

Implementing Cyber Security tools and/or techniques in local road and railway transportation systems

Literature Review	<p><u>What are Modern technologies</u></p> <p>Connected and autonomous vehicles (CAVs)</p> <p>Mobility as a Service (MaaS)</p> <p>Autonomous vehicle location</p> <p>Traffic signal control systems</p> <p>Passenger counters</p>	<p><u>Why we they are useful today</u></p> <p>Increased ridership</p> <p>Rider satisfaction</p> <p>Improved fleet management</p> <p>Easily accessible fare payments</p>	<p><u>Research Gap</u></p> <p>Existing reports in Denmark have focused only on threat assessment & public policies and practices</p>	<p><u>Security Considerations</u></p> <p>Data Privacy</p> <p>Ownership of data</p> <p>Maliciously manipulating traffic control systems</p> <p>Commit crimes, anonymising the offender</p> <p>Challenges of different manufactures having different architectures and components</p> <p>Many stakeholders, with lack of shared accountabilities</p> <p>How to maintain high confidence placed on government safegurding public</p>
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So what are you going to achieve in your research and why?

Issues in the Literature Review

Broad scope and difficulty in focusing on a topic that can be evaluated in depth given the time constraint for the research

What's Next Action?

Research Proposal	<p><u>Narrow the topic to -></u></p> <p><i>Based on recent (past six years) research, a technology that meets most of the following criteria</i></p> <p>What was the most regualry discussed technological transformation?</p> <p>What technology tend to have unanswered/ fully analysed cyber security considerations?</p> <p>What technology tend to create ethical considerations regards to implementations?</p> <p>What technology can be considered as a technology still in the transformation stages, not yet reached to its full potential?</p> <p>What technology plays the core role for other technologies to operate within the transportation system?</p>	<p>MaaS</p> <p>CAVs</p> <p>Traffic signal control systems</p> <p>CAVs</p> <p>Traffic signal control systems</p> <p>MaaS</p> <p>CAVs</p> <p>CAVs</p> <p>CAVs</p>
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CAVs : Motivation ->

Denmark is at the forefront of combining intelligent autonomous transport technology

CAVs at the core of the technology transformation and it is connected to other technologies

CAVs have high cyber security concerns - > privacy, regulations & cyber security

Place the user at the heart of the technological adaptation.

High public trust is crucial in Danish society, pressing need to maintain a public and political perspective alignment

<p><u>CAVs : What are the most recent works of literature, and what questions were addressed?</u></p> <p>Public perception of CAVs</p> <p>Factors determining the public perception including demographical factors</p> <p>Ethical consideration of using AI in decision making</p>	<p><u>CAVs : Research Gaps in the existing literature concerning the technological implementation in Denmark?</u></p> <p>Existing reports in Denmark have focused only on threat assessment & public policies and practices</p> <p>Who should have final governance on AI ethics?</p> <p>Will AI lead to questioning the human decision-making process and impact on society and its norm in long run?</p> <p>Limited understanding of the public perception in Denmark</p> <p>Will the perception varies based on demographical factors in Denmark and why?</p>
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So what do you want to achieve in the current research?

<p><u>Purpose -></u></p> <p>Danish Society's point of view on CAVs</p>	<p><u>Objectives -></u></p> <p>O1 Reasons for using CAVs</p> <p>O2 The Danish society’s perception on rules and ethics governing CAVs</p> <p>O3 The Danish society’s perception on privacy and cyber security around CA technology</p> <p>O4 How the danish society's view it will impact norms of future society?</p> <p>O5 Will the perception varies based on demographical factors in Denmark and why?</p>
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So what methodology to be used to collect data?

Is it deductive or inductive ?

Most likely to be a mixed method.

Q5: Most precise nature of impact of demographical facturs demands more of a sequential set of facts know to be confirming through quantitative methods.

O1- O4: Understanding the danish society's perception and view requires qualitative methods to create general observation followed by an idea that could explain what has been seen.

What research questions are you planning to address based on objectives

Most concerning facts around connected and autonomous technology -> O1 - O3

Will the perception varies based on demographical factors in Denmark -> Q5

How Society's perceive the implication of CAVs on shaping the norms of future society and technology -> O4

What are the best tool and techniques to gather data? And Why?

Literature Study

Literature review ->

Essential theories and basic concepts on CA technology and explain their relevance to the research work

Review existing literature to identify the most concerning facts on cCA technology

Understanding existing literature on social perception about CA technology

The outcome of the literature research -> basis for quantitative and qualitative survey

Qualitative Research

Focus groups

No, the research does not involve focus group, as the objective is not obtain the danish society's perception.

Case studies	No, the research does not involve in-depth research and study of individuals or groups
Observations	No, taking society's perception is not an observation
Surveys/polls	Yes, survey-based on closed questions to gather demographical factors and public perception based on stick yes/no answers to analyse if there is any link between demographical factors and yes/no answers
Interviews	No, time constraints will not allow interviews to be conducted

Quantitative Research

Experiments (including Observations)	No, taking society's perception is not an experiment/observation
Case studies	No, the research does not involve in-depth research and study of individuals or groups
Surveys/polls	Yes, intended use of survey-based open questioners is to elaborate intentions and intuitions

Ethical -> demographics factors, requires, the use of written consent forms signed by the participants

Scope and limitations

- Coverage of the survey to represent the danish society
- Language barriers
- Open-ended questions -> misinterpretations
- Respondents' bias

Research ProposalNew Topic : Technology on the wheel -> so what's society's view?