# AIXM/UML/XML/GML Workshop

**ICAO SAM, Lima, Peru, 28-SEP – 02-OCT-2015**
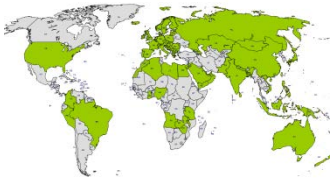
COMSOFT GmbH - Introduction

**COMSOFT**

dedicated to ATM

# COMSOFT at a Glance

## Founded in 1979

36 years of expertise in two business fields: main business Air Traffic Management, second pillar Industrial Communication.

## 90 +

With customers in more than 90 countries.

## 300 +

Around 300 employees from different cultures.

## Global network

With six subsidiaries and over 50 representatives worldwide.

## 46 Mio +

Constantly growing revenue, 46 Mio € in 2014.

# COMSOFT Locations Worldwide

**External Office**

Contingency and Training Centre
**Germany**
*Oberstenfeld*

**COMSOFT Benelux**

**Belgium**
*Brüssel*

**CSS**

COMSOFT Satellite Services
**Germany**
*Oberstenfeld*

**Headquarter**

COMSOFT GmbH
**Germany**
*Karlsruhe*

**CAPS**

COMSOFT Asia Pacific Services
**Philippines**
*Iloilo City*

**Saudi Arabia Office**

**Saudi Arabia**
*Jeddah*

**CAPO**

COMSOFT Asia Pacific Office
**Singapore**
*Singapore*

**COMSOFT Latin America**

**Peru**
*Lima*

**COMSOFT PNG**

COMSOFT Papua New Guinea
**Papua New Guinea**
*Port Moresby*

# COMSOFT Locations Worldwide - Karlsruhe

**Main entrance**



## COMSOFT GmbH

**Wachhausstr. 5a**
**76227 Karlsruhe**
**Germany**

**Reception**

**Meeting / Training room**

**Test room**

**Rear**

# COMSOFT Locations Worldwide - Oberstenfeld

## External Office

**COMSOFT Contingency & Training Center**

**COMSOFT**

**info@comsoft.aero**
**www.comsoft.aero**

## Subsidiary

**COMSOFT Satellite Services GmbH**

**COMSOFT SatelliteServices**

**info@comsoft-sat.com**
**www.comsoft-sat.com**

**Benzstr. 2**
**71720 Oberstenfeld**
**Germany**

# Fields of Business


Air Traffic Management


Industrial Communication

| Aeronautical Messaging and Information Management Systems | ATM Automation Solutions |
| Surveillance Systems | Services |

| Profibus Products | Serial Products |
| Profinet Products | |

# History in Short

**CAPO**
foundation of subsidiary COMSOFT Asia Pacific Office in Singapore

**CSS & CTC**
foundation of subsidiary COMSOFT Satellite Services and Contingency and Training Center in the Stuttgart area

**Expanision of the Headquarter**
second building in Karlsruhe

**Foundation**
of COMSOFT

**ATC Market**
entering the ATC Market

**CAPS**
foundation of COMSOFT Asia Pacific Services on the Philippines

| 1979 | 1987 | 1989 | 1993 | 2006 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|------|------|------|------|------|------|------|------|------|------|------|

**Relocation**
within Karlsruhe to current Headquarter

**ISO 27001**
certificate for Information Security

**ISO 20000-1**
certification of COMSOFT`s IT Services „ARTAS Maintenance & Operational Support"

**CSA**
foundation of COMSOFT Saudi Arabia in Jedda

**ISO 9001**
first issue of the ISO 9001 certificate

**ISO 14001**
first issue of the ISO 14001 certificate

# …and from a Project Perspective

**CAMOS**
5-year term of ARTAS support

**ARTAS**
contract for integration of WAM and ADS-C

**ARTAS**
development of Tactical Controller Tool (FASTI)

**PRISMA**
COMSOFT takes over Papua New Guinea's extensive ATC modernisation

**AMHS**
COMSOFT AMHS solution selected by EUROCONTROL as ECG candidate

**Foundation**
of COMSOFT

**ATC**
entering the ATC Market

**PRISMA**
goes operational in UAE

**AMHS**
our solutions are involved in virtually all AMHS connections worldwide

| 1979 | 1989 | 1994 | 1997 | 1998 | 2001 | 2003 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|

**RADNET**
22 operational RADNET Nodes

**EUROCONTROL**
contract for European Surveillance Network

**RAPS**
is qualified for EUROCONTROL as ASTERIX Reference & Test Tool

**SAFETY NET**
first safety net solution launched and inaugurated at Maastricht ATC

**CADAS**
first AIXM5-based s olution in the world

**CAMOS**
third prolongation of CAMOS contract

**SDDS-NG**
DFS GmbH selects SDDS-NG from COMSOFT

**CAMOS**
fourth prolongation of CAMOS contract

# Our Customers – Air Traffic Management

**COMSOFT with 135 customers in 98 countries**

| The Americas | Europe | Africa | Asia | Australia & Oceania |
|---|---|---|---|---|
| 23 customers in 18 countries | 57 customers In 35 countries | 11 customers In 11 countries | 39 customers In 30 countries | 5 customers In 4 countries |
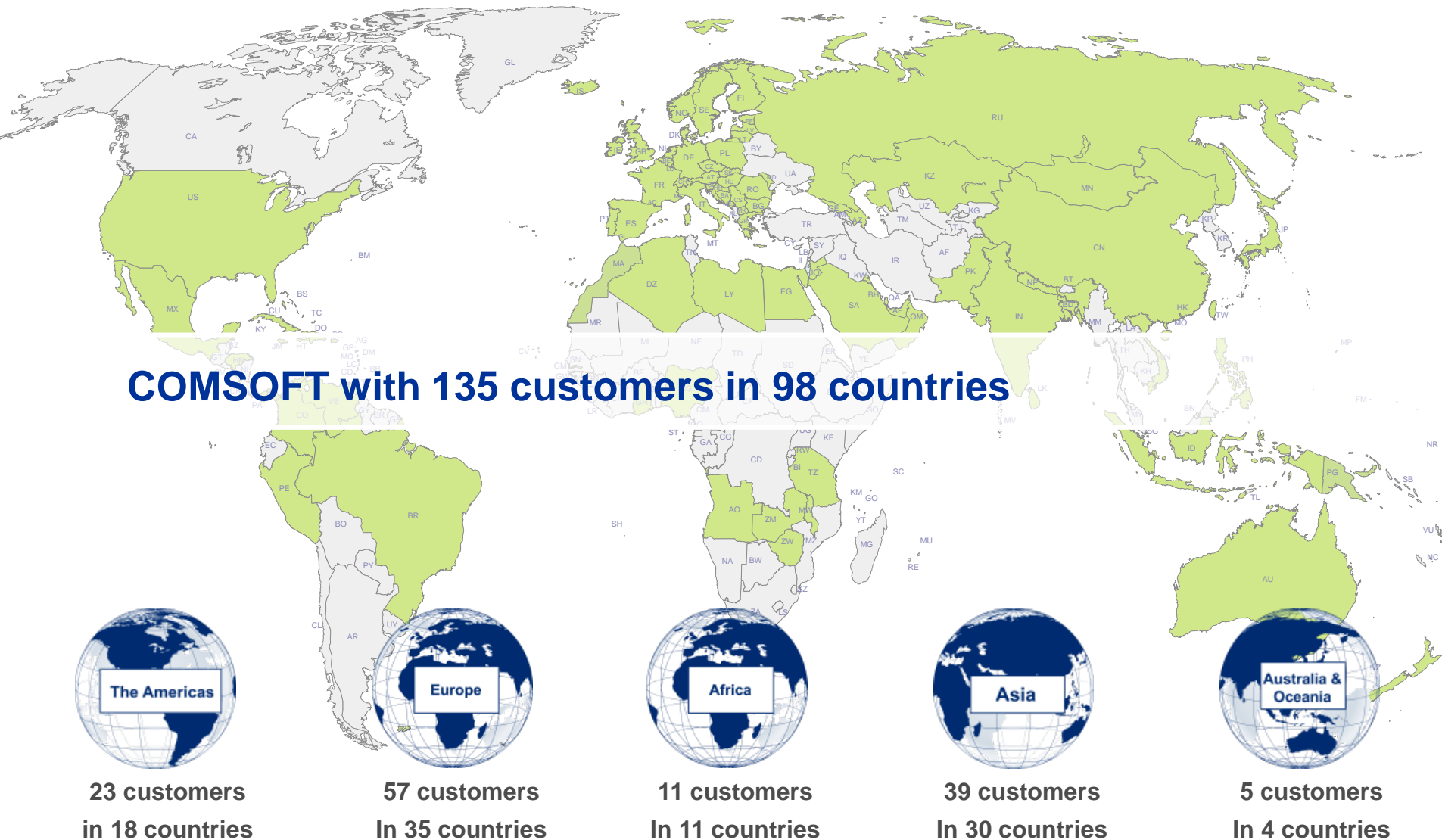
# References in Europe

**Macedonia:** CAA, DGCA
**Moldova**: MoldATSA
**Montenegro**: SMATSA
**Netherlands**: LVNL
**Netherlands**: RNLAF
**Norway**: FFI
**Poland:** Armed Forces
**Poland:** PANSA
**Poland:** PPL
**Portugal**: NAV
**Romania:** ROMATSA
**Serbia:** SMATSA
**Russia:** FGUP RTC AISS
**Slovakia**: LPS
**Slovenia**: Slovenia Control
**Sweden**: FMV
**Sweden**: Air Force and Navy
**Sweden**: LFV
**Switzerland**: Skyguide
**Switzerland**: armasuisse
**United Kingdom**: NATS

EUROCONTROL
**Austria**: AustroControl
**Austria**: Austrian Armed Forces
**Belarus**: Belaeronavigatsia
**Belgium**: Belgocontrol,
**Belgium**: Belgian Air Force
**Bosnia & Herzegovina**: BHDCA
**Bosnia & Herzegovina**: FEDCAD
**Bulgaria**: BULATSA
**Croatia**: Croatia Control
**Czech Republic**: ANS
**Czech Republic**: ERA/SRA
**Denmark**: NaviAir
**Estonia**: EANS
**Finland**: CAA
**Finland**: FINAVIA
**France**: DSNA
**France**: THALES
**Germany**: DFS
**Germany**: EADS
**Germany**: KVB
**Germany**: AFOD
**Germany**: German Air Force
**Greece**: HCAA
**Hungary**: HungaroControl
**Iceland**: Iceland Telecom,
**Iceland**: ISAVIA
**Ireland**: IAA
Ireland: Ireland West Airport Knock
Ireland: Kerry Airport
**Italy**: ENAV S.p.A.
**Latvia**: Latvian CAA
**Latvia**: LGS
**Lithuania**: Oro Navigacija
**Luxembourg**: Airport of Luxembourg
**Luxembourg**: Lux AA

# References in Middle East & Asia

**Saudi Arabia:** GACA
**Saudi Arabia:** ICAD
**Singapore:** CAAS, DSTA
**Singapore:** ST Electronics
**South Korea:** SRAA
**South Korea:** KAC
**Sri Lanka:** AASL
**Taiwan:** ANWS
**Vietnam:** VANSCORP
**Vietnam:** VATM
**Yemen:** CAMA
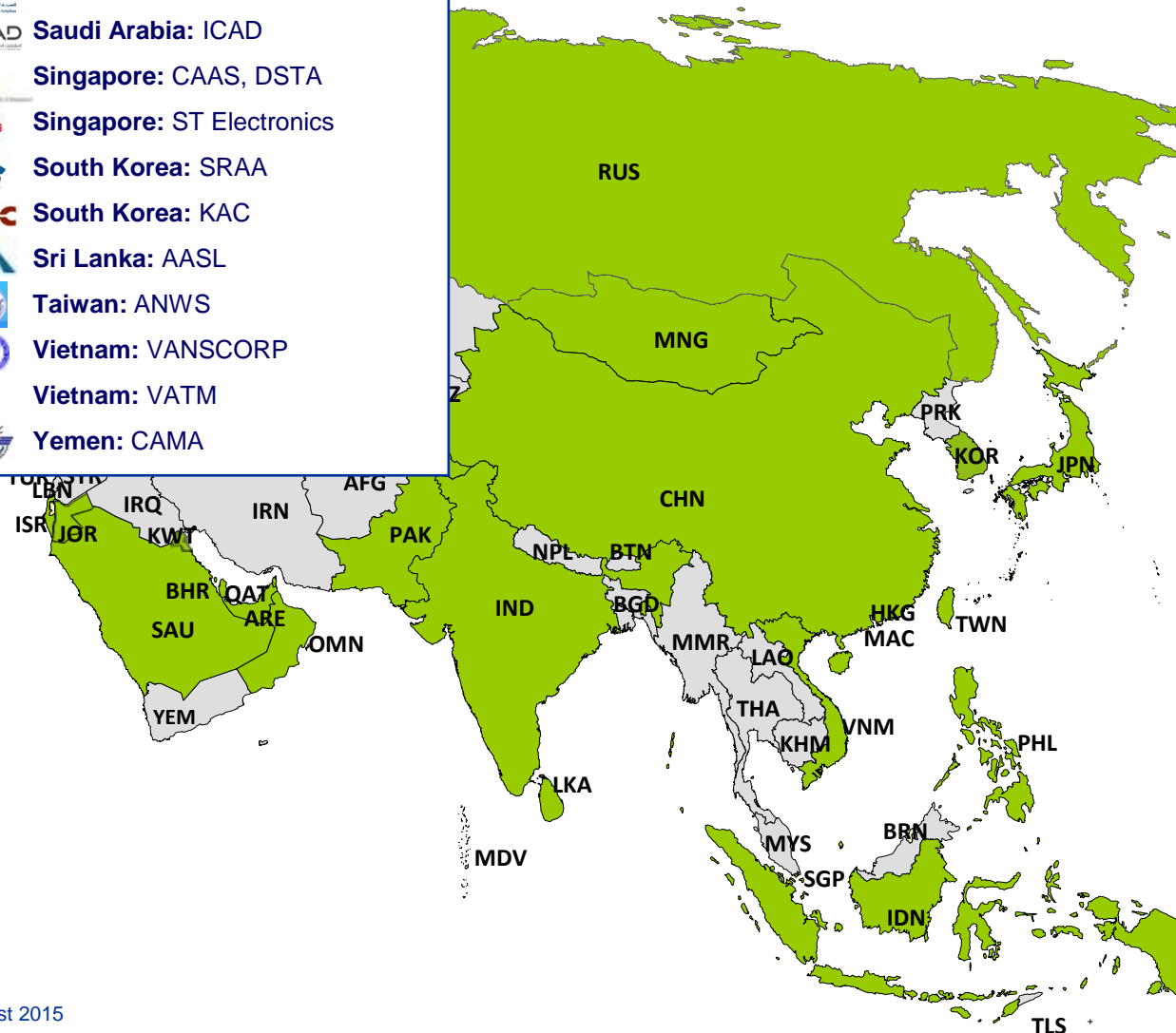
**Abu Dhabi:** ADAC
**Abu Dhabi:** GCAA
**Azerbaijan:** AZANS
**Bahrain:** CAA
**Bangladesh:** CAAB
**China:** CMC
**Dubai:** DCAA
**Georgia:** Sakaeronavigatsia
**Hong Kong:** HKCAD
**India:** AAI
**Indonesia:** AP II, STPI
**Indonesia:** DGCA Jakarta
**Indonesia:** Juwata Tarakan Airport
**Indonesia:** Palembang Airport
**Japan:** NEC
**Jordan:** CARC
**Kazakhstan:** Kazaeronavigatsia
**Kuwait:** DGCA
**Macao:** CAAM
**Maldives:** MACL
**Mongolia:** CAA
**Nepal:** CAAN
**Oman:** DGCAM
**Pakistan:** PCAA
**Philippines:** ATO, DOTC
**Qatar:** NDIA
**Qatar:** QCAA
**Russia:** FGUP RTC AISS

# References in the Americas
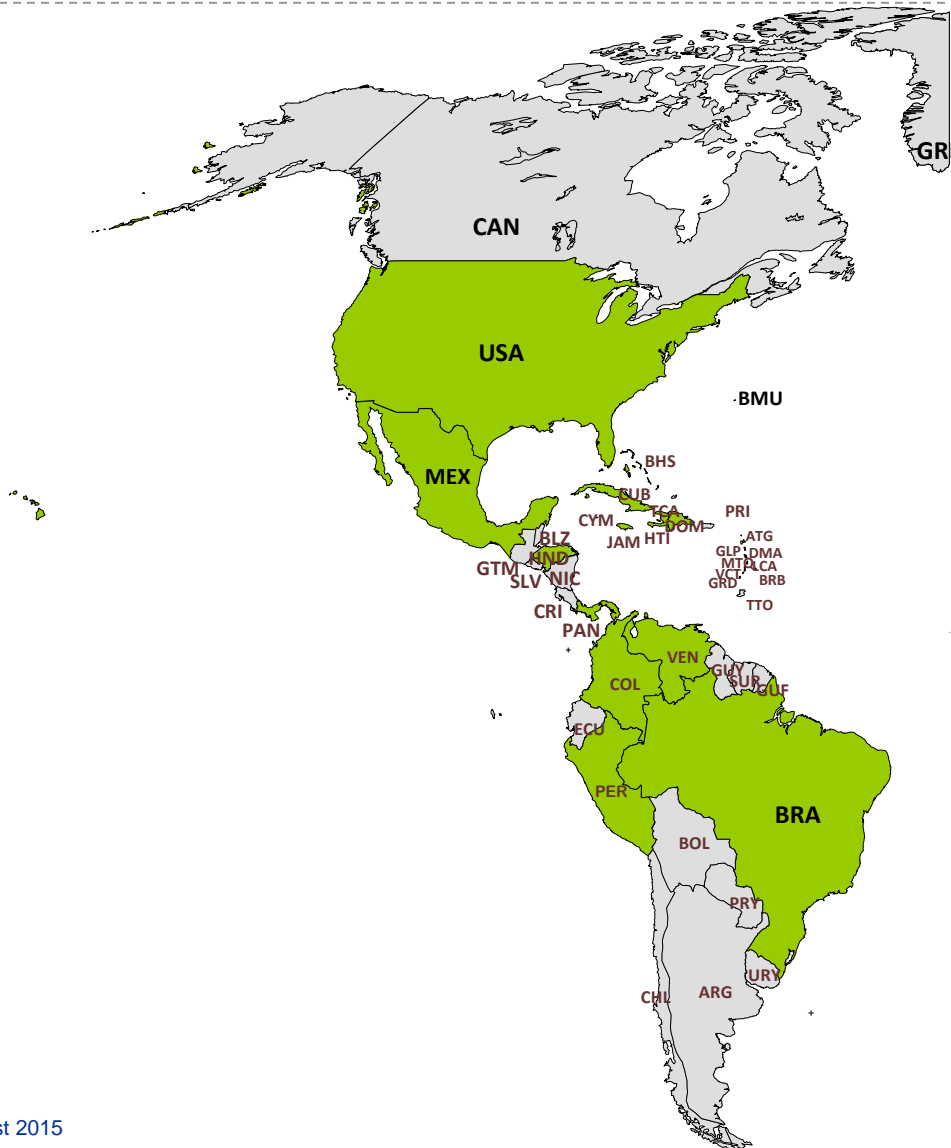


| | |
|---|---|
| | **Aruba:** DCAA |
| | **Brazil:** ATECH |
| | **Brazil:** BACE |
| | **Brazil:** FT Automação Industrial |
| | **Cayman Islands:** CAACI |
| | **Colombia:** UAEAC |
| | **Cuba:** IACC |
| | **Dominican Republic:** IDAC |
| | **Haiti:** OFNAC |
| | **Honduras:** COCESNA |
| | **Jamaica:** JCAA |
| | **Mexico:** DGAC |
| | **Panama:** AAC |
| | **Peru:** CORPAC |
| | **Peru:** FAP |
| | **Puerto Rico:** FAA |
| | **Sint Maarten:** SMCAA |
| | **Trinidad and Tobago**: TTCAA |
| | **The Bahamas:** BCAA |
| | **USA:** General Dynamics |
| | **USA:** FAA |
| | **USA:** Raytheon |
| | **USA:** OGC |
| | **Venezuela:** INAC |

# References in Oceania
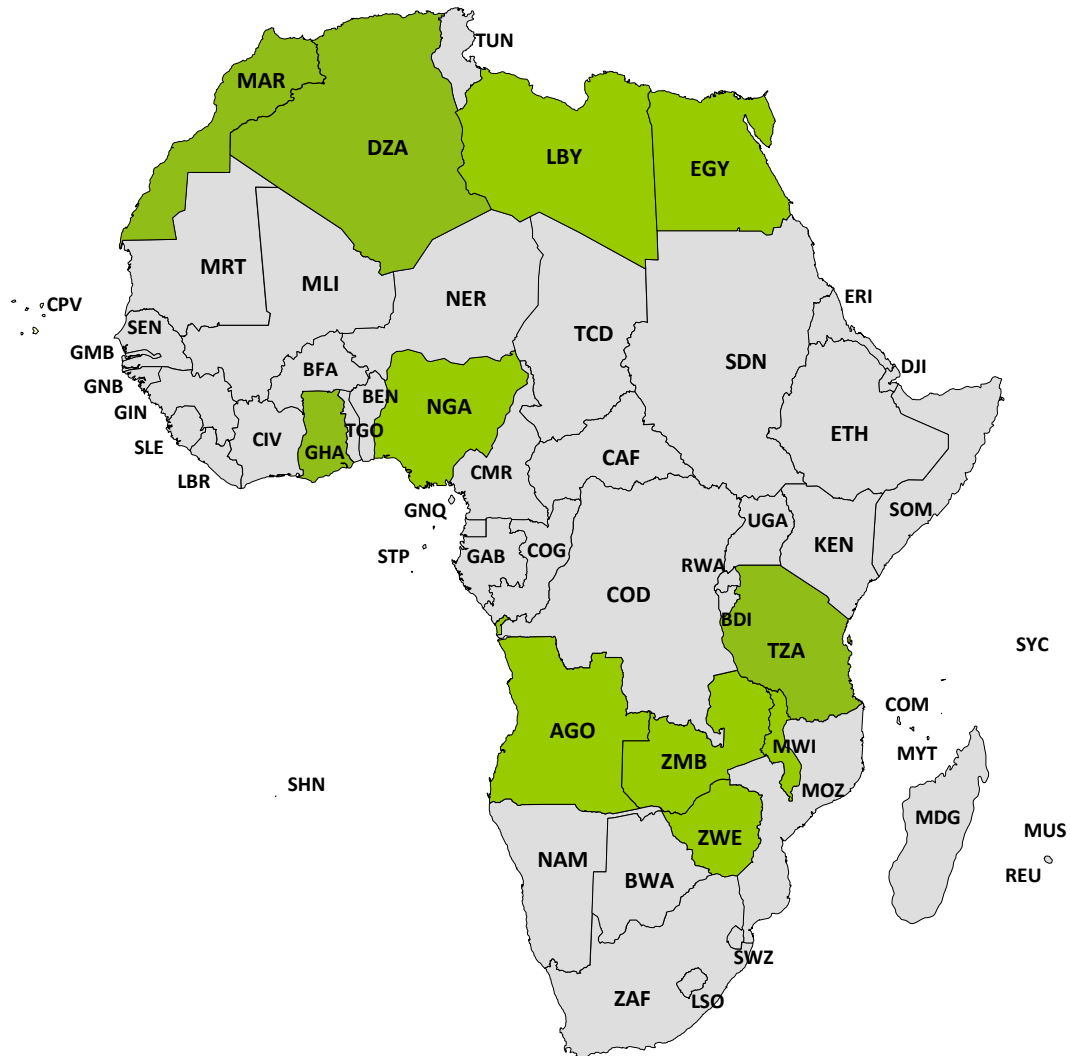


FSM

NRU

KIR

PNG

TLS

SLB

TUV

WSM

VUT

FJI

TON

NCL

AUS

NZL

| | **Australia:** Airservices Australia |
| | **Australia:** Airline |
| | **Fiji:** Airports Fiji Limited |
| | **New Zealand:** Airways New Zealand |
| | **Papua New Guinea:** PNGASL |

August 2015
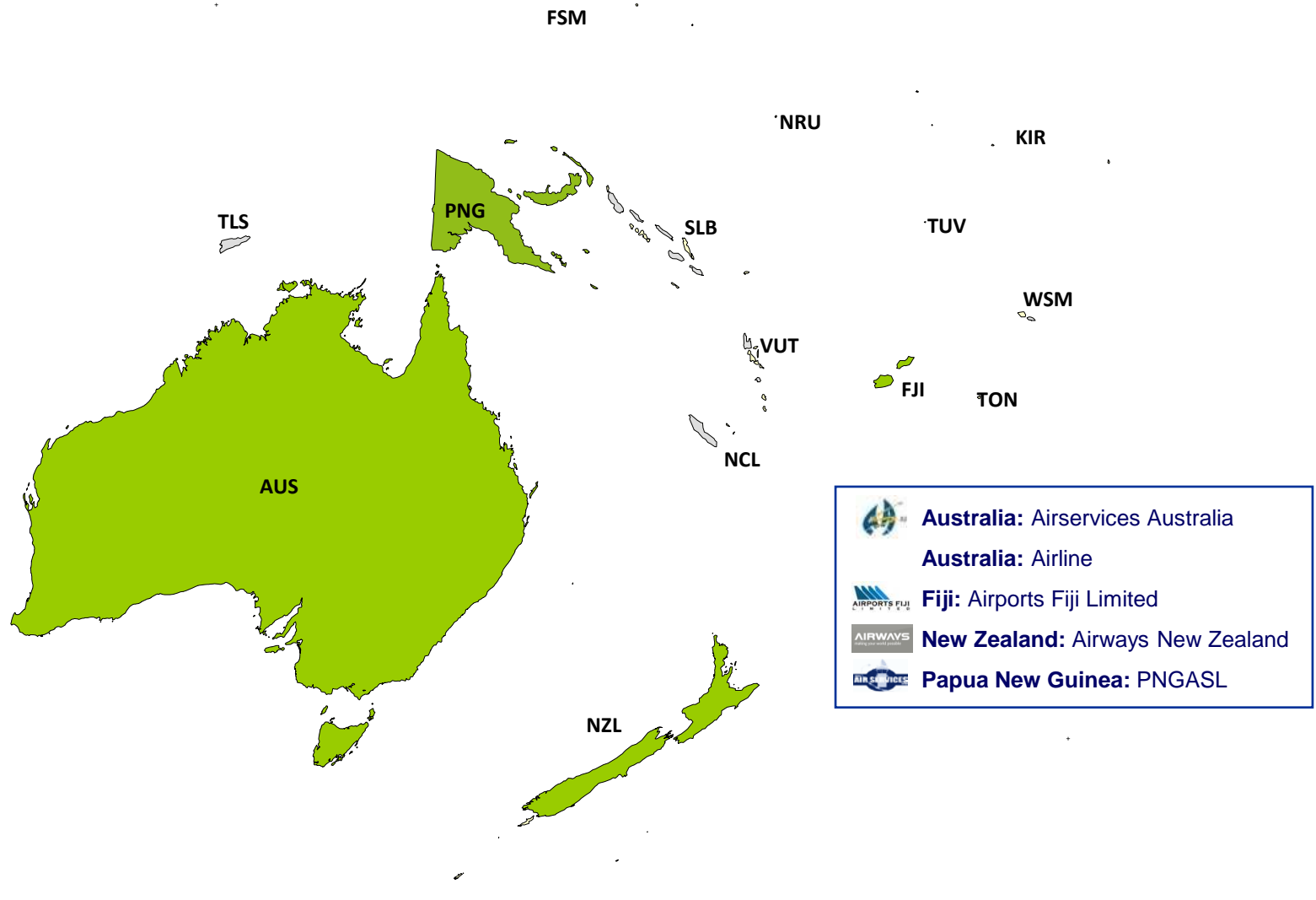
# GCAA ATC Operations



- 6 Radar Sectors
- Integrated Military Approach/Civil Approach MICA (scheduled for end 2009)
- 2 Major International Airports (DXB, AUH)
- Remote terminals (Military, AUH)
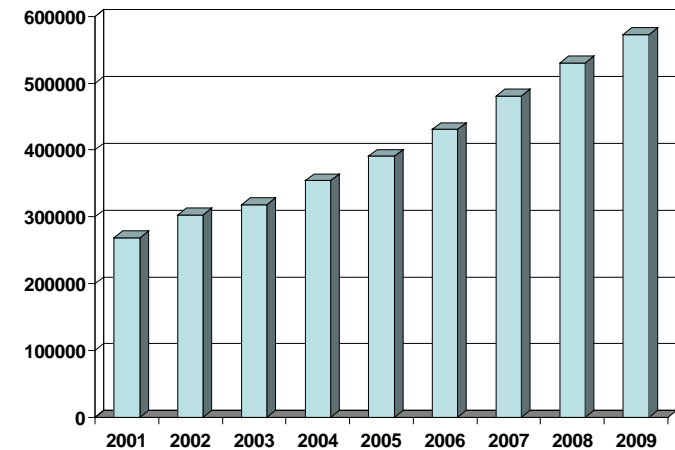




2008: >530000 operated flights p.a

► 24h UAE Air Traffic

# Sheikh Zayed Centre – Abu Dhabi
# GCAA UAE

- 6 Operational Sectors

- >1500 flights per day

- Military Coordination Cell

- Stripless operation

- Jurisdiction and Silent Hand-over

- OLDI Connections

- Safety Net functions

- Integrated Surveillance Data Processing

  - 6 Radars

  - 3 redundant ADS-B Ground Stations

- Autonomous Diversity System
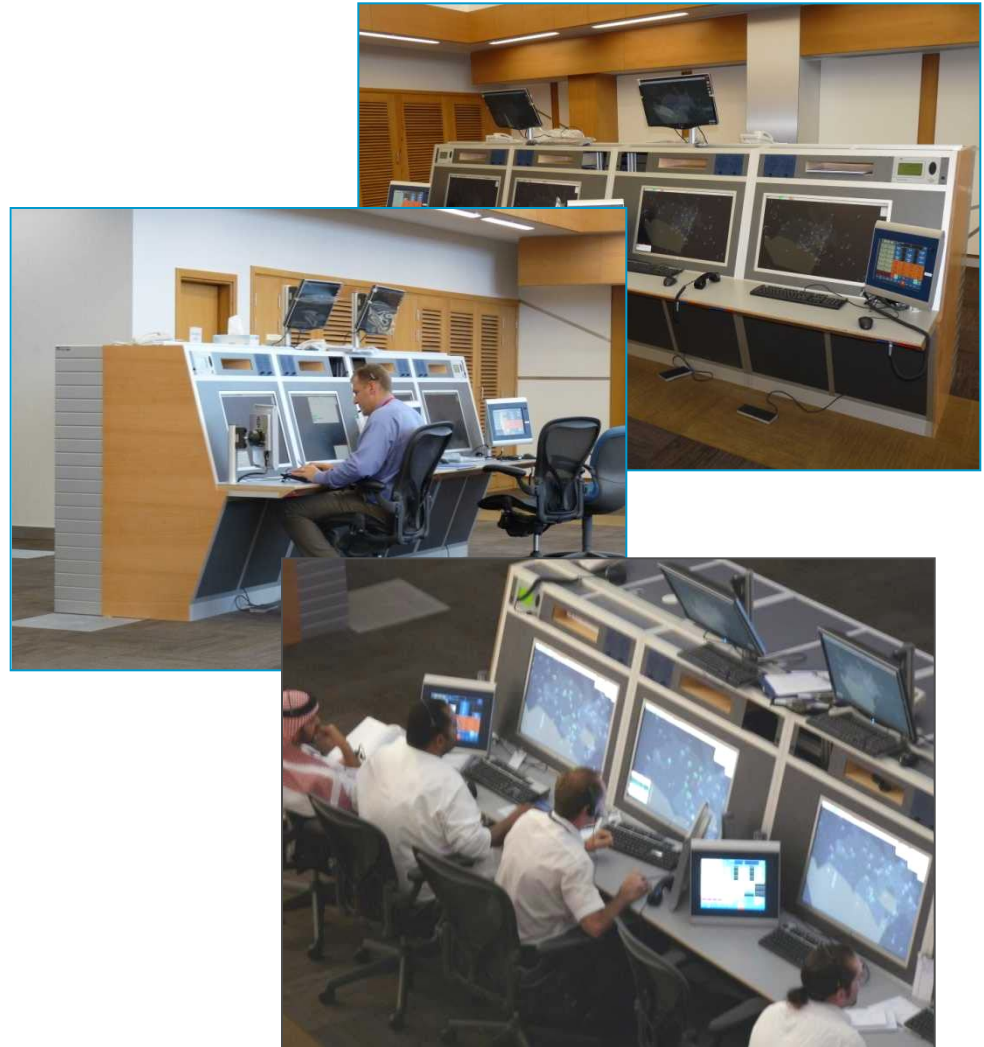
# Sheikh Zayed Centre - ACC
# GCAA UAE – Reference Project

- **Redundant AIDA/AMHS**
  - First operational AHMS Connection in Middle East
- **CADAS ATS User Agent**
  - 50 Terminals (throughout the UAE)
  - ROBEX
- **Redundant FDPS**
  - First OLDI Connection in Middle East
  - First RNP-1 Route in Middle East
- **Redundant ARTAS Tracker**
  - Fusion Tracking of Radars and ADS-B
- **Non-Redundant Fallback Tracker**
- **Safety Net Function**
  - Predictive Safety Nets     STCA / MSAW / APW
  - Safety Awareness           CLAM / HOLD
- **Data Recording Sub-System**
  - Data Recording
  - Screen Content
- **Quadrant ADS-B/MLAT**
- **C-NMS**
- **Diversity Display System**
- **Remote OLDI Terminals at Abu Dhabi**
- **Advanced Arrival Sequence Managment (September 2009)**

# Memberships in International Organisations

**ATCA**

Air Traffic Control Association

**CANSO**

Civil Air Navigation Services Organisation

**EUROCAE**

European Organisation for Civil Aviation Equipment

**IFAIMA**

International Federation of Aeronautical Information Management Associations

**OGC**

Open Geospatial Consortium, Inc.

# Memberships in Working Groups

- **ADS-B-SITF**
  ADS-B Study and Implementation Task Force

- **AFSG**
  Aeronautical Fixed Services Group
  A sub-group of the European Air Navigation
  Planning Group (EANPG)

- **AUG**
  ARTAS User Group

- **EUROCAE**
  Working Group 50, Sub-Group 4,
  Ground Recording Requirements

- **SPIN**
  Safety nets: Planning Implementation
  and eNhancement (Task Force)

- **RDEFG**
  Radar Data Exchange Focus Group

- **SUGCT**
  Surveillance User Group on Center Tools
  Eurocontrol EATMP working group

- …………
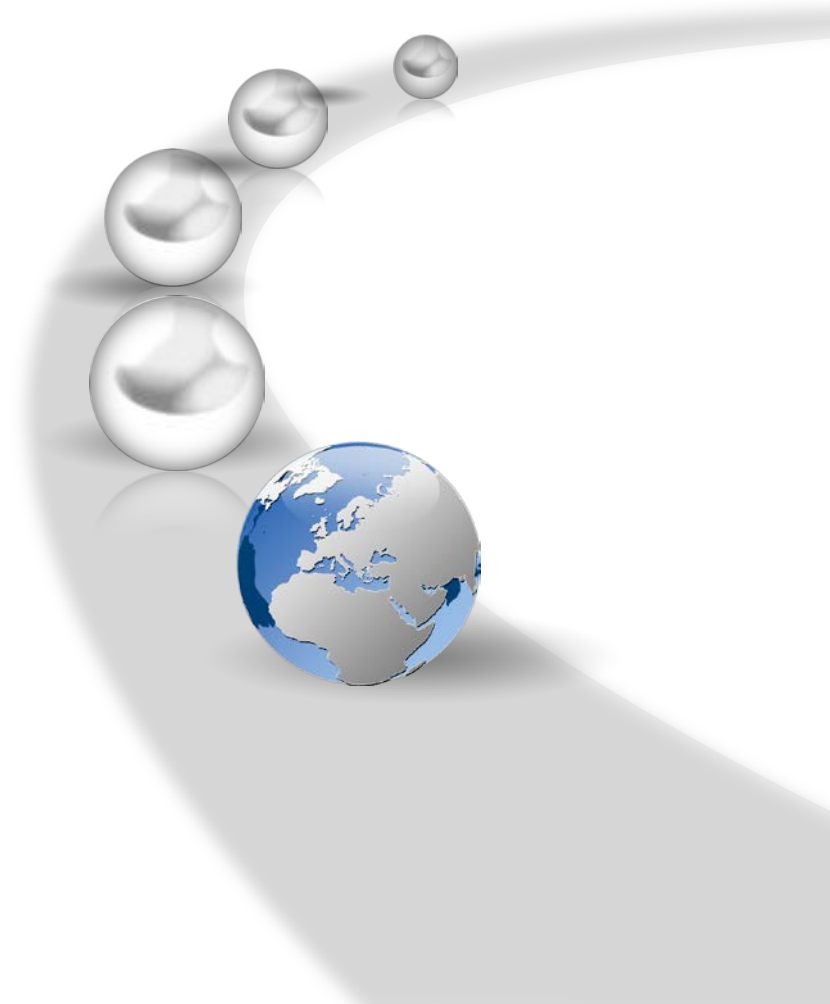
# COMSOFT & NATS – more than two decades of working relationship

- NATS and COMSOFT's bond stretches back to 1993 (UK-RADNET)

- Further successful projects over the last years: AMHS-UK, ERCAMS/GCAMS, first transatlantic AMHS connection to the USA

- **April 2013: COMSOFT win prestigious NATS Supplier Performance Award**

*"This Supplier Performance Award has been well-earned. COMSOFT have been a valued and effective supplier to NATS for many years and the Award recognises their commitment to continuously improving their performance in the delivery of products and services to NATS."*

Tim Bullock, NATS Director of Supply Chain Management

# COMSOFT Standards

*"High-quality control is our constant companion and guides us in everything we do."*

- 1993: issue of ISO 9001 certificate

- 2009: issue of ISO 14001 certificate

- Unbroken track record of re-certifications for both standards

*"A customer-focused and service-oriented approach lies at the heart of our philosophy. Safety and security are paramount in the solutions we provide to our customers."*

- Application of safety standard EUROCAE ED-153 (SWAL 3/4) in conjunction with EUROCONTROL Safety Assessment Methodology (SAM)

- 2011: certification of COMSOFT's IT Services "ARTAS Maintenance & Operational Support" according to ISO/IEC 20000-1

- 2012: issue of ISO 27001:2005 certificate for information security

# Service Management

*"Customer-focused and a service oriented approach lies at the heart of our philosophy."*
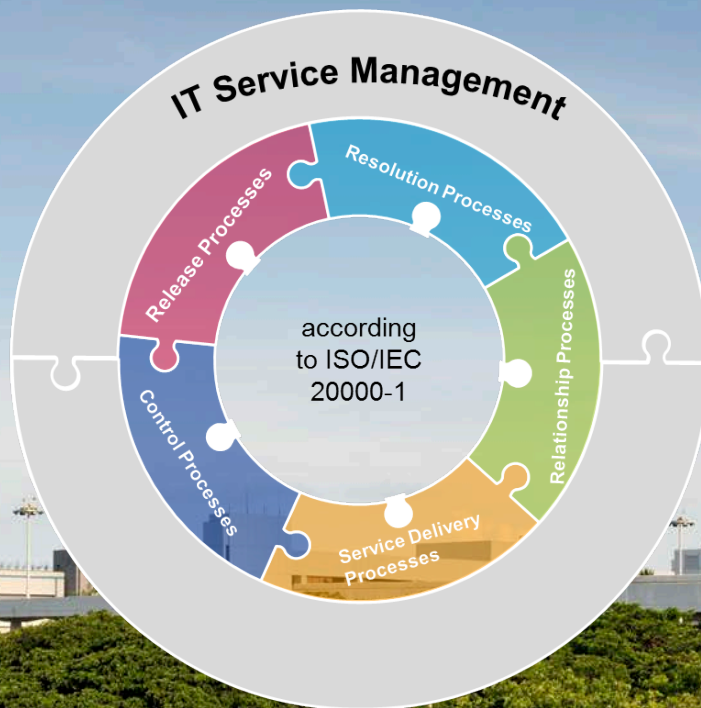


IT Service Management

Release Processes · Resolution Processes · Relationship Processes · Service Delivery Processes · Control Processes

according to ISO/IEC 20000-1

2011: certification of COMSOFT's IT Services "ARTAS Maintenance & Operational Support" according to ISO/IEC 20000-1

# Diversity

- **INTERCULTURAL COMPETENCE** by international composition of staff

- Our employees come from **DIFFERENT COUNTRIES**, like:

  France  New Zealand  USA  Honduras  Namibia  Canada  Bulgaria

  Philippines  Morocco  India  Algeria  Great Britain  Uzbekistan  Germany

- More than **25 LANGUAGES** spoken

# COMSOFT – Your Integrated ATM Solutions Partner

## Information & Messaging

Aeronautical Information Management
Aeronautical Messaging Systems

## Satellite Communication

Meshed Services
DVB Services
Connectivity Services
Teleport Services

## COMSOFT Services

Training
Consulting
Maintenance & Support
Outsourcing
IT Security

## Surveillance Systems

ARTAS
ADS-B and WAM Solutions
Surveillance Communication

## ATM Automation Solutions

ATM Automation
Surveillance Displays

## Complementary Products

Recording & Replay
Surveillance Support Tools
Control & Monitoring
IT Infrastructure Solutions

# COMSOFT – Your Integrated ATM Solutions Partner

*"COMSOFT's product portfolio covers the entire chain of air traffic control and information management services."*