Flight_Automation.pptx

by

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Flight Automation and Flight Management Systems



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Introduction

- Air travel is influenced by multiple worldwide changes and technological advancement
- The transport sector requires technology to address future environmental issues and safety regulation
- The technologies are driven by innovation
- The presentation evaluates the interaction of the technologies in ensuring the safety
- Also, it examines the human power over the technologies in evading existing obstacles



Research Problem

- The technology aims to reduce human error and mitigate pilot stress and workload (Harris, 2016)
- Aviation accidents and fatalities reduced from 52 in 2019 to 38 in 2020 (IATA, 2021)
- Technology and innovation have lowered the accident rate and fatalities to 0.01 per million flight time (Amankwah-Amoah, 2020)
- Almost 73% of aircraft accidents are caused by human elements (Johari, 2018)
- Some elements of automation can lead to increased system complexity (Gilliland & Dunnavant, 2021)
- High technology adoption made it difficult for the pilot to regain control when the automated system takes control (Evjemo &Johnsen, 2019)

Data Analyzed

- Secondary sources of data were used, including publications and reports from aviation agencies
- The role of the flight management system was analyzed
- Another data is how the flight crews benefit from the system in planning routes
- How technology adoption makes it difficult for the pilot to regain control after the system take charge
- The final data analyzed is the effects of technology in causing errors and endangering lives





Results

- Automation can enhance decision support and improve flight safety
- Automation and management system can improve information exchange between air traffic and pilots
- Security can be improved by transferring expertise from aviation to other parts of the economy
- Location statistics from the aircraft can be downloaded

Recommendation

- There is a need to research the elements to avert the risks linked with flight automation and management systems
- Based on results, there is a need to confirm the limits of human and technology qualities
- Research be conducted to determine the type of competence needed in aerospace technology drivers
- Examine the safety-critical obstacles that arise when the systems interact
- Identify the benefits of including pilots and stakeholders during the implementation of systems

Conclusion

- Technology and automation systems are used to improve airline safety
- Human conduct in contemporary air transport indicates the system is not operating at peak efficiency
- The goal is to reduce human involvement through technology and automation
- Technology comes with its faults despite improving safety
- The technology and procedures should support individuals limitations concerning the pilot role

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