

DAS Deployment Process

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INTRODUCTION

SECTION 1: PROJECT OVERVIEW

SECTION 2: DESIGN CRITERIA & ENGINEERING

SECTION 3: IMPLEMENTATION

SECTION 4: OPERATIONS



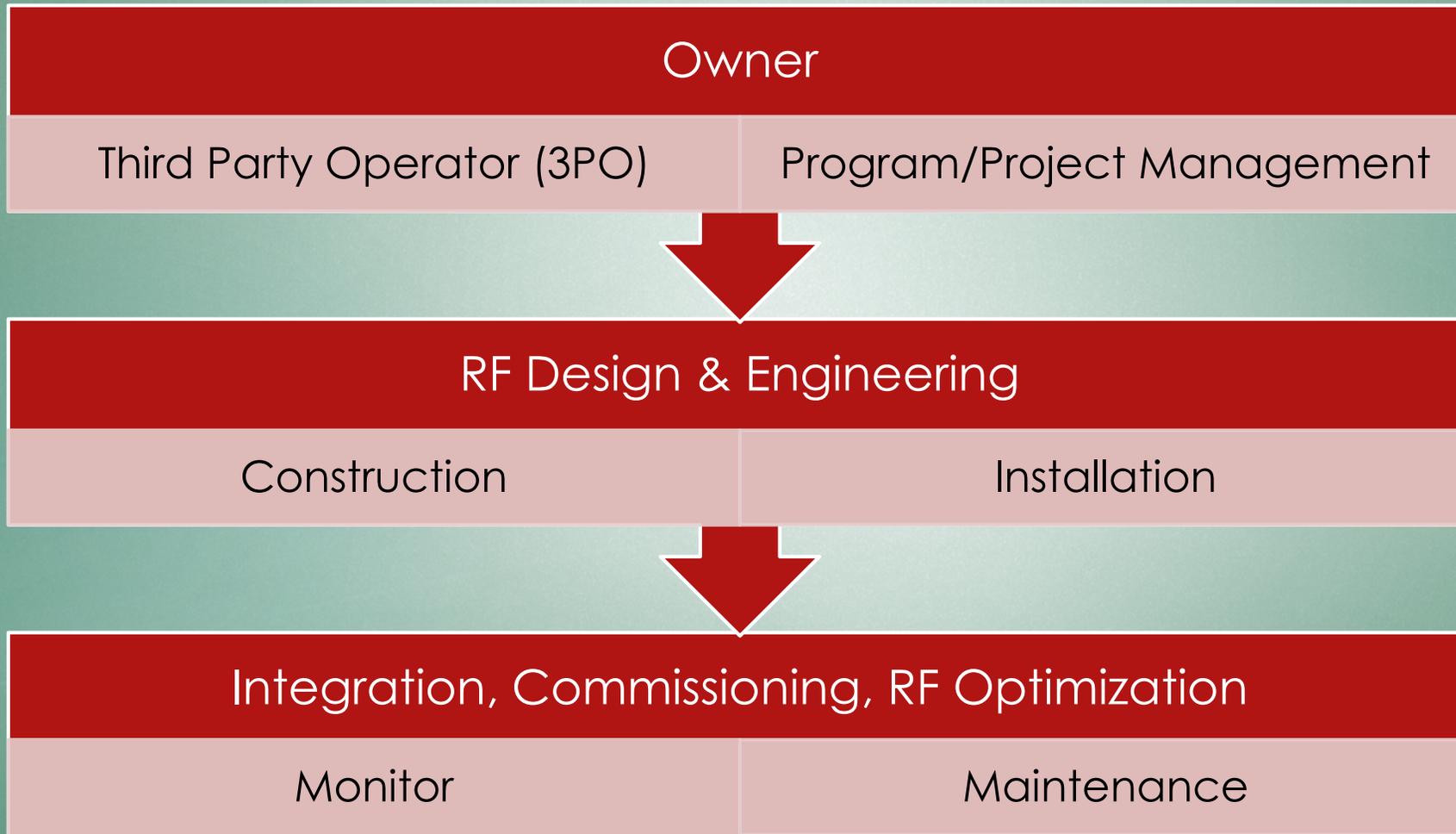
SECTION 1: PROJECT OVERVIEW

DAS APPLICATION



SECTION 1: PROJECT OVERVIEW

WHO ARE THE PARTIES INVOLVED?



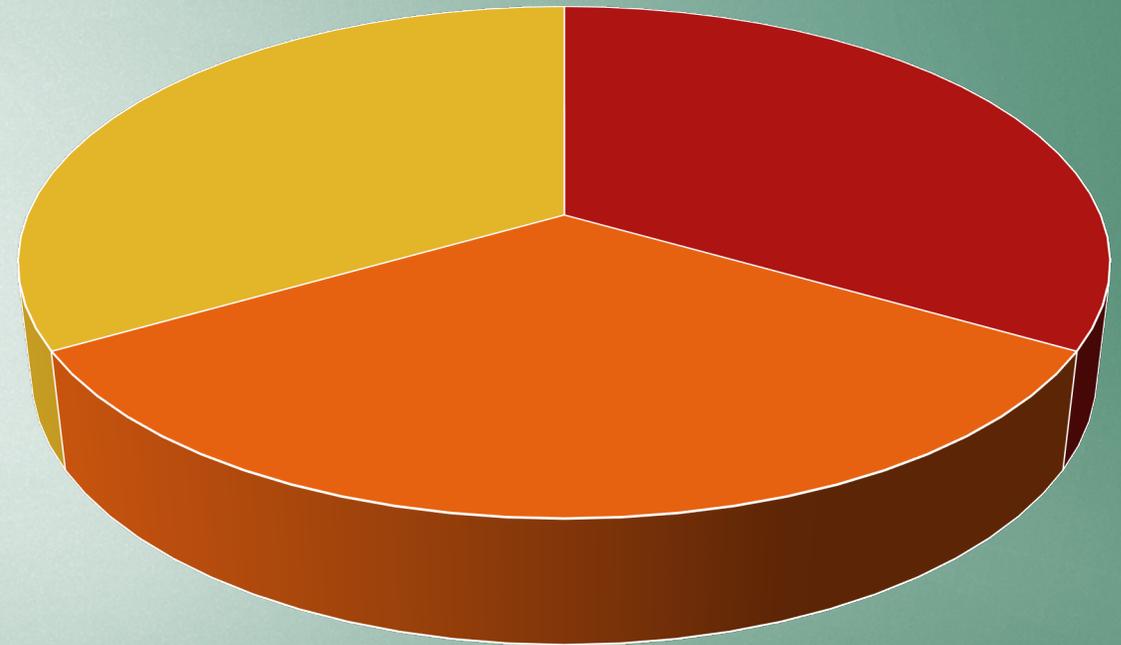
SECTION 1: PROJECT OVERVIEW

FUNDING

- ▶ Owner
- ▶ Wireless Carrier
- ▶ 3PO
- ▶ Combination

CONTRACT REQUIREMENTS

PROJECT PARAMETERS



■ BUDGET ■ QUALITY ■ SCHEDULE □

SECTION 2: DESIGN CRITERIA & ENGINEERING



- SINGLE CARRIER
NEUTRAL HOST
- oDAS, iDAS, DRAN
- PASSIVE, ACTIVE
HYBRID
- RF REQUIREMENTS
 - ▶ Wireless Carrier(s) – RF Source
 - ▶ Which Bands (frequencies)
 - ▶ Capacity (number of zones)
 - ▶ Number of Users
 - ▶ Quality of Service: RSRP, KPI, SISO, MIMO, 4x4
 - ▶ Neutral Host, DRAN, SpiderCloud, Other
 - ▶ Technology: 4G, LAA, CBRS, 5G
 - ▶ Other RF: Public Safety, WIFI, 2 Way Radio
 - ▶ RF Baseline Measurements – Before/After
 - ▶ iBwave, ATOLL, Ranplan

SECTION 2: DESIGN CRITERIA & ENGINEERING

CONSTRUCTION REQUIREMENTS

- ▶ Standards – Wireless Carrier, Building Code, NEC, BICSI, Telcordia, etc.
- ▶ Head End Design – Floor Plan, Cable Management, Growth
- ▶ Power – a.c. vs DC, Commercial, Generator, Battery Back-Up, Digital Electricity
- ▶ Air Conditioning
- ▶ Seismic Zone
- ▶ Fiber Design (5G)
- ▶ Coax Cable Route
- ▶ Antenna Location – Stealth
- ▶ GPS – Passive vs Active
- ▶ Ground
- ▶ Documentation



SECTION 3: IMPLEMENTATION

CONSTRUCTION

HEAD END

- ▶ Structural Integrity
- ▶ Power
- ▶ Air Conditioning
- ▶ Relay Racks, Cabinets
- ▶ Cable Ladder
Coax, Power, Fiber, Ground

NODE

- ▶ Fiber & Coax Cable Route
Conduit, Plenum
- ▶ Antenna Location
Stealth
- ▶ Equipment Location
DAS Remote, DRAN
- ▶ Power

SECTION 3: IMPLEMENTATION

INSTALLATION

PASSIVE EQUIPMENT

- ▶ Fiber & Termination Panels
- ▶ Coax Cables & Connectors
- ▶ Antennas
- ▶ Splitters, Couplers, Combiners
- ▶ Testing



ACTIVE EQUIPMENT

- ▶ DAS
- ▶ Remotes
- ▶ Testing

ALARMS



SECTION 3: IMPLEMENTATION

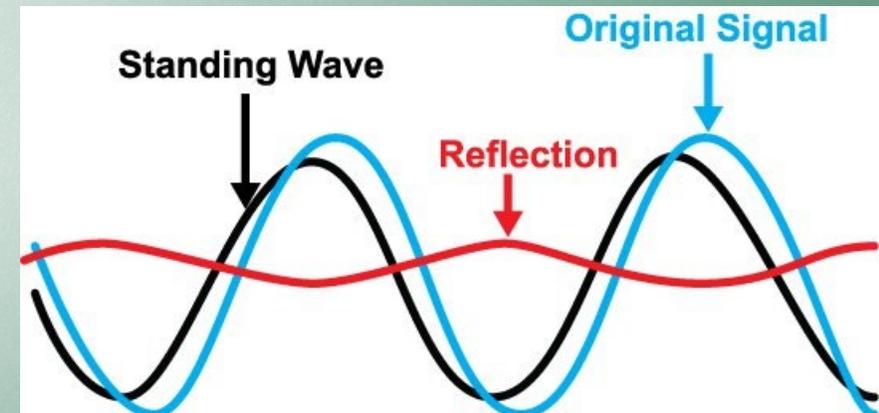
- LABEL EVERYTHING
- TURNING IT UP
 - ▶ Green Light
 - ▶ Carrier Integration
 - ▶ DAS Commissioning
 - ▶ System Optimization



SECTION 3: IMPLEMENTATION

DOCUMENTATION

- ▶ System Configuration
- ▶ Maps, Floor Plans – Redlines
- ▶ RF & Fiber Plumbing Diagram
- ▶ Test Data Results
- ▶ RF Baseline Performance
- ▶ Parameter Settings
- ▶ Contact Information



SECTION 4: OPERATIONS

MAINTENANCE & MONITORING

- ▶ Network Heartbeat Monitoring
- ▶ RF Performance Monitoring
- ▶ NOC – Call Out Procedure
- ▶ Routine Maintenance Program

