



# ADVANCING AIRCRAFT MAINTENANCE

## Smart Mechanic Glasses



### 1 Augmented Reality (AR)

- Procedural guidance (documentation)
- Team collaboration (remote expert)
- Training
- Maintenance Data Visualization
- Tool Tracking program

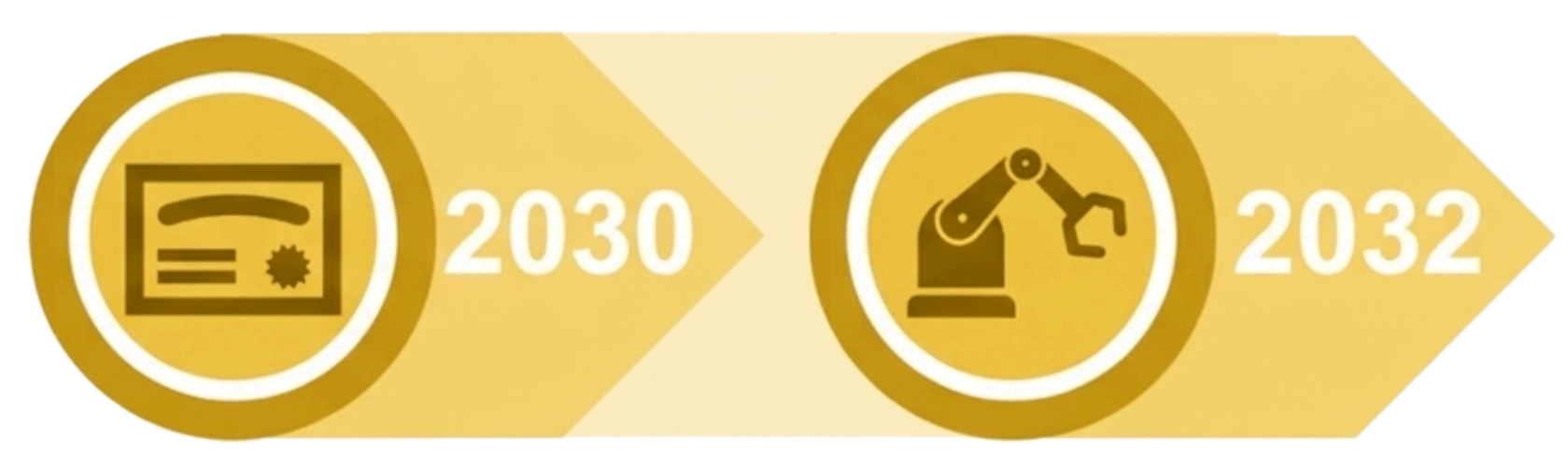
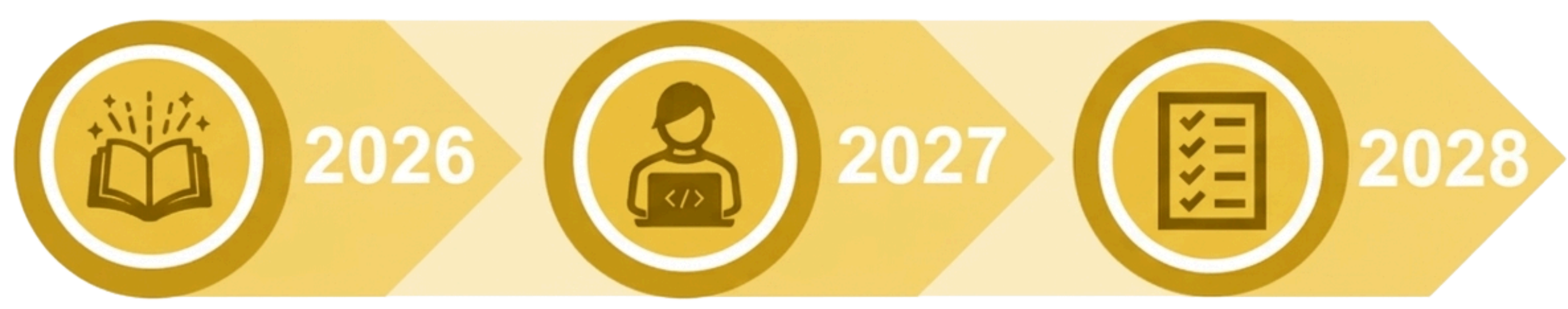


### 2 Drone Assisted inspection

- Semi-autonomous drone
- Predetermined flight path
- Sending THz data scan.
- On-site computer data processing
- Display data on AR glasses



Concept & Feasibility    Prototype Development    Operational Testing



Certification & Refinement    Production & Deployment



### 3 Terahertz (THz) Imaging Inspection

- Analyze THz data
- detect aluminum surface corrosion and Composite internal discrepancies
- Display the defect severity and locations on AR glasses.



### Improvements and challenges

- Structure Health Monitoring Data aligned with Digital Twin Data to predict stress and wear patterns.
- Cybersecurity, authorization, data storage
- Requires Technicians' operational feedback regarding comfort level.
- THz inspection, validation, experimental costs, and environmental limitations