**NUAC Programme
Definition Phase Final Report**

Appendix 4

Business Model

OCTOBER 2006

Third Draft

NUAC Programme – Establishing the Business Model (All Scenarios)

Prepared by: Nicolai Hesdorf (Team leader)
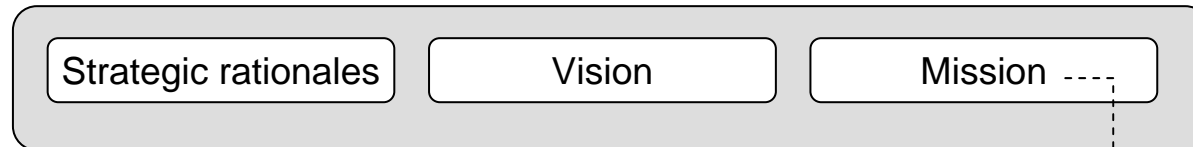
                      Jacob Kragh-Hansen
                      Andreas Broryd
                      Bo Højer Damsted

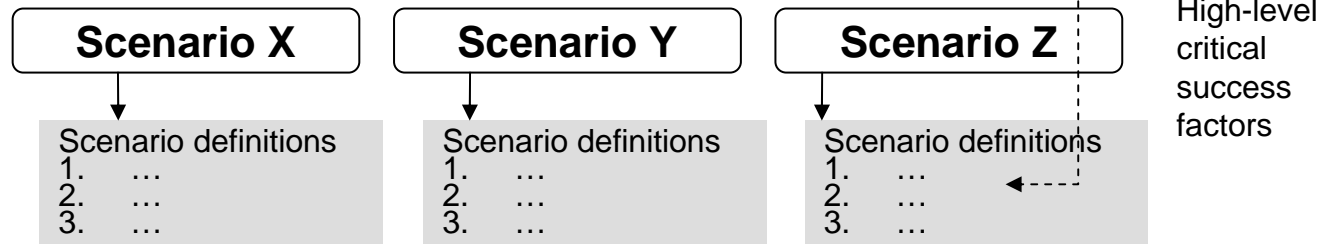Prepared for: NUAC Programme

Sponsor: Nils Sprenger

Business Model – framework

The Programme defines strategic rationales, vision and mission

Strategic rationales	Vision	Mission

Each scenario represents a unique strategy to reach the same vision

High-level critical success factors

Scenario X   **Scenario Y**   **Scenario Z**

Scenario definitions
1. …
2. …
3. …

Scenario definitions
1. …
2. …
3. …

Scenario definitions
1. …
2. …
3. …

CSFs for each separate scenario result in a number of design principles
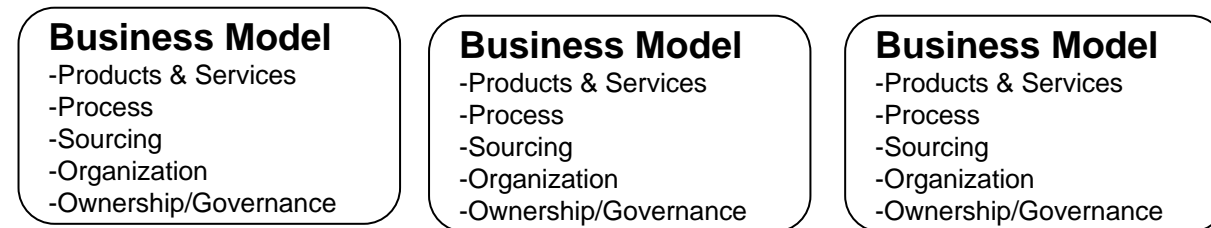
A Business Model and Business Concept will be the tools that realize the strategy

Business Model
-Products & Services
-Process
-Sourcing
-Organization
-Ownership/Governance

Business Model
-Products & Services
-Process
-Sourcing
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Business Model
-Products & Services
-Process
-Sourcing
-Organization
-Ownership/Governance

The Programme evaluates the separate scenarios and their Business Model, Business Case, HR Aspects and Integration strategy

Evaluation
+ …

– …

Evaluation
+ …

– …

Evaluation
+ …

– ...

2
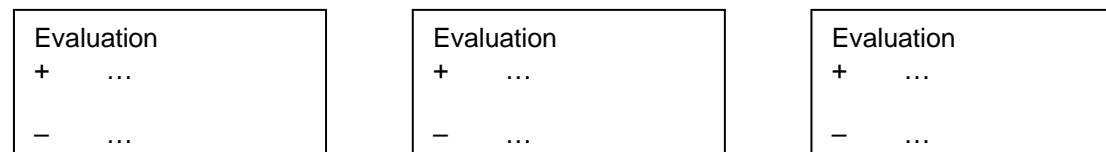
Design principles in creating the new Business Model

- A Business Model is defined as:

  - Products & Services

  - Processes

  - Sourcing

  - Organization

  - Ownership and legal entity

- The Business Model is designed based on scenario descriptions, complementary interviews and best practice in business design

- The process of designing the NUAC Business Model has been based on a set of design principles reflecting the key strategic drivers of the NUAC Programme. These drivers are:

  - Flight safety

  - Cost efficiency

  - Flight efficiency

  - Capacity improvement

  - Environment

  - Operational flexibility

  - Alignment of Business Model

  - Attractiveness and bargaining power.

Content

1.   Products & Services

2.   Processes

3.   Organization

4.   Sourcing

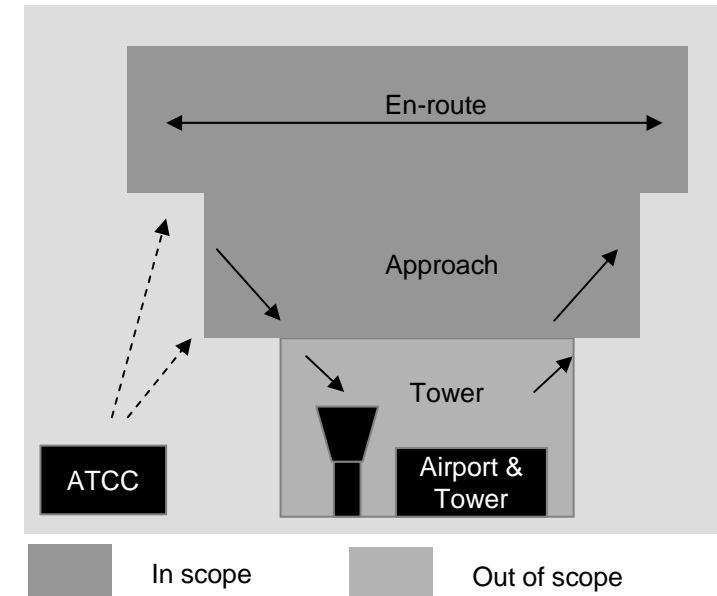## Products & Services (All scenarios)

NUAC's core offering will be*:
1. Approach services
2. En-route services

Besides that, NUAC will offer:
1. Flight information services
2. Air Traffic Flow Management services
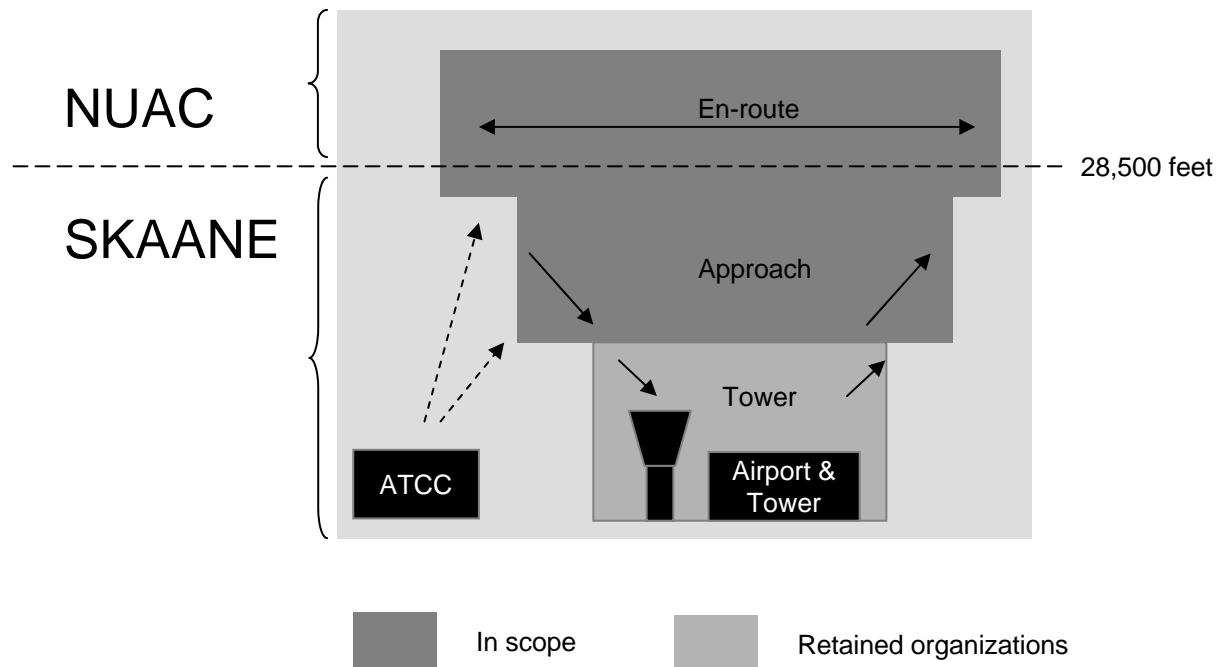
Our customers are defined as:

- Airlines
- The armed forces
- Other airspace users

En-route

Approach

Tower

ATCC

Airport & Tower

In scope   Out of scope

*Out of scope

TWR control zone (CTR) below 8-10km/600-1500

Products & Services (NUAC/Skaane)

NUAC

SKAANE

En-route

28,500 feet

Approach

Tower

ATCC

Airport & Tower

In scope   Retained organizations

Content

1.   Products & Services

2.   Processes   → Scenario 1 – Merger

3.   Organization

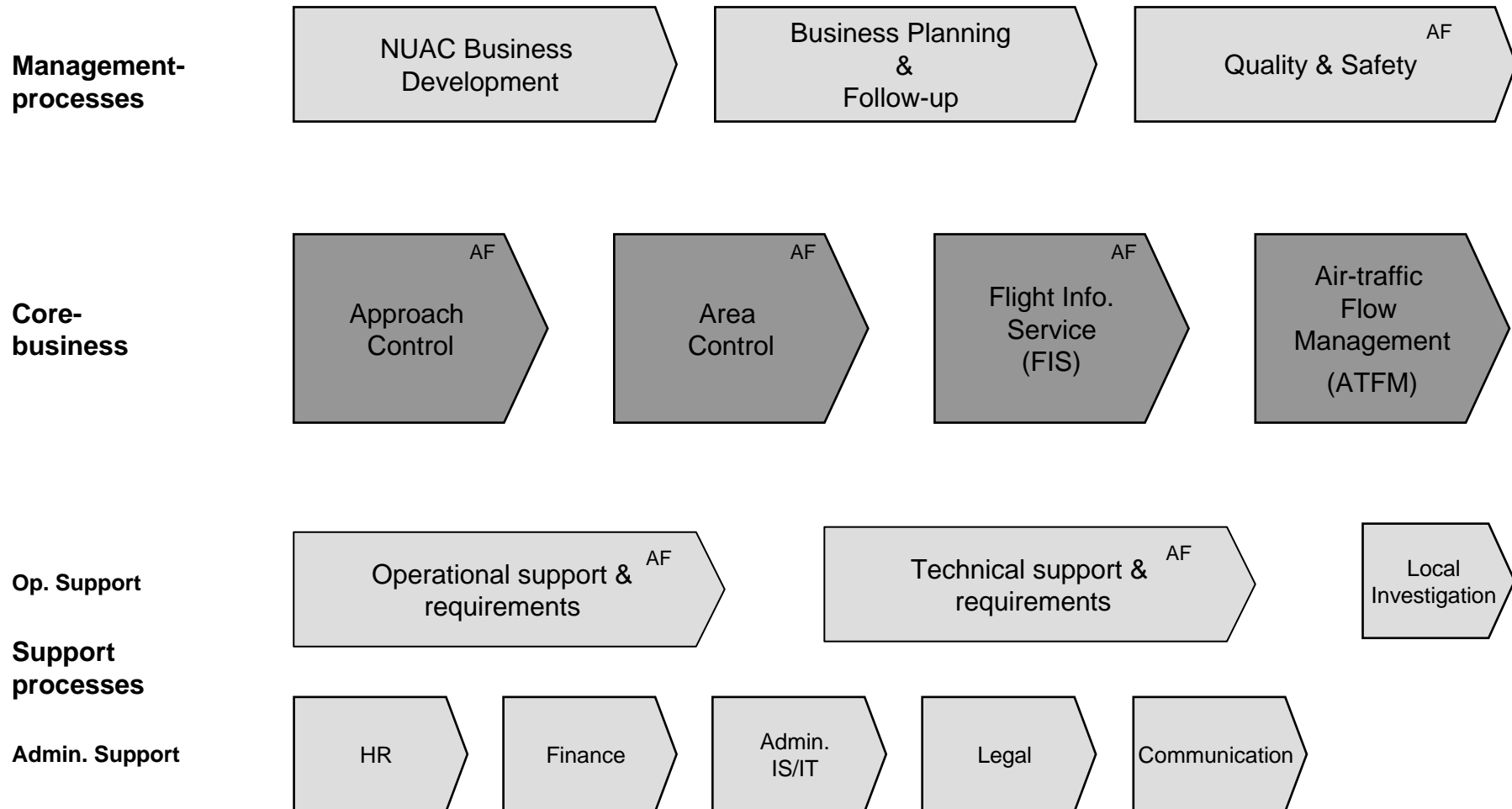4.   Sourcing

Merger Scenario:
NUAC Process

Design principles:

▪ A new process framework will be defined in order to secure the same way of working across operation

▪ NUAC will focus on core processes and only keep a minimum of administrative and support functions in-house

▪ To secure operational alignment, common core processes will be established across all ATCCs

▪ Common administrational & operational support function will be established

NUAC Programme
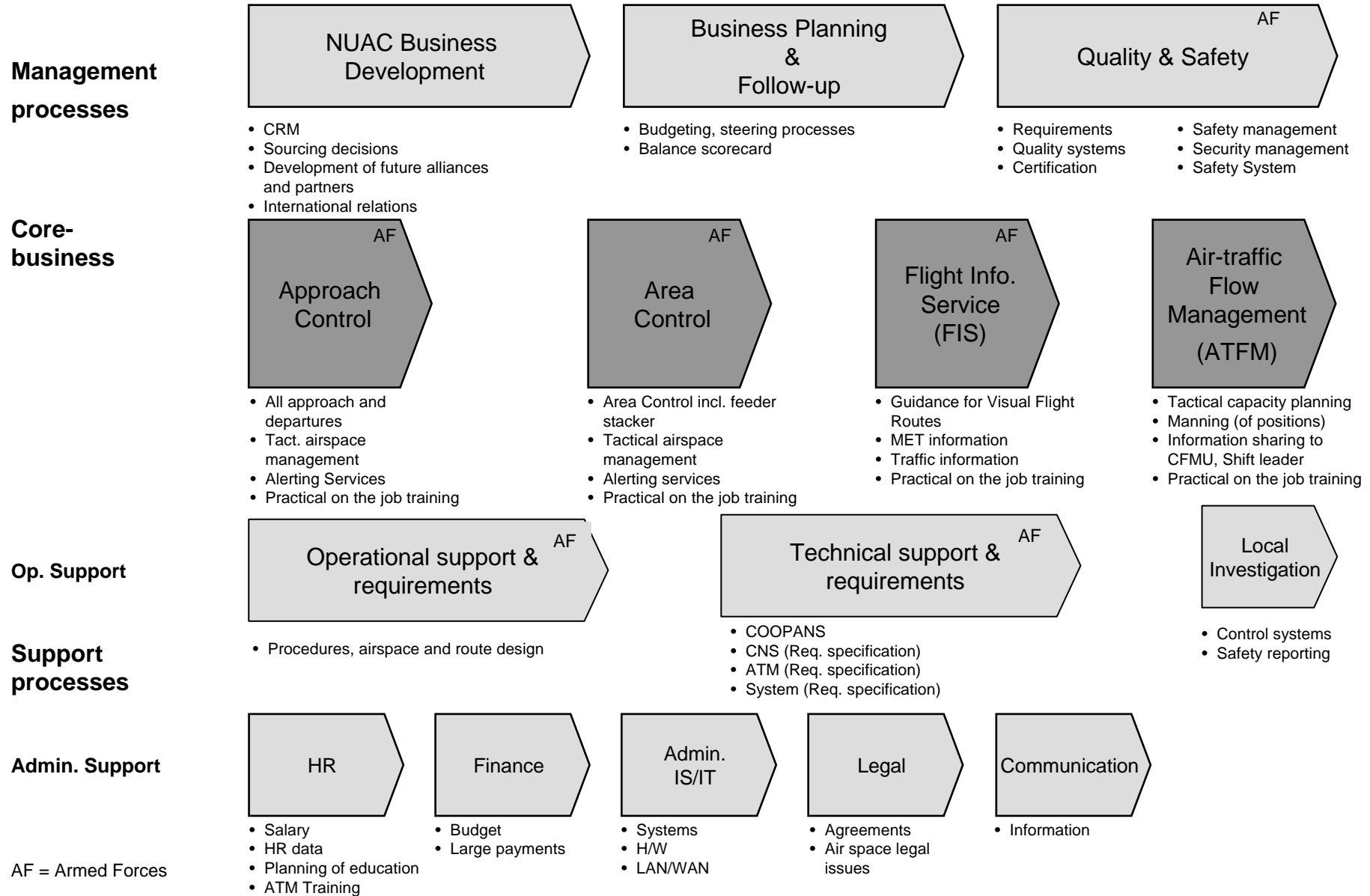
Merger Scenario:
NUAC Process map – Level 0

AF = Armed Forces

LUFTFARTSVERKET

NAVIAIR

Merger Scenario:

NUAC Process map – Level 0 and 1

Management processes

NUAC Business Development

Business Planning & Follow-up

Quality & Safety
AF

- CRM
- Sourcing decisions
- Development of future alliances and partners
- International relations

- Budgeting, steering processes
- Balance scorecard

- Requirements
- Quality systems
- Certification

- Safety management
- Security management
- Safety System

Core-business

Approach Control
AF

Area Control
AF

Flight Info. Service (FIS)
AF

Air-traffic Flow Management (ATFM)

- All approach and departures
- Tact. airspace management
- Alerting Services
- Practical on the job training

- Area Control incl. feeder stacker
- Tactical airspace management
- Alerting services
- Practical on the job training

- Guidance for Visual Flight Routes
- MET information
- Traffic information
- Practical on the job training

- Tactical capacity planning
- Manning (of positions)
- Information sharing to CFMU, Shift leader
- Practical on the job training

Op. Support

Operational support & requirements
AF

Technical support & requirements
AF

Local Investigation

Support processes

- Procedures, airspace and route design

- COOPANS
- CNS (Req. specification)
- ATM (Req. specification)
- System (Req. specification)

- Control systems
- Safety reporting

Admin. Support

HR

Finance

Admin. IS/IT

Legal

Communication

- Salary
- HR data
- Planning of education
- ATM Training

- Budget
- Large payments

- Systems
- H/W
- LAN/WAN

- Agreements
- Air space legal issues

- Information

AF = Armed Forces

10

Merger Scenario:
NUAC Process map – Activities not included and potentially outsourced

Areas not included in process framework:

- MET

- AIS

- NOF

- ARO

Content

1. Products & Services

2. Processes   → Scenario 2 – NUAC/SKAANE

3. Organization

4. Sourcing

NUAC Process

Design principles:

- Current Process maps will be unchanged in LFV & Naviair

- NUAC SKAANE includes En-route, Approach + Tower in Malmö

- NUAC: A lean production company, hence no support functions will be transferred (though a general admin. staff & management must be established)

- SKAANE: Approach is moved from Malmö to Copenhagen, En-route from Copenhagen to Malmö, the rest remains AS-IS

LUFTFARTSVERKET

NAVIAIR

NUAC/SKAANE Scenario:

NUAC Process map – Level 0 and 1

**Management-
processes**

Management processes x 3

**Core-
processes**

**Copenhagen/
Stockholm**

Malmö

All

All

AF
Approach
Control and
Area Control
FL 285-

AF
Area
Control
FL 285+

AF
Flight Info.
Service
(FIS)

Air traffic
Flow
Management
(ATFM)

- AACC
- All approach and departures
- Tact. airspace management
- Alerting Services
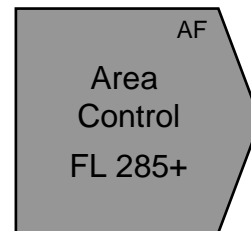
- En route incl. feeder stacker
- Tactical airspace management
- Alerting services
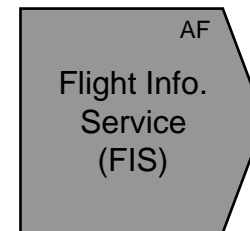
- Guidance for Visual Flight Routes
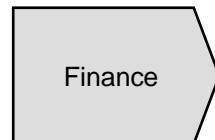- MET information
- Traffic information
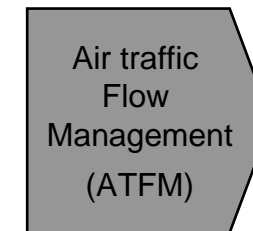
- Tactical capacity planning
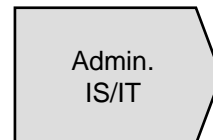- Manning (of positions)
- Information sharing to CFMU, Shift leader

**Support-
processes**

HR

Finance

Admin.
IS/IT

Legal

Communication

Facility
Management

- Salary
- HR-data
- Planning of Education

- Budget
- Large payments

- Agreements
- Air space legal issues

- Information

- Cleaning
- Local security

Support Processes will be retained in current organizations

AF = Armed Forces

14

Content

1.   Products & Services

2.   Processes ───────────▶ Scenario 3 – Alliance

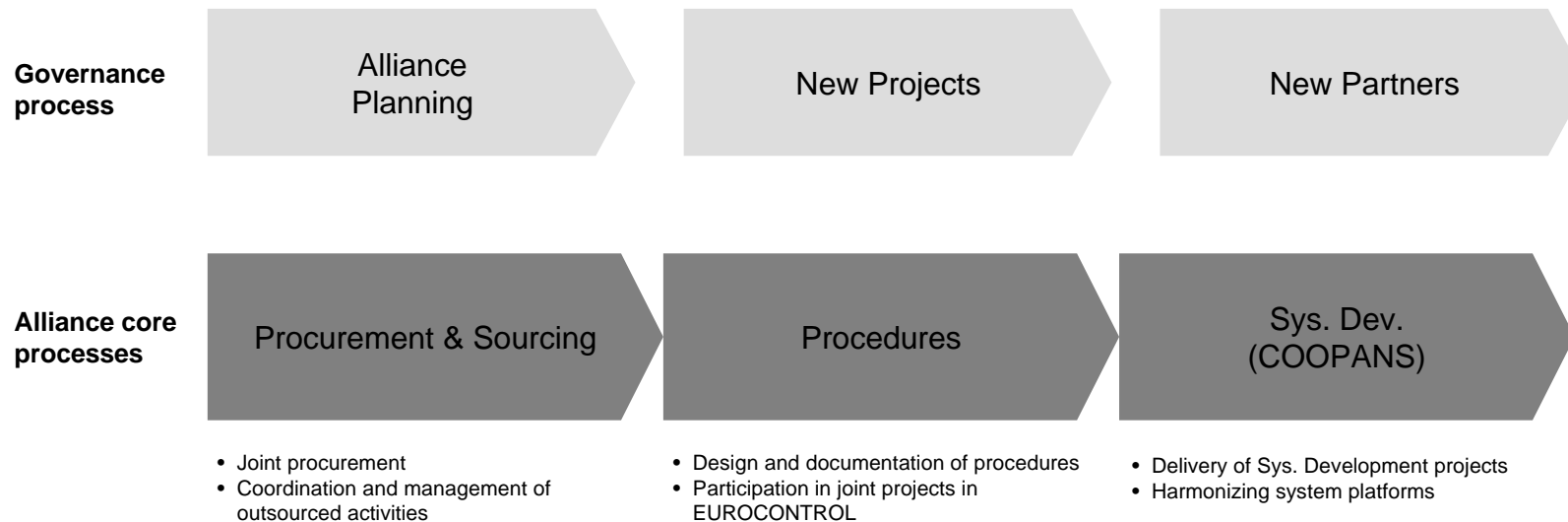3.   Organization

4.   Sourcing

Alliance Scenario:
NUAC Process

Design principles:

- Current Process maps will be unchanged in LFV & Naviair

- An alliance will be established in order to drive harmonization of systems, procedures and suitable projects

- A set of principles for managing the Alliance is established

- Key alliance areas are established

Alliance Scenario:
NUAC Process map – Level 0 and 1

NUAC Alliance

Governance process

Alliance Planning → New Projects → New Partners

Alliance core processes

Procurement & Sourcing → Procedures → Sys. Dev. (COOPANS)

- Joint procurement
- Coordination and management of outsourced activities

- Design and documentation of procedures
- Participation in joint projects in EUROCONTROL

- Delivery of Sys. Development projects
- Harmonizing system platforms

17

Content

Merger Scenario:
NUAC Organization – Design principles

Design principles

- A new organization is created

- The organization will be designed in alignment with the process map and dedicated process owner roles are appointed

- Ownership of NUAC will initially be 50/50, to be adjusted when new joiners enter

- The NUAC organization headquarters will be established in accordance with forthcoming negotiations

- Local branches, which will be employer of local staff, is expected to be established

Merger Scenario:
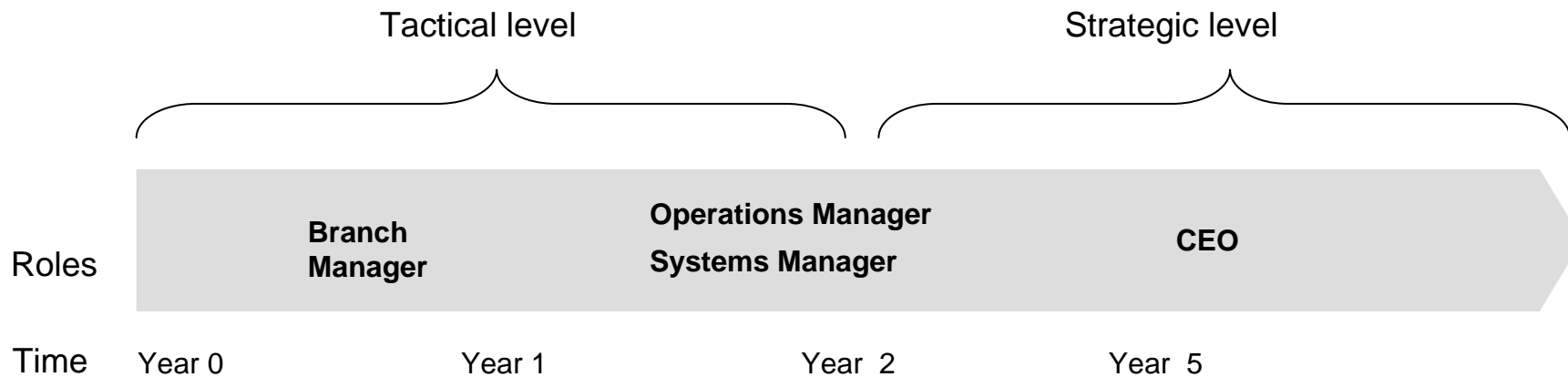
NUAC's operational organization (level 0)
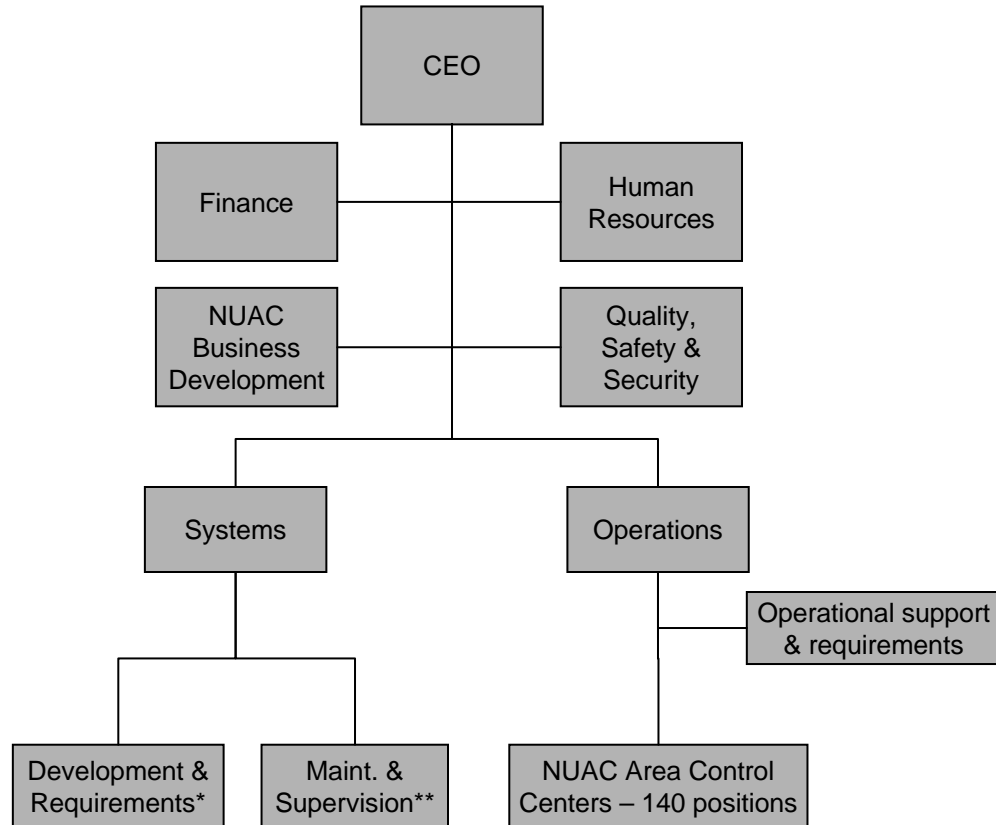
*Including administration of COOPANS
**Including management of outsourcing
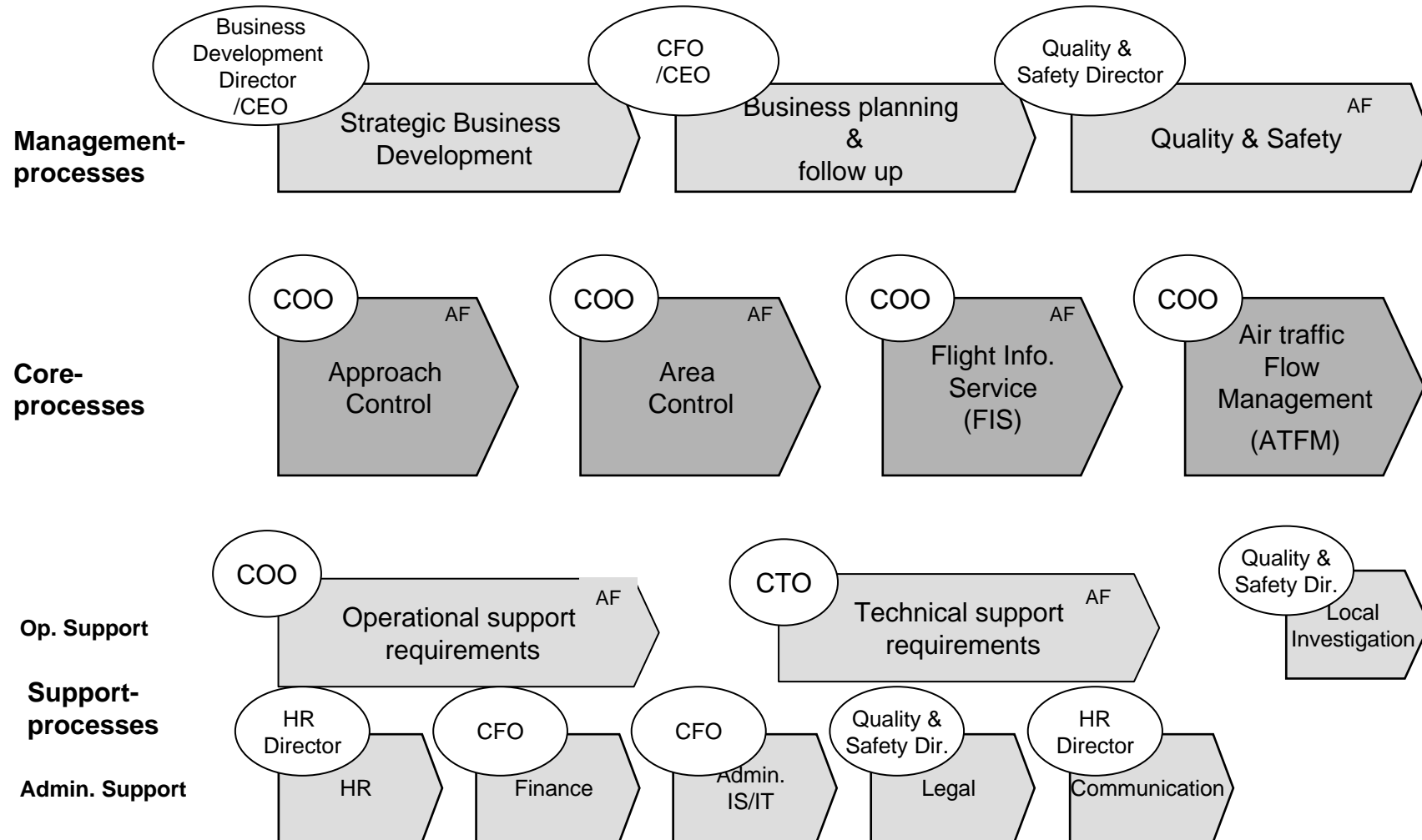
Merger Scenario:
NUAC Organization – Time perspective

- The Board makes decisions regarding long strategic initiatives

- The CEO, in cooperation with group management, secures the alignment of strategic direction and vision

- The COO secures harmonization of all branches in order to achieve one company policy for procedures on an operative level

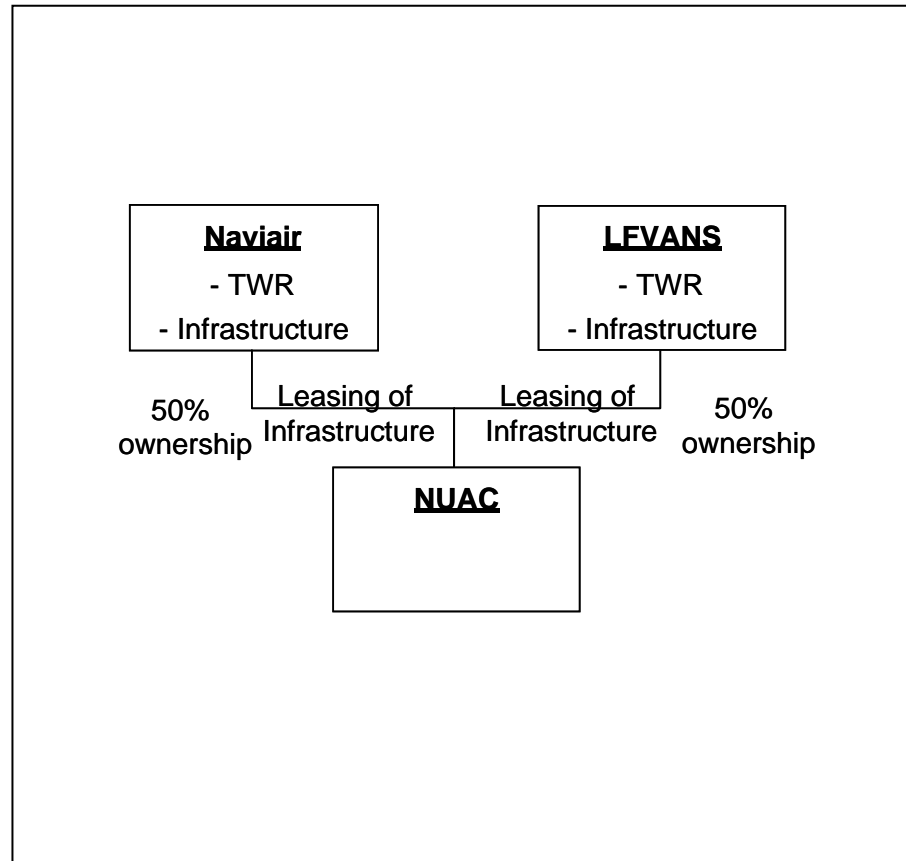- Branch managers are responsible for branch performance

	Tactical level		Strategic level	
Roles	Branch Manager	Operations Manager Systems Manager	CEO	
Time	Year 0	Year 1	Year 2	Year 5

Merger Scenario:
NUAC Process ownership

Management-processes

- Business Development Director /CEO — Strategic Business Development
- CFO /CEO — Business planning & follow up
- Quality & Safety Director — Quality & Safety (AF)

Core-processes

- COO (AF) — Approach Control
- COO (AF) — Area Control
- COO (AF) — Flight Info. Service (FIS)
- COO — Air traffic Flow Management (ATFM)

Op. Support

- COO — Operational support requirements (AF)
- CTO — Technical support requirements (AF)
- Quality & Safety Dir. — Local Investigation

Support-processes

Admin. Support

- HR Director — HR
- CFO — Finance
- CFO — Admin. IS/IT
- Quality & Safety Dir. — Legal
- HR Director — Communication
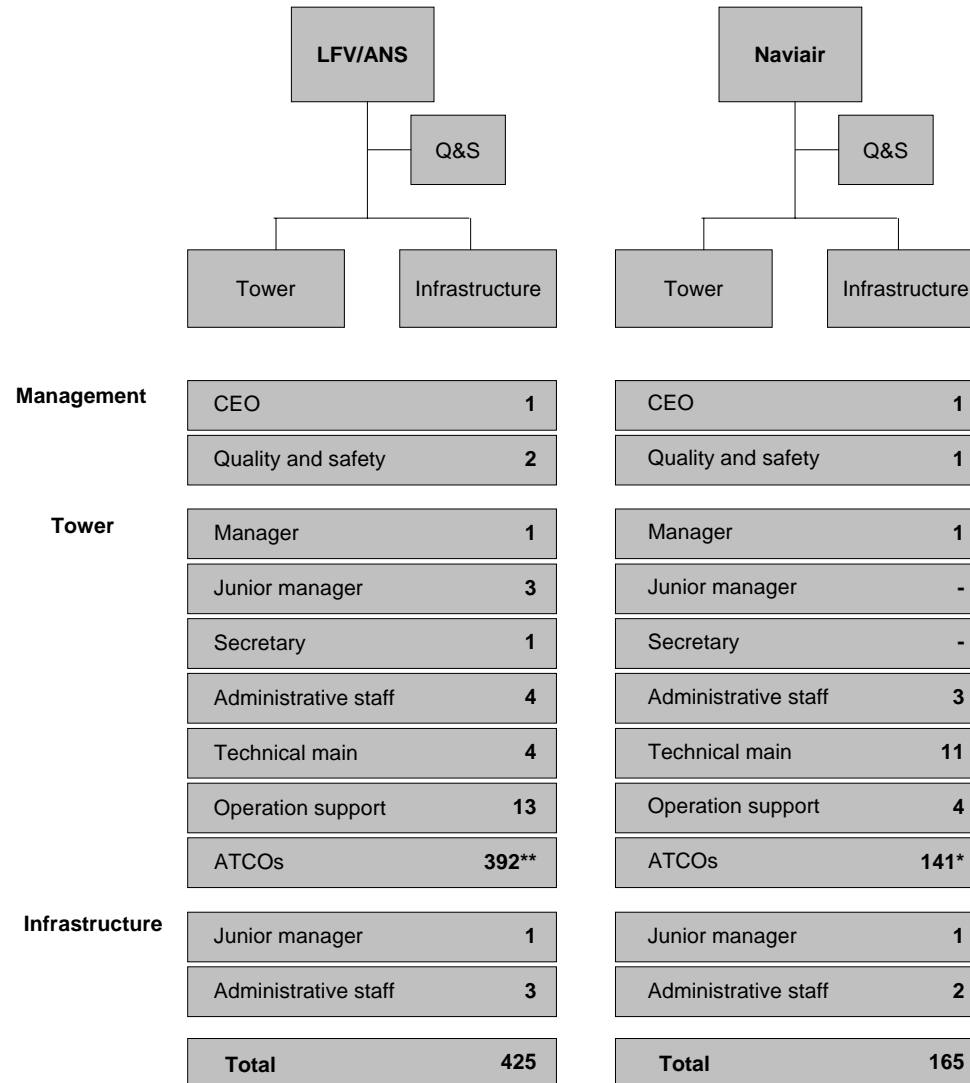
AF = Armed forces

22

Merger Scenario:
NUAC's legal organization

- **TWR and Infrastructure's** ownership continues in Naviair and LFV/ANS respectively and infrastructure "leased" to the NUAC Company on the basis of SLA agreement. A possible future separation of infrastructure or TWR activities have not been taken into consideration

- **The NUAC Company** handles En-route and Approach activities (operational air navigation services) in Denmark and Sweden with the necessary support processes to ensure effective handling of this

- **Ownership** of the NUAC Company resides with Naviair and LFV/ANS with a 50/50% ownership of NUAC

- **The NUAC main company contains primary** concern functions and support processes

- **Local "subsidiaries" exist** in Copenhagen, Malmö and Stockholm respectively and handles operational service within these (positions) locations

Merger Scenario:
Retained organizations

	LFV/ANS	
Management	CEO	**1**
	Quality and safety	**2**
Tower	Manager	**1**
	Junior manager	**3**
	Secretary	**1**
	Administrative staff	**4**
	Technical main	**4**
	Operation support	**13**
	ATCOs	**392****
Infrastructure	Junior manager	**1**
	Administrative staff	**3**
	Total	**425**

	Naviair	
CEO	**1**
Quality and safety	**1**
Manager	**1**
Junior manager	**-**
Secretary	**-**
Administrative staff	**3**
Technical main	**11**
Operation support	**4**
ATCOs	**141***
Junior manager	**1**
Administrative staff	**2**
Total	**165**

*Excl. resources from Greenland (9 FTE), Vagar (6 FTE), and ATCO candidates (14 FTE) which are out of scope

**Incl. 14 FTE APP-ATCO's performing tower operations

24

Content

1. Products & Services

2. Processes

3. Organization → Scenario 2 – NUAC/SKAANE

4. Sourcing

NUAC/SKAANE Scenario:

NUAC Organization – Design principles

Design principles

- The prerequisites for NUAC/SKAANE projects form the basis

- A new Swedish legal entity is created with headquarters based in Malmö

- Ownership of NUAC will be 50/50 to Sweden and Denmark

- The organization focuses on provision of Air Navigation Services in Danish and Swedish Upper Airspace (+28,500 FT). The majority support functions will be delivered from LFV/ANS and Naviair

- LFV/ANS and Naviair will remain as independent legal entities

NUAC Organization – Level 0 & 1

Organization required for the NUAC scheme

DRAFT
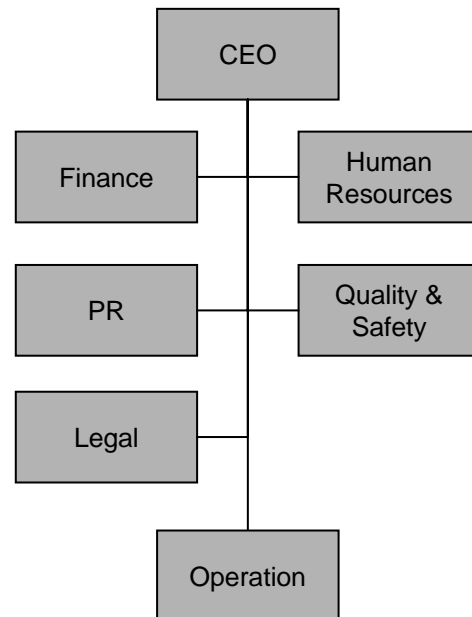
Function	Responsibility
CEO	Responsible for the business
Finance	Accounting, budgeting, Economical planning
Human Resources	Salary, Personnel development, travel, requiting
Legal	Legal advisory services
Quality & Safety	Quality system, Certificates, Legal, Security, Safety
PR	Public relations & internal information
Admin. support	Facility management, reception, administration etc
Operational support	Duty roster planning, operational planning, coordination, Level 2 system maintenance, development, contracting
Operation	FDO, operational supervisors, ATC, students, Conversion controllers, Controllers

NUAC/SKAANE Scenario:
Ownership NUAC legal entity

Responsibility for service provision in part of Swedish airspace transferred to Naviair

Naviair ← **LFV/ANS**

SLA

SLA   SLA
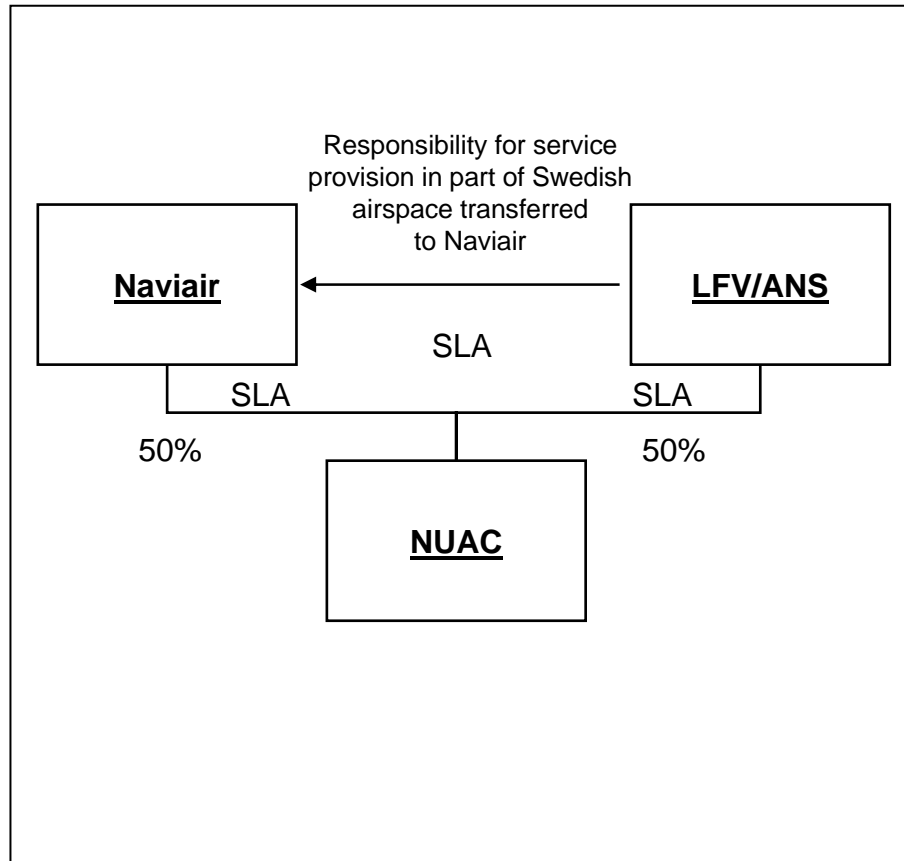
50%   50%

NUAC

- **The NUAC Company** handles En-route activities over flight level 285+ (operational air navigation services) in both Danish and Sweden airspace*

- **Ownership** of the NUAC Company resides with Naviair and LFV/ANS with a 50/50% ownership of NUAC

- **Cost bases** will still reside with Naviair and LFV/ANS. The NUAC Company has no separate cost base

- **Certification and designation**
  Designation is granted to Naviair and LFV/ANS
  Certification is granted to Naviair, LFV/ANS and NUAC (all three companies)

- The main part of the activities of **Support and administration** is delivered from Naviair and LFV/ANS.

- LFV/ANS and Naviair will remain as independent legal entities

*Transfer of responsibility for delivery of service provision in parts of Southern Swedish airspace (-28,500 FT) to Naviair

Content

1. Products & Services

2. Processes

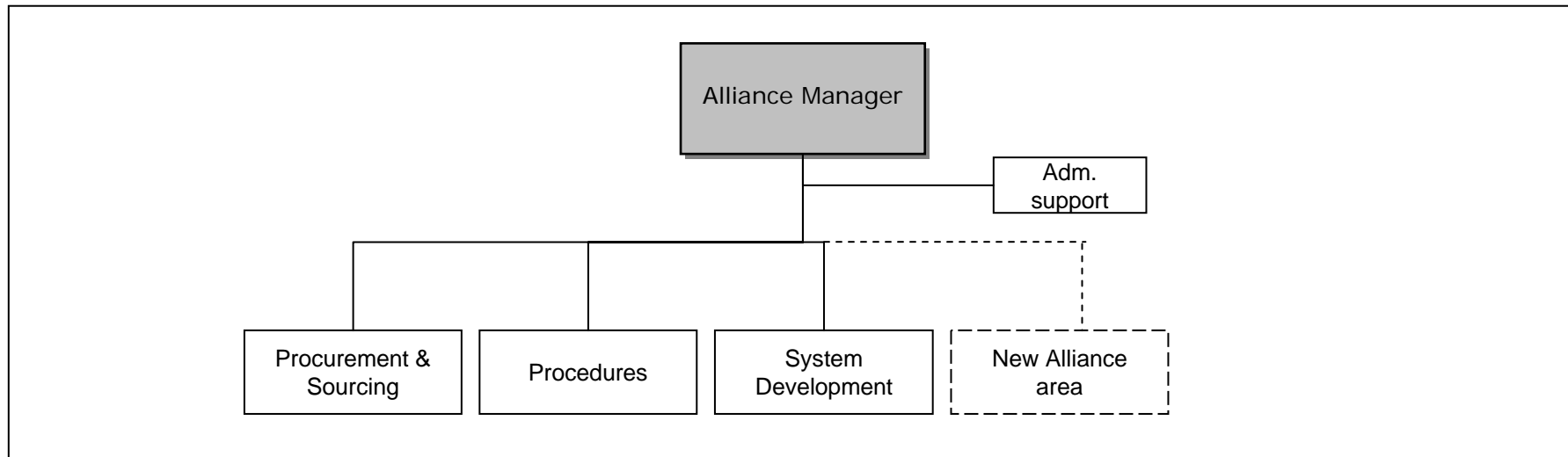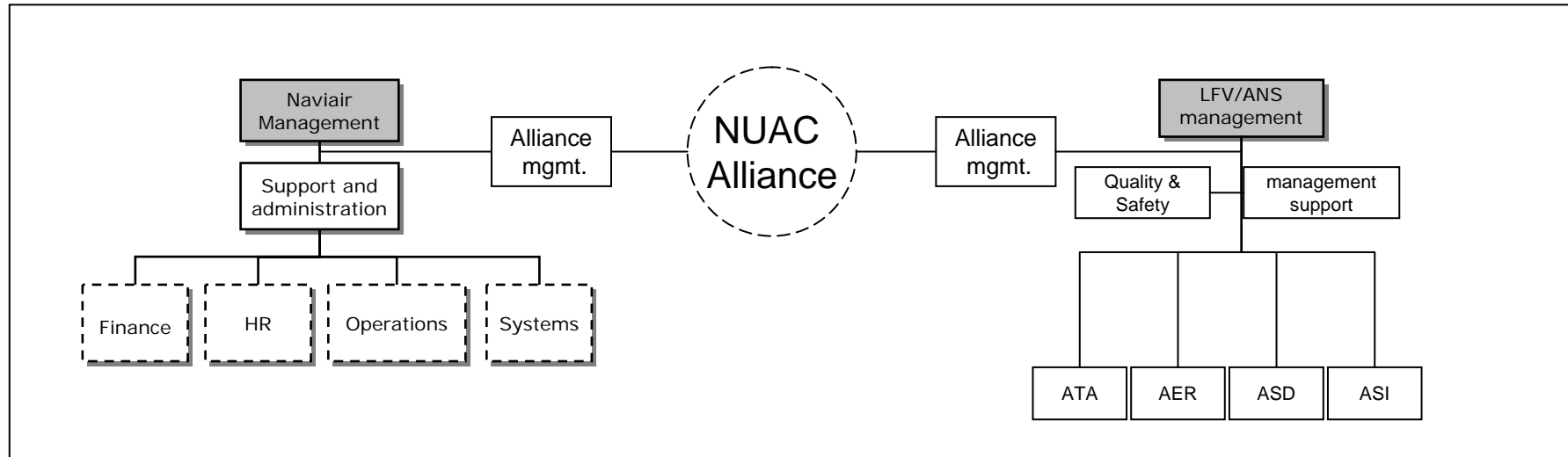3. Organization   → Scenario 3 – Alliance Solution

4. Sourcing

Alliance Scenario:

NUAC Organization – Design principles
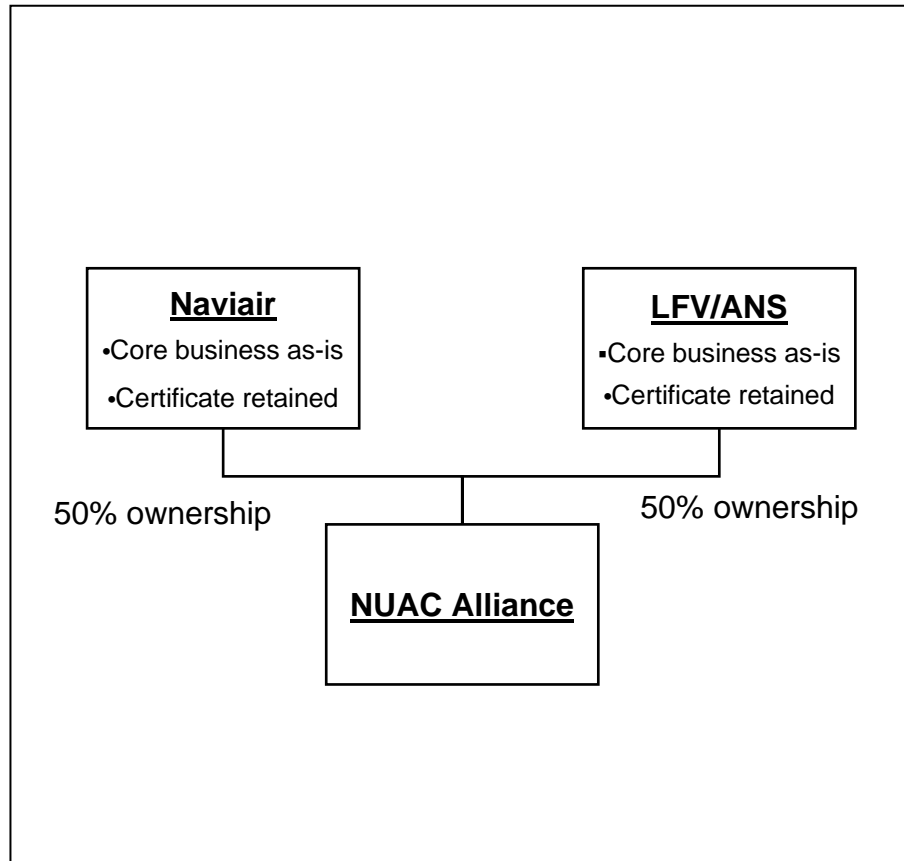
Design principles

- A separate co-owned Alliance Company will be established as a legal entity

- The members will create a support function (Alliance management) managing all alliance projects

- The Alliance Company will be governed from LFV/ANS and Naviair

- All alliance projects will run through a formal decision process establishing legal binding agreements

Alliance Scenario:
NUAC Organization – Level 0 & 1

31

Alliance Scenario:
Legal organization

Naviair
- Core business as-is
- Certificate retained

LFV/ANS
- Core business as-is
- Certificate retained

50% ownership

50% ownership

NUAC Alliance

- **The NUAC Alliance** handles only shared services tasks, which are not part of operational air navigation services. The provision of Air Navigation Services remains within LFV/ANS and Naviair.

- **Ownership** of the NUAC Alliance Company resides with Naviair and LFV/ANS with a 50/50% ownership

- **Cost bases** still resides with Naviair and LFV/ANS. The NUAC Company has no separate cost base

- **Certification and designation** are still granted to the respective companies – there are no changes to the present situation

Content

1.   Products & Services

2.   Processes

3.   Organization

4.   Sourcing → Scenario 1 – Merger

Merger Scenario:
Sourcing strategy

The NUAC Company will strive for maximizing cost-effectiveness with constant focus on flight safety and search for sourcing solutions when financially efficient. Outsourcing is considered the best solution in the following areas:

- System maintenance and supervision for both ATM and CNS systems

- System development, both for ATM and CNS systems

- Administrative IT and facility management

Content

1. Products & Services

2. Processes

3. Organization

4. Sourcing → Scenario 2 – NUAC SKAANE

NUAC/SKAANE Scenario:
Sourcing strategy

The prerequisites for the NUAC/SKAANE Scenario is given in the Final Report of each project and do not include sourcing strategies.

Content

Scenario 3 – Alliance Solution

Alliance Scenario:
Sourcing strategy

In the Alliance Scenario, the partners will strive for maximizing cost-effectiveness with constant focus on flight safety and search for sourcing solutions when financially efficient. Outsourcing is considered the best solution regarding ATM maintenance and supervision.

The governance and coordination of the sourcing contract will be managed within the Alliance in order to ensure benefit potential.