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SESAR SOLUTION PJ04-W2-28.1 CONTEXTUAL NOTE V3

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PJ.04-W2 TAM

TOTAL AIRPORT MANAGEMENT

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Abstract

This V3 Contextual Note provides a SESAR Solution description for industrialisation consideration.

The Connected Regional Airports SESAR Solution PJ04-W2-28.1 focus is on the integration of the regional airports into the network through the sending of Departure Planning Information (DPI) messages and the implementation of a quasi-automatic milestone surveillance process. Compared to the full Airport Collaborative Decision making (A-CDM) process, the workload of airlines / ground handlers linked to the TOBT maintenance is significantly reduced. Compared to those airports that do not transmit DPI messages, the predictability of flight departure estimates is significantly increased, fully in line with the performance levels seen in A-CDM airports.

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1 Purpose

This Contextual Note (CN) provides to any interested reader, either external or internal to the SESAR programme, an introduction to the PJ04-W2-28.1 ("Connected Regional Airports") SESAR Solution in terms of scope, main operational and performance benefits as well as relevant system impacts.

When a Solution (such as this one) is at V3 level, the CN also contains a description of potential activities to be conducted during the industrialization phase or as part of deployment and that information can be found in Section 6.

The SESAR Solution Development Life Cycle aims to structure and perform the work at project level and progressively increase SESAR Solution maturity, with the final objective of delivering a SESAR Solution Data Pack for industrialisation and deployment. This CN therefore describes at a high level the main conceptual elements of PJ04-W2-28.1 and its validation lifecycle which are all captured in more detail within the different documents comprising the Solution Data Pack. The reader is therefore directed toward the PJ04-W2-28.1 Data Pack should further detail be required.

2 Improvements in Air Traffic Management (ATM)

Today, the integration of an Airport into the ATM Network currently takes place through the provision of both Departure Planning Information (DPI) messages and Arrival Planning Information (API) messages to the NMOC.

The Network Manager (NM) currently uses 3 different classifications for the purpose of indicating the level of integration of the airports into the ATM network:

1. Advanced ATC TWR (AAT) Airports
2. A-CDM Airports
3. Advanced Network Integrated (ANI) Airports

Advanced ATC TWR (AAT) Airports are airports that have not implemented the Airport CDM process but still would like to integrate with the ATM Network using a restricted set of DPI messages. In fact, AAT Airports provide only the ATC-DPI message reflecting the Actual Off-Block Event. Such a DPI message contains an accurate estimation of the taxi-time and the take-off time (TTOT).

Therefore, data sharing between an AAT airport and the Network Manager commences at the aircraft push-back and terminates at the take off. AAT industrialisation and deployment was also facilitated by the SESAR Solution #61 which validated the use of a simple airport departure data entry panel (ADDEP) which provides a low-cost solution to compute and share aircraft electronic pre-departure data across the air traffic management network, between the tower and approach controllers, as well as the tower and the Network Manager. Through the ADDEP, controllers were able to input data such as push-back clearance, taxi and cleared for take-off. This ADDEP then generated departure messages which could be used to update the local flow management centre and the Network Manager. Solution #61 therefore provided a data interface to allow the ATCO (Air Traffic Controller) input which would achieve a level of connectivity between the airport and network consistent with the Advanced ATC Tower (AAT) concept. The principal difference between Solution #61 and PJ04-W2-28.1 lies in the degree of involvement of different stakeholders, the level of automation and finally the time horizon for sharing information with the Network Manager, as described later.

A-CDM Airports are those airports that have implemented the full Airport Collaborative Decision Making (A-CDM) process as specified in the Airport CDM Implementation Manual and provide the full set of Departure Planning Information (DPI) messages to the Network Manager.

Through the sharing of information between different airport stakeholders, the A-CDM process leads to an improved efficiency of the turnaround process and improved resource utilisation. In addition, the sharing of Target Off-Block Time (TOBT) and Target Take-Off Time (TTOT) estimates with the Network Manager through the DPI message set results in an improved view of the expected traffic for the network and all its users. The A-CDM process starts approximately 3hrs before off-block and ends at take-off which is also the time frame during which the data exchange between the A-CDM Airport and Network Manager takes place.

The **Advanced Network Integrated (ANI) Airport** integration is intended for Airports that have fully adopted the Airport CDM concept, that have implemented an (preferably rolling) Airport Operations Plan (AOP) and have implemented further processes and infrastructure improvements.

Compared to A-CDM, the interaction with NM is extended with data exchange for inbound flights, (Arrival Planning Information (API) messages) airside capacity updates, meteorological data changes, in order to contribute to the Network Operations Plan (NOP).

Airports not falling into the previous classifications are referred to as **Standard Airports** and these are not integrated into the network via the transmission of DPI messages to the Network Manager Operations Centre (NMOC).

The full Airport Collaborative Decision Making (A-CDM) concept which is now deployed in more than 30 airports in Europe has been designed for larger airports, based on milestones and data capture points that help to facilitate the provision of an accurate time of completion of the aircraft turnaround process. Several airports have been reluctant to implement the full A-CDM concept for a variety of reasons, primarily perceptions around the milestone complexity, increased workload for airport stakeholders (notably the Ground Handlers) as well as overall cost.

There is therefore the potential for the creation of an additional 'category' of airport, namely the "Regional Network Integrated (RNI) Airport" compared to the three categories described above. The high level aims behind the operational concept for such RNI airports (and realised through SESAR PJ04-W2-28.1) are:

1. To implement a reduced set of turnaround milestones to be monitored, concentrating on those which are 'event driven' rather than 'time driven'.

2. To generate such milestones in a quasi-automatic manner.

3. To reduce ground handler workload in terms of inputs to the system so as to become the 'exception' rather than the 'rule'.

4. To offer the full set (as described in the A-CDM concept) of DPI messages to the Network Manager and simultaneously respecting the quality criteria inherent in the full A-CDM implementation.

The concept for RNI airports will aim to improve the efficiency of the turnaround process locally at the airport as part of the process of information sharing. The key milestones for each flight will be available to each of the airport CDM partners. In addition, the provision of DPI messages to the Network Manager will satisfy the associated quality requirements and ensure that those airports deploying PJ04-W2-28.1 have an affordable means of achieving the Network manager accuracy criteria.

Smaller airports have an impact on the Air Traffic Network and the sharing of accurate take-off times for flights from such airports could potentially bring network performance benefits as a result of the overall enhanced traffic predictability and thereby reducing the need for en-route sector capacity 'buffers'.

The applicability to regional airports of PJ04-W2-28.1 is reliant on a high predictability of airport parameters including taxi-times and turnaround times. These parameters will be defined by the regional airports where the concept will be deployed based on their own experience and use of historical data.

The milestone process of A-CDM has been simplified, reducing the milestones, decreasing the complexity of the definition and the operation under this new concept. The inputs by the Ground Handlers / Aircraft Operators have been reduced as a result of automatic determination of the Target Off block time (TOBT) based on the aircraft event-based milestones to ease the process and adapt it to the traffic volume of the regional airports. A Departure Management tool deriving a Pre-Departure Sequence is not mandatory and a very simplified TSAT (Target Start-up Approval Time) calculation is implemented which only considers taxi-out times and the presence (or not) of an ATFM regulation on the flight in question.

RNI airports will therefore be positioned as full A-CDM airports from the perspective of the level of information provided to the Network Manager. However, the deployment of PJ04-W2-28.1 will avoid the issues of cost and complexity associated to the deployment of A-CDM as mentioned above.

The benefits for the Airport and Airspace User stakeholders are:

- Improved predictability of operations
- Improved resource allocation such as stand and gate management
- Improved ground handling resource utilisation
- Optimised use of infrastructure & reduced apron and taxiway congestion
- No more CTOT (Calculated Take-Off Time) changes during taxiing
- No more Flight plan updates (DLA (Delay message), CHG (Change message) or CNL(Cancellation message) after the off-block event
- Reduction of suspension by the NM Flight Activation Monitoring (FAM)
- Improved management of and recovery from periods of adverse conditions

The Benefits for the ATM Network are:

- Improved accuracy for traffic predictability
- More stability in Traffic Predictability (less FAM suspension)
- Reduction in ATFM (Air Traffic Flow Management) delay

3 Operational Improvement Steps (OIs) & Enablers

The applicable Integrated Roadmap Dataset is DS23.

The concept of a "simplified and semi-automated" approach to DPI message generation applicable to regional airports is encapsulated in the Operational Improvement (OI) AO-0824.

SESAR Solution ID	OI Steps (from EATMA)	Associated Enablers (from EATMA)	Enabler Description
Connected Regional Airports (PJ04-W2-28.1)	AO-0824 Regional network-integrated airports (RNI) The connectivity between regional airports and the Network Manager Operations Center (NMOC) is improved thanks to the provision of DPI messages based on target times and a reduced set of turnaround milestones compared to the full A-CDM implementation. The applicability to regional airports is reliant on the high degree of predictability of airport parameters including taxi-times, turnaround times and passenger boarding times. Ground handler workload is reduced as a result of automatic determination of the aircraft-ready time (TOBT) based on the status of the passenger	Airport -03c	**Light Airport Operational Plan (AOP) Management Tool (for RNI airports)** A local management tool dedicated to regional airports allowing: - all airport partners (Airspace Users/Ground handlers, Air Navigation Service Provider (ANSP) and Airport Operator (AO) to access the set of ATV (airport transit views) forming a light version of an AOP (which provides a common and collaboratively agreed rolling plan that will form the single source of airport operations information), - the Airspace Users/Ground handlers to manually update TOBTs when it could improve the overall operations predictability, - the monitoring of 7 A-CDM milestones (out of the original set of 16 A-CDM milestones) using statistical historical analysis (to create Variable Taxi Times (VTTs), expected turnaround time and expected boarding duration time) - the sending of corresponding

	boarding provided by the local airport system. The expected benefits relate to Predictability, Flexibility and Efficiency for all airport stakeholders.		DPIs towards NM through a B2B service connection.
		HUM-036	Ground Handling Agent role updated for RNI concept of operations. The GH (Ground Handler) mainly deals with TOBT management (check and manual update)
		HUM-058	Tower Ground Controller role updated for RNI concept of operations
		HUM-059	Flight crew role updated for RNI concept of operations
		Aerodrome-ATC-114	Update of the Aerodrome ATC system to align with RNI concept of operations

Table 1 : OI Step and Enablers developed by PJ04-W2-28.1

4 Background and validation process

The development of PJ04-W2-28.1, and the approach to reduced milestones and Target Off-Block Time (TOBT) automation started in 2017. The operational concept development culminated in a V2 feasibility exercise in Alicante airport. There, the entire ground handling community participated in an exercise where TOBT values were derived automatically and presented through a human-machine interface oriented around the 'Airport Transit View' (ATV) which showed essentially a linked arrival and departure display with one arrival / departure per line. The key timestamps (actual and estimated) were displayed to the Ground Handlers who had the ability to manually modify the TOBT if they deemed it necessary. The DPI messages were calculated based on the derived TOBT value and stored for analysis. No transmission to NM of operational DPI data was performed and instead the values were used as the cornerstone of the post-exercise analysis. The results of the exercise were highly encouraging with the handlers expressing their satisfaction with the system and the recorded DPI messages showing a considerable degree of accuracy and well within the Network Manager stipulated accuracy criteria.

In addition, a 'V3 ongoing' exercise was also performed, again in Alicante airport. This exercise was configured in a very similar manner to the V2 exercise with the principal difference being that the DPI messages were indeed shared with NM. In addition, based on the working position in the TWR (Tower), the start-up clearance was given based on the pre-departure sequence calculated from the automated TOBT proposal. However, only a limited amount of data for post-exercise analysis was gathered and it was not possible to achieve the V3 maturity level. The activity in PJ.04-W2-28.1 and its associated validation exercise have therefore been designed to close-out the V3 maturity and generate the associated Data Pack.

In the V3 activity in Gothenburg Landvetter (GOT), the participants were presented with a similar ATV view and DPI message information was shared with the Network Manager through the appropriate B2B (Business to Business) services.

5 Results and performance achievements

5.1 Results derived directly from the V3 validation exercise

The main findings from the V3 validation exercise performed in GOT can be summarised as follows:

- The provision of flight update messages (FUM) to the ground handlers containing an accurate estimated landing time (ELDT) provided an accurate source of information for use in resource planning.
- The display of the Aircraft Transit View (ATV) containing linked arrival and departure flights with key milestones provided a significantly enhanced situational awareness for both arrivals and departures.
- Concerning the workload of the handlers, their task was primarily one of monitoring the automatically calculated TOBT values and making manual inputs to the TOBT if the automation did not provide the level of accuracy required. The system effectively provided three means of automatically updating the TOBT:
    - Due to an incompatibility between the arrival time, minimum turnaround time and the previously calculated TOBT
    - Due to a flight plan (EOBT (Estimated Off Block Time)) update
    - Due to late commencement of the passenger boarding process

With these mechanisms in place, the handlers made only a small number of manual updates. This was a trend that had been observed in the earlier V2 validation exercises but was particularly evident in this V3 exercise. Whilst it is difficult to quantify the workload associated to the monitoring activity, it can however be stated that the workload associated to manual TOBT updates was negligible.

The principal element of the post-exercise analysis has been a comparison between the Target Take-off time (TTOT) in each DPI type compared with the Actual take-off Time (ATOT). In addition the flight plan EOBT + taxi-time was also compared with the ATOT as this is a reflection of the accuracy that will be obtained in the reference scenario and without the deployment of PJ04-W2-28.1 . The results are determined for the last message of each type and are expressed as a percentage of those messages that are within a certain 'error bound'.

The Figure below represents the accuracy of the different TTOTs sent by each type of DPI. The x-axis compares the xTTOT (turnaround, consolidated or earliest TTOT) with the final ATOT of the flight in minutes whilst the y-axis shows the percentage of messages that have less than those minutes of error.

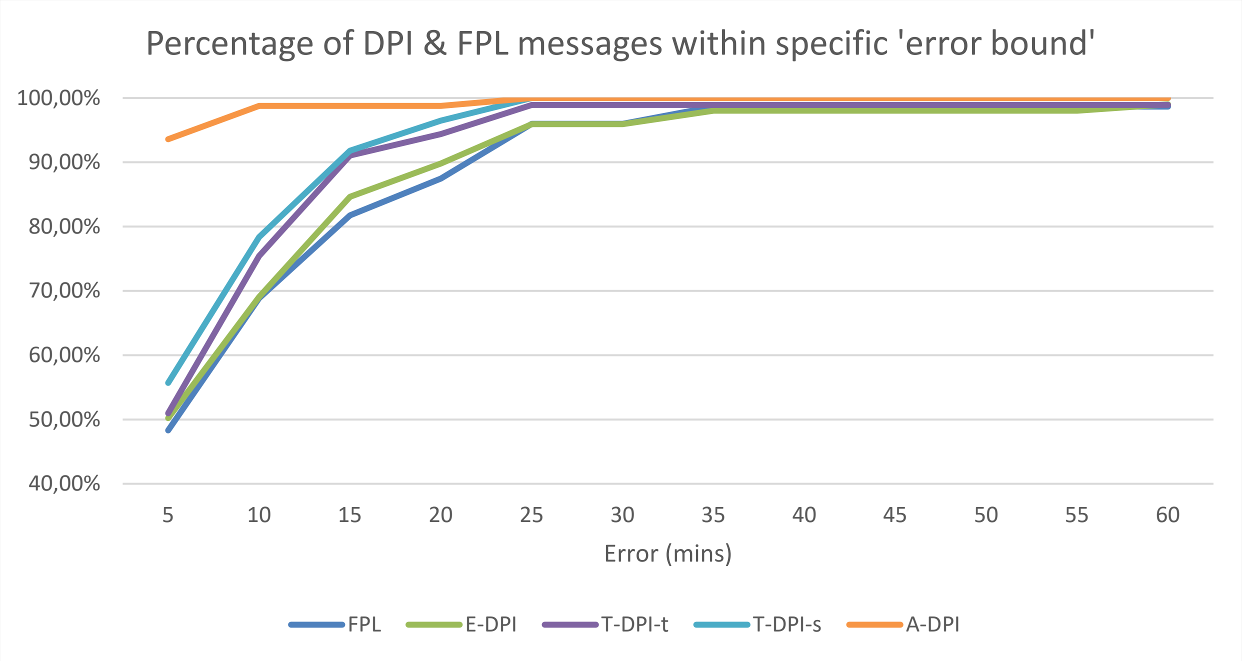

Figure 1 : DPI TTOT & FPL EOBT estimates compared to ATOT

Figure 1 indicates therefore that 50% of the FPL (Flight Plan) (EOBT + taxi-time) values were within 5 minutes of the ATOT whereas around 98% of the FPL values were within 25 minutes of the ATOT.

Several interesting conclusions can be drawn from Figure 1. The first is that the accuracy of the FPL (EOBT + taxi-time) and the TTOT contained in the E-DPI message are close to identical. It must be noted that the last E-DPI message is sent at EOBT – 2hours but that the FPL EOBT can be modified beyond this period via DLA (Delay) or CHG (Change) messages.

The accuracy of each DPI message type improves the closer to EOBT. For the A-DPI (coincident with the off-block event) more than 90% of the flights had an ‘error’ of less than 5 minutes.

A similar analysis can be performed by grouping the different DPI message types together and comparing the TTOT accuracy (compared to ATOT) along with the FPL (EOBT + taxi-time) accuracy. This analysis therefore represents the classic ‘Solution versus Reference’ comparison. The results are shown below.

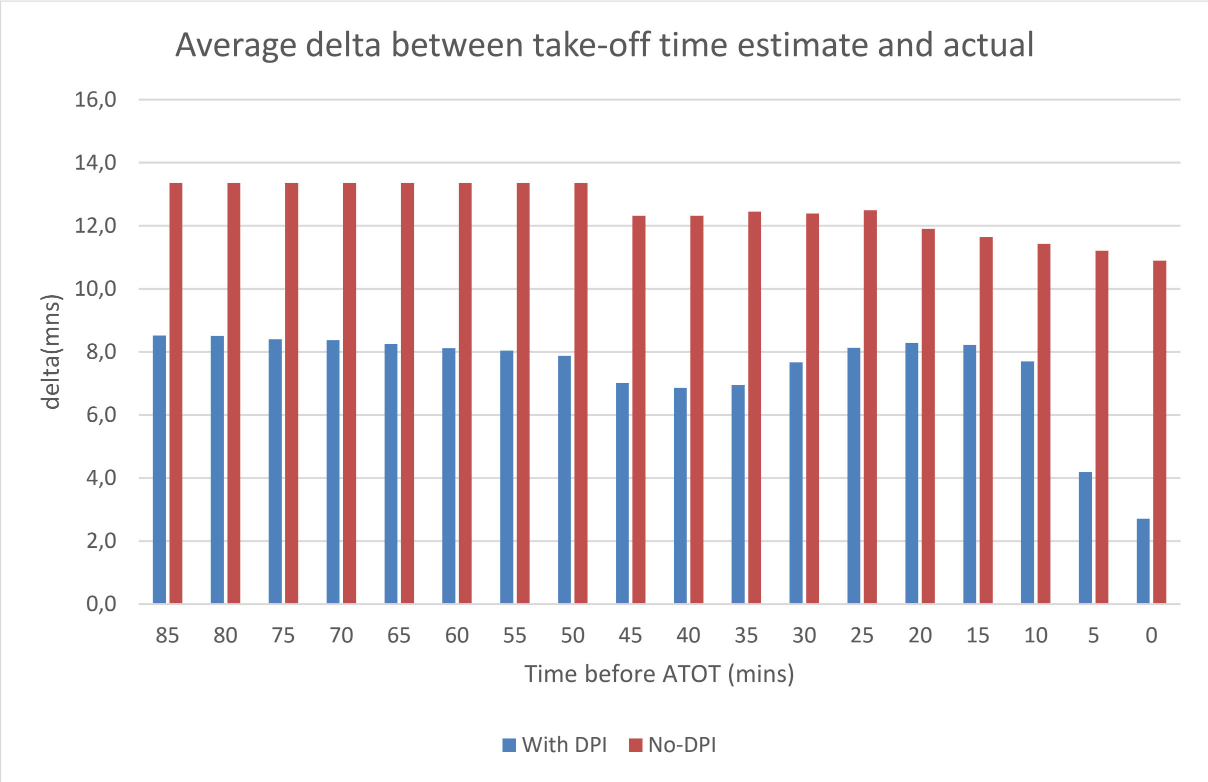

Figure 2 : Solution 28.1 versus Reference scenario

Figure 2 demonstrates a clear predictability performance gain from the deployment of PJ04-W2-28.1.

The A-CDM accuracy requirements for different DPI messages are as follows (and relate to the average of the last message transmitted for each type) :

DPI message type	Accuracy (Abs(ATOT-TTOT)
E-DPI	<= 13 mins
T_DPI_t	<= 12 mins
T_DPI_s	<=10 mins
A_DPI	<= 5 mins

Table 2 : A-CDM acceptable DPI accuracy limits

It can be seen from Figure 2 that the DPI accuracy observed in GOT was well within these limits.

An analysis of the manual inputs over the 3 days of the validation exercise revealed that only one single flight received a manual TOBT update. This is a ***highly significant result*** and one which leads to a number of conclusions:

- In the airport of GOT, the automatic derivation of a TOBT value based on arrival flight progress monitoring is highly reliable.

- The GH role became essentially one of monitoring and it is possible to assert that even such a monitoring task may not even be necessary.
- Outside of the specific periods of the validation exercise (6am to midday over 3 days), the DPI messages continued to be generated even though there was no monitoring of the TOBT accuracy by the Ground Handler. The results obtained during these extra periods were identical to the specific exercise periods and revealed the same trends and accuracy as reported above in Figure 1 and Figure 2.

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5.2 Results derived from the Cost Benefit Analysis (CBA)

The CBA shows that the deployment of PJ04-W2-28.1 at 156 airports would positively impact the European aviation industry. It would develop a €48m net present value (8% discount rate) and achieve breakeven in 2035 (the payback period would be ten years).

The following recommendations arise from the CBA results:

- The benefits of PJ04-W2-28.1 are very sensitive to the en-route capacity buffer and its subsequent reduction once the network predictability increases.
- Future R&D work could show the solution benefits at the network level (instead of departure predictability) to avoid the need to use the "en-route capacity buffer" to estimate the en-route capacity gain (or en-route ATFM delay reduction).
- However, the sensitivity and risk analyses show that the solution CBA is robust since the NPV results are positive for a wide range of conditions (i.e., solution performance, discount rate, implementation and operating costs, en-route capacity buffer, traffic growth).
- The V3 CBA results show better economic performance for medium airports (2.0 Benefit to Cost Ration (BCR)) than for small airports (1.1 BCR). Therefore, the solution deployment should prioritise the medium airports to achieve earlier breakeven.
- Nevertheless, future research and Development work should provide a quantitative assessment of the benefits at the airport level – possibly in the framework of the digital Sky Demonstrator initiative. This would support the decision-making process to prioritise the deployment of the solution at a specific grouping of airports, depending on their operational characteristics (e.g., resource limitation, airside layout, weather conditions, demand peak) instead of their annual traffic volume (i.e., SESAR airports' classification scheme).
- Airports willing to implement the complete A-CDM concept should benchmark it against PJ04-W2-28.1 since it could satisfy their requirements for higher predictability at a lower cost and reduced workload for the ground handler.

In summary, PJ04-W2-28.1 would allow earlier and better planning of the airport resources). The solution would bring local benefits at airports where the allocation of gates, stands, de-icing equipment, ground handling services, taxiways etc constrains operations during traffic demand peaks.

More importantly, integrating the regional airports into the network (core objective of the solution) would enhance departure predictability and, hence, network predictability. It would allow reducing the en-route capacity buffers (ANSPs) and the Calculated Take-Off Time (CTOT) issuance (NM), leading to reduced ATFM delays (airspace users). The delay reduction would ultimately improve the passenger experience.

6 Recommendations and Additional activities

This Section describes a number of findings from both the earlier validation activities and the V3 validation exercise in GOT which would need to be addressed in any future deployment of the PJ04-W2-28.1 as well as more general recommendations going forward.

- The interface with the AODB shall provide all the information that is mandatory for the PJ04-W2-28.1 concept. The data should be provided in a timely fashion and be as accurate as possible – notably the boarding process monitoring and the variable taxi time values (and taking into account specific parking positions and runway utilisation).

- The NM Estimated Landing Time (ELDT) value has been shown to provide accurate arrival estimates which leads to a more efficient resource allocation notably for the Ground Handler (GH) and Airport Operator (AO). If more accurate ELDT information is available locally (e.g., from the local ANSP) then this information could be exploited too.

- The automatic update of the TOBT based on boarding process monitoring is an integral part of the PJ04-W2-28.1. The need for a precise boarding duration has been highlighted during this exercise. Further work should therefore be conducted to develop a ‘standardised’ process to assist airports in the development of such knowledge.

- When deploying PJ04-W2-28.1, it is recommended that regional airports publish to flight crews the TOBT and the associated TSAT value. For the pilots it would harmonise the procedures within regional airports in line with to those encountered in a full A-CDM environment. The principal element of harmonisation relates to the operational procedures that will be put in place within the regional airports deploying the PJ04-W2-28.1. Ideally those procedures will align with the procedures found in larger A-CDM airports. Essentially this will cover the removal/expiration of TOBT following a non-compliance with the TSAT thereby ensuring both enhanced TOBT quality as well as TSAT compliance by flight crew.

- Specifically from a HP perspective, it is recommended to conduct further assessment on the key HP indicators (workload, SA) with respect to the integration of the RNI system in the ground handler’s primary tasks. The ‘robustness’ of the PJ04-W2-28.1 (notably the TOBT reliability) will need to be verified in those cases where operations are “not in accordance with the schedule” or disrupted, i.e., many flights have a late CTOT or when TOBT is significantly different from EOBT. In such case, the concept provides the possibility for the GH to manually update the TOBT.

- Similarly, during winter operations, there may be an increased need for manual TOBT inputs to take into account the additional de-icing time either through a modified TOBT (on-stand de-icing) or an increase to the taxi-out time (remote de-icing). Airports may wish to develop a specific de-icing module if deemed necessary to improve the automatic calculation of TOBT and TTOT.

7 Actors impacted by the SESAR Solution

The following Table provides an indication of how different actors can benefit from the solution along with an indication of how the Solution may impact their current tasks and workload.

Stakeholder	Benefit	Impact on task scope
Local ANSP (ATCOs)	DPI message creation in the RNI concept results in provision of accurate TSAT and TTOT values. Possibility to benefit from extended slot tolerance windows. More appropriate CTOT values based on more accurate TOBT/ TTOT values. CTOT frozen once aircraft leaves the blocks. Use of Take-off time transmitted by the airport reduces the probability of flight suspensions in the case of longer than anticipated ATC ground delay.	Monitoring of TSAT compliance
Airport Operator	Improved estimated landing time (ELDT) estimates via the NMOC Flight Update Message (FUM). Improved estimated in block times (EIBT) leading to improved stand /gate planning and resource allocation.	No impact on task scope but availability of higher quality information
Ground Handling Agents	Improved estimated landing time (ELDT) estimates via the NMOC FUM message, leading to improved estimated in block times (EIBT) in order to optimise resource planning Reduction in workload (compared to A-CDM) associated with TOBT system entries. Reduction in workload due to the possibility to subscribe to the NMOC's "EOBT Update Service", i.e., the automatic transmission of DLA messages based upon TOBT values in case of delay of the flight.	Monitoring of TOBT quality and manual update if necessary
Flight crew	Enhanced turnaround process monitoring via TOBT/ TSAT availability	Need to ensure start-up request complies with TSAT window.

Network Manager (NMOC)	Improved traffic predictability for FMPs	No impact. RNI airports appear as identical to A-CDM airports.

Table 3 : Stakeholders' benefits and task impact

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8 Impact on Aircraft System

No impacts are foreseen on aircraft technical systems.

It is nevertheless recommended that regional airports publish to flight crews the TOBT and the associated TSAT value. For the pilots it would harmonise the procedures within regional airports in line with those encountered in a full A-CDM environment.

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9 Impact on Ground Systems

No specific pre-departure sequence is needed and the TSAT value is set simply to the TOBT in the case of a non-regulated flight or to CTOT – EXOT[1] the case of an ATFM regulated flight. Nevertheless, should a pre-departure sequencer be available at the airport then PJ04-W2-28.1 can be configured to use the TSAT value provided by such a tool as part of its DPI message creation. In fact, in both exercises performed in Alicante, this was the case.

The architecture of PJ04-W2-28.1 is articulated around five Enablers. The first (AIRPORT-03c) is a flight view showing linked arrivals and departures and with an interface to the Network Manager and the local Airport Operations Database (AODB). Based on the RNI event milestones, this Enabler is also responsible for the derivation of the TOBT and the determination and transmission of the DPI messages. The principal data elements used are as follows :

A-CDM Milestone Reference	Description
M1	ATC Flight Plan Activation (EOBT-3hrs)
M3	Take-off from outstation
M6	Actual Landing time (ALDT)
M7	Actual In-Block time (AIBT)
M11	Boarding starts event time (from AODB)
M15	Actual Off-Block Time (AOBT)
M16	Actual Take-off Time (ATOT)

Table 4 : Principal RNI milestones

Milestone M3 will be provided via NM B2B service whereas the local landing, block and take-off events will be provided automatically from available surveillance (ATC (Air Traffic Control) system, ACARS (Aircraft Communications Addressing and Reporting System) from equipped aircraft, manual input from AO/GH, automated docking systems, automatic airport systems). The Milestone M11 is provided through direct access to the AODB.

The ‘Human’ Enablers (HUM-036, HUM-058 and HUM-059) reflects respectively the tasks of TOBT monitoring for the Ground Handlers and the TSAT compliance monitoring for the Tower Controller and flight crew. Finally, some change to ATC systems to enable TSAT transmission to the flight crew is reflected in the Enabler Aerodorome-ATC-114.

[1] Estimated taxi-out time taking into account parking position and runway

10 Regulatory Framework Considerations

Not Applicable.

11 Standardisation Framework Considerations

PJ04-W2-28.1

1. EUROCONTROL Airport CDM Implementation Manual V5 dated 31st March 2017
2. EUROCONTROL DPI Implementation Guide, v2.300, dated 1st July 2020
3. EUROCONTROL FUM Implementation Guide, v1.900, dated 1st July 2020
4. EUROCAE ED-141, Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems, dated October 2008

The European Telecommunications Standards Institute (ETSI) produced a Community Specification (CS) for A-CDM, which will no longer be valid after 12 September 2023. As a result, a EUROCONTROL Specification is being produced, intended to be a more up to date- and complete specification of A-CDM, detailing not only system requirements but also procedures. This EUROCONTROL Specification will be the definitive A-CDM requirements reference once the ETSI CS ceases to become valid. Further extensions of this Specification could include the specifics of PJ04-W2-28.1 .

An additional Enabler included in DS23 caters for the updated documentation (EUROCONTROL standard) required for the inclusion of RNI airports into the overall network connectivity process as described in the Table below:

Enabler Code:	STD-116
Enable Title:	Update of EUROCONTROL DPI implementation guide to cover RNI (Regional Network Integrated) airports
Enabler Description:	Update of the EUROCONTROL DPI implementation guide to address the RNI (Regional Network Integrated) airports which level of connection to the Network Manager stands between Advanced ATC TWR airports and A-CDM airports. This document update should include a specific (low-level) description of how the DPIs for RNI airports are derived.

Table 5 : Standardisation Enabler for RNI airports

12 Solution Data pack

The Data pack for this Solution will include the approved version of the following proposed documents:

- SESAR Solution PJ.04-W2-28.1 SPR-INTEROP/OSED for V3 Part I to Part V, 19 September 2022
- SESAR Solution PJ.04-W2-28.1 TS-IRS for V3, edition 00.00.05, 11 October 2022
- SESAR Solution PJ.04-W2-28.1 CBA for V3, edition 02.00.00, 27 January 2023

EUROPEAN PARTNERSHIP

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