



Improved F-16 Weapon System Effectiveness

Ogden Air Logistics Center
Innovation and Excellence



Dan Willems
Ogden ALC (OO-ALC/MASFD)
DSN 777-6136, dan.willems@hill.af.mil



Block 25/30/32 F-16

Past, Present, and Future

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- Past (Desert Storm)
 - No precision weapon capability except for AGM-65 (Maverick)
 - Limited to dropping unguided (dumb) bombs
 - Position accuracy limited by ground aligned Ring Laser Gyro
- Present (Operations Enduring Freedom/Southern Watch)
 - Assortment of laser guided weapons (GBU-10, GBU-12, GBU-24)
 - LANTIRN and Litening targeting pod capabilities
 - GPS based position and time accuracies
 - Time critical targeting and weapon employment data shared via data link
- Future (within next 3-4 years)
 - Inertially aided munitions (JDAM, WCMD)
 - Next generation targeting pods (Sniper)
 - More off board sensor/targeting/employment info via data link (Gateway)



OEF/OSW Overview

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- Air Force Reserve units deployed in support of OSW
 - 10 jets, ~250 personnel
 - Carswell, Hill, Homestead, and Luke AFB units
- OSW
 - 178 Hours / 120 sorties
- OEF
 - 1889 flight hours / 198 sorties (9.5+ average sortie duration)
 - Converted to Software Capability Upgrade 4.0 in theater
 - GBU-12's, GBU-10's, GBU-24's, 20mm, 2.75" WP
- 24 hour per day/7 days per week operations
- Overall Mission Capable rate of 85.66%
- 300 weapons / 94% hit rate



Typical Day

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- Mission briefing 3+00 prior to takeoff
- Takeoff 3+15 prior to on-station time
- 3+15 flight time to get there
- In-flight refueling prior to combat zone
- 4+00 on-station
 - Patrol Kill Container or work with Forward Air Controller
 - More in-flight refueling
- 3+15 RTB
- 9+30 average sortie



The Right Stuff

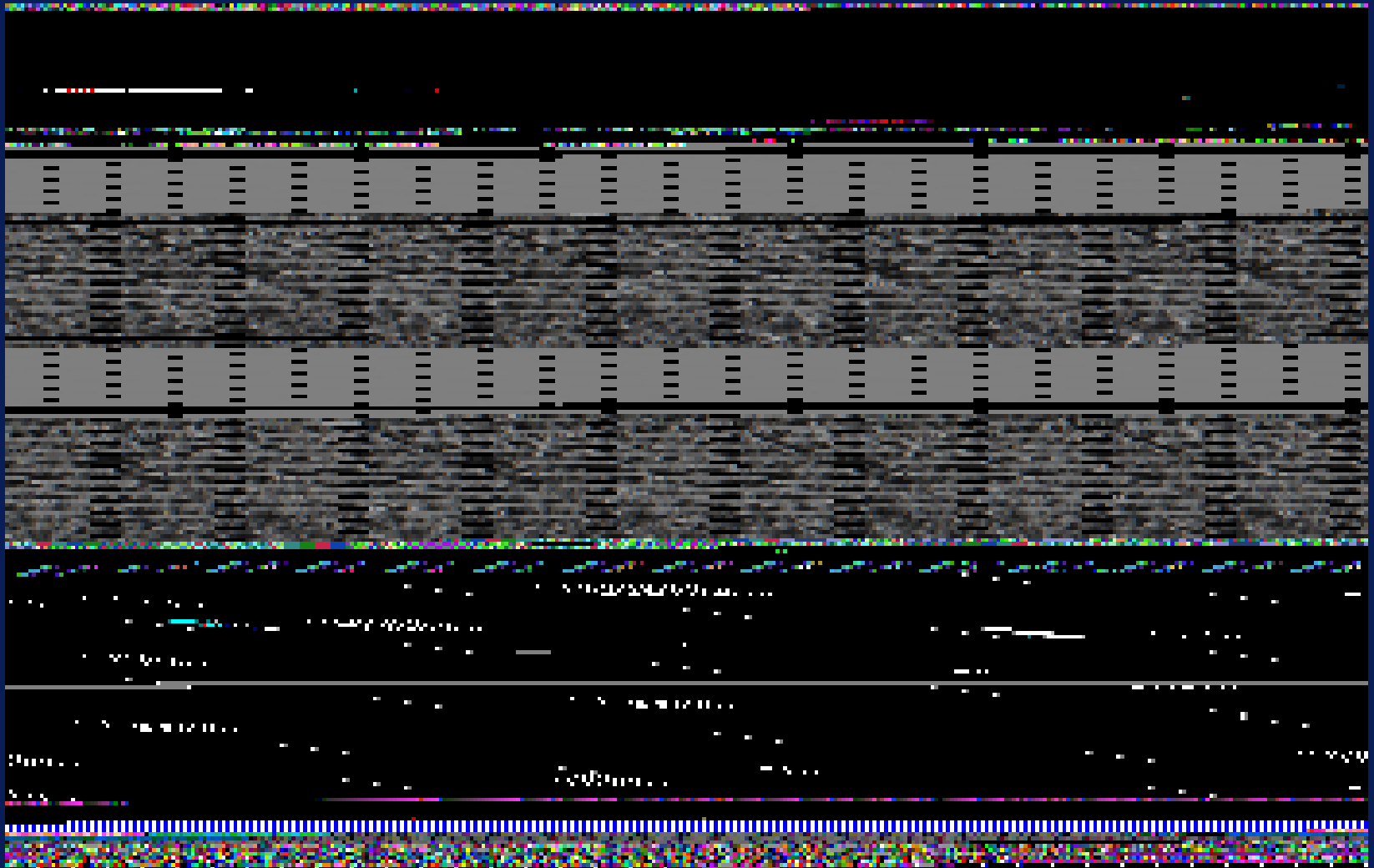
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- Embedded GPS/INS accuracy
 - Tight navigation system over long distances
 - Precise coordinates for locating targets, pointing on-board sensors, delivering weapons
- Targeting Pod
 - FLIR or CCD for night and day effectiveness
 - Laser spot tracker allowed real time targeting from Special Ops personnel in the target area
 - Laser marker to pinpoint targets from the air
- Data Link
 - Cooperative lasing extended TGP usefulness
 - Pass precise target coordinates G-A, A-A, A-G



DL Cooperative Lasing

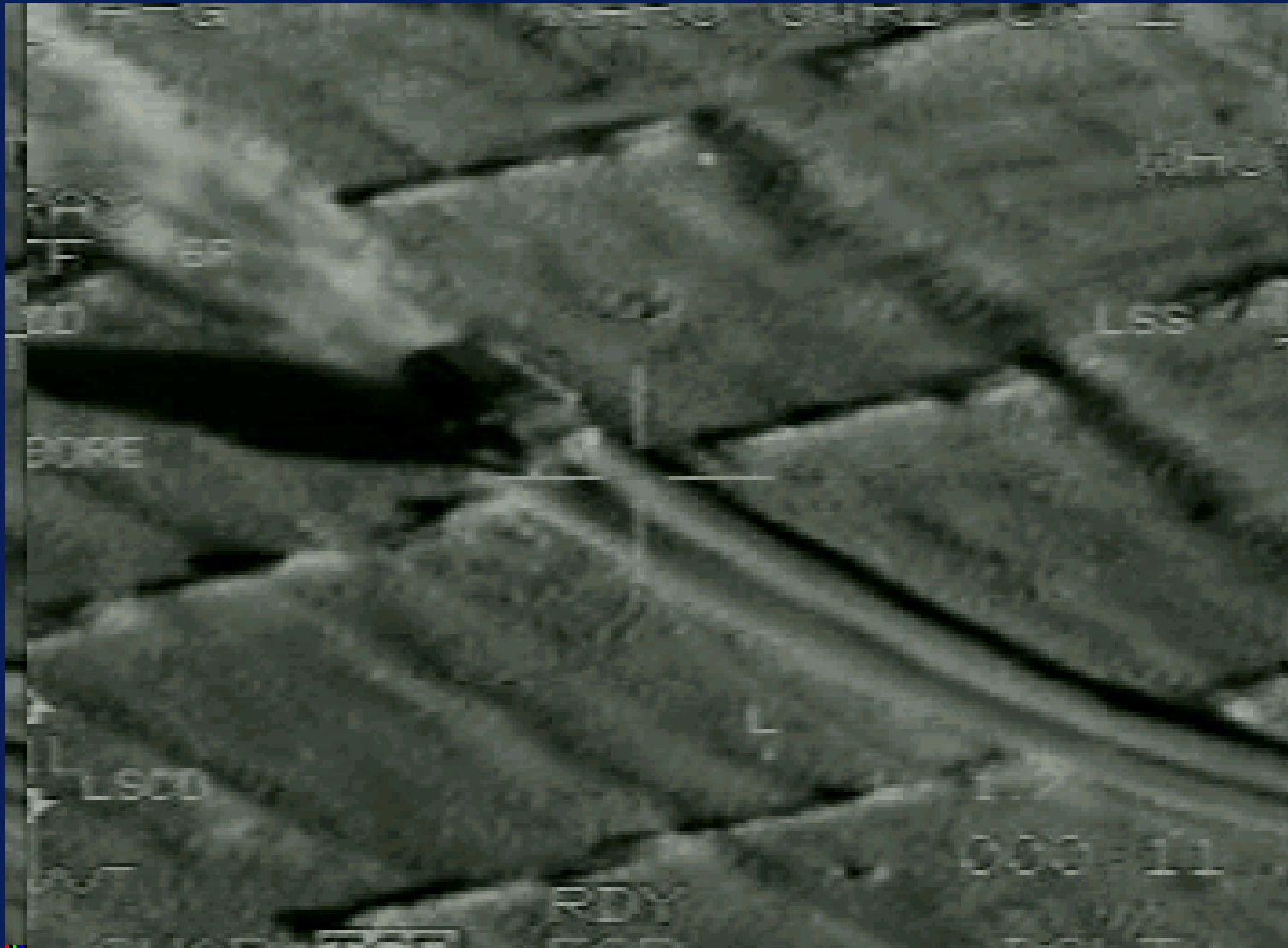
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Targeting With CCD

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Laser Spot Tracker

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Laser Marker

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Keys To Success

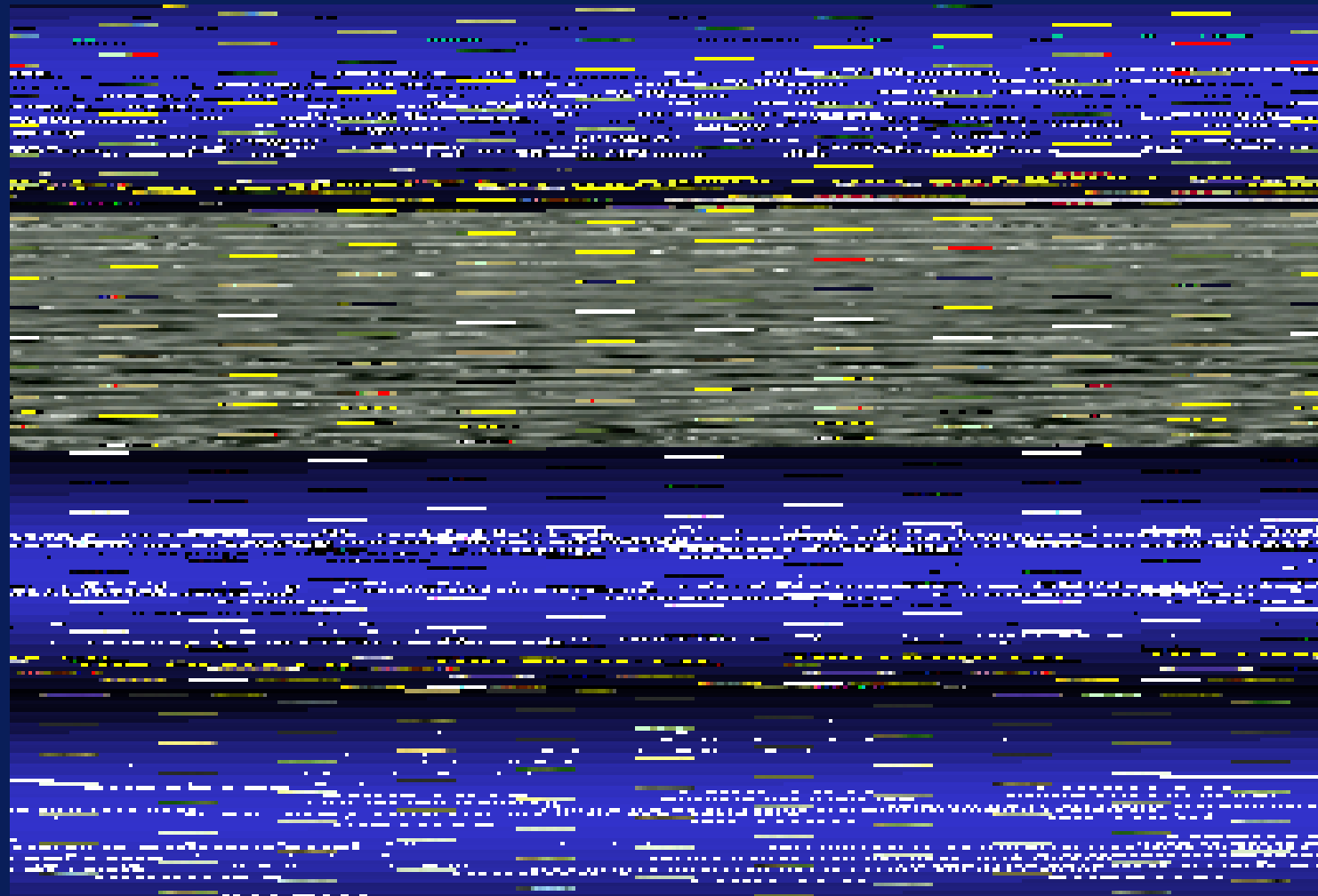
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- Know The War Fighter You Support
 - Allow war fighter's vision for employing weapon system to drive project requirements
- Program Leadership/Management
 - Aggressively communicate and pursue schedule/budgetary goals but stay flexible
 - Advocate but be willing to beg forgiveness later
- Engineering Processes
 - Software Capability Maturity Model processes work
 - Strong Configuration Management is absolutely essential



Real Time Targeting

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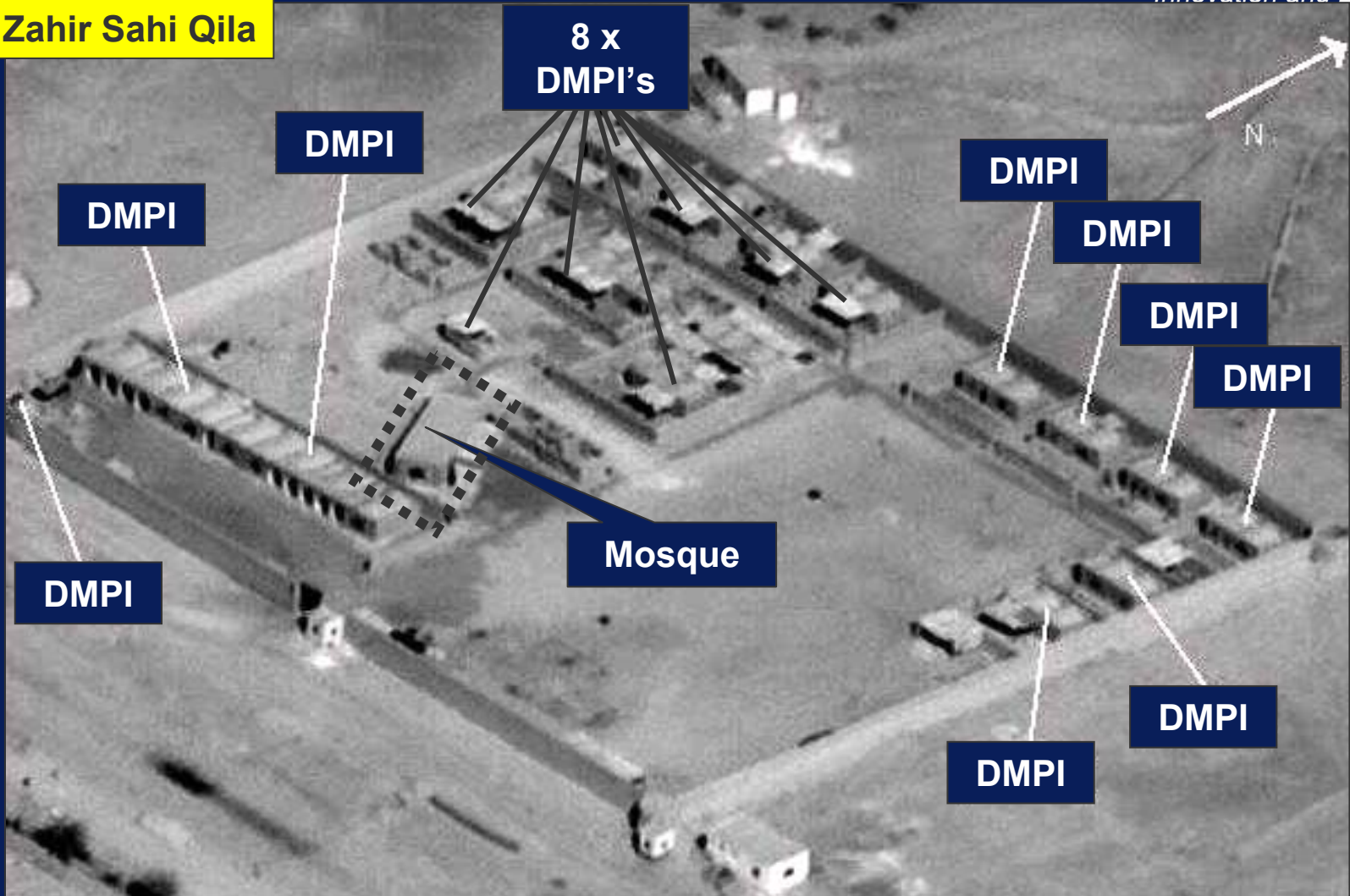




Precision Targeting: Before

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Zahir Sahi Qila





Precision Targeting: After

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