

SPACE OPERATIONS SYMPOSIUM (B6)
Training Relevant for Operations (3)

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NEW CHALLENGES IN OPERATIONS TRAINING SIMULATORS FOR SATELLITE
CONSTELLATION MISSIONS**Abstract**

In recent years a subtle change has happened in satellite operations, which has an impact on the approach to operations training. Constellation missions are becoming more frequent as technologies are able to deal with the added complexities. With respect to operations training, the standard has typically been one satellite – one training simulator to support the operations preparation. With new constellation missions such as Galileo or SWARM the approach to training the operations team must be reconsidered. One could think there is no difference from a pure operations training point of view, if there are several spacecraft instead of one. There are just a number of identical spacecraft, which are operated one at the time it is in communication range. Reality is of course different, spacecraft are not necessarily identical and a constellation can be made out of families of spacecraft instead of identical spacecraft. This requires a significant amount more configuration management and it requires a different way of planning and operation. This constitutes a huge challenge to the flight operations team. The flight control team has to consider all the small but essential differences in the configuration and operation of each of the spacecraft in the constellation. This has of course an impact on the mission operations approach and specifically the training approach. It impacts all ground segment elements including the training simulator. The aim of the paper is to describe the challenge of the operations of a satellite constellation and the impact on the missions operations training simulators.