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Risk Engineering and the HoRAM Method: A paradigm Shift

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As complexity and uncertainty increase, the use of scenarios to exploring that uncertainty becomes essential to support decision makers. Yet, to respond to that need, a paradigm shift from traditional, “paper and pencil” approaches (albeit supported by complex software) toward simulation-based approaches is needed, not least because the cognitive demand required to envisage all possible alternatives a decision might entail, has become too high to manage for the human mind. The practical need is both to unburden analysts from the cumbersome task of manually deriving scenarios and allow for scenarios to be properly managed. In this talk, it will be presented how the Holistic Risk Analysis and Modelling (HoRAM) method (patent pending), by leveraging on (logic-based) artificial intelligence, allows both to generate all possible scenarios associated with a decision and to calculate and represent the risk profile associated to them, even without the need of statistically significant data (i.e., even with qualitative data elicited through interviews). Further, HoRAM, which is applied through the cloud-based Klarisk :registered: platform, allows to identify and prioritise the criticalities associated with the analysed decision (whatever it might be) on the basis of their contribution to the overall risk and, most of all, to compare and verify (before they are applied) the goodness of the different alternatives, thus increasing the capability to search for the best risk strategies.