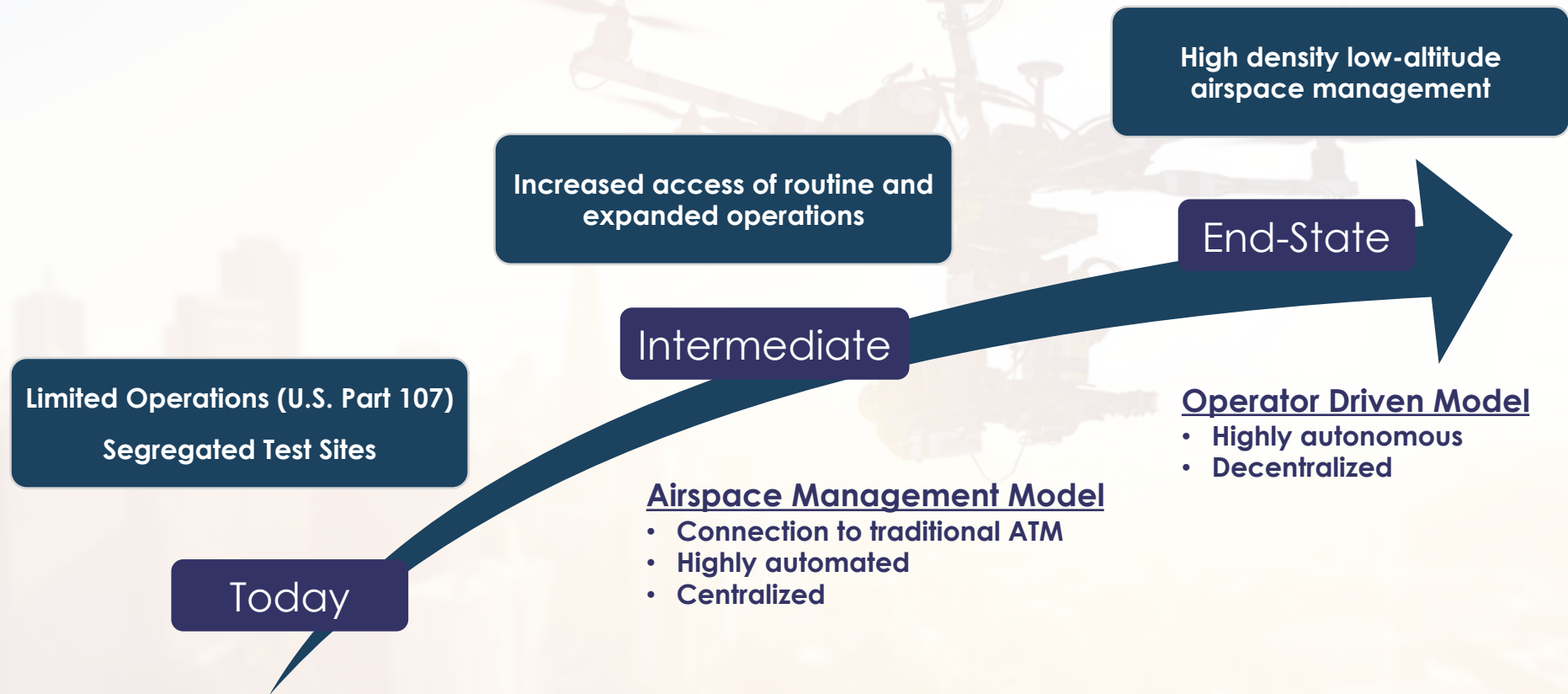
High density low-altitude  
airspace management

End-State

Operator Driven Model

- Highly autonomous
- Decentralized

# Need An Incremental, Pragmatic and Feasible Approach



# Providing Structure through Low-Altitude Airspace Management

## Low-Altitude Airspace Manager - LAAM

*Single manager for delegated airspace – centralizing safety-critical functions and safely facilitating operations and separation of UTM service suppliers and manned aviation*

Centralizes safety-critical services

Leverages existing construct – State delegated

Built to minimal operational performance standards

Verified data exchange model – One situational awareness picture

### Uncontrolled in traditional ATM

Uncontrolled



LAAM Controlled



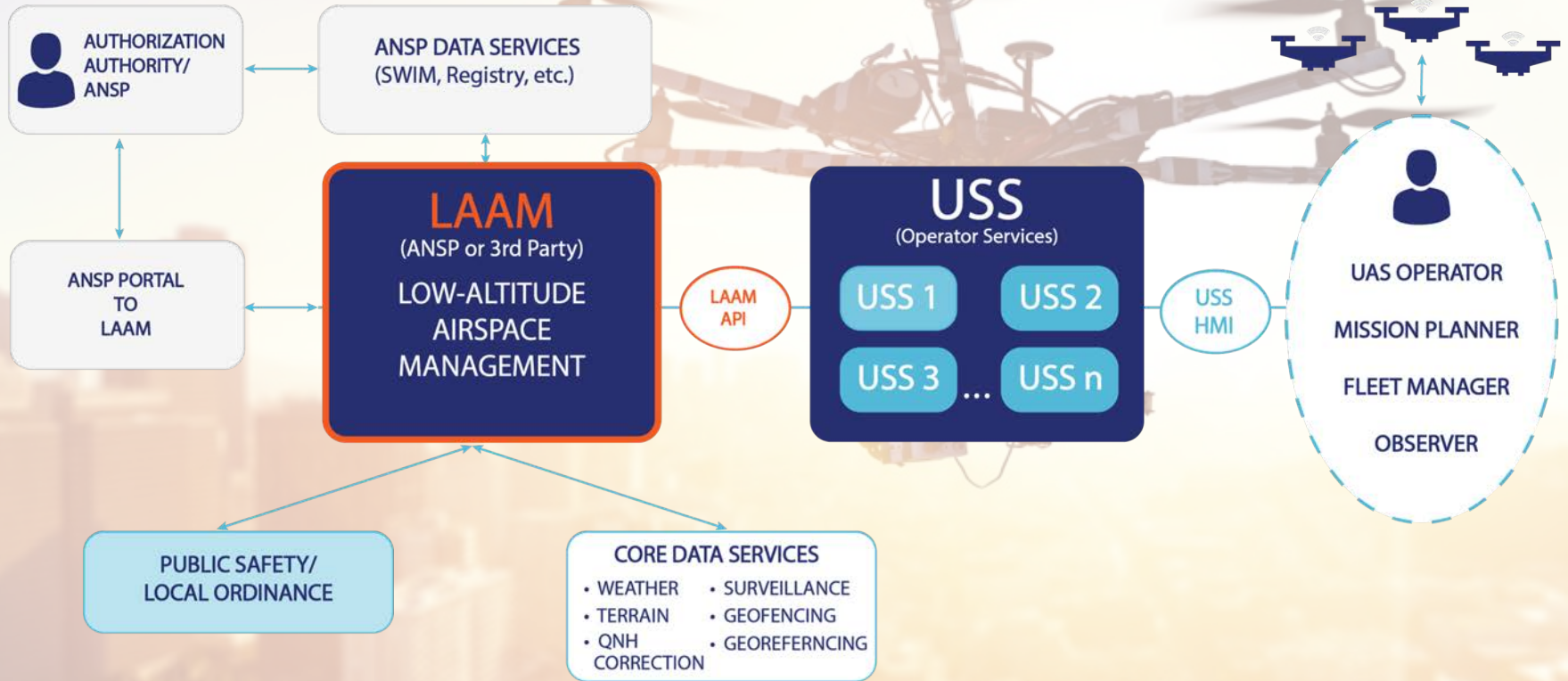
### Traditional ATM

ATM Low-Altitude Controlled

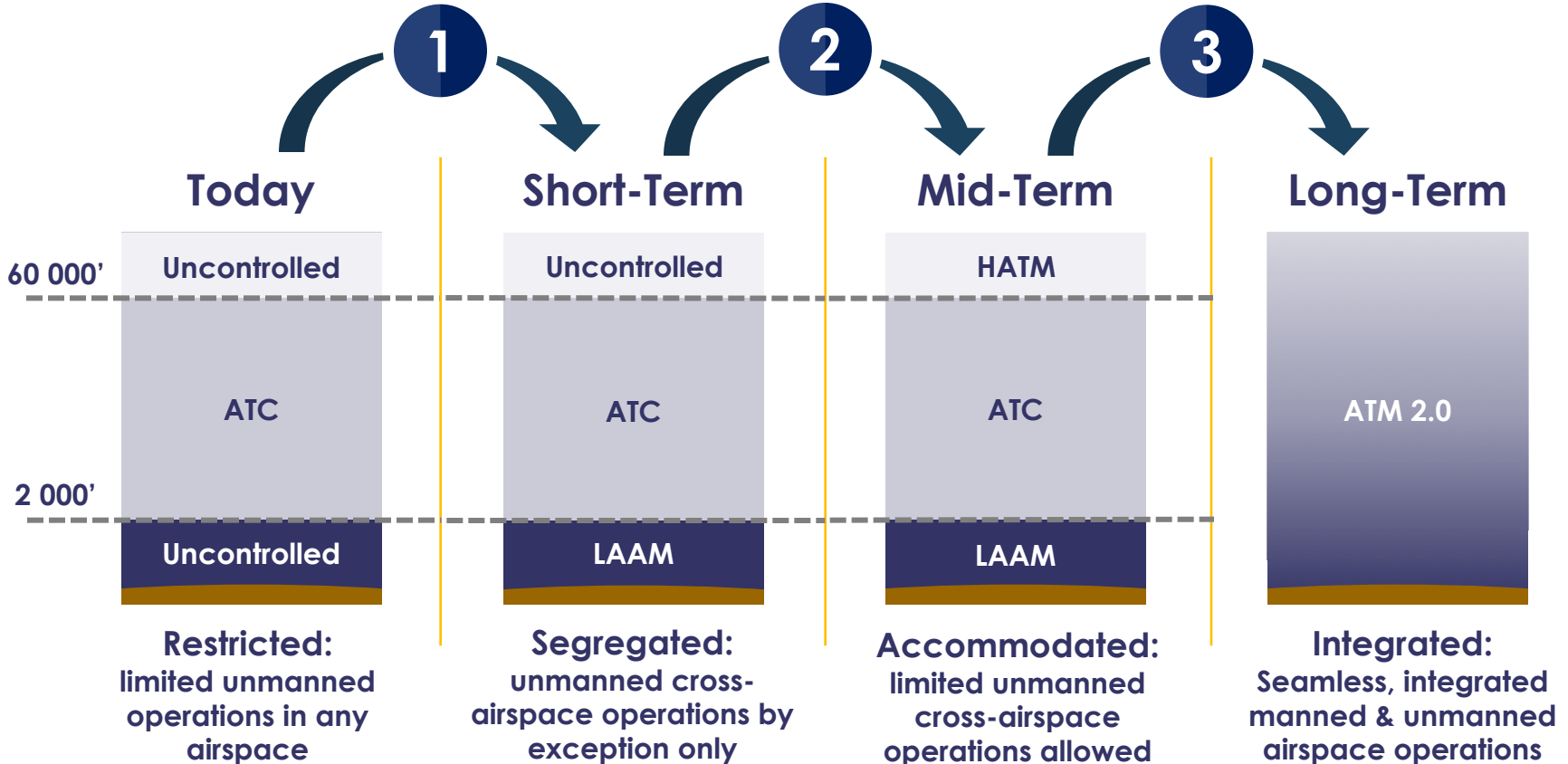




# Low-Altitude Airspace Management



# LAAM – An Incremental step in the Evolution of ATM





An aerial night view of a city, likely Shanghai, with a digital overlay of a network grid and binary code. The sun is setting in the background, creating a warm glow. The word "THALES" is prominently displayed in the center in a large, white, sans-serif font. The background features a dense urban landscape with illuminated buildings and a river. A network of white lines connects various points across the city, with some points highlighted by small white circles. Binary code (0s and 1s) is visible in the lower-left quadrant, appearing to flow across the water.

**THALES**