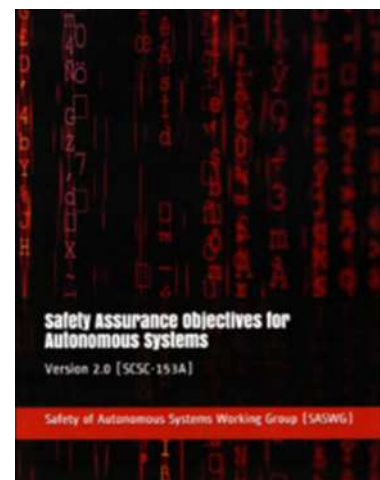


# SCSC Safety of Autonomous Systems Working Group (SASWG)



Assurance of autonomous systems is critical to their wider acceptance by business and the general public. The need to provide trust in such systems motivated the Safety Critical Systems Club to produce a guide to the types of evidence that should be included in an assurance argument. The guide is focussed on Artificial Intelligence (AI) and Machine Learning (ML). AI and ML are considered to represent the greatest assurance challenges; they are also expected to be widely used.

The guide has been produced by specialists from industry, government agencies and academia from around the UK who came together to form the Safety of Autonomous Systems Working Group. With a wide variety of backgrounds and sectors, these volunteers have produced an open, generally applicable guide for any sector from aerospace, through automotive and maritime to medical devices and beyond. The guide is equally applicable to both physical as well as data driven systems. It is not tied to any specific development approach, system lifecycle or safety argument structure. It fits with safety argumentation for other aspects of systems as allows accepted practice to be used for these non-AI aspects. It objectively justifies what has been written backed up by good references which means it is a sound basis from which to work.



The guide is easily accessible being broken down into 3 frameworks, covering a total of 45 objectives. Each objective is accompanied by a discussion that illustrates how the objective contributes to autonomous system safety. The discussion is followed by examples of approaches that could be taken to satisfy, or partially satisfy, the objective. A user, either individual or organisational, is therefore expected to be able to rely on their own knowledge, skill and judgement when making use of the guide.

There are a number of other initiatives around the globe attempting to address the safety of autonomous systems. This guide, now being used to support safety case development on various systems, is open and sector agnostic; it gives generic guidance for informed developers to use based upon sound rationale. This document therefore represents world leading, industrially relevant guidance and use of this document as part of a wider safety management process, is highly recommended for all users. Development of the guide is continuing, to reflect experience gained from its application and to address developments in the field of autonomous systems. Feedback that supports this development is welcomed.

The document can be obtained from: Amazon: <https://www.amazon.co.uk/dp/165402905X/> or from the Safety Critical Systems Club: <https://scsc.uk/scsc-153A>.