

# ATM in the AFI region



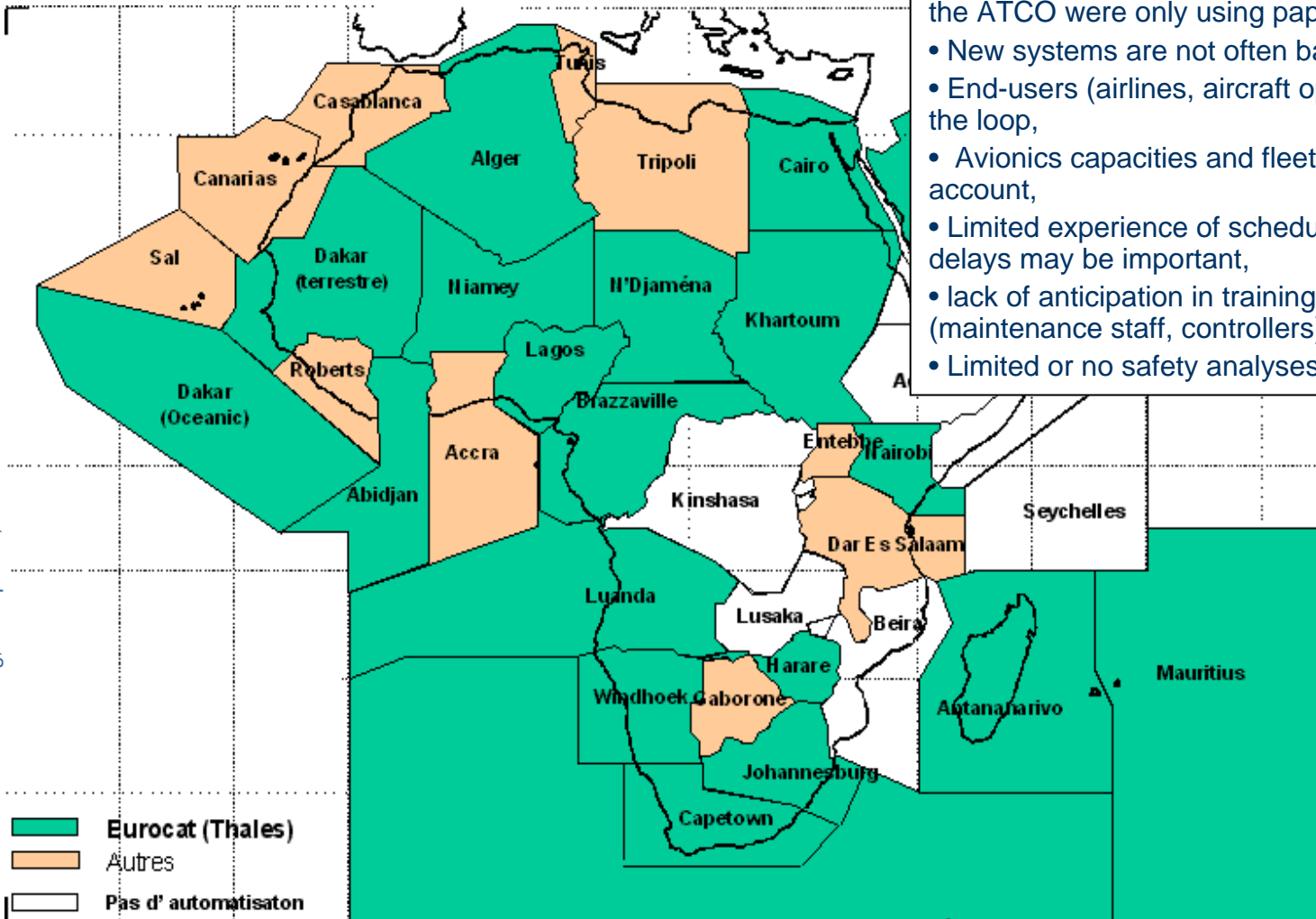
**UE/AU meeting**  
**Windhoek, 2-3 April 2009**

**THALES**

# ATM systems in AFI region

**In the last 10 years, most of the AFI ANSP carried out important efforts in implementing modern communications and ATM systems with;**

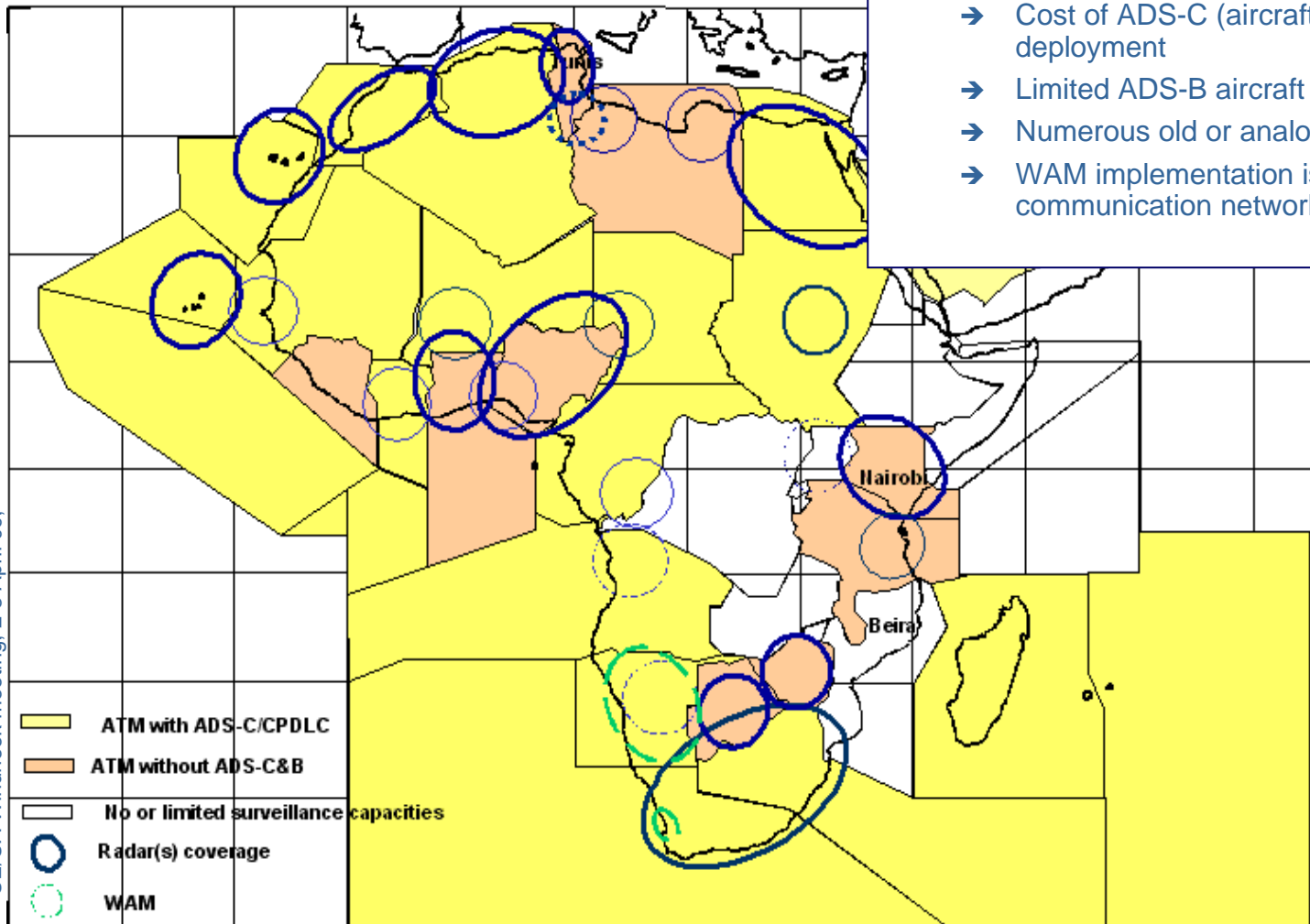
- lack of background/expertise of ANSP in new technology (most of the ATCO were only using paper strip & radio)
- New systems are not often based on a top/down analysis,
- End-users (airlines, aircraft operators, controllers..) are not often in the loop,
- Avionics capacities and fleet equipage are not enough taken into account,
- Limited experience of scheduling/handling complex projects; thus delays may be important,
- lack of anticipation in training and qualification of the end-users (maintenance staff, controllers),
- Limited or no safety analyses,








# Main Surveillance capacities in the AFI Region

**Lack of reliable Surveillance capacity in the AFI region**

- Cost of implementing/maintaining radars
- Difficulties of implementing/maintaining radars in remote areas
- Solutions could be ADS B & C and WAM, but ;
  - ➔ Cost of ADS-C (aircraft equipage, communications,..) limits its deployment
  - ➔ Limited ADS-B aircraft equipped (< 30%)
  - ➔ Numerous old or analog A/C in regional fleets to be addressed
  - ➔ WAM implementation is complex (numerous sites, adequate communication network, ...)

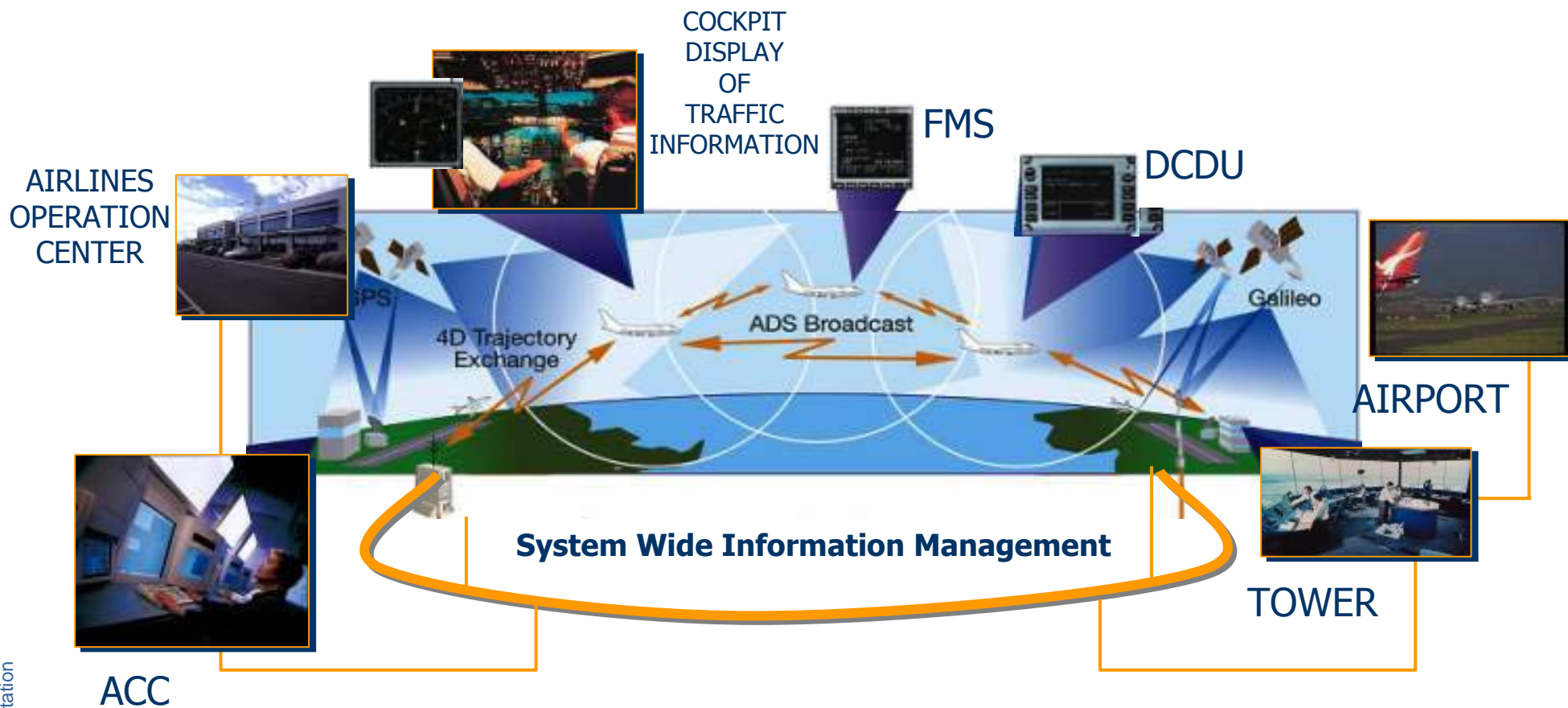


-  ATM with ADS-C/CPDLC
-  ATM without ADS-C&B
-  No or limited surveillance capacities
-  Radar(s) coverage
-  WAM

UE/JA Windhoek meeting, 2-3 April 09,

# Industry Vision for a new CNS/ATM infrastructure

## Air and ground integration for improved automation



 **Cooperative Flight Data Processing System and traffic flow management**

# Potential evolutions of ATM/C-S in AFI region



## ■ ATM

- Rationalisation of the upper airspaces,
- Electronic data exchanges between ATS units (AIDC,OLDI,..),
- ATFM capabilities with weather (MET) processing capabilities,
- Improvement of the interfaces with airport systems,
- AIM : Common/centralized aeronautical data base(s),
- Common procurement : COOPANS like approach

## ■ Surveillance

- ADS-B
- WAM
- Sharing of surveillance data

## ■ Communications

- Development of Air/ground satellite communications (voice/data)
- Improvement of capacity and reliability of ground/ground network

## Real handicaps for fully benefiting of the newly implemented systems are

- Unavailability of adequate and skilled human resources,
- Lacks of reliable communications
- Uncompleted or non-used surveillance capabilities

## Potential supports from EU

- Support to the implementation of regional communications (Navisat), Navigation (Egnos) and surveillance (ADS) capabilities,
- Sharing of information related to SESAR implementation,
- Support/guidance related to safety recommandations (e.g ESARRs like)
- Support to ATCO training

THALES is ready to share its global expertise to support the development of the ATM in AFI region and contribute to the safety of the African skies