Air Traffic Organization's

Human Performance Team

and its efforts to

Improve Safety

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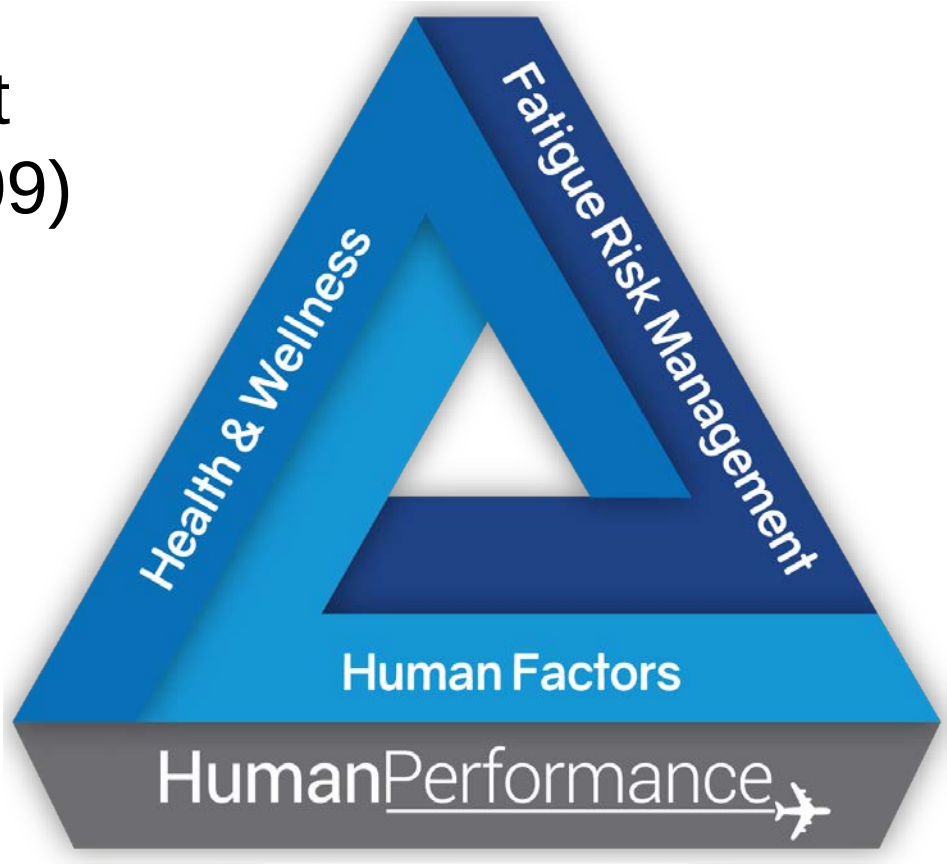
Human Performance Team

- Formally consisted of just the Fatigue Element (2009)
- Human Factors Element created in 2015
- Health and Wellness Element created in 2016



Human Performance Team

The ATO Human Performance Team is responsible for developing the tools needed to achieve *a high level of human performance in the NAS* using the science of human factors. The team identifies areas of risk before sponsoring and applying human factors research and analysis to develop mitigations.

We seek to embed human factors into the ATO.

Simply put …

Do we have the
right people

in the
right roles

with the
right information

and the
right skills

and the
right tools

and the
right role models

with the
right motivation

to do the job?

Human Performance Team Projects

- Safety Culture Awareness Survey
- HCF HP Assessment
- Visual Scan Research
- Remote Tower Support
- Runway Safety Call to Action
- Runway Safety Counsel
- Facility HF Support
- SFO Investigation
- Risk Analysis Program
- Fatigue Work Plans
- Team Resource Management
- New Controller "Survival Guide"
- ZOA Actigraph Study
- Recurrent Training Development
- IFR/VFR Assessments
- HP at the Academy
- Fatigue Safety Steering Committee
- NOTAMS 101
- Local Safety Council Support
- HP Center of Excellence
- Instructor Handbook Review
- Runway Markings, Signage, and Lighting Assessment Study
- Training Standards to Support N90 Training Program
- Training Standards to Support F11 Training Program
- Local Runway Incursion Pilot Surveys
- Safety Risk Management Panels
- Runway Safety Root Cause Analysis Tool Assessments
- Academy Training Overhaul
- Controller/Pilot Communication Awareness Videos
- Top 5 Development
- HP Training in Safety Investigations

Importance of Capturing Good Data

- **Outcomes are only as good as input**
  - RCAT, RAP Panels, Investigations, SRM
- **Sometimes information is incomplete**
- **Data collected directly informs safety analysis panels**
  - Top 5, Runway Safety Counsel, Call to Action
- **Uncertain if the current mitigations and corrective actions are *solving /can solve* the right problems**
  - Are we asking the right questions?
- **Harnessing "good data" is complex process**
  - ASAP, ATSAP, SRT Checklists, RAP, MORs
- **No one is speaking the HP same language**

Human Factors Analysis and Classification Systems (HFACS)

- A taxonomy is a scheme of classification to identify, name, or classify something
- An aviation system of classification
- Organizes concepts into an easy-to-remember framework
- Groups based on similarities
- Aids in the ability to recall and group data later for use in analysis
- Proven effective in military, commercial and general aviation safety mitigation development

AirTracs

Air Traffic Analysis and Classification System

- **Provides a framework for identifying emerging risk trends and statistically significant linkages between causal factors and errors at all levels of the NAS**
- **Shifts focus away from “Human Error” and towards the important causal and contributory factors**
- **Allows for mitigations to be targeted at key elements in the most important risk pathways**
- **Common framework allows for scalable analysis from individual events to facility-specific trends to emerging NAS-wide risk profiles**

AirTracs Taxonomy

Outside Influences

- NAS Influences from non-FAA/flight deck actor

Agency Influences

- Higher level conditions, policies, and procedures which contributed to the safety ever

Facility Influences

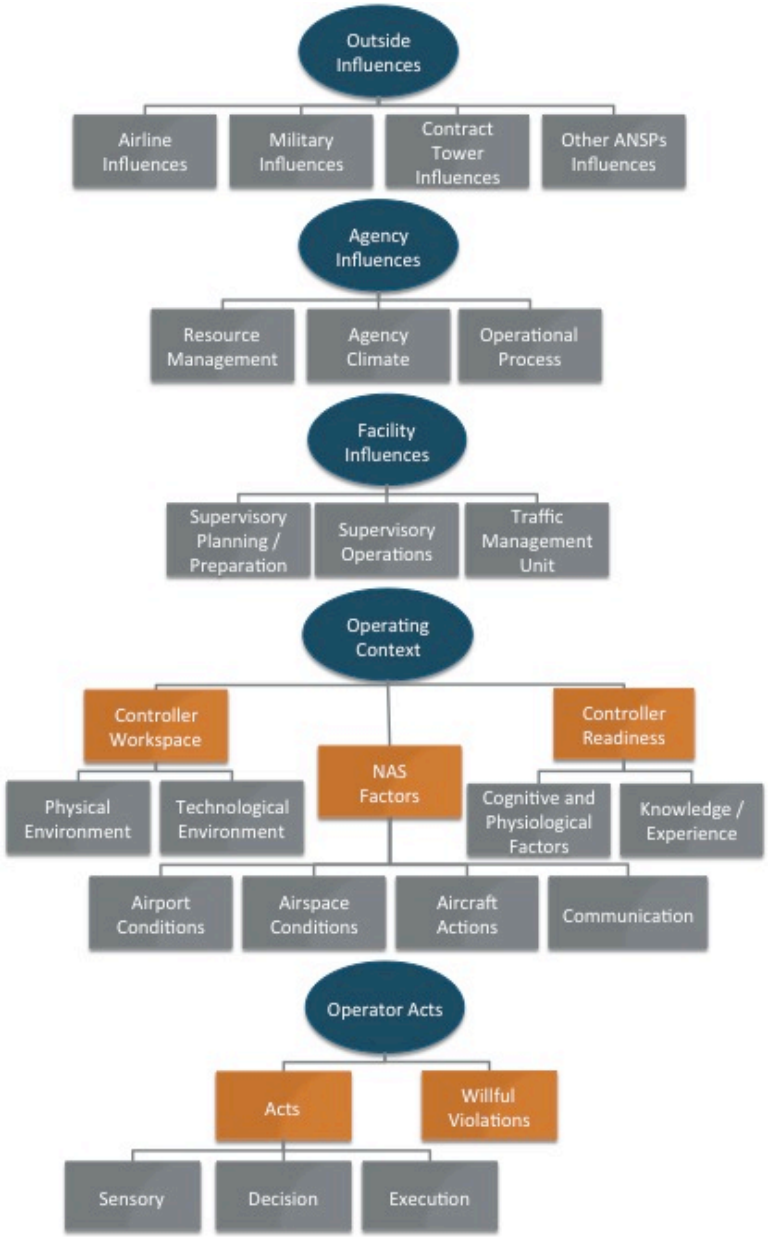
- Conditions at the facility which contributed to the safety event

Operating Context

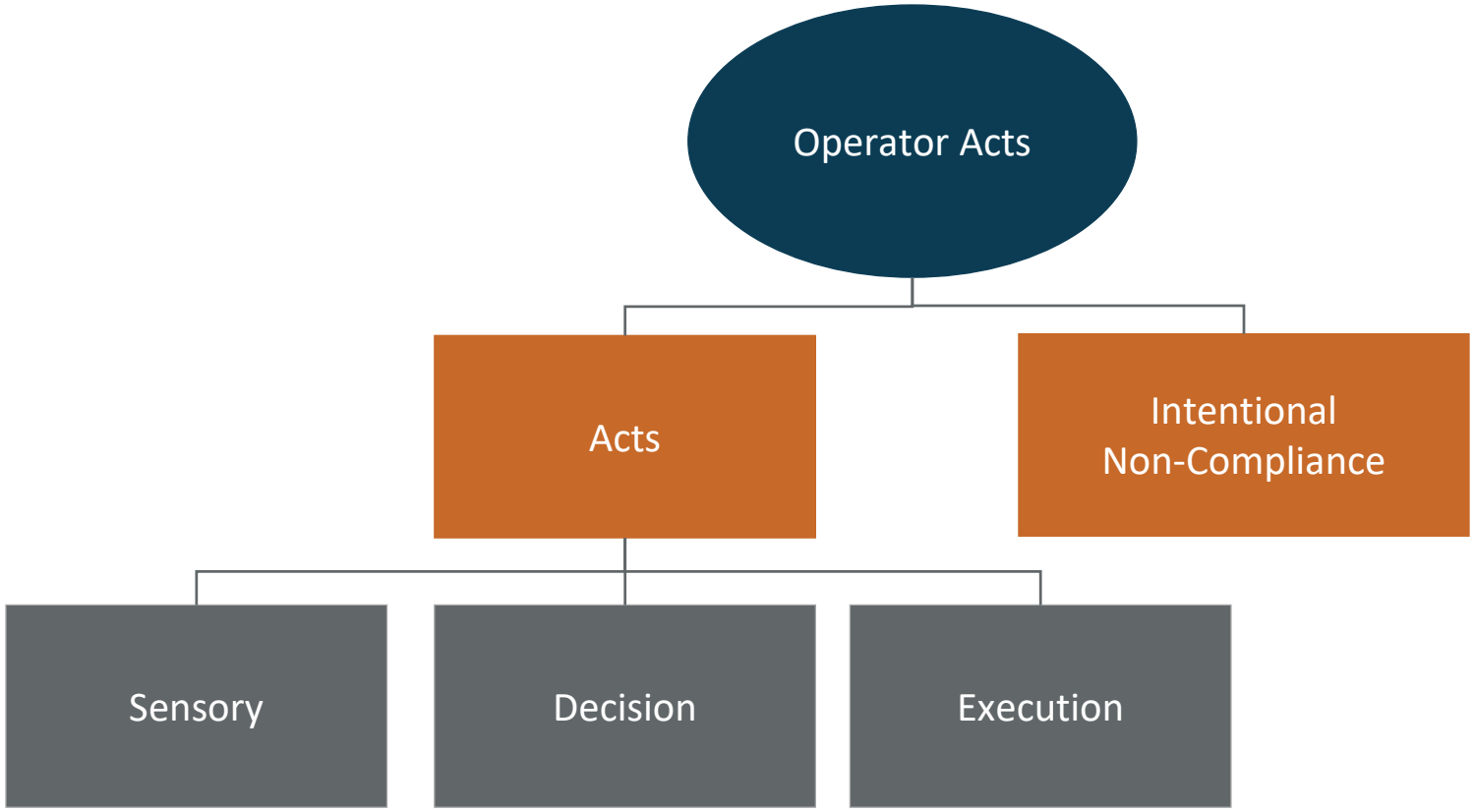
- The immediate working environment of the controller during the event

Operator Acts

- Controller actions which contributed to the safety event



AirTracs Taxonomy



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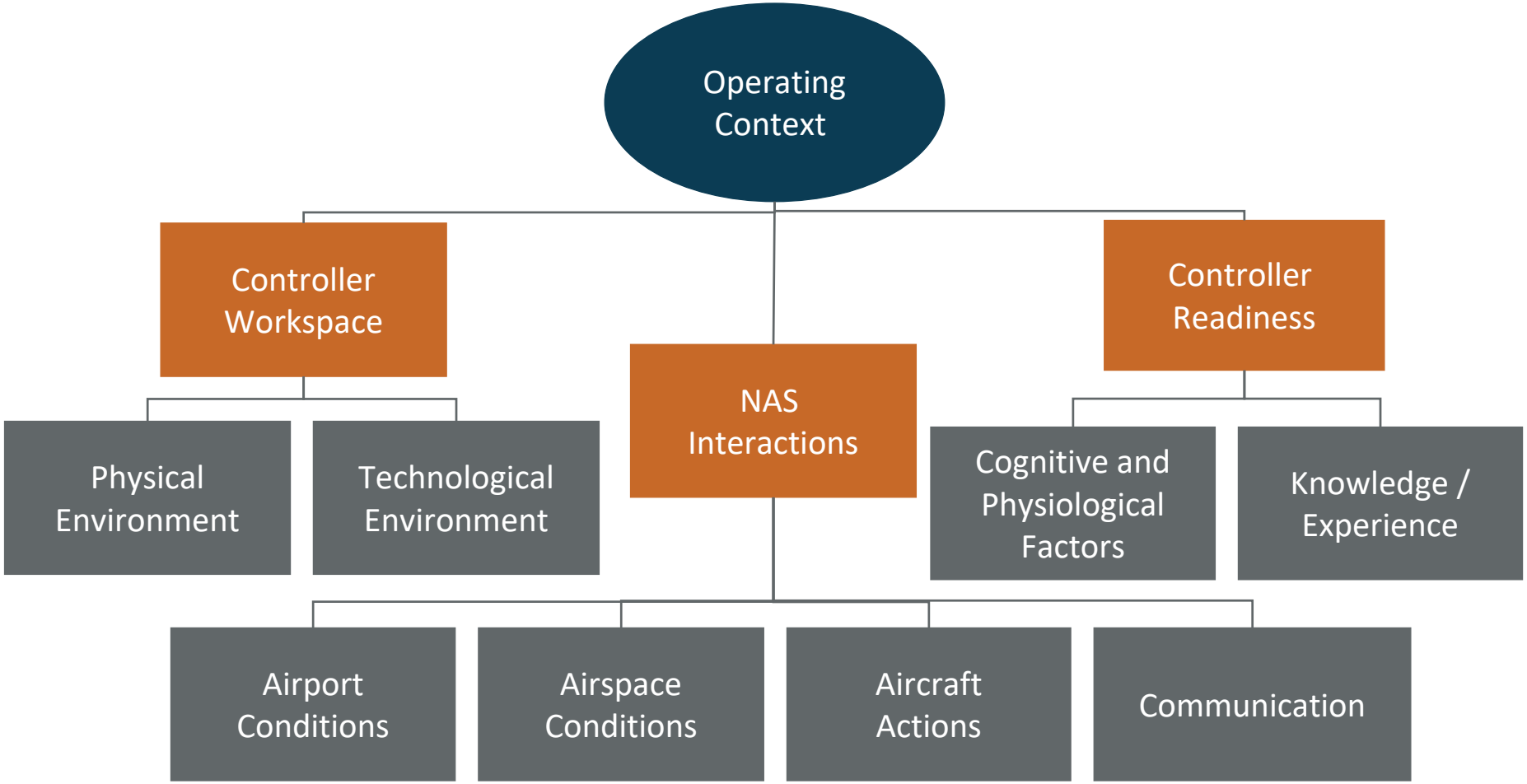

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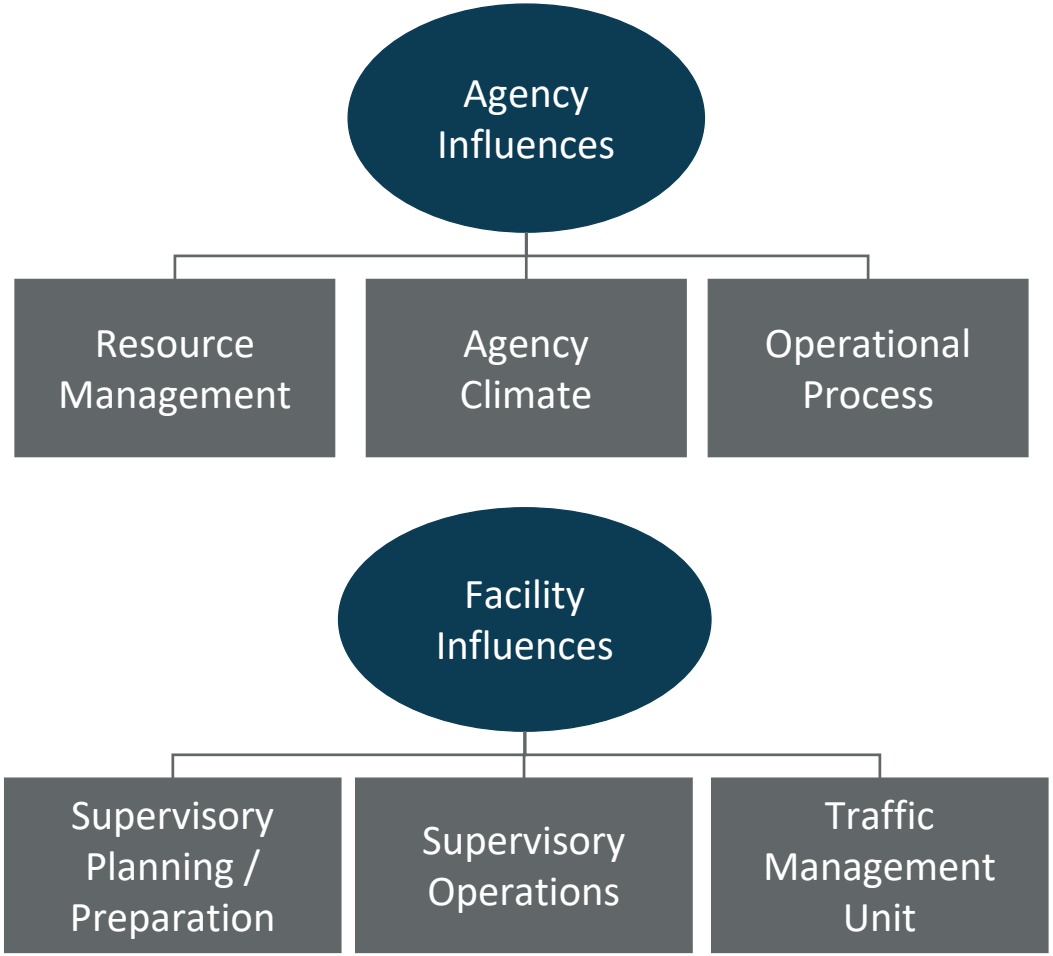

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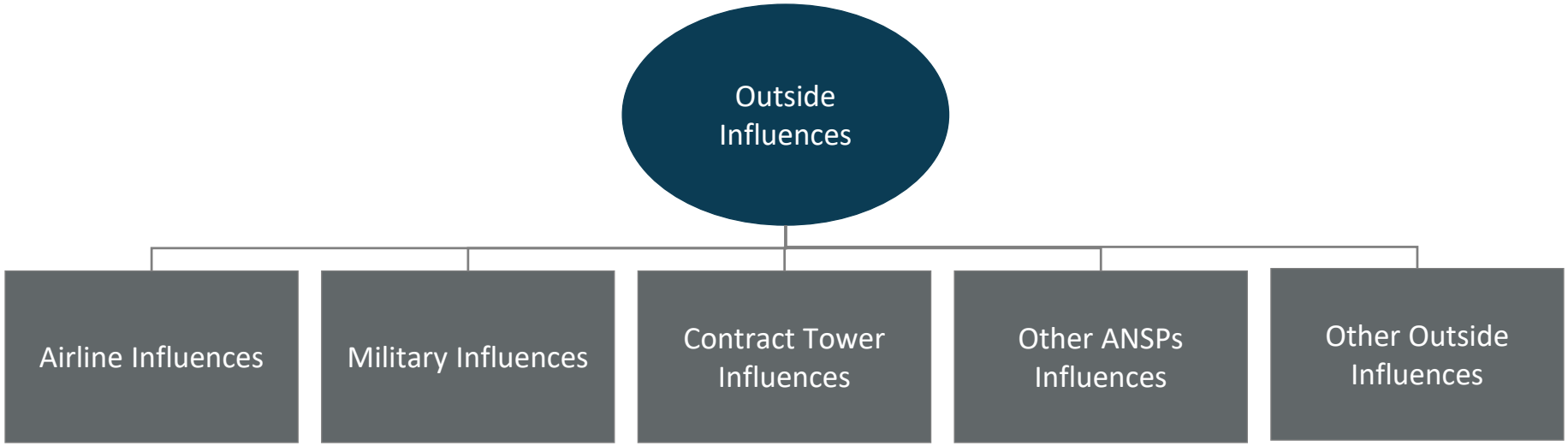

In Conclusion

The Human Performance Team is…

- **Working to familiarize systems' users with AirTracs**
- **Establishing measures to increase data accessibility**
- **Developing databases more conducive to "deep dives"**
- **Still working with the existing data to develop tactical and strategic level mitigations**
  - Recurrent training communication (hearback/readback, phraseology, concise messaging) initiatives
  - Researching effective scan techniques
  - Airport geometry, location, topography, visual aid studies

Questions ?

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Air Traffic Organization
Safety and Technical Training