

SSEI Research Task Summary – T25

Task Number: SSEI/T25

Lead Delivery Organisation : BAE Systems Ael

Project Title : ALARP Verification Assessment Modelling

Research Theme : *Management of Software Systems Projects*

Version : 2



Objective of Work (why are we doing it ?)

Def Stan 00-56 mandates “Where possible, the objective evidence provided shall be commensurate with the potential risk posed by the system, the complexity of the system and the unfamiliarity of the circumstances involved.”

This objective is easy to state, but hard to satisfy, as it is often difficult to assess the value of evidence collection, prior to carrying out the work. This task will address this problem by developing “proof of concept” models that predict and provide objective evidence of the assurance value of verification techniques (both dynamic and static) for software dependent systems, with the aim to assist MOD with “as low as reasonably practicable” (ALARP) decisions where legacy software is used or where civil standards are applied.

Nature of Work (what is it?)

This research will involve the compilation and analysis of existing project data, along with the evaluation of relevant existing models (including cost models and CBA (Cost Benefit Analysis) Models). It will assess data from recent defence and civil projects, including several major aerospace projects.

If the purchase and adaptation of an existing model is not practical the study will develop a new model.

The “proof of concept” ALARP verification model(s) will be demonstrated to the key stakeholders before being verified and refined against existing MOD projects.

Outcomes (what will it produce/has it produced ?)

- Report on the underlying data and specification for one or more ALARP verification models
- Report on the selection and evaluation of potential ALARP verification model(s)
- Report and “proof of concept” demonstrations of the ALARP verification model(s)
- Evaluation report of the ALARP model(s) against suitable MOD projects and existing MOD Cost Benefit Analysis processes.

Timescales 13 month task, November 2009 to November 2010

Partners

Related Work SSEI/T6, SSEI/T22

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