

Safety Corner

What is ARMS in aviation industry?

Risk assessment is the central tool in most safety management systems (SMS); however, conducting a risk assessment is itself a challenging task that can directly affect the effectiveness of an SMS. While many traditional risk assessment methods have been known to carry high levels of subjectivity and difficult to use by non-experts, a group of safety practitioners from airlines formed the ARMS (Aviation Risk Management Solutions) Working Group in 2007 to develop a new operational risk assessment method for airlines and other aviation organisations.

The ARMS process starts with “Event Risk Classification” (ERC), which is the first review of events in terms of urgency and the need for further investigation. This step also attaches a risk value to each event - which is necessary for creating safety statistics reflecting risk. The next step is data analysis in order to identify current Safety Issues. These Safety Issues are then risk assessed in detail through the Safety Issue Risk Assessment (SIRA) process.

Both ERC and SIRA are based on new concepts that make the assessments conceptually more robust whilst keeping them pragmatic and simple. The risk values used in SIRA are numerical values that can be read off from a specialised risk matrix. Unlike ordinary risk matrix-based risk assessment method, the ERC values from SIRA of a batch of events can be summed together to state the cumulative risk value or the total risk for that batch of events.

The whole ARMS process ensures that any necessary safety actions are identified, creates a register for tracking risks and taking follow-up actions, and provides a Safety Performance Monitoring function. Although the primary target group for the ARMS methodology is airlines, the methodology is fully applicable to other aviation organisations and other industries as well.

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