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European Safety and Reliability Conference

[esrel2021.org](http://esrel2021.org)

**CALL FOR ABSTRACTS**

## **Special session on *Reliability and Maintenance of Networked Systems***

### **Description**

*In reliability engineering, significant advancement has been made for the modelling of complex systems. Amongst them, the challenging issues of stochasticity, heterogeneity, dependency have been effectively addressed. It improves the performance of estimating reliability and optimizing maintenance in systems, such as production line, infrastructure system, and power system, etc. Currently, some networked systems, such as 5G telecommunication system, health care system, should also bring to attention due to their significance and high requirement of reliability. How to effectively estimate their reliability and optimize their maintenance policy for such networked systems are still open questions.*

### **Motivation**

*With technology development, new systems such as 5G telecommunication, blockchain have become the backbone for supporting contemporary society. Their reliability is often a matter of stability and security for regions. Furthermore, during the pandemic, health care and vaccine distribution system are critical infrastructures to fight against the COVID19, which also has a low tolerance for disruption. Could*

*reliability engineering provide effective solutions for such types of networked systems is a new and important question that to be answered.*

### **Objective**

*This section aims to invite researchers to share their successful experience and knowledge on the modelling of the reliability and maintenance of practical systems. Innovative approaches to addressing these issues in the context of networked systems, such as the 5G telecommunication system, the health care system, are preferred. A list of related candidate topics includes but not limited to:*

- *Reliability assessment for telecommunication systems*
- *Risk analysis for health care systems*
- *Risk analysis in hierarchical networks*
- *Modelling of degradation for practical networked systems*
- *Predictive maintenance for networked systems*
- *Maintenance optimization for networks*

### **Organizer**

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The validation of the special sessions will be done under the responsibility of the technical and scientific committee. Organizers are invited to provide a list of reviewers that may be supplemented by TC members to ensure consistency in the evaluation process.