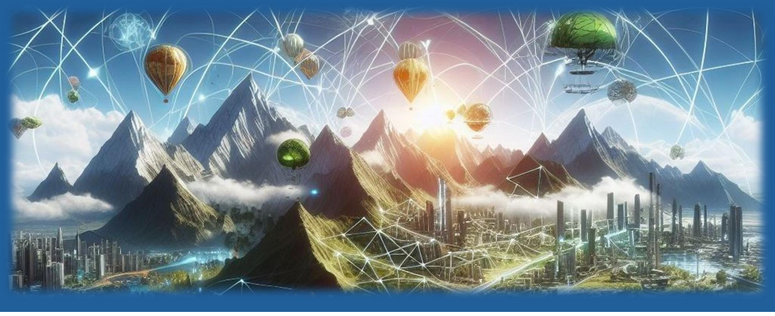

Futures for Interlinked CNI Computing

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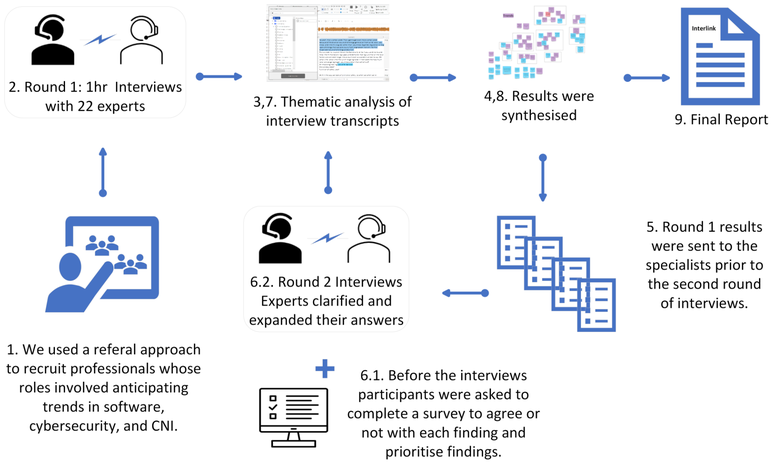
Project Aim

We look at new advances in interconnected computing technology, and identify issues related to UK national interests and Critical National Infrastructure, both home and abroad, from 2023 to 2040. We address the following question:

What effect may change in the nature and use of software systems between now and 2040 have on the potential for major incidents related to UK Critical National Infrastructure (CNI), especially as related to the Civil Nuclear, Communications, Energy and Health sectors?

Methodology

An exploratory Delphi-style method.



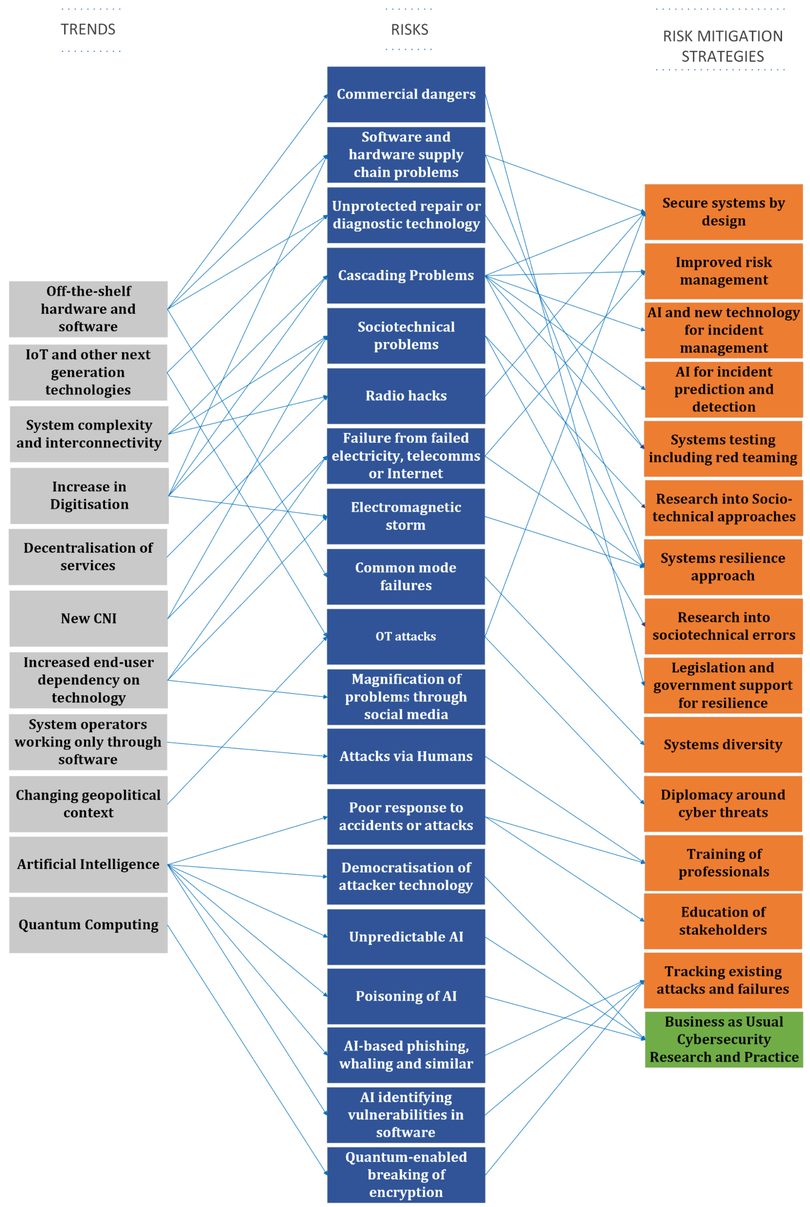
Nature of CNI

From the data we collected we identified the following insights into the nature of CNI which provide context to our results.

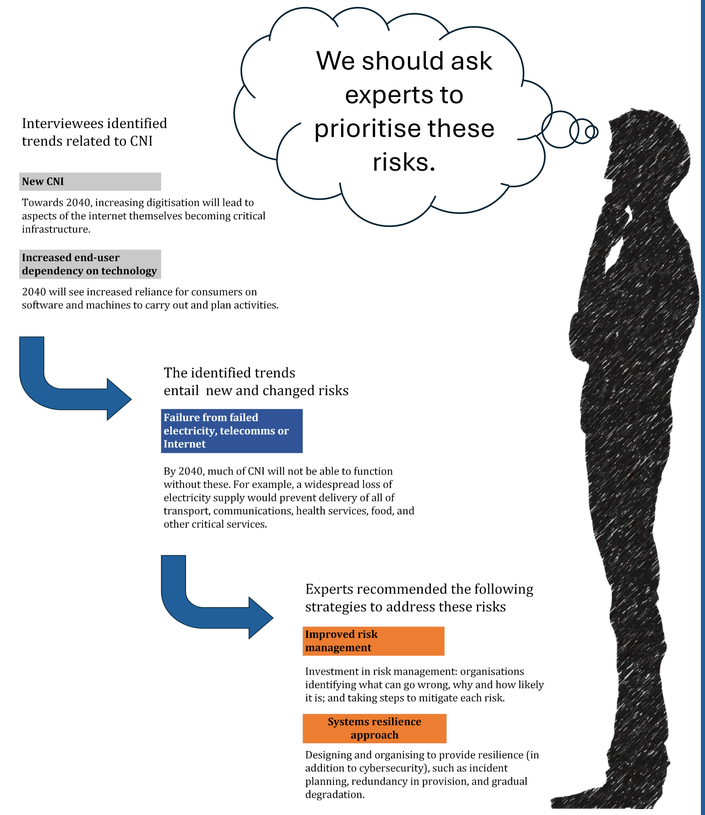
Definition of CNI	Services in 13 sectors where threats include *major* loss of life, casualties, economic or social impacts; or impact on national security or state functioning.
Commercial Drivers	CNI are operated by public and private sector organizations; industry's commercial, innovative visions will influence CNI technology strategies and their implementation.
Longevity of Software	Much of the software used in CNI is long lived: up to many decades. It is hard to preserve developer knowledge over those timeframes.
Only Respond to Regulation	Organisations in highly regulated sectors, such as nuclear, energy and health, tend not to be proactive, but wait for regulation to define their response to risk.

Round 1 Results

Lists of Trends, Risks, and Risk Mitigation Strategies were identified by the interviewees. The relationships between them were also outlined. The arrows show which risks arise from each trend, and which approaches were identified as addressing each risk. Trends, Risks and Risk Mitigation Strategies are presented in no particular order.



Sample from our Data Analysis



Share with us: What technological Trends do you envision coming by 2040 and what would be the most important Risks and Risk Mitigation Strategies?

Next Steps

We are analysing results from round 2. We asked participants to prioritise and provide their views for each Trend, Risk and Risk Mitigation Strategy identified in Round 1 and explain their reasons.

A report will be released in Sept 2024. You will find a copy on our website:
https://www.lancaster.ac.uk/interlinked/

In-person Interlinked Futures Workshop planned for September.