

# Lessons Learned in Implementing E-ATC for PTC

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# Key Presentation Take-Aways

- Challenges overcoming requirements as a small operator
- EATC is a viable solution in some cases and overcomes many technical issues
- Many benefits and lessons learned with User Group
- Potential for future improvements/efficiencies



## DCTA A-train Characteristics

- 21 mile corridor, single track with sidings
- 11 – Stadler GTW DMUs
- 6 stations, Mon. to Sat. Passenger Svc.
- 60+ trains/day
- 9 Control Points/10 Int.
- Limited freight – Temp. Sep.
- No Interoperability Req'd



# DCTA A-train Corridor



# Challenges Facing a Small Operator

- Same need to implement a positive stop (Train-Train Collisions, Misaligned Switch, TSR/MD, Overspeed)
- Difficult deadline – 31 December 2018
- High profile incidents keep attention
- All in “discovery learning” at the same time
- Small budgets and limited staff resources



# Technology Selection

- Multiple attempts were made to purchase a PTC system within budget which didn't prove successful (I-ETMS and ACSES II)
- Tried a regional approach, but I-ETMS costs, technical needs of the other regional partners, and required timing proved too limiting
- DCTA proved to be too small of a project to interest ACSES II suppliers



## Why an EATC System?

- GE ElectroCode 5 system in place
- E-ATC utilizes Cab Codes over rail vs RF
- Vehicles pick up signal from rail, no 220MHz radios
- Wayside linked via Fiber network
- \$17M budget – Total - \$900K/mile



# Implementation Status

- Installation 100% Complete
- Static Testing 100% Complete
- Dynamic Test Procedures Approved
- Training underway
- On path to enter RSD NLT 12/31/2018
- **Key Risk Area: Unknown Issues Discovered During Dynamic Testing**





# E-ATC Systems Being Implemented

- Tri-Met/PNWR (initial type approval)
- Sonoma Marin Area Transit (SMART)
- UTA Front Runner
- CapMetro
- Florida East Coast
- DCTA
- SFRTA Pending (dual equipped)



# User Group Formation

- Initial suggestion from FRA/APTA staff
- Buy-in from other users – starting with TriMet/PNWR – on a common platform
- Common technology
- Not sure of willingness to commit time/resources
- Proved very beneficial as time has progressed
- Many lessons learned



## E-ATC User Group

- Members: Agencies, FRA, Manufacturer, Consultants, Contractors
- Many participants on multiple projects
- Lessons learned from all phases of implementation
- Simplified messaging from FRA
- Shared common documents – PTCSP base

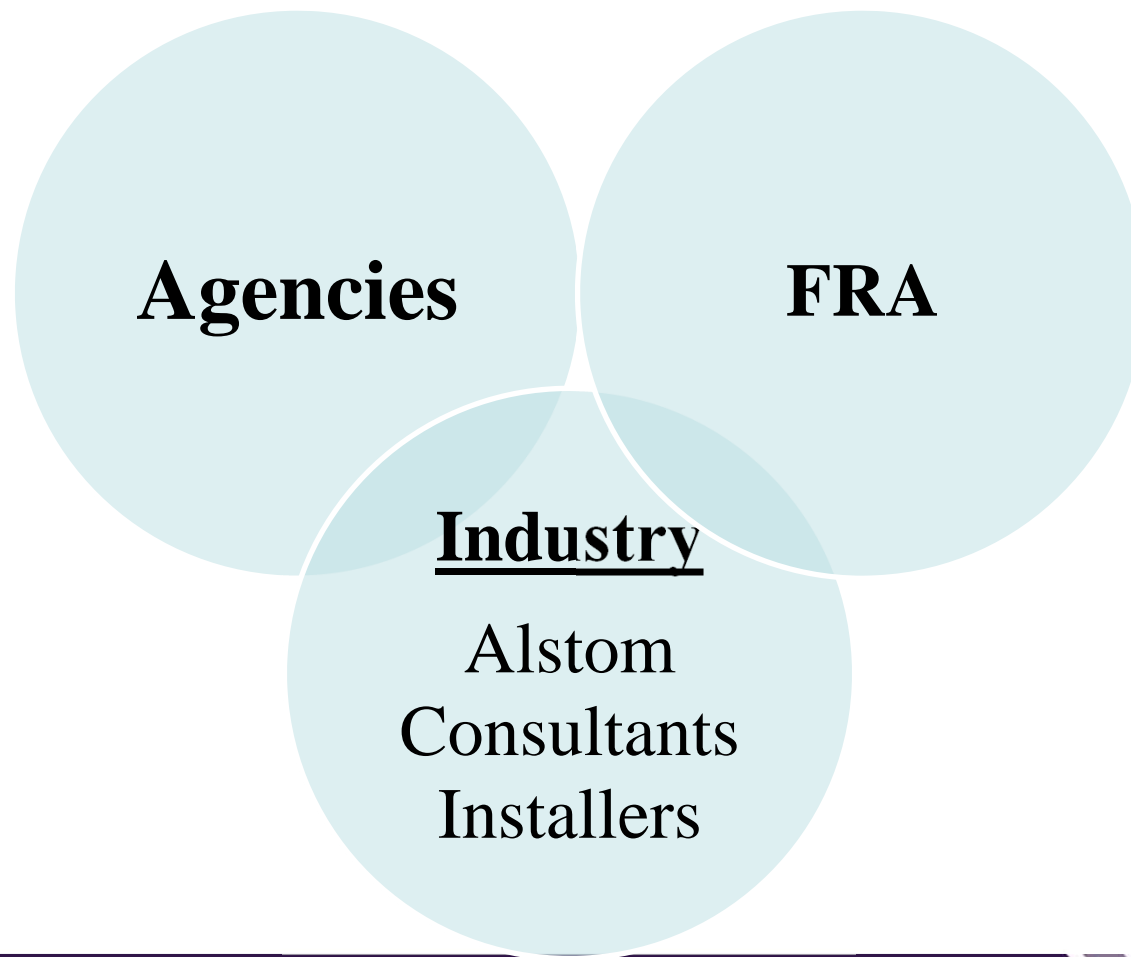


## Clear Need and Purpose

- Share lessons learned
- Gain quick feedback from regulators – all at once
- Share documents
- Resolution of technical issues
- Better understanding of process



# Get the Right Participants



# Communications

- Conference Calls
- On-site Meetings
  - Great to see the installation and application
  - Value of face-face meetings cannot be overstated
- Document Management
- Conferences/”Woodshed” sessions



# Vehicle Installations



## Next Steps

- All agencies working to begin RSD or alternative compliance (with extensions)
- While current focus is on the 31 December 2018 Deadline, Completion of Safety Plans and Certification will be next up
- Ongoing upgrades/Maintenance issues
- Ongoing lessons learned
- Move from compliance to efficiency





**Questions?**

