framatome

DOMA

Online Service for Dose Monitoring of Aircrews

Optimization of dose to meet radiological requirements, health & safety expectations and increase aircrews motivation for cost reduction

Challenge

Due to cosmic radiation, aircrews represent the group with the highest collective dose among radiological exposed professionals.

Working in such an environment requires trust and transparency in the effort of airlines to manage dose distribution. Costs are incurred if threshold for radiological medical investigations are overstepped.

Solution

Framatome has more than 60 years of experience in the nuclear domain. Among all activities, Framatome is deeply involved in the management of various kind of radiation sources and the associated protection of people and the environment. This know-how can also be applied to aircrew dose management.

Our knowledge, combined with state-of-the-art cloud solutions and a mobile App, provides a real-time access to radiation data at any time or anywhere, which also means individual and collective doses of operated and scheduled flights.
Several features improve data handling and visualization as well as ensuring fulfillment of current and future requirements.

The prediction of dose enables an optimization of individual and collective doses. Transparency and sharing know-how is the key to staff motivation and the key to optimized flight scheduling

Customer benefits

- Know-how partnership as motivator to commit to cost saving flight route and altitude optimization
- Dose, flight route and altitude optimization
- Keep flight staff below limits of medical checks (<6 mSv)
- Optimized staffing input for flight scheduler

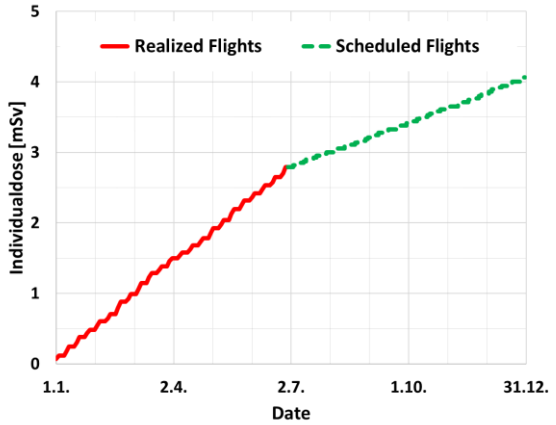


Figure 1: Any time - anywhere: the DOMA online view of realized flight doses (red line) and scheduled flights and their predicted doses (dotted green line).

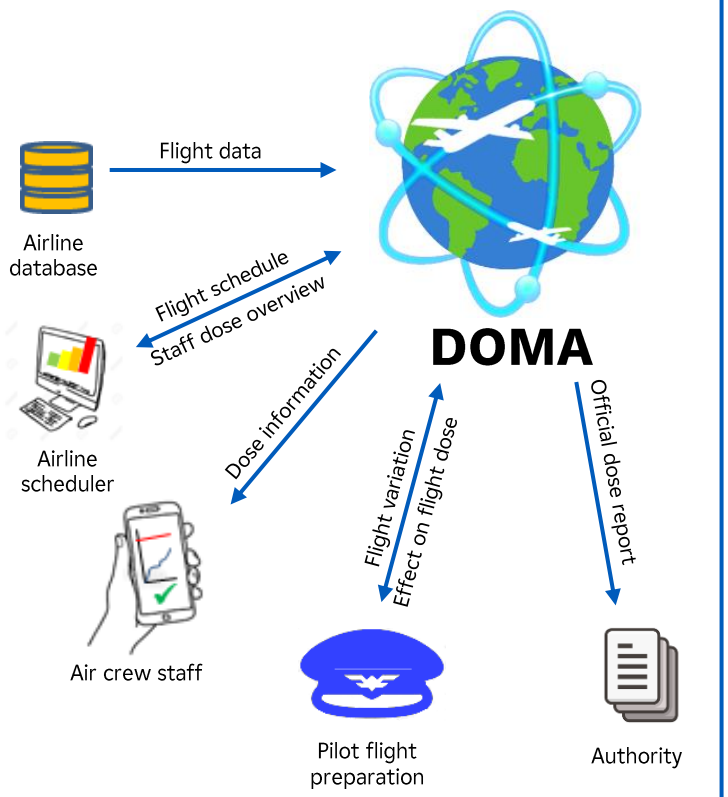
Technical information

- Dose prediction for all routes (as planed route dose)
- Post flight dose calculation (as flight route dose)
- Altitude variation for full overview (variation of planed routes)
- 24/7 availability of individual and collective data + information + service
- Automatic and digital dose documentation + data transfer to authority
- Confidence in transparent Radiation Protection Management
- Fulfillment of all authority requirements, including adaptation to future requirements

Your performance
is **our** everyday **commitment**

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Technical Overview



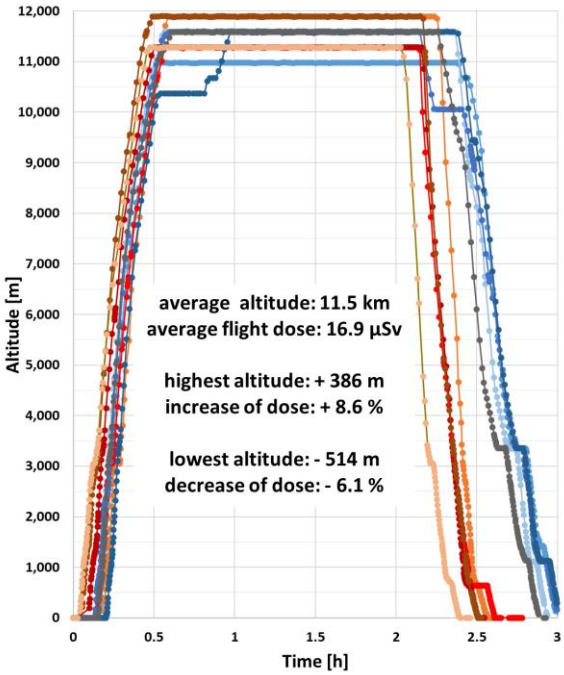


Figure 2: Real day data example; flights between Paris and Helsinki. The flight routes mainly vary in altitudes while distance and flight time are comparable. Altitude corridor ±500 m. Scheduler are enabled to manage additional dose by the DOMA dose prediction and dose optimization feature.

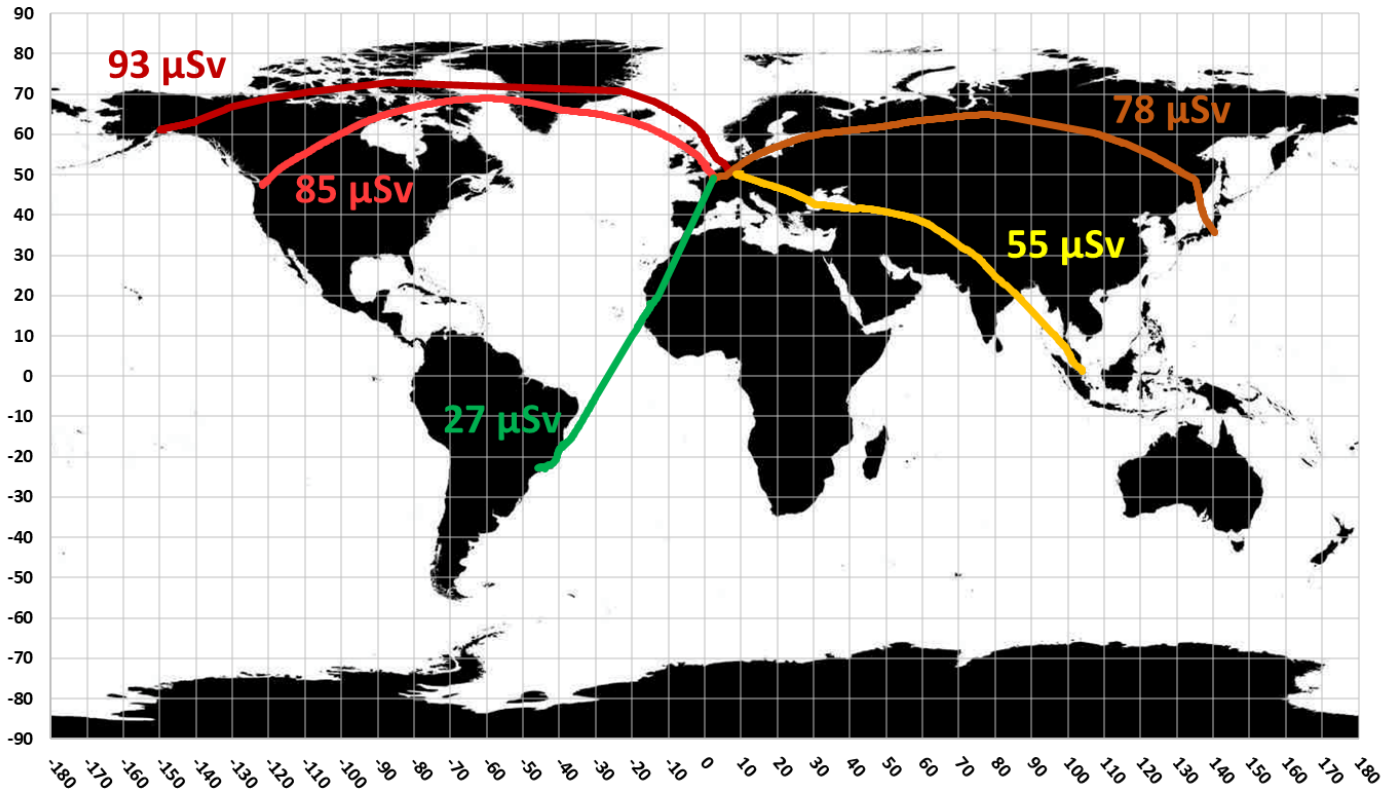


Figure 3: Different flight routes generate different dose depending on different parameters. As DOMA can predict future flight dose and support flight schedule each single flight can be optimized for the staff. The DOMA long term feature enables flight scheduler to assign staff on high dose flights and low dose flights resulting in equivalent annual dose of the whole flight staff or groups on same aircraft type.

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