Re: Intial Post

by Majed Alzaabi - Monday, 19 May 2025, 7:27 PM

I enjoyed reading your reflective and nicely written essay on the place of Industry 4.0 and its evolution to Industry 5.0 in production. I loved so much the manner in which you discussed the hack on the Honda Sayama plant. It shows how automation can simplify work but, simultaneously, expose some genuine deficiencies in the ability to ensure things are well maintained.

I would like to recommend some Industry 5.0-based solutions that would assist industrial industries in minimizing these risks further and rendering their systems more flexible.

Firstly, there is one such innovative solution and that is to adopt AI and machine learning-based systems which can heal themselves. These systems are able to identify problems on their own and start fixing them without crashing the whole system (Mourtzis et al., 2021). It gives real-time incident containment. Under human supervision, this holds humans accountable and responsive.

Second, using edge computing in smart industrial networks to position data processing nearer to where it is consumed helps minimize latency and ensure business does not come to a halt even in the case of failure in a cloud service. Shi et al. (2016) reveal that decentralization facilitates data sharing throughout the entire company as well as fault tolerance.

Finally, industrial firms can guarantee that AI and automation technologies are being used responsibly by forming digital ethics committees. These cross-functional teams analyze algorithmic decision-making, privacy threats, and environmental impacts in accordance with Industry 5.0's focus on people (Floridi et al., 2018).

references:

Mourtzis, D., Vlachou, E., & Milas, N. (2021). Industrial AI in Industry 5.0: Enhancing manufacturing resilience through intelligent cyber-physical systems. Procedia CIRP, 97, 208–213. https://doi.org/10.1016/j.procir.2021.02.035

Shi, W., Cao, J., Zhang, Q., Li, Y., & Xu, L. (2016). Edge computing: Vision and challenges. IEEE Internet of Things Journal, 3(5), 637–646. https://doi.org/10.1109/JIOT.2016.2579198

Floridi, L., Cowls, J., Beltrametti, M., et al. (2018). AI4People—An ethical framework for a good AI society: Opportunities, risks, principles, and recommendations. Minds and Machines, 28(4), 689–707. https://doi.org/10.1007/s11023-018-9482-5

**Majed ALzaabi: Peer Response**

by [Majed Alzaabi](https://www.my-course.co.uk/user/view.php?id=26258&course=13458) - Sunday, 18 May 2025, 8:45 PM

Hi Mohammed  
Your elaboration on the FedEx TNT Express case was very intuitive, it is a very formidable example of how digital reliance in logistics, a hallmark of Industry 4.0, can introduce serious vulnerabilities, you’ve accurately highlighted how real-time tracking, and predictive analytics offer significant advantages, but also create systemic risk when infrastructure is compromised.  
To expand on your reflection Id, suggest some Industry 5.0 solutions that could help logistics firms like FedEx become more resilient and human-centered in their digital operations.  
One effective strategy is the implementation of AI-powered cybersecurity with human-in-the-loop design. While automation can detect threats faster than human, critical security responses should still involve human oversight to avoid false positives overreactions. This hybrid approach strengthens threat response while maintaining accountability (Fei Tao, 2019); another type of Industry 5.0 solution is to create digital twins’ replicas of logistic systems which could simulate network vulnerabilities and stress-test cyber resilience in the event of cyber disruption (Sara Saberi, 2018 ).  
These solutions align with Industry 5.0’s principles of resilience, human overs and sustainable innovation, helping logistics firms not only recover from failures but anticipate and prevent them.  
  
References  
Fei Tao. (2019, April 4). Digital Twin in Industry: State-of-the-Art. Retrieved from IEEE Xplore: https://ieeexplore.ieee.org/document/8477101  
Sara Saberi. (2018 , October 17). Blockchain technology and its relationships to sustainable supply chain management. Retrieved from Taylor and francis : https://www.tandfonline.com/doi/full/10.1080/00207543.2018.1533261

**In reply to Shaikah Salim Mohammed Alkhaayyal Alharthi**

**peer response: Shaikha initial post**

by [Majed Alzaabi](https://www.my-course.co.uk/user/view.php?id=26258&course=13458) - Sunday, 18 May 2025, 8:07 PM

Hello Shaika, First, would like to embrace your well-structured and informative post on the British airways IT meltdown, you’ve clearly illustrated the aviation sector’s adoption of industry 4.0 technologies boosting efficiency, can also reveal critical weakness when resilience planning and infrastructure enhancements are overlooked. To advance the research, I would advise a couple more Industry 5.0 strategies the aviation industry could apply to prevent such great disasters. Industry 5.0 offers several forward-looking concepts to increase resilience in the aviation sector.

Robust artificial intelligence systems with integrated anomaly detection and adaptive failover provide continuous IT monitoring and rapid recovery during failures, therefore keeping human operations informed. In Addition, performing unified ethical governance framework across departments promotes accountability through regular audits of automation, data security and human-machine interactions (Luciano Floridi, 2018), Finally, augmented reality simulation training enables staff to collaboratively rehearse emergency scenarios, strengthening preparedness and reducing human error during real-world disruptions (Bruno Alencar Pereira , 2021).

Your Post effectively emphasizes that the future of aviation lies not just in automation but in creating human-centered, ethically responsible and resilient systems.

 Refrences

 Bruno Alencar Pereira . (2021, July 10). *Innovation and value creation in the context of aviation: a Systematic Literature Review*. Retrieved from ScienceDirect: https://www.sciencedirect.com/science/article/abs/pii/S0969699721000594?via%3Dihub

Luciano Floridi. (2018, November 26). *AI4People—An Ethical Framework for a Good AI Society: Opportunities, Risks, Principles, and Recommendations*. Retrieved from SPRINGER NATURE: https://link.springer.com/article/10.1007/s11023-018-9482-5