

EXTENDING CDM FOR ATM PERFORMANCE AND RESILIENCE

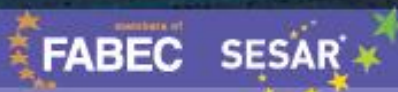
DSNA
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DSNA

This report is to be read with the presentations used during the seminar

Welcome introduction

DSNA – Maurice Georges - director of DSNA

M. Georges comes back on the summer difficulties: with the strikes in Marseille ACC and the problem of capacity and human resources, DSNA is responsible for 33% of ATM delays in Europe in 2018. An agreement has been found with Marseille ACC ATCOs without coming back on the flexible rostering agreement already implemented in Reims, Brest and Bordeaux ACCs. December 2018 will be a month for election and 2019 a year for discussion on the future social protocol for 2020-2024. The goal for DSNA will be to continue to work with social partners on flexible rostering as human resources will remain critical until 2020. The number of recruited ATCO has increased but they are now in training and will arrive in ACCs only then.

In the meantime, Summer 2019 will also be difficult: less human resources than 2018, same issues in neighboring countries (MUAC and Karlsruhe) bringing more traffic in France.

In this context Collaborative Decision Making process and tools have their importance. DSNA is willing to extend these with all its partners.

Summer 2018 collaborative performance review

Airlines view

easyJet – Geoffrey Kingston – Senior Flight planner
See Presentation

easyJet mentioned in its presentation key features that illustrate the issues of year 2018:

- 850 000 minutes of delay in 2017, 2 100 000 minutes in 2018, excluding weather
- 33% slot delays because of DSNA
- 75% of easyJet network is going through French airspace
- 19 days of industrial actions in MRS (157 647 minutes of delay for MRS, in comparison to 1842 minutes for industrial actions in Greece)
- 19 000 000 is the cost of disruption for the first 2 weeks of July for easyJet
- 26 000 pounds is the cost per flight delay >3H
- 30 000 000 minutes of delay in total; if nothing has been done in term of coordination probably +12 000 000.
- easyJet will get more spare aircraft to gain in resilience to avoid more than 3 hours of delays.
- easyJet would like more data exchange:
 - Hotspots
 - Filtering
 - Pretactical flight planning function
 - Liaising with the network, the ANSPs
- easyJet needs every little improvement, need to find every efficiency. For that **easyJet wants collaboration and dialogues between ANSPs and airlines, and more coordination with NM.** The 4ACCs initiative was well appreciated easyJet and would like it to be extended to Spain.

DSNA 2018 operational achievements – summer 2019 – ATFCM expectations and solutions

DSNA – Geoffroy Ville deputy director of operations
See Presentation

Flight level/sharp turns issues:

A study in one sector of Marseille ACC, in which controllers usually do not modify FL unless asked, shows that for all flights planning FL360, 25% of them don't fly it. Cruise FL issue should be respected.).

We need to work together (DSNA, other ANSP, Airlines and CFSPs) to reduce volatility.

Flight level not respected, sharp turns, yoyo flights: all this create additional workload and wrong traffic counts in downstream sectors. For sharp turns, one solution could be to filter at IFPS level all flight plans with sharp turns. In turn, DSNA could remove 250 RAD restrictions. It's a win/win solution.

Weather:

We should build a common constructed weather forecast between all stakeholders and take decision collaboratively. This would be a concrete way towards common situational awareness.

Back to Saturdays:

Contrary to the average view showing that delays are higher on Saturdays when traffic is the lowest, studies for French ACCs during summer season make it clear that Saturdays are in fact busier than weekdays.

Human Resources: Situation in the OPS rooms are still critical. New ATCOs are in training and we have to wait until 2020/2021 to have them in ACCs.

Borders: We make everything possible to have no hard constraints between FABEC States (ambitious airspace redesign with NM) but also work on interfaces, e.g., with Spain (modification between Bordeaux ACC and Barcelona ACC should be applicable April 25th 2019).

Big DATA DSNA (FEATS)

DSNA – Alain Bourgin head of environment mission

See Presentation

DSNA presents its global roadmap for big data starting with a Flight efficiency tool (FEAT) which will be available in 2019. For next steps of Big Data DSNA will need airlines participation to elaborate on their needs.

The Network Manager's performance review

Network Manager - Joe Sultana, director

See Presentation

Mr. Sultana comes back on Summer 2018 and the lessons learned in order to deal in 2019 with the lack of capacity.

Thanks to NM initiative, taking out traffic from Karlsruhe has enabled reduction of delay. We have to reduce the delay but are not able to cope with the increase of traffic.

There is a need for NM to know the sectors that can be opened in order to adjust. For Summer 2019 NM has work closely with ANSP on traffic flows, route by route, flow by flow, on capacity plans to propose rerouting and mitigate the delays expected. DSNA fully participated.

Looking further, 2030 and even 2040, how to deal with the expected increase of traffic? NM has worked closely with SESAR JU on the airspace architecture study. A simulation shows that improving the tools for controllers in addition to "removing" the borders would allow for a 30% increase in capacity in the next 5 years and with full datalink 10 years later another 30%.

In addition NM needs to look at its systems, improvement is costly and complex but big data gives benefits and advantages. It is a necessary change towards a new architecture. A concern is to share national data vs European and make the data compatible from ground to air.

In conclusion the "need to change" impacts airspace, tools, sharing.

Extending CDM – Take advantage of a A-CDM experience to improve ATM performance

Why and how to extend CDM ?

DSNA - Erwan Page - E-CDM program director
See Presentation

CDM is going from strategic to real-time ops and allow improving and finding short term solutions to face the capacity challenge.

- Strategic level : the French ATM strategy (written with IATA), OWS, Seminars CDM@DSNA
- En-Route level : CAP / X-Stream / CDM@DSNA portal (Orly monitoring curfew tool, dashboards...)/SALTO (+ BigSky) + 4Me
- A-CDM : At airport level for CDG, ORY, LYS, Nice (in 2019) + TLS et MRS

How to enhance? With E-CDM , from SESAR projects, go towards a wide implementation of CDM tools, wide data exchange. NM has a central role of coordinator.

ADP view

Gerard Bastistella – Groupe ADP - Director of the Single European Sky Unit of ADP
See Presentation

MTO France view

Laurent Trian – CDG Meteo Center Director
See Presentation

Air France: CDM in CDG is a success story: the different stakeholders learnt together from their mistakes, the difficulties made us improve by working together. After improvement on the departure process, the CDM Roadmap was set up on many other subjects.

For E CDM it's the same process: airlines and ANSPs are facing difficulties so we need to collaborate, to work together to improve predictability, weather management. All this needs collaboration between ACCs, with NM. And Air France hope the recommendations from the Airspace Architecture Study will make it start, it links airspace and technology.

Lufthansa: There are many A-CDM as airports; many portals: it is complicated for airlines; there is a need for harmonization.

Workshops reports: Extending CDM for ATM performance and resilience

Workshop 1: Adverse weather conditions

How to build a common picture based on shared forecast between several ANSP and MET providers?

Météo France confirms that 2018 has been an exceptional year in terms of thunderstorms. Regulations for weather are always put very late, with 30 minutes to one hour notice. Sharing in advance a common view would help the airlines to plan and prepare for the next day.

NM has launched a cross border trial based on a common forecast at Day – 1 and a risk assessment. NM decides if there is a need for further planning and if yes, plans a teleconference. This trial will be reconducted in 2019 and extended to Reims ACC and Météo France.

AOs don't modify their FPL till they see the bad weather. There is a need to work on the risk assessment and to share it. There is a need in the future to extend the coordination with Approaches too. It implies a more accurate picture of the network from airport A to Airport B to assess the impact of bad weather and stop multiplying the regulations for the same phenomena.

Air France: In addition RAD restrictions should be flexible in case of bad weather.

Air France also mentions that indeed H-2 is not enough, NM confirms that anticipation is the key. There is a need of forecast before 3h and MET providers are improving to be able to deliver that. In addition risk management, probabilities should be added. We also have to accept to be wrong and learn from that for the next time. We have to work out together how we can manage the risk.

NM is also working on the ASM side, to work with military colleagues to take into account risk of weather disturbance at D-1.

Airlines and especially pilots help in the process by transmitting AIREP SPECIAL. It helps the MET provider to improve their models and know better what is happening in the sky. DSNA is studying to transfer AIREP SPECIAL to Météo France using SWIMwim.

Sharing data (B2B) is also key to coordinate and manage weather.

In conclusion: NM weather cross border trial is the beginning of managing weather phenomena at a network level. It will have to go further by sharing a common view and assess risk based on data synchronized with the NM data. Using B2B and being SWIM compliant would help to coordinate between NM, ACCs and AOs to manage weather.

Workshop 2 : Extending CDM tools

This workshop aims to come back on where we are in CDM tools and what is planned to better coordinate with airlines.

CAP is now used by 7 FMPs and 20 AOs. Since the beginning more than 6500 flight plans have been coordinated with airlines.

CAP will be linked to SALTO (DSNA ATFM tool). N-CAP ("Network" CAP) trial is ongoing with NM in the frame of SESAR PJ24, and targets an implementation by the end of 2019.

NM accepts the principle as long as NM is in the loop of the initiative generated by CAP.

CHMI is too complex with an interface that is obsolete and not adapted to airlines' needs (it is primary a tool for FMPs)

X-stream project (PJ25): the trials for enhanced arrival will accept some swap in the sequence according the notion to be tested of "priority".

DSNA is working on extending its operational CDM portal, improving collaborative services and sharing of information.

DSNA Portal will offer for S19 extended supporting tools (for DSNA, AOs and Airport) to monitor ORY curfew and will be also able to send messages to AO to pinpoint planes which may have difficulty to land before the ORY curfew.

DSNA has started working towards AOP/NOP (dedicated CEF2017 application for funding in partnership with ADP and Air France)

Conclusion

DSNA – Eric Bruneau, director of operations

There are 4 means/areas we have to work on to improve our capacity: ATFCM, Airspace design, ATM modernization and Human resources.

ATFCM :

In 2018, many sectors reached their limit of capacity and the CAP-tool was able to act on some flights for the benefit of all.

DSNA is fully committed in eNM process for Summer 2019. We have to go towards a global optimum instead of a local optimum. Reims has suffered from protection's measures of Karlsruhe in 2018. We have to go beyond the RP2 vision.

ATM modernization:

After ERATO in Brest and Bordeaux ACCs, full datalink is now available in these 2 ACCs. 4-FLIGHT will arrive in the 3 others ACCS in winter 2021/2022. But the training of the ATCOs before the transition will impact capacity.

Airspace design:

New sectors are under study, new layers. DSNA and skyguide have innovated with dynamic sectorisation.

Human resources:

DSNA studies possibilities to reduce the time of ATCOs' training.

Flexible rostering will also continue to be improved.

In 2020 we will enter into a new social agreement, negotiations will start after summer.

Our priority is now Summer 2019 and to find dedicated ways to manage resources in OPS room. All managers are committed to increase capacity. Tomorrow during the Operational Working Session, it's the place for AOs to contribute and for DSNA to respond to AO demands.