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INCREMENT 56/57 ISS EVENTS PUT FOCUS ON SAFETY ROLE OF THE COLUMBUS FLIGHT DIRECTOR.

**Abstract**

In the second half of 2018 during the increments 56 and 57 the German ESA Astronaut Alexander Gerst was living and working on International Space Station (ISS). During these ISS increments while A. Gerst served as ISS Commander during Incr. 57, two events concerning the safety of the astronauts onboard as well as on the way to and from ISS were perceived by the public:

- A hole in the habitation module of the Soyuz 55 (MS-09) spacecraft which could be sealed in a short timeframe without impact to the astronauts.
- The launch abort of the Soyuz-FG rocket carrying the Soyuz 56 (MS-10) spacecraft with safe landing of the cosmonaut/astronaut crew

Despite these events were outside of the responsibility of the Columbus Control Center (Col-CC) in Munich, Germany, they also bring the focus on the safety responsibility of Col-CC and especially the Columbus Flight Director.

The safe execution of activities on board the ISS, whether performed by astronauts or directly from ground, is the highest priority for the Flight Control Team supporting human spaceflight operations. Safety of the crew, the vehicle and the mission is actually one of the first things new flight controllers hear about when joining the project. At Col-CC, this task is led by the Columbus Flight Director. In order to fulfill this task, an integrated process takes place in which several teams are involved. Its outcome is then made available to the Columbus Flight Director who, supported by his team, ensures its implementation for the safe operations performed on behalf of the European Space Agency (ESA) inside as well as outside of the European module Columbus.

This paper intends mainly at describing the safety role of the Columbus Flight director. It will briefly describe the above mentioned safety process in place on ESA side and will then detail the operational means made available to the Columbus Flight Director and the Flight Control Team at Col-CC to ensure safe operations onboard the ISS.