

TMO

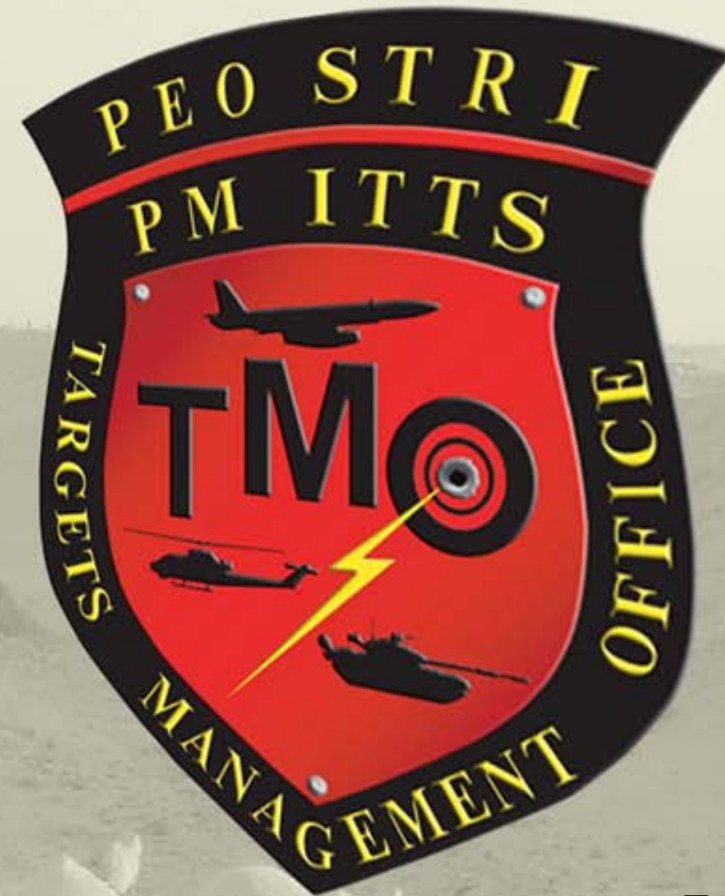
Targets Management Office

Capabilities of U.S. Army 21st Century Control Systems

47th Annual Targets, UAVs and Range
Operations Symposium

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Outline

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- Need
- History
- Description and Highlights
 - Aerial
 - Ground
- Summary and Path Forward
- Questions/Comments

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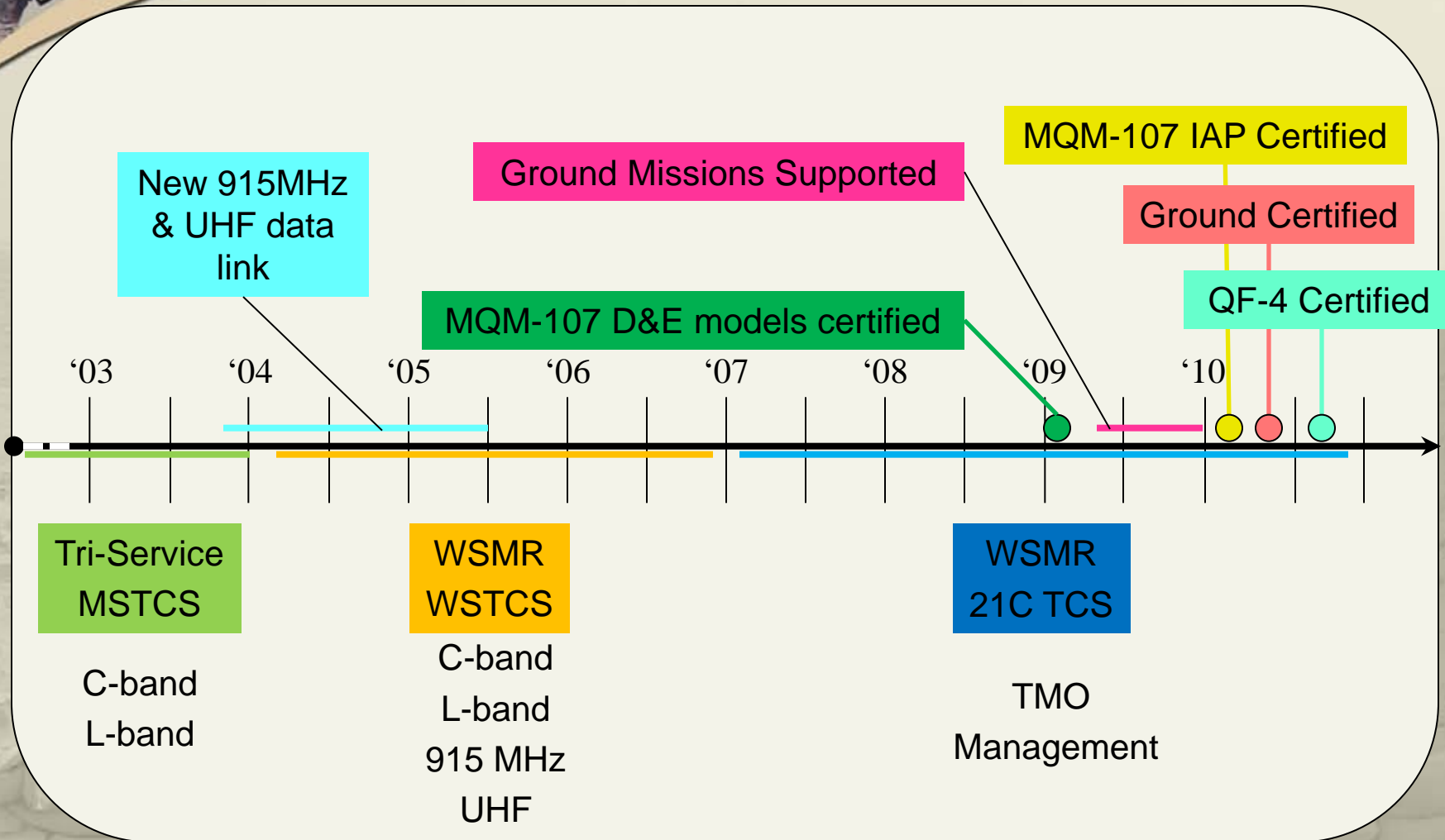
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- WSMR requires a remote control system for testing with both aerial and ground targets
- The existing control system, Drone Formation Control System (DFCS) developed in the early 70's using 70's technology
- Existing WSMR legacy remote ground control system is obsolete
- Upgrade to modular control system utilizing state-of-the-art technology

History

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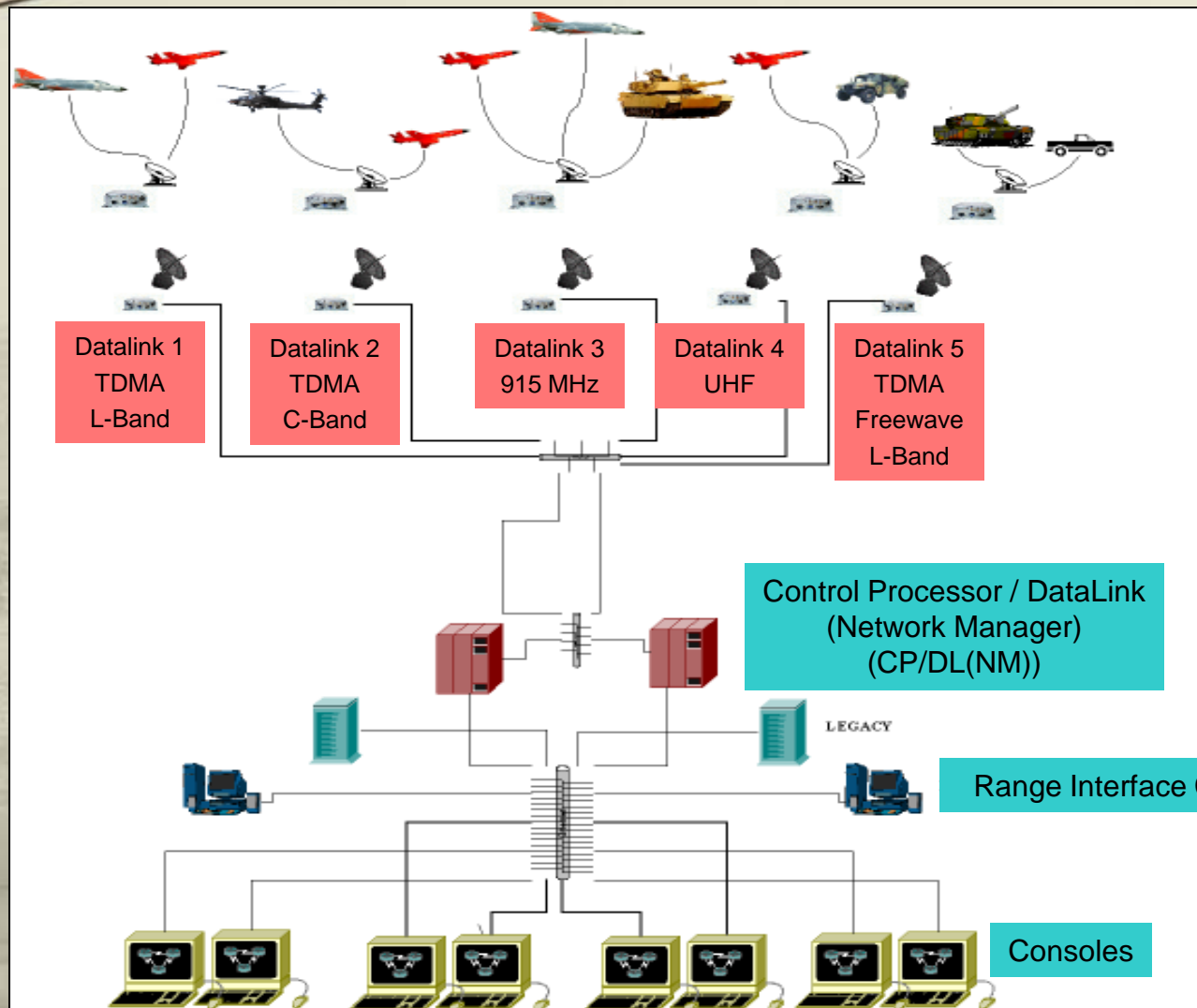
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Description

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Description: *Consoles*

Heads Down Display Console



Description : *Datalink*

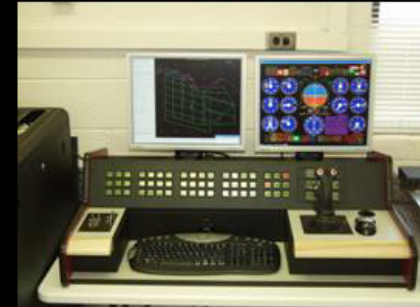
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21st Century White Sands Target Control System



Dual Xeon
Blade Computer
& Legacy
IBM RS/6000



100BT Ethernet Network Switch

Legacy
Data Link
Replacement
Herley
915 MHz units
QF4's
MQM-107



Army TMO
UHF
Data Link
Micro Systems Inc
(MSI)
380 – 400 MHz
MQM-107



MSTCS
L-Band
Data Link
1350 – 1450 MHz



MSTCS
Navy ESDLT
C-Band
Data Link
MSI
4.4 – 4.8 GHz



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Description: *Aerial Target Control*

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Targets to be certified for flight:

MQM-107



Models: D*, E*, IAP
Datalink: UHF

QF-4



Datalink: 915MHz

* MQM-107 D and MQM-107 E have been certified

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Highlights: *Aerial Target Control*

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- Certified UHF MQM-107 D & E Fall of '08*
 - Dual Formation
- Scheduled UHF MQM-107 Integrated Avionics Package (IAP) flights within next 6 months
- QF-4 testing FY10



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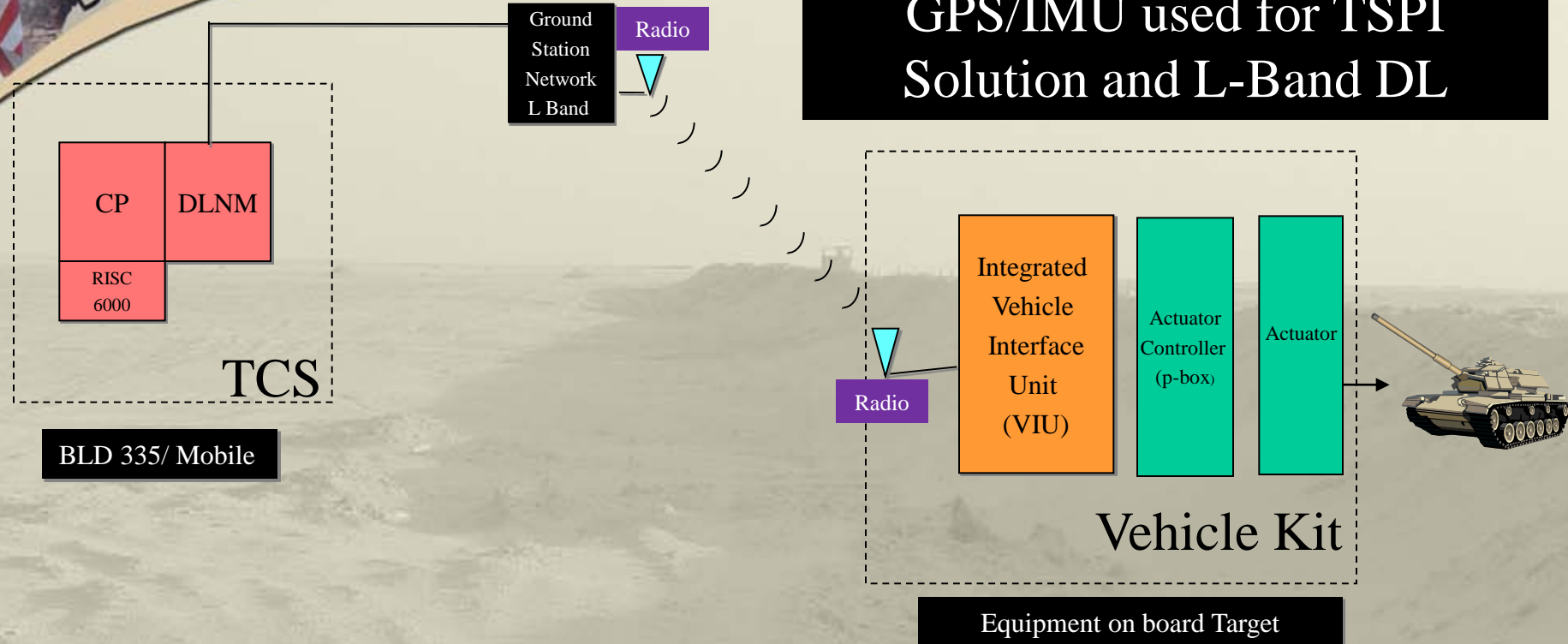
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Description: *Ground Target Control*

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- **GPS/IMU based instead of legacy multi-lateration**
 - **Radio Agnostic (L-band instead of 915 Mhz) based Solution**
- (From legacy VBS to state-of-the-art VIU)**

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Description: *Ground Target Control*

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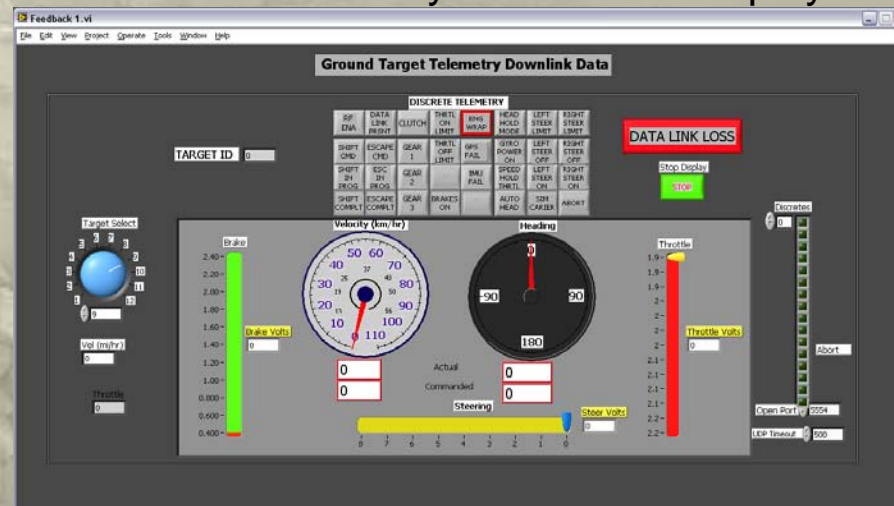
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New Control System Architecture

Compact Design



Vehicle Telemetry Information Display



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Description: *Ground Target Control*

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Vehicles Currently Configured



T-72



5-ton Truck



Light Truck



BMP



2S3



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Highlights: *Ground Target Control*

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- Demonstrated in Dec 2007 control of actuators for truck using older Vehicle Control Module (VCM) and 915MHz Vehicle Bourne Subsystem (VBS) on an M-60 tank.
- Demonstrated remote control of BMP and T-72 using updated Vehicle Remote Control (VRC) with 915MHz radio local/manual Line Of Sight (LOS) control with mobile van.
- Supported and continue to support testing missions:
 - Single target, dual target, formation control
 - 3-vehicle convoys – BMP and T-72



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Summary

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- Multiple datalinks supported
- Both ground and aerial control
- Currently supporting ground missions
- MQM-107 D & E models flight certified



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Path Forward

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- Complete Console Integration
- MQM-107 IAP Certification Flights
- Ground Target Certification
 - T-72, BMP, 2S3, 5 Ton, Pickup
- QF-4 Certification Flights



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Questions/Comments

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Questions???



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Backup Charts

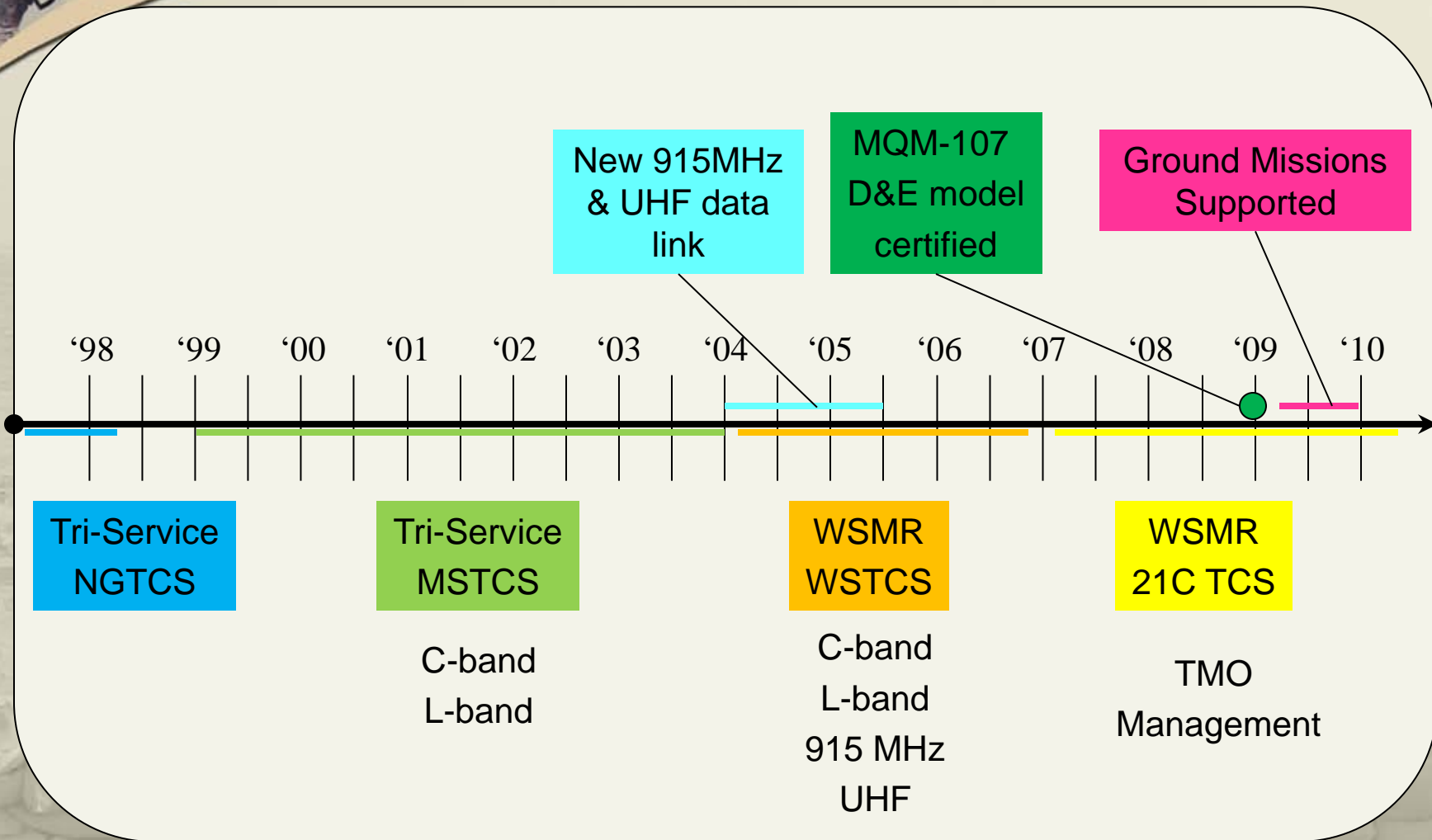
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History

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