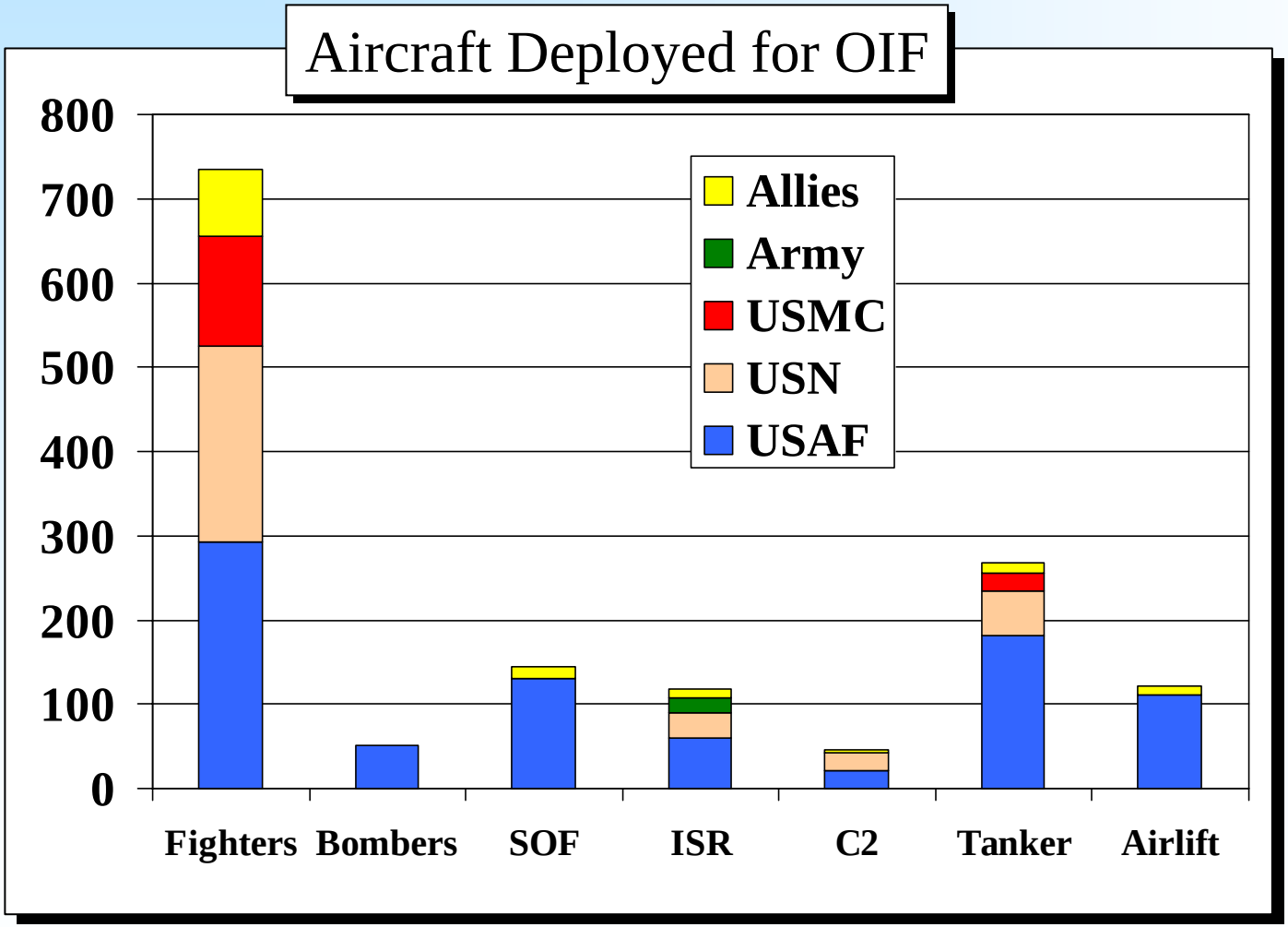
Fighters

The Future Choices

September 2005

IRIS
Independent Research

Fighters Dominant in OIF



- Ensured no Iraqi Air Force flights
- Provided ample 24/7 coverage over geography of five air wars
- Assigned multiple tasks from strike to airborne command element
- Protected packages and all aircraft in battlespace

Operational Flexibility

- With air superiority, tankers pushed forward over Iraq
- Increased number of strike sorties for attacks on Republican Guards

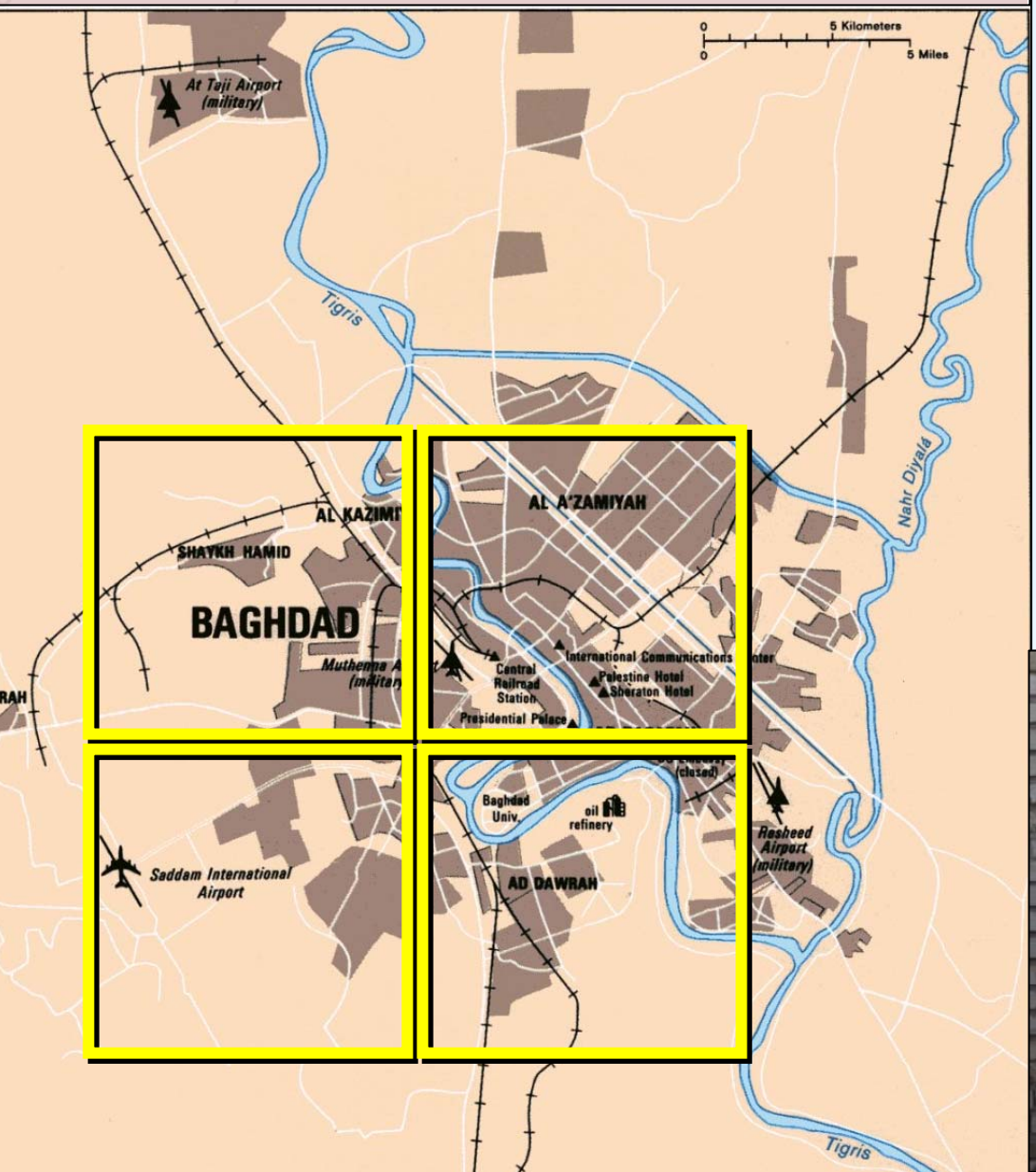
Roles

- CAP
- Strike
- Escort
- TSTs
- KI/CAS
- Urban CAS

Coalition Soldiers with Iraqi Tank

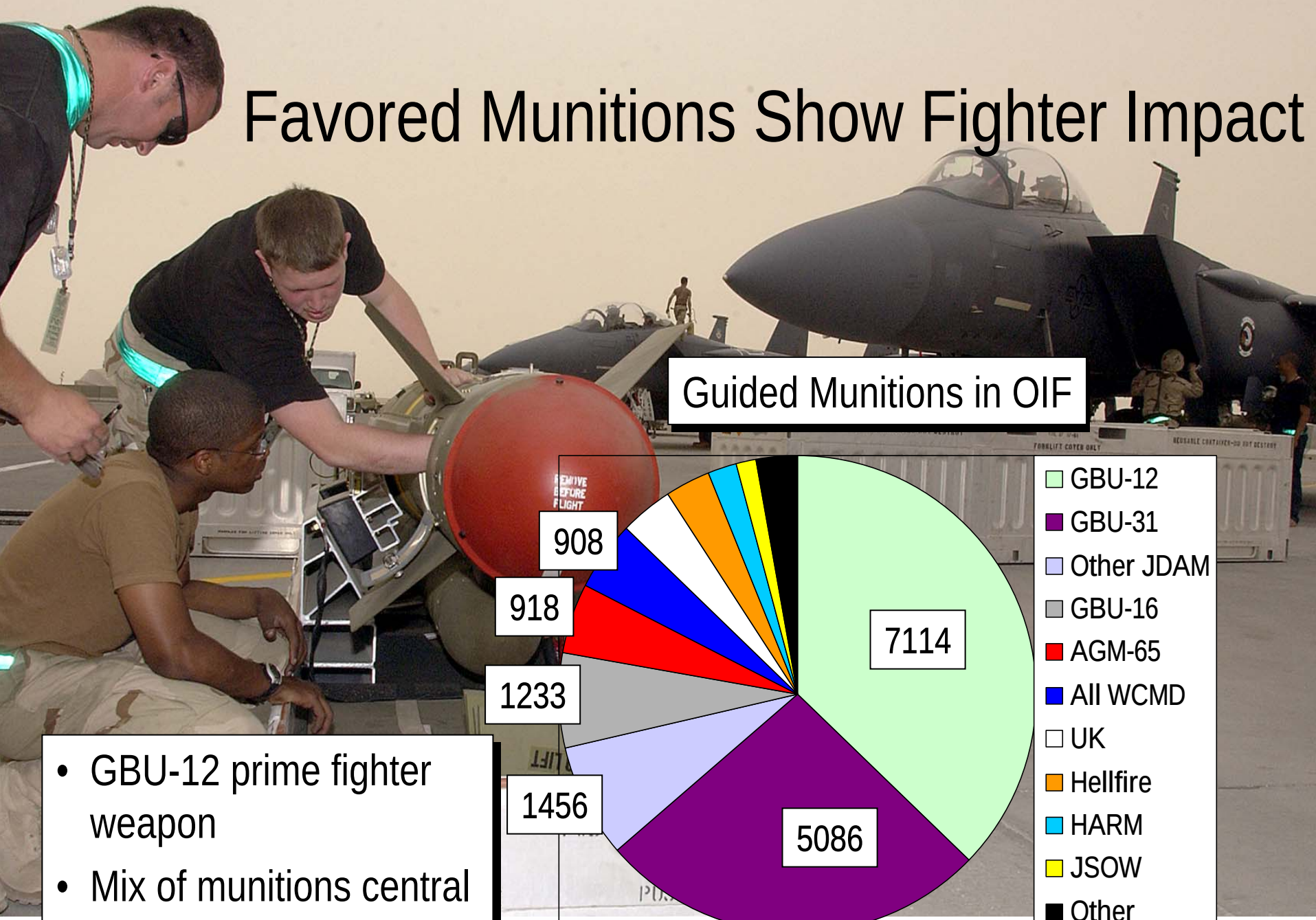
F-15E Refuels Over Iraq

Urban CAS in Baghdad



- Complete and detailed blanketing of area with 24 hour air support
  - Effectiveness, not efficiency
- Mix of munitions on demand
  - All tailored for collateral damage mitigation
- Dedicated air for SOF

Favored Munitions Show Fighter Impact



- GBU-12 prime fighter weapon
- Mix of munitions central to mission

Air Dominance

- Fighter CAPs moved forward at start of war to suppress any Iraqi air activity
- Ensured air superiority over SOF in west and V Corps, 1st MEF movement in south

Turkey
Syria
Iraq
Saudi Arabia
Kuwait
Jordan
Dahuk
Mosul
Erbil
Ninawa
Tikrit
Baghdad
Karbala
Najaf
Al Qadisiyah
Wasit
Babil
Amarah
Dhi Qar
Nasiriya
Basra

"North" SOF/SEAD

Strategic Attack

Super MEZ

"West" Scuds

"South" 1st MEF

"South" V Corps

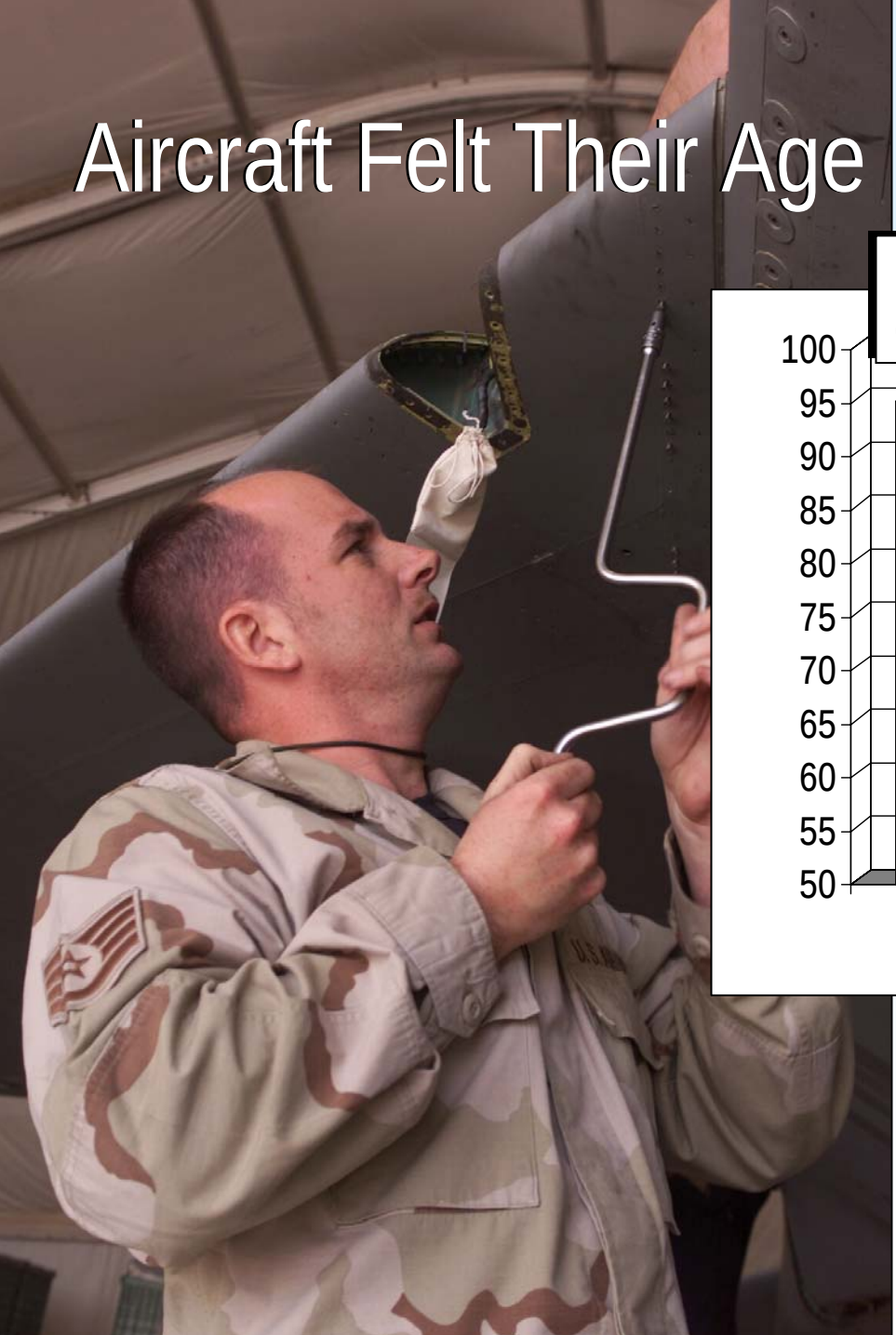
Key Iraqi Airfields

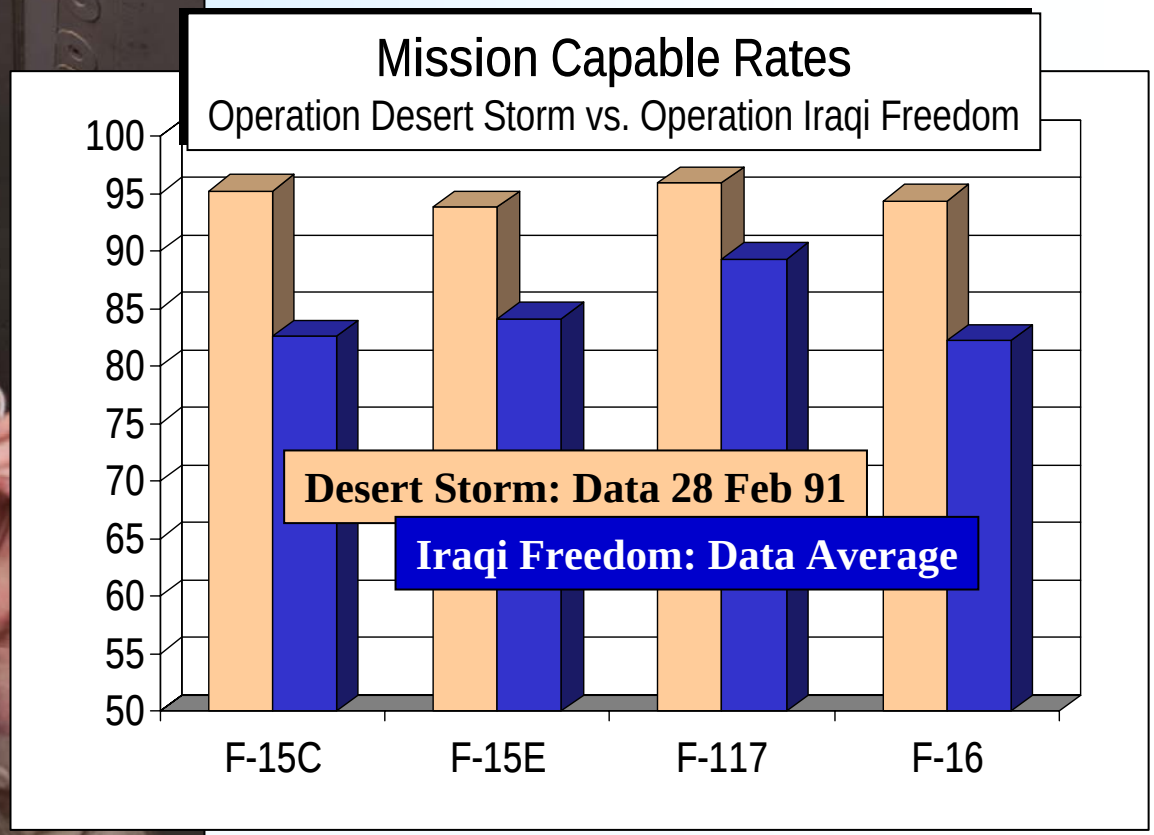
But there were shortfalls

- Lower mission capable rates for aging aircraft
- F-15Cs limited to air-to-air, airborne command element roles
- F-117s required CAP and escort
- Active Super MEZ demanded SEAD and DEAD, employing multiple aircraft
- Most fighter/attack aircraft lacked stealth
- Limited ability to detect and intercept cruise missiles
- En route targeting had to overcome lack of digital datalinks
- Limitations in sharing target and threat data among strike fighters

- Modernization essential for future air dominane

Aircraft Felt Their Age





- Decline from Operation Desert Storm averaged over 10%
- F-15C average age = 18 years

Phase IV Stability Operations

- 2005: 13,425 sorties 01 Jan 05 to 31 Jul 05
- OIF fighter sorties 20,288

- Strike aircraft flying equivalent of one OIF every 10.5 months
  - CAS, armed recce, convoy support, etc.

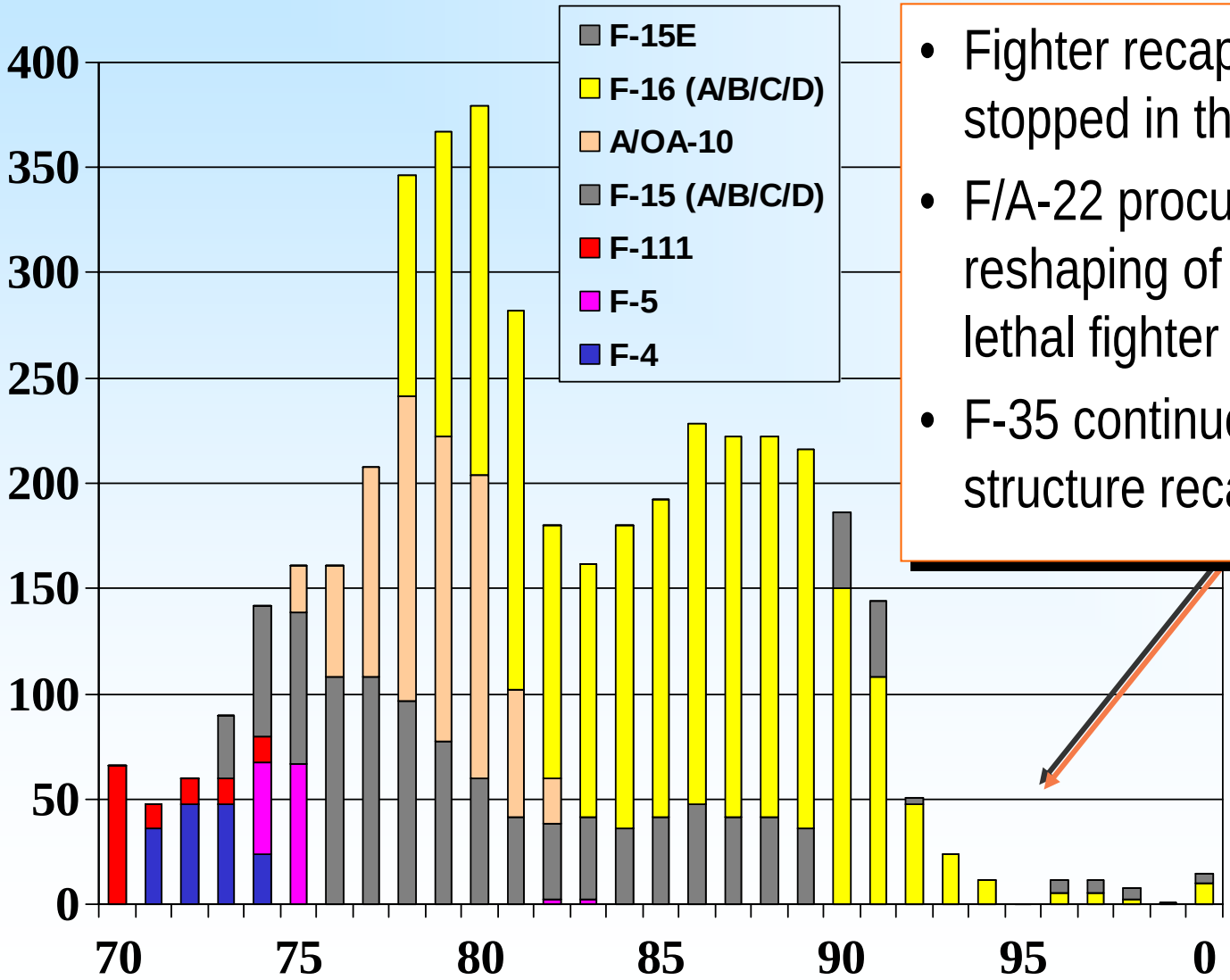
Super Hornet

- 235 in the fleet
- Better range, payload, bring-back weight
- Reliability
- Operational and recovery tanking
- Upgraded radar, AT-FLIR
- First combat sorties in OIF

F/A-18E

F/A-18C

The Gap…Next Generation at Risk



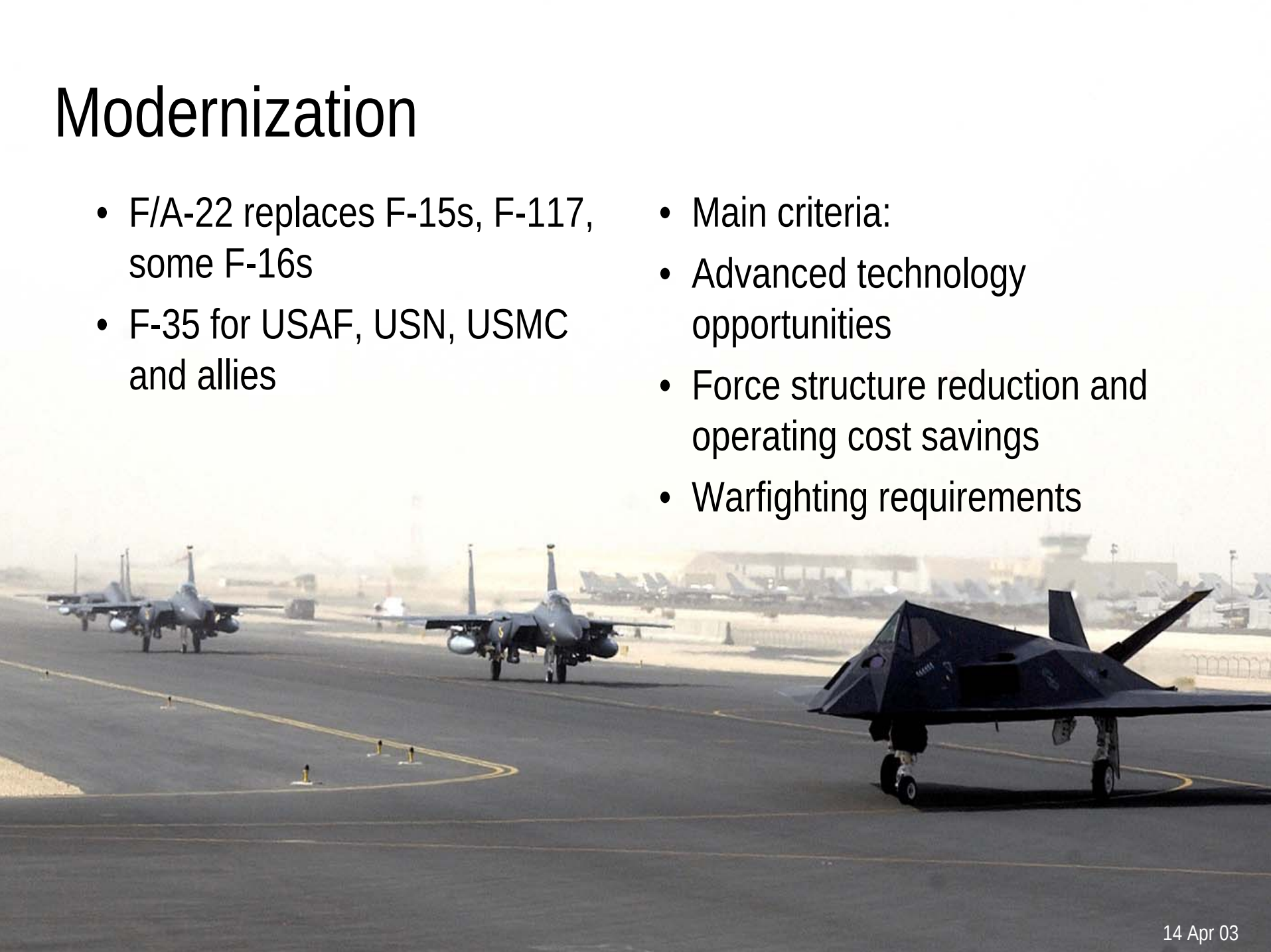
- Fighter recapitalization stopped in the 1990s
- F/A-22 procurement begins reshaping of smaller, more lethal fighter force
- F-35 continues force structure recapitalization

*Does not include 59 F-117s

Modernization

- F/A-22 replaces F-15s, F-117, some F-16s
- F-35 for USAF, USN, USMC and allies

- Main criteria:
- Advanced technology opportunities
- Force structure reduction and operating cost savings
- Warfighting requirements



F/A-22

- F/A-22 brings survivable, advanced sensor integration
  - Building block of pre-2010 network

- F/A-22 fill unique roles within the joint force
- Push for battlespace fusion
- Immediate attack of advanced SAMs
- B-2 escort
- Cruise missile intercepts

F-35

- Technology enables significant advance in combat capability and on-board information processing
  - Internal weapons bays
  - “Pods” replaced by on-board EO/IR targeting

- F-35 air to ground specialist
- Push forward service capabilities
- Tackle new missions

Advanced Design

- This F-15E from Lakenheath on an OIF mission carried fuel, targeting pods, air-to-ground weapons and air-to-air missiles externally

- In contrast, the F/A-22 has four internal weapons bays and targeting integrated with its avionics

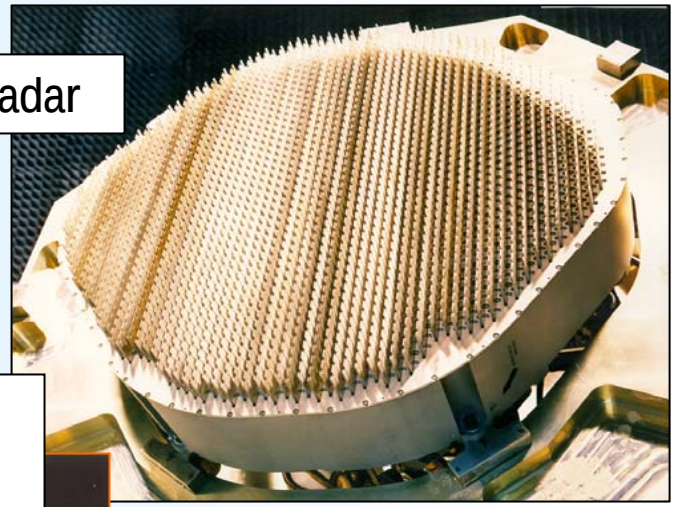
- The two side-bay doors are open here
- Internal weapons bays greatly improve the F/A-22s stealth

F/A-22 and F-35: Partnership

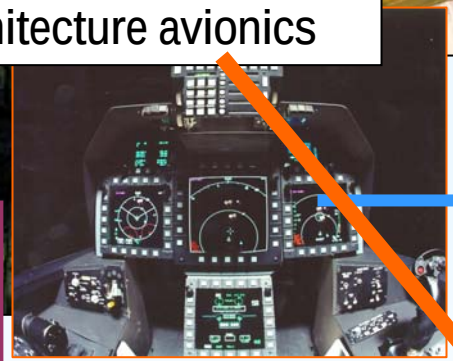
F-22 technology development and risk reduction flow to F-35

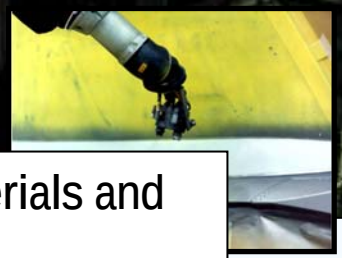
F119/F120 Engine Development

Radar



Integrated, open architecture avionics





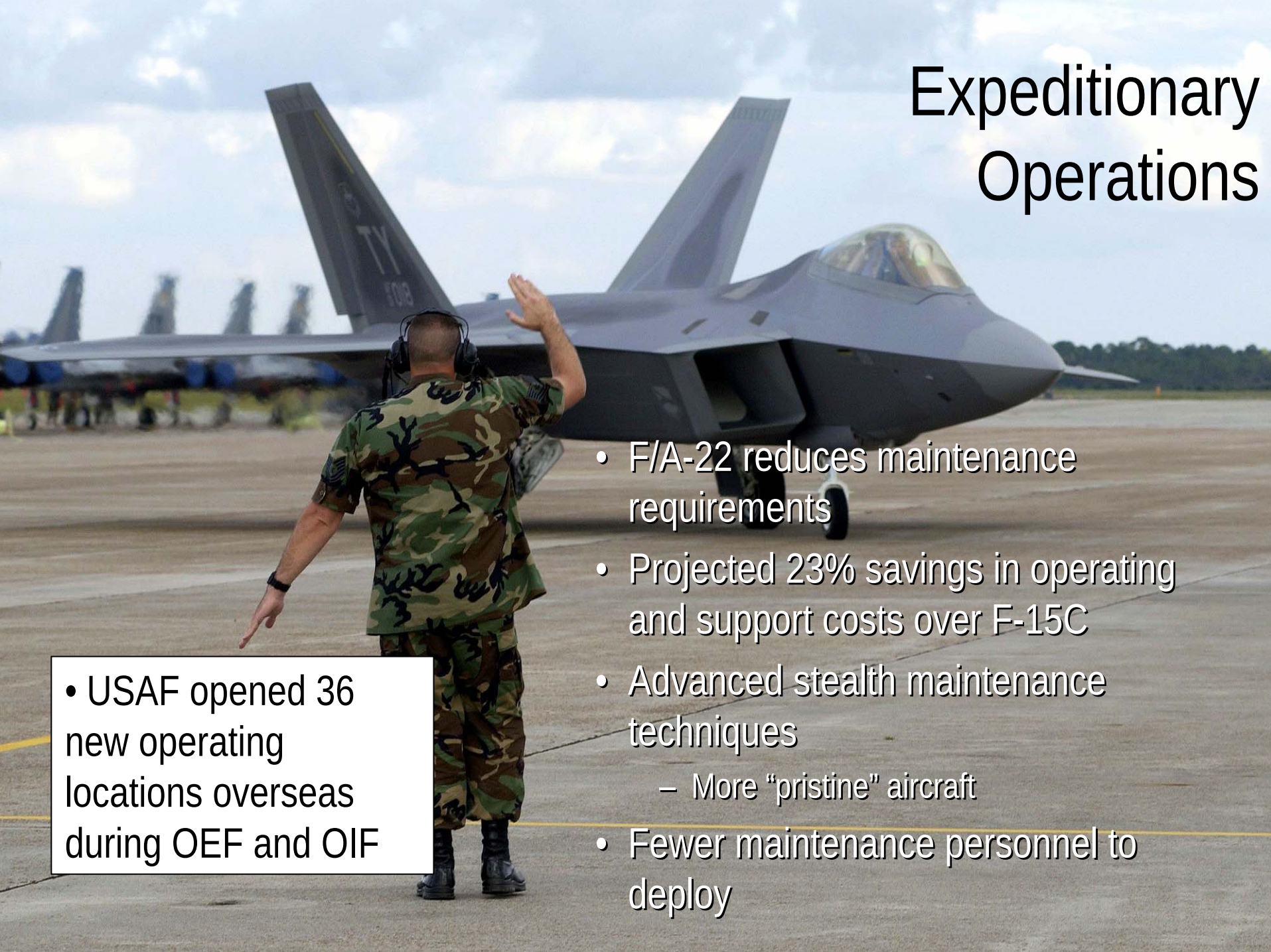
Advanced LO Materials and Manufacturing

Unique F-22 Capabilities

Industrial Base

F-35 System Development

Expeditionary Operations



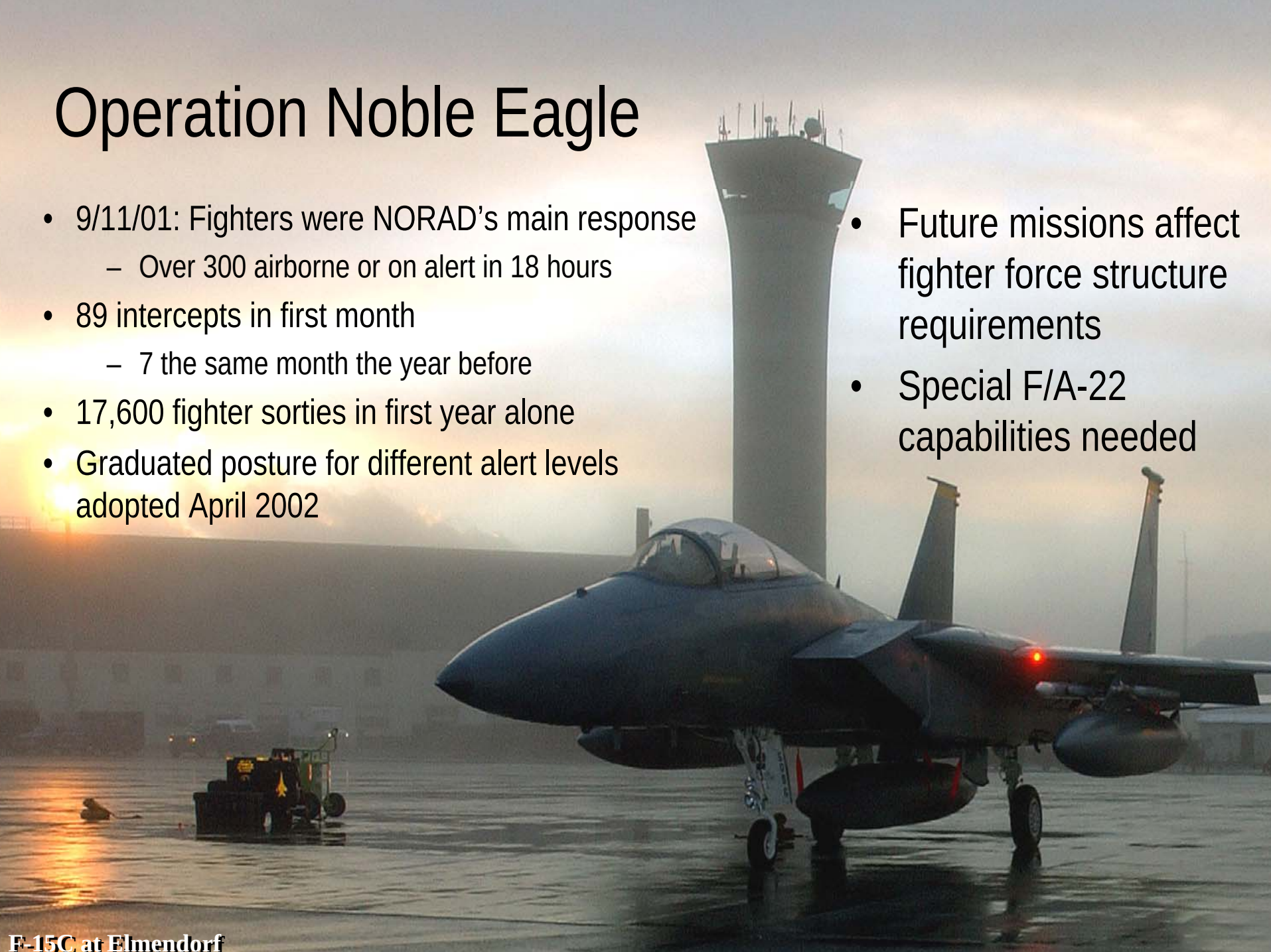
- F/A-22 reduces maintenance requirements
- Projected 23% savings in operating and support costs over F-15C
- Advanced stealth maintenance techniques
  - More “pristine” aircraft
- Fewer maintenance personnel to deploy

• USAF opened 36 new operating locations overseas during OEF and OIF

Operation Noble Eagle

- 9/11/01: Fighters were NORAD's main response
  - Over 300 airborne or on alert in 18 hours
- 89 intercepts in first month
  - 7 the same month the year before
- 17,600 fighter sorties in first year alone
- Graduated posture for different alert levels adopted April 2002

- Future missions affect fighter force structure requirements
- Special F/A-22 capabilities needed



F-15C at Elmendorf


“With us air people, the future of our nation is indissolubly bound up in the development of air power.” – Mitchell, 1926