



P/19 Agenda Item 5
U.S. Transportation Security
Administration
Use Cases for Artificial Intelligence and
Machine Learning Applications
(WP/20)

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Governance and Use of Artificial Intelligence (AI) and Machine Learning (ML)

Governance Involves...

- Established Legal and Policy Framework
- Promote Transparency and Accountability
- Manage Risks
 - Clear objectives, assigned responsibilities, and rigorous oversight
- Monitor and Test
 - Performance, bias, and compliance
 - Use high quality synthetic data

Use Cases Designed to...

- Strengthen Security
- Optimize Operations
- Improve the Traveler Experience
- Safeguard Privacy and Civil Rights



Use Cases of Synthetic Imaging and AI/ML Collaboration



- TSA uses synthetic data to strengthen AI/ML models, improving detection accuracy and covering rare threat scenarios.
- Advanced synthetic imaging supports enhanced screening and reduces false alarms.
- We invest in staff training and leverage AI/ML to boost operational efficiency and automate passenger flows, with human oversight for complex cases (human in the loop principle).
- AI/ML helps us detect threats faster, streamline screening, and share information quickly.
- TSA is committed to data quality, bias mitigation, and continuous improvement, ensuring our AI solutions remain secure, effective, and trusted.

Actions for the NACC/DCA



TSA encourages NACC Member States to:

- Engage your TSA Representatives with any questions or concerns related to TSA's AI/ML Use Cases and synthetic imaging initiative;
- Consider endorsing and adopting a similar aviation security approach to the use of synthetic data to support AI/ML based threat detection, in line with appropriate national and regional frameworks; and
- Contribute to ongoing efforts within ICAO to address evolving threats, especially within the Aviation Security Panel and the Cybersecurity Panel as well as their respective working groups.





