

LAB_METOC

AN APPROACH TO MASTER OPERATIONS SENSITIVE TO ENVIRONMENTAL CONDITIONS ON A LAUNCH BASE

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Abstract: As part of the work carried out on the new generation launch bases, the Environmental Situation Awareness is a very important concept that meets the requirements of safety and security, autonomy, standardization and reduction of operating costs attached to these future bases.

The environmental conditions having an impact on the operations are mainly of a meteorological nature but can also be related to the sea state for the recovery of the launcher components, or of a hydrographic nature for the risk of flooding, or of another nature: forest fires, presence of aerosols in the atmosphere caused by sandstorms or volcanic eruptions, etc.

In this context, the LAB_METOC Decision Aid Platform has been developed to assess all the risks related to environmental conditions likely to degrade the overall level of success of an operation. LAB_METOC expresses these risks in terms of factors of impact of environmental conditions on operations, each factor having its own level of importance depending on the considered operation.

These factors relate to operational considerations, such as the drop in sensor performance, the probability of harm to the safety or integrity of persons, the increase in implementation times, the probability of deterioration or malfunction of equipment, the appearance of hazard zones, the possibility of degrading or harming the environment (pollution or other), etc.

This approach applies both to a complete launch campaign and to a specific operation carried out on the base. In all cases, it is a matter of breaking down a complex operation into several simple activities for which relevant impact factors are expressed. Finally, LAB_METOC assesses the overall risk relating to the operation by combining and weighting the various impact factors taken into account.

The objective of LAB_METOC is to provide decisive support for mastering the chronology of a launch campaign, by providing all the concerned players with knowledge of the risks linked to environmental conditions and by contributing to building a reliable picture of the Operational Situation of the base.