

CONSENT FORM

APPROACHES TO EVALUATING THE COMPLEXITY OF AN ENGINEERED SYSTEM

Project Outline:

I am conducting a research project as part of a PhD in Aerospace Engineering at the University of Bristol. I would like to invite you to take part in this project as you are actively engaged in evaluation of engineered systems. If you would like to take part in the project, you will either be given: (i) an existing decision-support tool that has been in use for several years, or (ii) a newly developed decision-support tool, or (iii) no decision-support tool. For (i) and (ii) you will be provided the decision-support tool itself and a user guide, designed to help evaluate the complexity of an engineered system. For (iii) you will not be given a decision-support tool but will be provided additional background information about evaluating the complexity of a system. You will not know which tool you will be given ahead of time. However, at the end of the project, you will be given a copy of all three approaches used here.

The purpose of this project is to examine your thoughts on evaluating system complexity, complexity evaluation and systems development. It is about letting you express your perspectives, opinions and understanding in your own terms.

A virtual, collaborative workshop will be arranged at a mutually convenient time and date with three other participants of the research project and a facilitator.

During this virtual workshop, you will be asked to individually complete an electronic survey concerning your judgements on the importance of evaluating the complexity of an engineered system. You will then be asked, as a group, to evaluate the complexity of a fictitious engineered system using the decision-support tool, or additional information, provided to you earlier. After this exercise, you will be asked to repeat the same survey. Finally, you will be asked to arrange a separate one-on-one interview with the facilitator to discuss your opinions on the utility of the decision-support tool, or approach, that you used.

In total, this project should take around 3.5 hours of your time. This includes up to 30 minutes of pre-reading, a 2.5-hour virtual workshop, and up to 30 minutes of one-on-one interview.

Your responses to the survey will be anonymised. The virtual workshop and one-on-one interviews will be audio recorded via Skype. The audio recordings will be transcribed and redacted to preserve your anonymity. The audio recording will then be deleted. Your responses to this research project will be kept confidential and I will protect your identity by referring to anything you say with a number, and only I will have access to the translation from your identity to your number. Your identity will never be disclosed. Anonymous survey responses, anonymous workshop audio transcriptions, and anonymous one-on-one interviews will be published as open data in the University of Bristol data repository and stored in accordance with the UK Research Council Data Management Guidelines for 10 years. The data captured from this research project are stored in an encrypted folder within a University of Bristol filestore. The study protocol was approved by the University of Bristol Ethics Committee on the 2nd of July 20 (Application ID 105925).

You do not need to take part in this interview and your participation is entirely voluntary. You do not need to discuss anything with me or a group that you are uncomfortable with and you can terminate your involvement in the project (withdraw consent) at any time without having to give a reason. However, if you wish to withdraw at a later date please note that once the data has been anonymised and analysed your data cannot be withdrawn.

If you have any questions at this stage please contact me using the details above. If you are willing to proceed and participate in this project please confirm by answering the questions on the next page and signing to give your consent.

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Please answer the following questions to the best of your knowledge

| | YES | NO |
|--|--------------------------|--------------------------|
| HAVE YOU: | | |
| • been given information explaining about the study? | <input type="checkbox"/> | <input type="checkbox"/> |
| • had an opportunity to ask questions and discuss this study? | <input type="checkbox"/> | <input type="checkbox"/> |
| • received satisfactory answers to all questions you asked? | <input type="checkbox"/> | <input type="checkbox"/> |
| • received enough information about the study for you to make a decision about your participation? | <input type="checkbox"/> | <input type="checkbox"/> |

DO YOU UNDERSTAND:

That you are free to withdraw from the study and free to withdraw your data prior to final consent

- | | | |
|--|--------------------------|--------------------------|
| • at any time? | <input type="checkbox"/> | <input type="checkbox"/> |
| • without having to give a reason for withdrawing? | <input type="checkbox"/> | <input type="checkbox"/> |

I hereby fully and freely consent to my participation in this study

Participant's signature: _____ Date: _____

Name in BLOCK Letters: _____

If you have any concerns related to your participation in this study please direct them to the Faculty of Engineering Research Ethics Committee, via Liam McKervey, Research Governance and Ethics Officer (Tel: 0117 331 7472 email:Liam.McKervey@bristol.ac.uk

