



ICAO

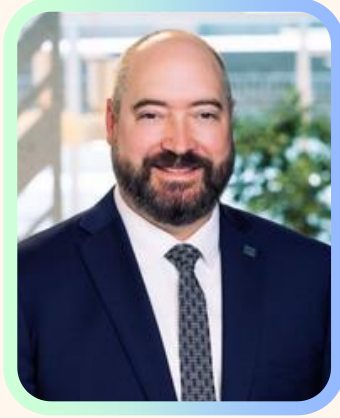


ICAO AVIATION CLIMATE WEEK 2026

MONTRÉAL, CANADA | 2 - 4 JUNE



Session 4: Infrastructure and Operations



Jonathan Bagg

Director, Stakeholder and
Industry Relations, NAV
Canada

Moderator



David Brain

ICAO Coordinator and
Environmental / Operational
Expert, EUROCONTROL



Daan van Dijk

Senior Innovator, Rotterdam
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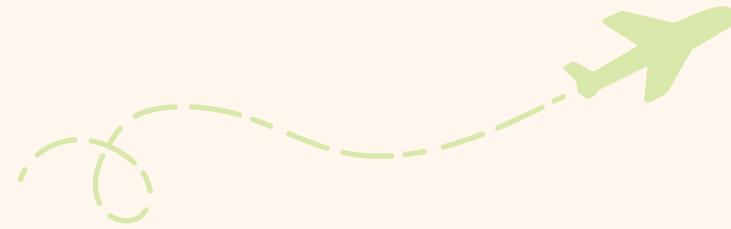


Lucas Campregher

Head of Services Strategy, New
Business and Ecosystem, Eve Air
Mobility

Session 4: Infrastructure and Operations

Snapshot of **ICAO** Progress



Deniz Kaymak

Associate Environment Officer, ICAO





AVIATION NET ZERO 2050 ROADMAPS

FOCUS ON OPERATIONAL MEASURES

Operational improvements are a critical enabler delivering immediate, scalable benefits while enabling the deployment of fuels and technologies.



KEY MESSAGE

Across all major net zero roadmaps, operational measures contribute typically **5–15%** of total emissions reduction, with significant near-term impact and co-benefits.

1 OPERATIONS CONTRIBUTION ACROSS ROADMAPS

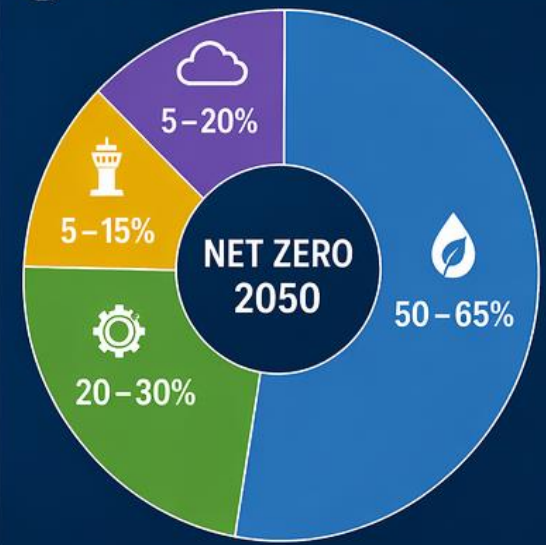
Share of total emissions reduction from operational measures



✓ Typical range **5 – 15%**
Variation driven by scope definition, baseline assumptions and modelling approaches

Note: Values represent share of total emissions reduction (not total emissions).

2 NET ZERO 2050 – TYPICAL CONTRIBUTION BY LEVER



- Sustainable Aviation Fuels (SAF)
- Aircraft Technology (New aircraft & efficiency)
- Operational Improvements (Operations)
- Market-based Measures (Offsets & others)

Ranges reflect synthesis of latest public roadmaps

3 WHAT COUNTS AS OPERATIONAL MEASURES?

AIR TRAFFIC MANAGEMENT (ATM) <ul style="list-style-type: none"> Trajectory optimisation Free route airspace Reduced holding Demand & flow management Digitalisation & automation 	AIRCRAFT OPERATIONS <ul style="list-style-type: none"> Continuous climb/descent Speed & profile optimisation Weight reduction Flight planning optimisation Minimising taxi & APU use 	AIRPORT OPERATIONS <ul style="list-style-type: none"> Taxi optimisation Gate electrification Reduced APU use Efficient ground handling Airport capacity optimisation 	EMERGING / SOMETIMES INCLUDED <ul style="list-style-type: none"> Contrail avoidance Network optimisation Load factor improvements Advanced digital / AI optimisation
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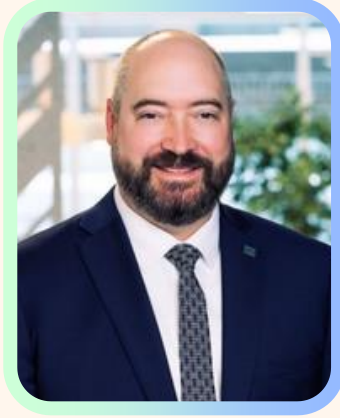
WHY CONTRIBUTION RANGES DIFFER

- Different scope: some include contrails, load factor, network effects
- Different baseline assumptions and traffic growth
- Overlap with technology/fuel efficiency in some models
- Time horizon weighting (early gains from operations)

WHY OPERATIONS MATTER	IMMEDIATE IMPACT Deliver benefits from today to 2035	GLOBAL APPLICABILITY No dependency on new technology or fuels	COST & CAPACITY BENEFITS Improves efficiency, reduces costs and supports growth	SAFETY & RESILIENCE Enhances system performance	ENABLING ROLE Unlocks greater impact from fuels and technologies
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Sources: ICAO LTAG IS3 (2022); IATA Net Zero Roadmaps (2023); ATAG Waypoint 2050 (2021); ICCT Aviation Roadmap (2021); Mission Possible Partnership (2021) and other public reports.

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Sustainable aviation at Rotterdam The Hague Airport

Learning by doing

Our ecosystem

A base for innovation



Port, university and airport

- ≈24% of Europe's demand of JET A-1 is being supplied via Rotterdam
- Delft University of Technology as Europe's premier aerospace institution

Our airport as fieldlab

A base for airport-environment tests



GH₂ taxitests



LH₂ storage facility



Hydrogen incident response





Our new airport decree

Innovation enables growth

- Ban on extra fossil fuel driven flights (status quo)
- Lowering overall absolute emissions
- Additional slots for:
 - Battery-electric
 - Hydrogen, or
 - 100% SAF flights

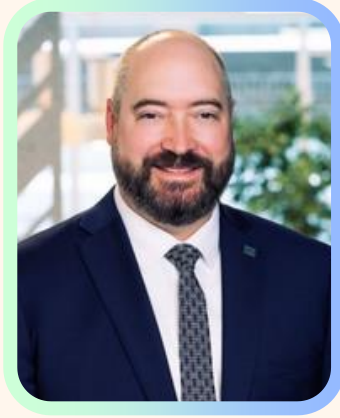
Current commercial flight movements **17.860**



Potential future flight movements **22.240**



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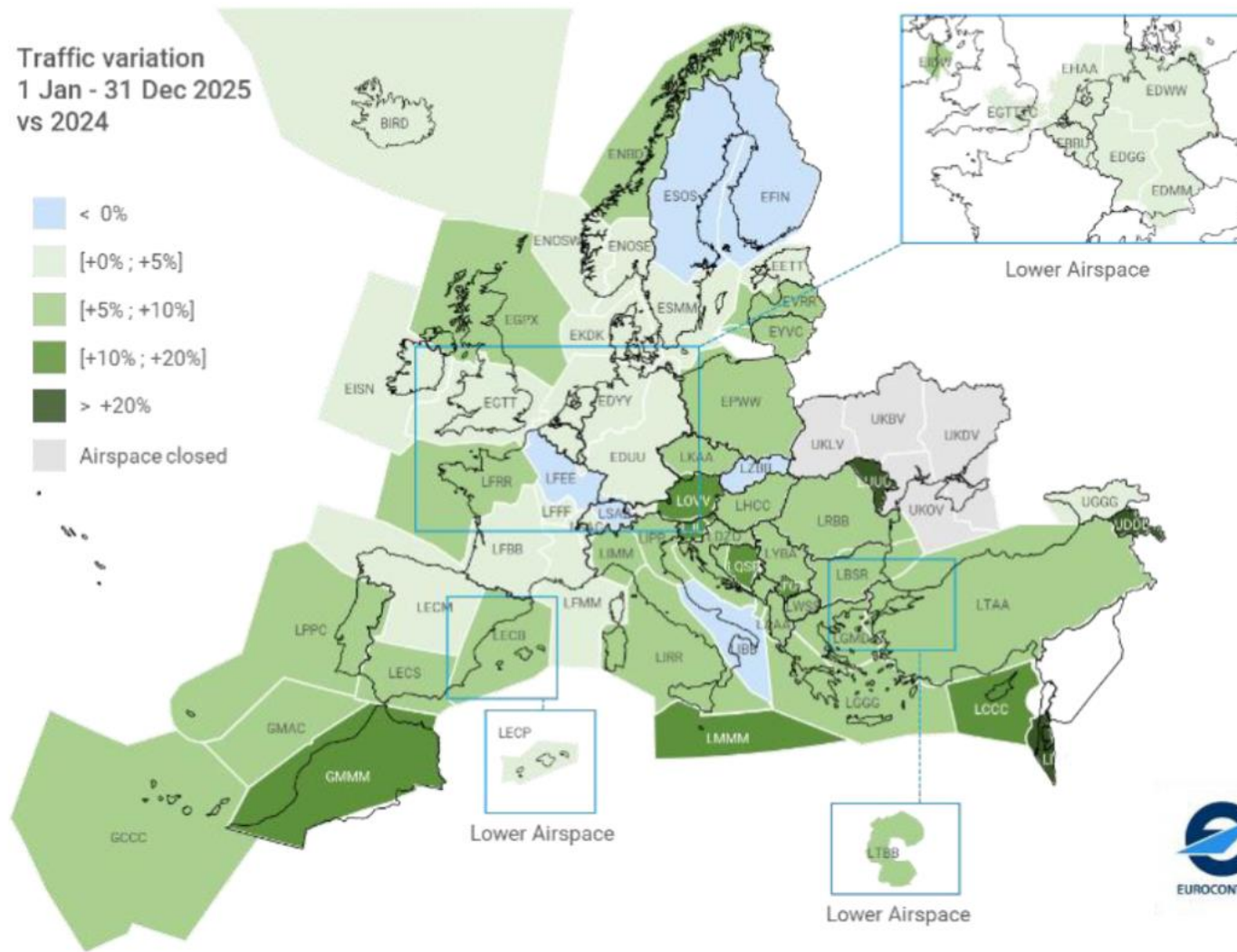


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Traffic variation
1 Jan - 31 Dec 2025
vs 2024

- < 0%
- [+0% ; +5%]
- [+5% ; +10%]
- [+10% ; +20%]
- > +20%
- Airspace closed



ICAO
CONCEPT

FF-ICE

Flight & Flow Information for
a Collaborative Environment



FF-ICE
SERVICES



INCREASED
INFORMATION
SHARING



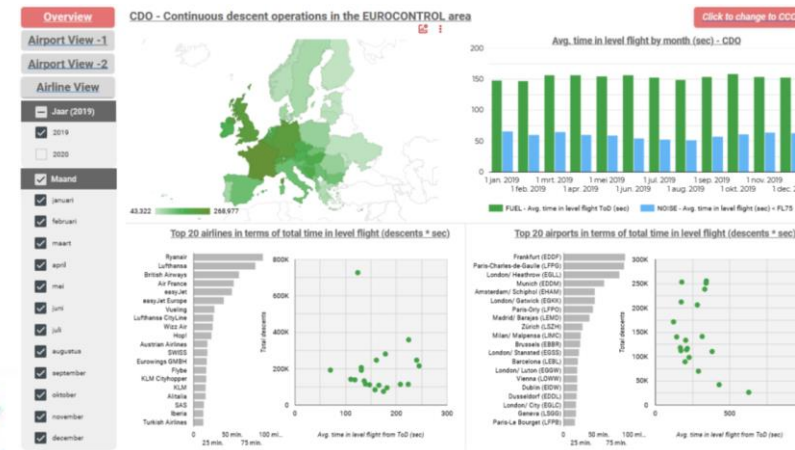
STANDARD
FORMAT

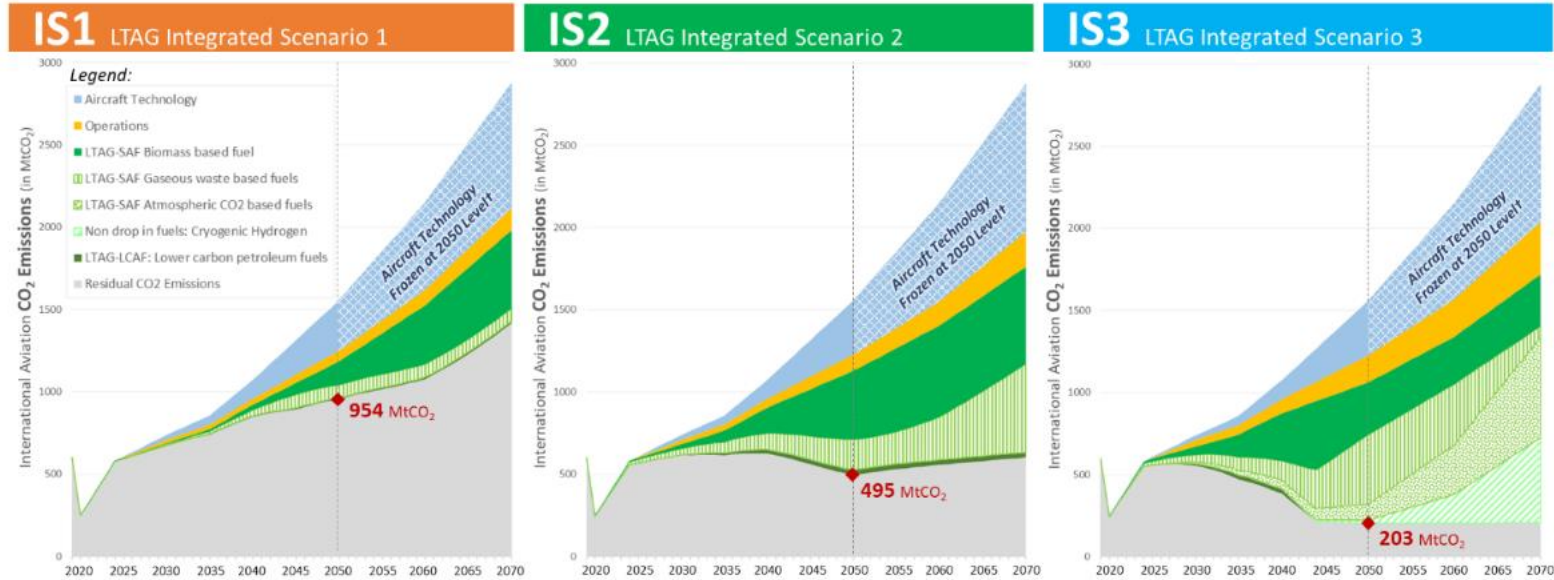


REPLACES FPL
2012



GUFU






† Caution required with the interpretation of absolute CO₂ emissions levels after 2050 due to modelling assumptions e.g., frozen aircraft technology after 2050. Under these assumptions, CO₂ emissions are higher than in an alternative scenario (and modelling approach) where aircraft technology would continue to improve after 2050.



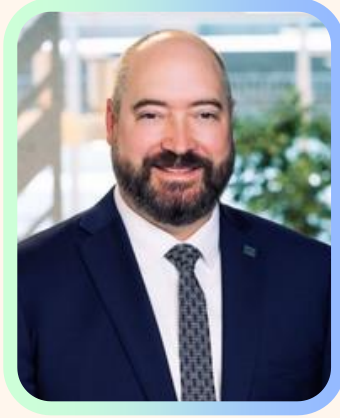
VTOL

<p>1 CL (<1000ft) CS (<100kts) RoC (<250fpm)</p> 	<p>2 CL (1000-5000ft) CS (100-200kts) RoC (500-1000fpm)</p> 	<p>3 CL (1000ft-FL100) CS (100-200kts) RoC (1000-2000fpm)</p> 
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Non-VTOL

<p>4 CL (1000-5000ft) CS (<100-200kts) FAS (60-80kts) RoC (500-1000fpm)</p> 	<p>5 CL (5000ft-FL100) CS (100-200kts) FAS (60-100kts) RoC (500-1500fpm)</p> 	<p>6 CL (FL100-FL200) CS (100-200kts) FAS (60-100kts) RoC (1000-1500fpm)</p> 	<p>7 CL (FL200-FL300) CS (200-300+kts) FAS (100-120+kts) RoC (1000-2000fpm)</p> 	<p>8 CL (FL300-FL410) CS (300+kts) FAS (100-120kts) RoC (500-1500fpm)</p> 	<p>9 CL (FL300-FL410) CS (300+kts) FAS (120+kts) RoC (2000+fpm)</p> 
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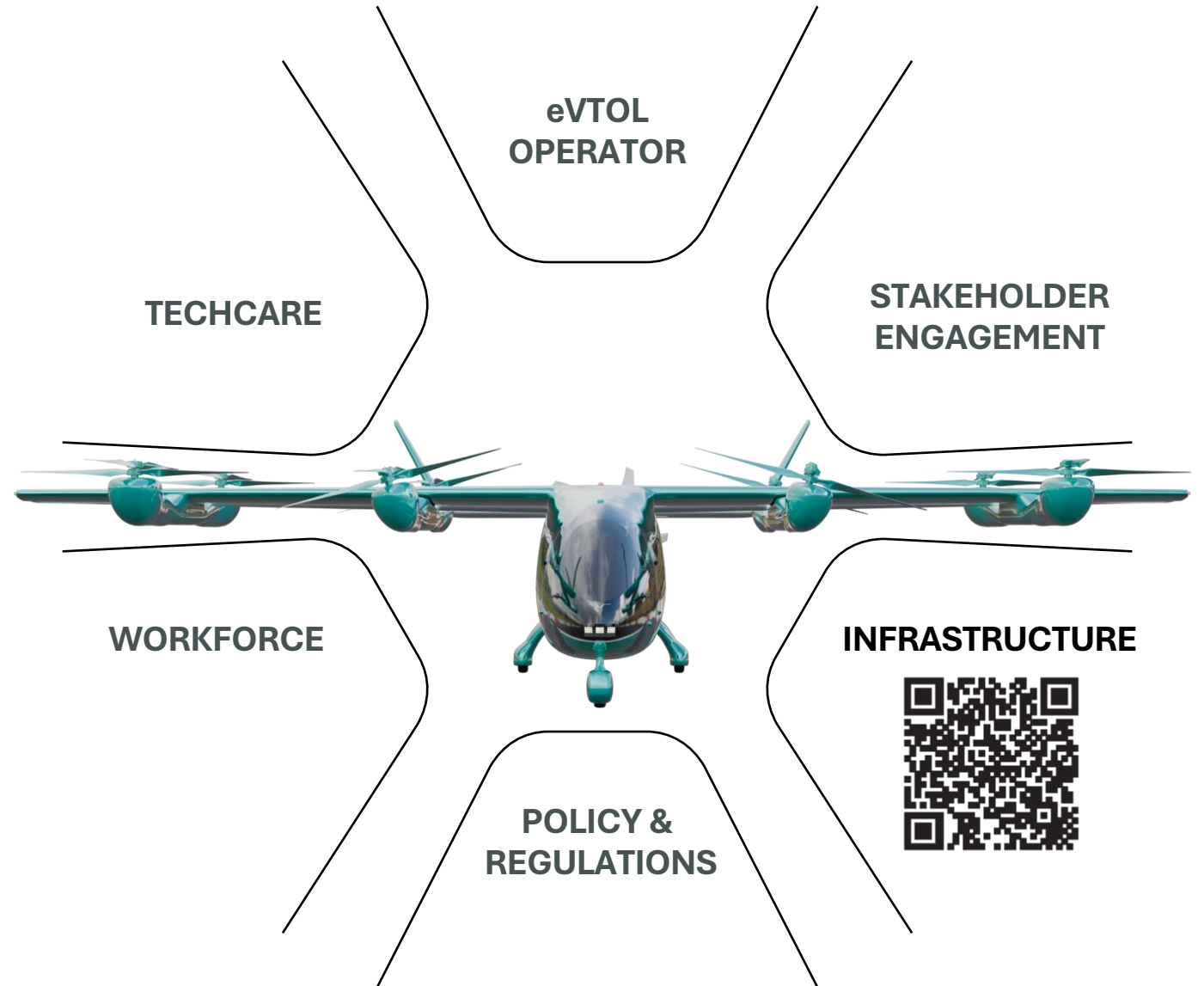
BEYOND THE AIRCRAFT

What is UAM ecosystem?

- Enables safe, efficient and scalable integration of eVTOLs in urban mobility
- Brings together technology, airspace, regulation, infrastructure and public readiness
- Requires coordinated progress and strong collaboration for sustainable adoption

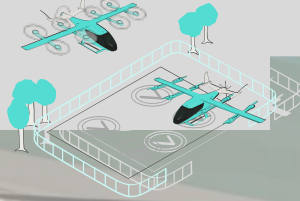
Our ecosystem approach

- Eve's agnostic approach fosters collaboration to build strong, shared urban mobility cases
- Connecting partners to unlock the full potential of UAM



MAIN CHALLENGES

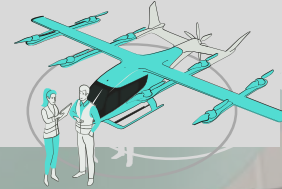
> Infrastructure
Regulatory
Framework



> Reliable
Energy Supply



> Elevated
Vertipad



> Fire Protection
Systems



> Airspace
Management



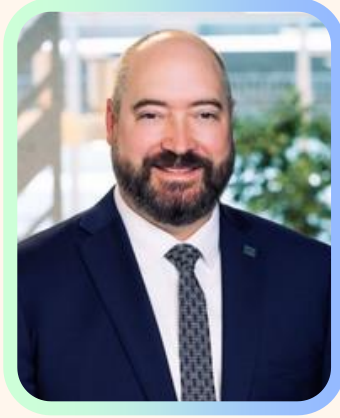
> Workforce
Training



> Government &
Industry Alignment



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Thank You

