



# ***USCENTCOM Science and Technology 2016***

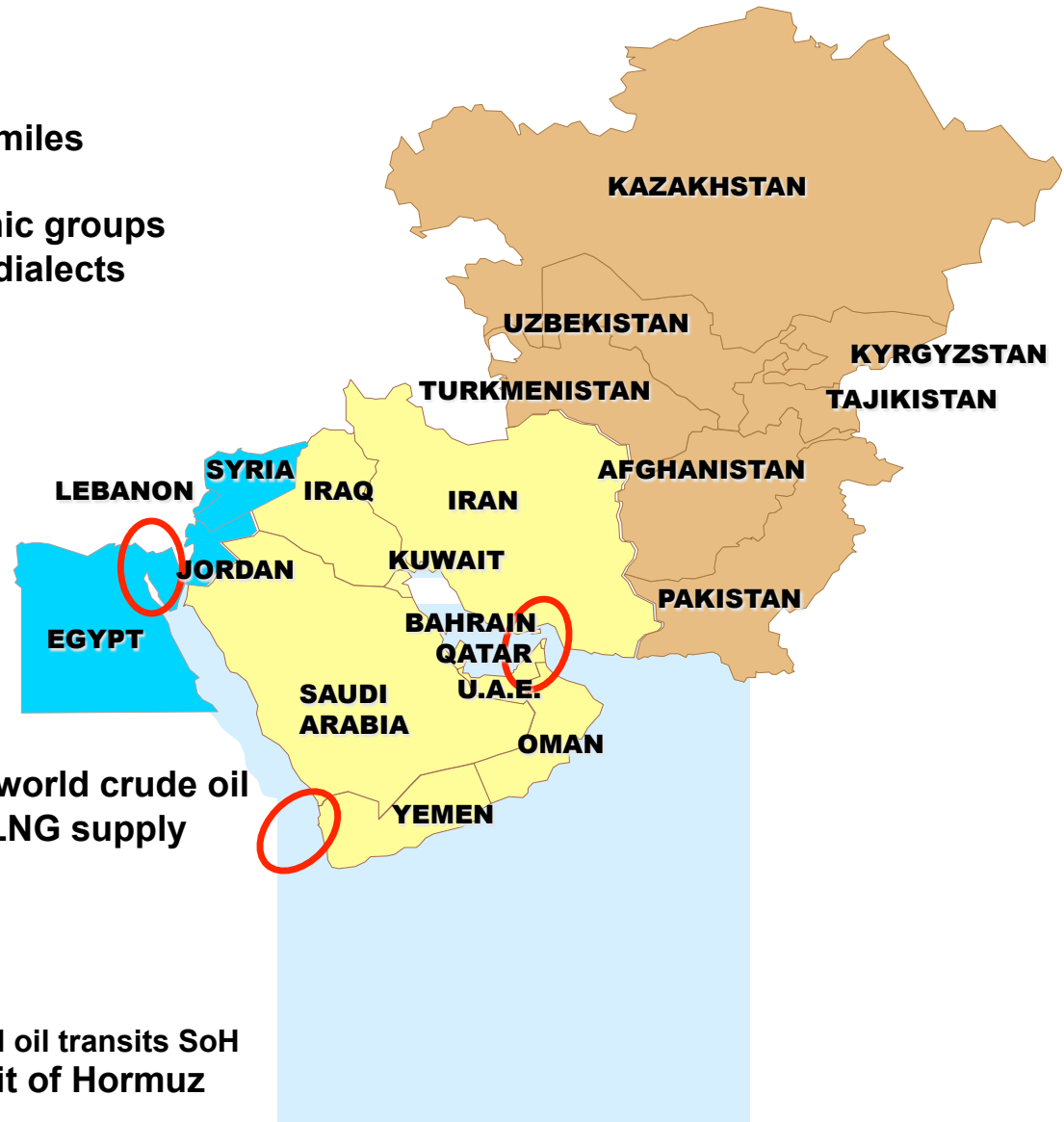
# ***CENTCOM - Area of Responsibility***

## **Complex**

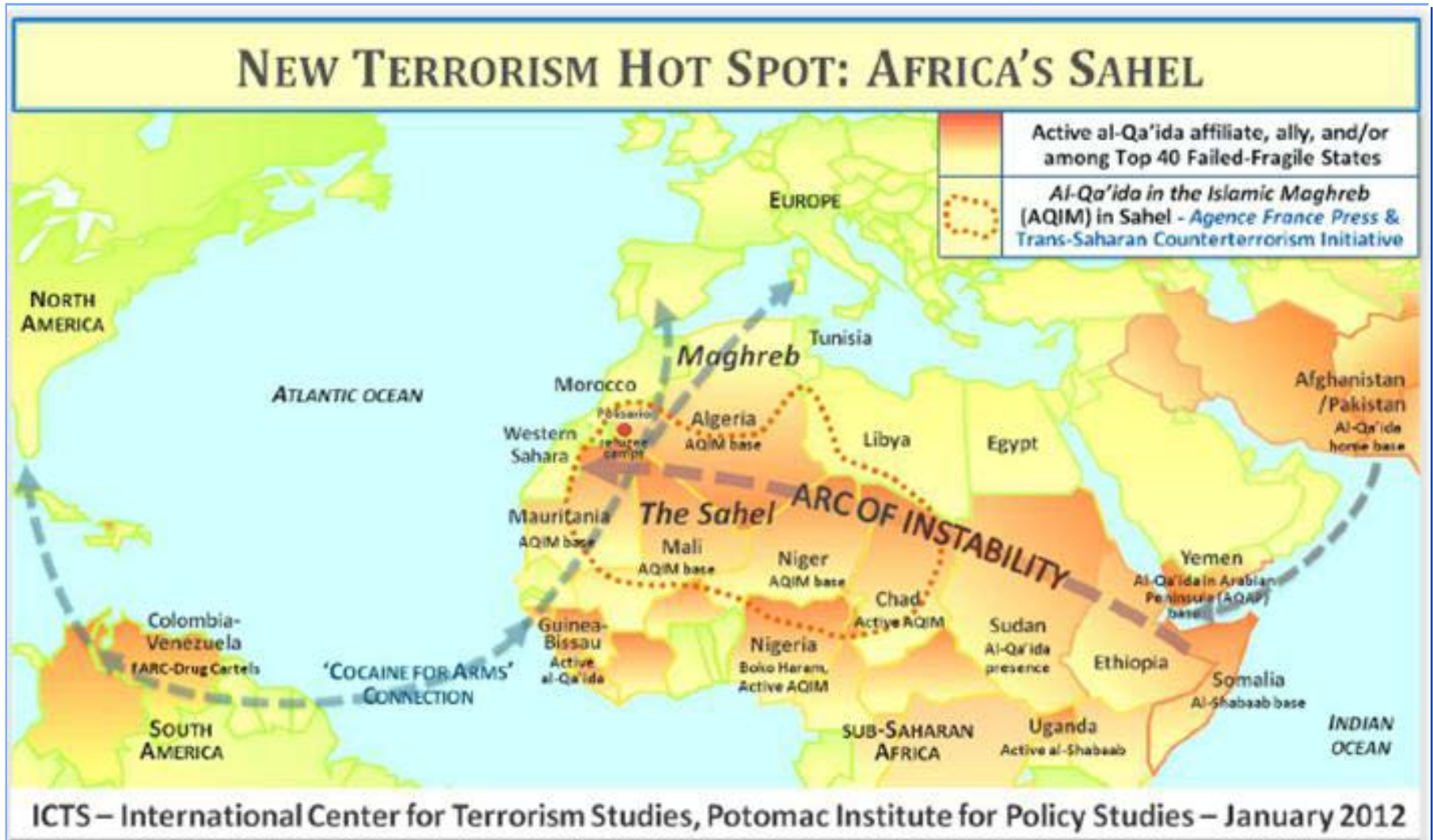
- 20 Countries, 4.5 million square miles
- 1.1 Million square miles of ocean
- 531 Million people, 16 major ethnic groups
- 7 Major languages, hundreds of dialects
- 4 Major religions

## **Global Economic Impact**

- Arabian Gulf produces ~ 31% of world crude oil
- Region exports ~ 26% of global LNG supply
- 3 x Strategic Choke Points
  - Strait of Hormuz
  - Suez Canal
  - Strait of Bab el Mandeb
- Appx 40% internationally traded oil transits SoH
- 21% of LNG goes through Strait of Hormuz



# An African Perspective Today



# ***Some technology areas we “pursue”:***

Chemical, Biological , Radiological, Nuclear, and Enhanced Conventional Weapons

- **Detection of CBRNE at tactically significant distances; with emphasis on the “E”**
- **Pre-shot counter-sniper, counter-mortar, counter-RPG technologies; with emphasis on automated systems**
- **Technologies which enable the transfer of information more securely, more quickly, to a wider set of users, to include the warfighter when it makes sense, with less bandwidth and dedicated support resources, e.g.:**
  - **Multi-level Security over single architectures**
  - **Bandwidth compression / reduction techniques**
  - **Data reduction [data=>info=>knowledge=>understanding=>wisdom]**
- **Through automation, remote action, new and novel techniques, technologies which reduce risk and / or stress on the force and / or improve the efficiency and effectiveness of our action(s)**
- **Technologies which allow for greater persistence over the battlespace with fewer platforms; employing improved sensor technology providing greater fidelity of information**

# Thematic areas of concern

(not in priority order) **More X with Y**

- **A2AD solutions**
- Detect / Defeat:
  - IED initiators / initiator systems
  - Buried / concealed IEDs
  - Production and assembly of IEDs
- HME production standoff detection
- Culvert access denial / alerting
- Persistence in surveillance
- Biometrics (Identity dominance for FP/access)
- Non-lethal vehicle / vessel stop
- **Medical**
- Reduce stress on the force:
  - Force Protection requirements
  - Increased automation
- Anti-swarm lethal / non-lethal
- **Enable Partner Support**
- Predictive analysis techniques
- **Tunnel detection / defeat**
- Holding all targets at risk
- **Messaging / counter-Messaging**
- **Mine Warfare (offensive/defensive)**
- **IAMD overmatch solutions**
- C4ISR systems:
  - **Processing, exploitation & dissemination**
  - Multi-level security
  - Cross domain solutions
  - **Information access to tactical edge via MIL Comms, Cellular & WiFi**
- Tagging, Tracking, and Locating (TTL)
- **Denying non-state actors state-like functions**
- **Energy & Power efficiencies**
- Scalable non-lethal / lethal effects
  - Directed Energy
  - Kinetics
- True SA for Blue ... Fused Red
- Sustaining the force – reduced size, weight, amount, and retrograde
- Any sensor any shooter
- **Cyber Warfare Defense**
- **Detect, track, defeat UAS (Grp 1&2)**

# *Points of Contact*

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