| PCP | Removed | | | ECAC+ |
|---|---|---|---|---|
| **FCM05** | **Interactive Rolling NOP** | | | |

| REG | ASP | MIL | APO | USE | INT | IND | NM | MET | AIS | USP |
|---|---|---|---|---|---|---|---|---|---|---|

## Subject matter and scope

The first steps of the interactive rolling NOP were already implemented through the deployment of the NOP portal (through n-CONECT platform and B2B services). Further information and data have been deployed to support the interactive approach to the NOP (e.g. ADR, DDR2,...) and the access to the NOP data will be more and more available through B2B services. Most of the enablers required are expected to be gradually deployed over this period.

The scope of this Implementation Objective consists in the implementation of a platform that uses the state-of-the-art technologies for creation of a virtual operations room for the physically distributed European ATM network operations, in support of the collaborative NOP. This platform will support the network collaborative rolling processes from strategic to real-time operations, including capabilities for online performance monitoring integrated and feeding back into the collaborative network planning. Also, the platform provides access to post-operational data for offline analysis and performance reporting.

Information and dialogue tools shall be accessed via an ATM Information Portal. Access to information is done in a secure way, tailored according the stakeholders needs and subject to access control rules, so that only those who have an operational need to access particular information are able to do so.
In addition, this Implementation Objective also covers the NM system upgrades related to AOP-NOP B2B interface for data exchanges with selected airports.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each military authority to review this Objective IN ITS ENTIRETY and address each of the SLoAs that the military authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SLoAs which identify actions EXCLUSIVE to military authorities.

NOTE: The deleted SLoAs ASP01 and ASP02 appear since the 2016 Edition in objective AOM19.1. The deleted SLoA NM11 is addressed by the objective INF08.1

## Applicability Area(s) & Timescale(s)

| Applicability Area | |
|---|---|

| Timescales: | | From: | By: | Applicable to: |
|---|---|---|---|---|
| Initial operational capability | | 01/09/2013 | | Applicability Area |
| Full operational capability | | | 01/01/2022 | Applicability Area |

## References

**European ATM Master Plan**

| OI step - | [AOM-0202]-Enhanced Real-time Civil-Military Coordination of Airspace Utilisation | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Enablers - | AAMS-06a | AAMS-08 AOM19.5 | AAMS-09 AOM19.5 | AAMS-10a AOM13.1 | AAMS-15 | AIMS-06 | AIMS-21 | AIMS-22 |
| | | PRO-184 AOM19.5 | | | | | | | |

| OI step - | [AOM-0205]-Modular Temporary Airspace Structures and Reserved Areas | | | | | |
|---|---|---|---|---|---|---|
| | Enablers - | AAMS-08 AOM19.5 | NIMS-14a | PRO-009 | PRO-082 | PRO-185 |

| OI step - | [DCB-0102]-Interactive Rolling NOP | | |
|---|---|---|---|
| | Enablers - | AAMS-06a | AIMS-21 | PRO-035 |

| OI step - | [DCB-0103-A]-Initial collaborative NOP | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Enablers - | AIRPORT-38 | METEO-06b | MIL-0502 | NIMS-13b FCM04.2 | NIMS-14b | NIMS-25 | PRO-028 | REG-0518 |
| | | SWIM-APS-01a | SWIM-APS-02a | SWIM-APS-03a | SWIM-APS-04a | SWIM-INFR-05a | SWIM-NET-01a | | |

| OI step - | [IS-0901-A]-SWIM-TI Yellow Profile for Ground/Ground (G/G) information sharing | | | | | |
|---|---|---|---|---|---|---|
| | Enablers - | REG-0519 | SWIM-GOV-05a | SWIM-INFR-05a | SWIM-NET-01a | SWIM-SUPT-01a | SWIM-SUPT-03a |

| FCM05 | Interactive Rolling NOP |
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## Applicable legislation

Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

## Essential Operational Changes

- none -

## SESAR Solution

#20 - Collaborative NOP for Step 1, #21 - Airport Operations Plan and AOP-NOP Seamless Integration

## ICAO GANP - ASBUs

| - none - | |
|----------|--|

## Deployment Programme

| - none - | |
|----------|--|

## European Plan for Aviation Safety

| - none - | |
|----------|--|

## Operating Environments

Airport
En-Route
Network
Terminal Airspace

## Stakeholder Lines of Action (SLoAs)

| SloA ref. | Title | From | By |
|-----------|-------|------|-----|
| FCM05-REG01 | Review, as appropriate, the safety argument of the changes to the ASM system, supporting the implementation of interactive Rolling NOP by the NM | DELETED | |
| FCM05-ASP01 | Upgrade the automated ASM support system with the capability of AIXM 5.1 B2B data exchange with NM | DELETED | |
| FCM05-ASP02 | Perform an integration of the automated ASM support systems with the Network | DELETED | |
| FCM05-ASP03 | Produce a safety assessment on the upgrade of automated ASM support systems to the AIXM 5.1 capability | DELETED | |
| FCM05-ASP04 | Develop and implement ATFCM procedures for interaction with the NOP | 01/09/2016 | 01/01/2022 |
| FCM05-ASP05 | Train the relevant personnel for interaction with the NOP | 01/09/2016 | 01/01/2022 |
| FCM05-APO01 | Provide the required data to the Network Manager for DDR | FINALISED | |
| FCM05-APO02 | Perform the integration of the AOP with the NOP | 01/01/2015 | 01/01/2022 |
| FCM05-USE01 | Provide the required data to the Network Manager for DDR | FINALISED | |
| FCM05-NM01 | ADR to provide, common and consolidated view of European airspace data containing both static and dynamic digital data | FINALISED | |
| FCM05-NM02 | Upgrade NM system for external user access to the airspace data repository (making restrictions available in AIXM 5.1 format via B2B) | FINALISED | |
| FCM05-NM03 | Equip Airspace management system with tools for collection of airspace data (Interoperability with ASM tools in AIXM 5.1) | FINALISED | |
| FCM05-NM04 | Perform an integration of ASM support systems with the Network | FINALISED | |
| FCM05-NM05 | Upgrade NM systems to allow the access of interested users to the Demand Data Repository | FINALISED | |
| FCM05-NM06 | Implement FCM Procedures for on-line access/update to the NOP and notification of updates | FINALISED | |
| FCM05-NM07 | Upgrade NM systems to allow FMP to remote access simulation via the NOP Portal (create of simulations and assessment of the results) and in a second step to edit scenario measures (regulation, config, capacities,...) prior to running simulations | FINALISED | |
| FCM05-NM08 | Flight Plan filing capability directly via the NOP portal | FINALISED | |
| FCM05-NM09 | Develop AOP/NOP interfaces | FINALISED | |

| FCM05 | Interactive Rolling NOP |
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| | | | |
|---|---|---|---|
| **FCM05-NM10** | Integrate the AOPs into the Network Operation Plan | 01/01/2016 01/01/2022 | |
| **FCM05-NM11** | Develop Network Manager B2B services | **DELETED** | |
| **FCM05-NM12** | Enhance the NM technical platform and services | 01/09/2016 | 01/01/2022 |
| **FCM05-NM13** | Implement ATFCM procedures | 01/09/2016 | 01/01/2022 |

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

## Expected Performance Benefits

| | |
|---|---|
| **Safety:** | Enhanced by improved sharing of the network situation. |
| **Capacity:** | Small benefits through improved use of the airport and airspace capacity resulting from a better knowledge of the airspace availability and of the traffic demand. |
| **Operational Efficiency:** | - |
| **Cost Efficiency:** | Enhanced through use of cost efficient tools to access network information instead of expensive local tools or procedures. |
| **Environment:** | - |
| **Security:** | - |

## Detailed SLoA Descriptions

| FCM05-ASP04 | Develop and implement ATFCM procedures for interaction with the NOP | From: 01/09/2016 | By: 01/01/2022 |
|---|---|---|---|
| **Action by:** | **ANS Providers** | | |
| **Description & purpose:** | The SLoA addresses the definition, validation and deployment of the new/changed operational procedures pertinent to the interaction with the NOP. | | |
| **Supporting material(s):** | EUROCONTROL - NOP Portal User Guide - Edition 21.5-119 Url : https://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/nop-portal-user-guide-current.pdf SJU - SESAR Solution 20: Data Pack for initial collaborative Network Operations Plan (NOP) Url : https://www.sesarju.eu/sesar-solutions/initial-collaborative-network-operations-plan-nop | | |
| **ATM Master Plan relationship:** | [PRO-035]-FCM Procedures for on-line access/update to the NOP and notification of updates | | |
| **Finalisation criteria:** | 1 - The procedures are in use | | |
| FCM05-ASP05 | Train the relevant personnel for interaction with the NOP | From: 01/09/2016 | By: 01/01/2022 |
| **Action by:** | **ANS Providers** | | |
| **Description & purpose:** | Ensure that all operational personnel concerned is adequately trained for their job functions in relation to the interaction with the rolling NOP. | | |
| **Supporting material(s):** | EUROCONTROL - NOP Portal User Guide - Edition 21.5-119 Url : https://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/nop-portal-user-guide-current.pdf SJU - SESAR Solution 20: Data Pack for initial collaborative Network Operations Plan (NOP) Url : https://www.sesarju.eu/sesar-solutions/initial-collaborative-network-operations-plan-nop | | |
| **Finalisation criteria:** | 1 - Training plans covering interaction with the NOP have been developed and implemented | | |
| FCM05-APO01 | Provide the required data to the Network Manager for DDR | From: 01/09/2013 | By: 01/01/2022 |
| **Action by:** | **Airport Operators** | | |
| **Description & purpose:** | Coordinated Airports to provide the Airport slots information in SSIM format to EUACA. From this, EUACA will compile them and will transmit them to NM in a EUACA format. | | |
| **Supporting material(s):** | IATA - Standard Schedules Information Manual - Edition 29 Url : https://www.iata.org/publications/store/Pages/standard-schedules-information.aspx SJU - SESAR Solution 21: Data Pack for AOP-NOP seamless integration Url : http://www.sesarju.eu/sesar-solutions/high-performing-airport-operations/airport-operations-plan-aop-and-its-seamless | | |
| **ATM Master Plan relationship:** | [NIMS-14b]-Demand Data Repository Phase II | | |
| **Finalisation criteria:** | 1 - Airport slot information provided to DDR. | | |
| FCM05-APO02 | Perform the integration of the AOP with the NOP | From: 01/01/2015 | By: 01/01/2022 |

| FCM05 | Interactive Rolling NOP |
|---|---|

| Action by: | Airport Operators |
|---|---|
| Description & purpose: | Linking AOP with NOP (Airport Business Trajectory and User Preferred Trajectory) will contribute in optimising both Network and Airport management. This will be achieved by timely and simultaneously updating AOP and NOP, providing Network and Airport Managers with a commonly updated, consistent and accurate Plan. The AOP is therefore the tool which provides/integrates the airport information into the Network (NOP). This is done by sharing information with NOP or by requesting information from the NOP.<br>The AO will have to ensure that AOP core information is provided to the NOP and that change in information in the AOP with anticipated impact on the network is made available to the NOP according with the appropriate agreed quality of service. |
| Supporting material(s): | SJU - OFA 05.01.01 - Airport Operations Centre Definition - Operational Service and Environment Definition Part 1 - 00.03.00 / 12/2014<br>SJU - SESAR Solution 21: Data Pack for AOP-NOP seamless integration<br>Url : http://www.sesarju.eu/sesar-solutions/high-performing-airport-operations/airport-operations-plan-aop-and-its-seamless |
| ATM Master Plan relationship: | [AIRPORT-38]-Airport/ATFCM Extended data interface<br>[PRO-028]-Procedures to support AOP-NOP collaborative process |
| Finalisation criteria: | 1 - The relevant AOP information is made available to the NOP<br>2 - The relevant NOP information is integrated into the AOP |

| FCM05-USE01 | Provide the required data to the Network Manager for DDR | From:<br>01/09/2013 | By:<br>01/01/2022 |
|---|---|---|---|

| Action by: | Airspace Users |
|---|---|
| Description & purpose: | Airspace users to provide the scheduled flight information. |
| Supporting material(s): | IATA - Standard Schedules Information Manual - Edition 29<br>Url : https://www.iata.org/publications/store/Pages/standard-schedules-information.aspx<br>SJU - SESAR Solution 20: Data Pack for initial collaborative Network Operations Plan (NOP)<br>Url : https://www.sesarju.eu/sesar-solutions/initial-collaborative-network-operations-plan-nop |
| ATM Master Plan relationship: | [NIMS-14b]-Demand Data Repository Phase II |
| Finalisation criteria: | 1 - Scheduled flight information is provided. |

| FCM05-NM01 | ADR to provide, common and consolidated view of European airspace data containing both static and dynamic digital data | From:<br>01/09/2013 | By:<br>31/12/2014 |
|---|---|---|---|

| Action by: | NM |
|---|---|
| Description & purpose: | Provide, common and consolidated view of European airspace data containing both static and dynamic digital data:<br>- Enabling the optimization of flight planning making available the changes made to the airspace usage & route availability (e-AMI, e-Restrictions)<br>- Improvement of data quality and interoperability through digital data exchange of ATM data |
| Supporting material(s): | EUROCONTROL - NM B2B Reference Manuals - access available on request to NM<br>Url : http://www.eurocontrol.int/articles/nm-services-and-products |
| ATM Master Plan relationship: | [AIMS-20]-Airspace Data Repository |
| Finalisation criteria: | 1 - Common and consolidated view of European Airspace data has been made available |

| FCM05-NM02 | Upgrade NM  system for external user access to the airspace data repository (making restrictions available in AIXM 5.1 format via B2B) | From:<br>01/09/2013 | By:<br>31/12/2014 |
|---|---|---|---|

| Action by: | NM |
|---|---|
| Description & purpose: | Update NM system to allow all external Stakeholders to access the Airspace Data repository in AIXM 5.1 B2B protocol (e-AMI) |
| Supporting material(s): | EUROCONTROL - NM B2B Reference Manuals - access available on request to NM<br>Url : http://www.eurocontrol.int/articles/nm-services-and-products |
| ATM Master Plan relationship: | [AIMS-21]-Airspace management system enhanced for external user access to the airspace data repository |
| Finalisation criteria: | 1 - NM system Airspace data repository accessible through AIXM 5.1 B2B protocol for e-AMI |

| FCM05-NM03 | Equip Airspace management system with tools for collection of airspace data (Interoperability with ASM tools in AIXM 5.1) | From:<br>01/09/2013 | By:<br>31/12/2014 |
|---|---|---|---|

| Action by: | NM |
|---|---|
| Description & purpose: | Update NM systems to allow exchange of airspace data in AIXM 5.1 B2B with local ASM tools |
| Supporting material(s): | EUROCONTROL - NM B2B Reference Manuals - access available on request to NM<br>Url : http://www.eurocontrol.int/articles/nm-services-and-products |
| Finalisation criteria: | 1 - NM systems have been updated to allow exchange of airspace data in AIXM 5.1 B2B with local ASM tools. |

| FCM05-NM04 | Perform an integration of ASM support systems with the Network | From: | By: |
|---|---|---|---|

| FCM05 | Interactive Rolling NOP |
|---|---|

| | | 01/09/2013 | 31/12/2017 |
|---|---|---|---|
| **Action by:** | **NM** | | |
| **Description & purpose:** | Integrate the local/regional automated ASM support tools with the NM system | | |
| **Supporting material(s):** | EUROCONTROL - NM B2B Reference Manuals - access available on request to NM <br> Url : http://www.eurocontrol.int/articles/nm-services-and-products | | |
| **Finalisation criteria:** | 1 - Local/Regional automated ASM support systems using AIXM 5.1 B2B have been integrated with NM systems. | | |

| **FCM05-NM05** | **Upgrade NM systems to allow the access of interested users to the Demand Data Repository** | From: <br> 01/09/2013 | By: <br> 30/09/2013 |
|---|---|---|---|
| **Action by:** | **NM** | | |
| **Description & purpose:** | NM systems are updated to make the DDR (phase 2) available | | |
| **Supporting material(s):** | EUROCONTROL - Demand Data Repository (DDR) project <br> Url : http://www.eurocontrol.int/services/demand-data-repository-ddr | | |
| **ATM Master Plan relationship:** | [NIMS-14b]-Demand Data Repository Phase II | | |
| **Finalisation criteria:** | 1 - DDR Phase 2 has been made available. | | |

| **FCM05-NM06** | **Implement FCM Procedures for on-line access/update to the NOP and notification of updates** | From: <br> 01/09/2013 | By: <br> 31/12/2017 |
|---|---|---|---|
| **Action by:** | **NM** | | |
| **Description & purpose:** | Develop the necessary procedures for NOP access (incremental work, a set of procedures for each yearly version) | | |
| **Supporting material(s):** | EUROCONTROL - NOP Portal User Guide - Edition 21.5-119 <br> Url : https://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/nop-portal-user-guide-current.pdf | | |
| **ATM Master Plan relationship:** | [PRO-035]-FCM Procedures for on-line access/update to the NOP and notification of updates | | |
| **Finalisation criteria:** | 1 - Procedures are available | | |

| **FCM05-NM07** | **Upgrade NM systems to allow FMP to remote access simulation via the NOP Portal (create of simulations and assessment of the results) and in a second step to edit scenario measures (regulation, config, capacities,...) prior to running simulations** | From: <br> 01/09/2013 | By: <br> 31/12/2013 |
|---|---|---|---|
| **Action by:** | **NM** | | |
| **Description & purpose:** | NM systems are updated to allow FMP to remote access simulation via the NOP Portal (creation of simulations and assessment of the results) and in a second step to edit scenario measures (regulation, configuration, capacities,...) prior to running simulations | | |
| **Supporting material(s):** | EUROCONTROL - NOP Portal User Guide - Edition 21.5-119 <br> Url : https://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/nop-portal-user-guide-current.pdf | | |
| **ATM Master Plan relationship:** | [AAMS-15]-Scenario management sub-system equipped with tools to support pre-tactical CDM | | |
| **Finalisation criteria:** | 1 - NM systems have been updated | | |

| **FCM05-NM08** | **Flight Plan filing capability directly via the NOP portal** | From: <br> 01/09/2013 | By: <br> 31/12/2014 |
|---|---|---|---|
| **Action by:** | | | |
| **Description & purpose:** | NM systems updated to provide the Airspace Users with a Flight Plan filling capability through the NOP portal. | | |
| **Supporting material(s):** | EUROCONTROL - NOP Portal User Guide - Edition 21.5-119 <br> Url : https://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/nop-portal-user-guide-current.pdf | | |
| **Finalisation criteria:** | 1 - NM systems and NOP portal have been updated. | | |

| **FCM05-NM09** | **Develop AOP/NOP interfaces** | From: <br> 01/01/2015 | By: <br> 01/01/2022 |
|---|---|---|---|
| **Action by:** | **NM** | | |
| **Description & purpose:** | Linking AOP with NOP  will contribute in optimising both Network and Airport management. This will be achieved by developing AOP/NOP B2C and B2B interfaces., providing NOP and AOPs with a commonly updated, consistent and accurate data . <br> The NM will have to ensure that relevant information for airport operations, which may be contained in the AOPs, is shared with the relevant part of the NOP. | | |

| FCM05 | Interactive Rolling NOP |
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| **Supporting material(s)**: | SJU - OFA 05.01.01 - Airport Operations Centre Definition - Operational Service and Environment Definition Part 1 - 00.03.00 / 12/2014 |
|---|---|
| | SJU - SESAR Solution 20: Data Pack for initial collaborative Network Operations Plan (NOP) |
| | Url : https://www.sesarju.eu/sesar-solutions/initial-collaborative-network-operations-plan-nop |

| **ATM Master Plan relationship:** | [AIRPORT-38]-Airport/ATFCM Extended data interface |
|---|---|

| **Finalisation criteria:** | 1 - Availability of  AOP/NOP B2B and B2C interfaces |
|---|---|

| **FCM05-NM10** | **Integrate the AOPs into the Network Operation Plan** | From: | By: |
|---|---|---|---|
| | | 01/01/2016 01/01/2022 | - |

| **Action by:** | **NM** |
|---|---|

| **Description & purpose:** | Linking AOP with NOP will contribute in optimising both Network and Airport management. This will be achieved by timely and simultaneously updating NOP with AOPs data, providing NOP and AOPs with a commonly updated, consistent and accurate data. The AOP is therefore the tool which provides the airport information into the Network (NOP). This is done by sharing information between the NOP and the AOP. <br><br> The NM will have to ensure that relevant information for airport operations, which may be contained in the AOPs, are shared with the relevant part of the NOP. |
|---|---|

| **Supporting material(s)**: | SJU - OFA 05.01.01 - Airport Operations Centre Definition - Operational Service and Environment Definition Part 1 - 00.03.00 / 12/2014 |
|---|---|
| | SJU - SESAR Solution 20: Data Pack for initial collaborative Network Operations Plan (NOP) |
| | Url : https://www.sesarju.eu/sesar-solutions/initial-collaborative-network-operations-plan-nop |

| **ATM Master Plan relationship:** | [AIRPORT-38]-Airport/ATFCM Extended data interface |
|---|---|
| | [PRO-028]-Procedures to support AOP-NOP collaborative process |

| **Finalisation criteria:** | 1 - Integration of relevant AOP data for a specific airport  into NOP <br> 2 - The relevant NOP information is made available to the AOP |
|---|---|

| **FCM05-NM12** | **Enhance the NM technical platform and services** | From: | By: |
|---|---|---|---|
| | | 01/09/2016 | 01/01/2022 |

| **Action by:** | |
|---|---|

| **Description & purpose:** | The enhancement of NM's technical platform and services will address the following: <br> - Extension of NM  interfaces with new functional capabilities <br> - Migration of the variety of interfaces it currently provides (CHMI variants, the NOP Portal) into a single, redesigned HMI for all users, fit for purpose and flexible enough to meet the needs of the different user roles (both internal and external). <br> - system upgrades for enhanced planning process ( integration of planning tool, tools to support collaborative dynamic planning, simulation tools) <br> - enhancements of post-analysis tools and process <br> - support the needs in terms of user interfaces for other NM projects |
|---|---|

| **Supporting material(s)**: | SJU - SESAR Solution 20: Data Pack for initial collaborative Network Operations Plan (NOP) |
|---|---|
| | Url : https://www.sesarju.eu/sesar-solutions/initial-collaborative-network-operations-plan-nop |

| **Finalisation criteria:** | 1 - NM technical platform and services have been upgraded |
|---|---|

| **FCM05-NM13** | **Implement ATFCM procedures** | From: | By: |
|---|---|---|---|
| | | 01/09/2016 | 01/01/2022 |

| **Action by:** | **NM** |
|---|---|

| **Description & purpose:** | The SLoA addresses the definition, validation and deployment of the new/changed operational procedures pertinent to the NM system changes, including FCM procedures for redesigned NM HMI as well as procedures related to post OPS analysis process. |
|---|---|

| **Supporting material(s)**: | EUROCONTROL - NOP Portal User Guide - Edition 21.5-119 |
|---|---|
| | Url : https://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/nop-portal-user-guide-current.pdf |
| | SJU - SESAR Solution 20: Data Pack for initial collaborative Network Operations Plan (NOP) |
| | Url : https://www.sesarju.eu/sesar-solutions/initial-collaborative-network-operations-plan-nop |

| **ATM Master Plan relationship:** | [PRO-035]-FCM Procedures for on-line access/update to the NOP and notification of updates |
|---|---|

| **Finalisation criteria:** | 1 - The procedures are in use |
|---|---|