

AI@Fraport:

CONNECTING THE WORLD WITH TOMORROW

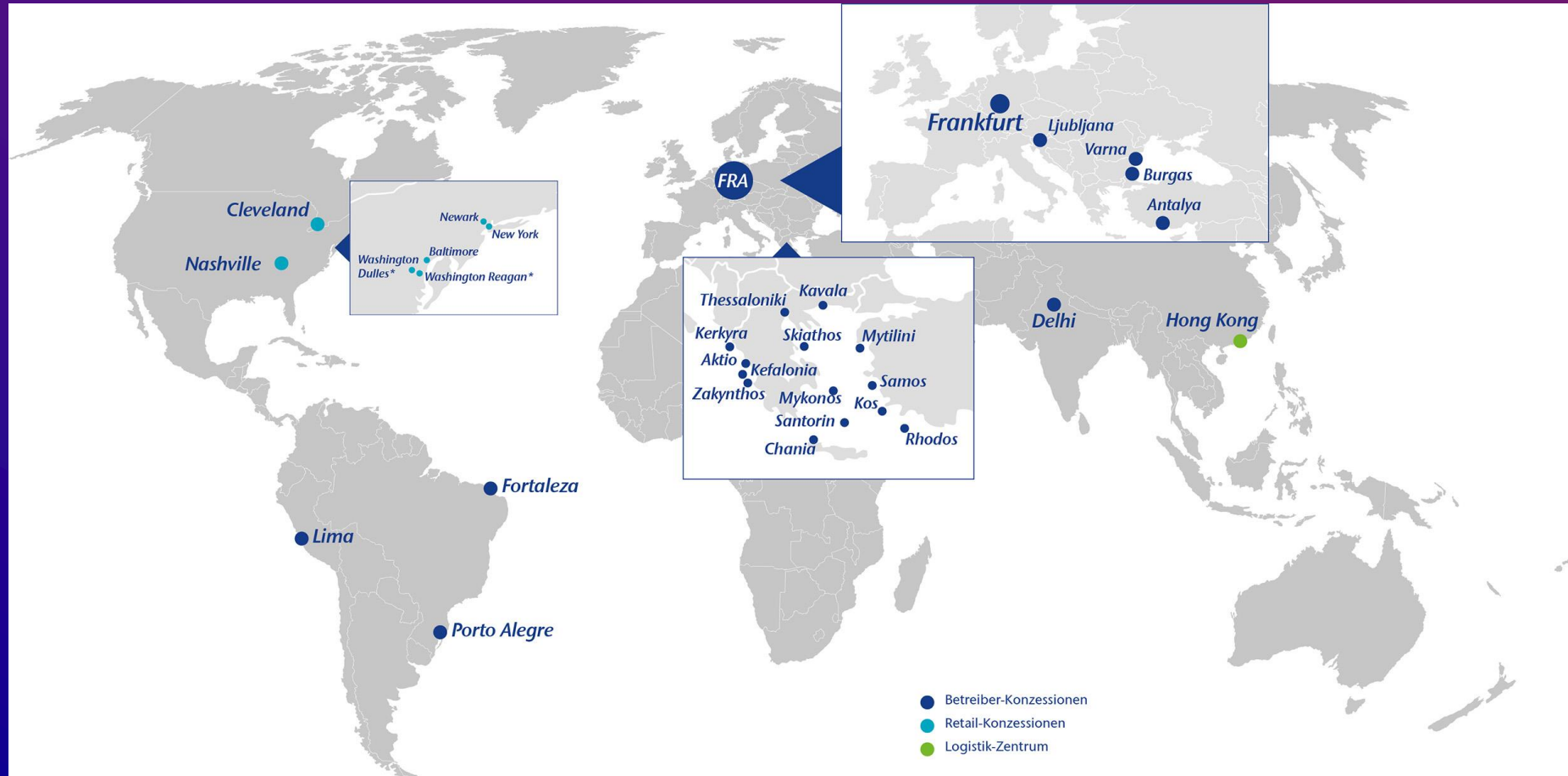
CDAO Frankfurt

30th of October 2024

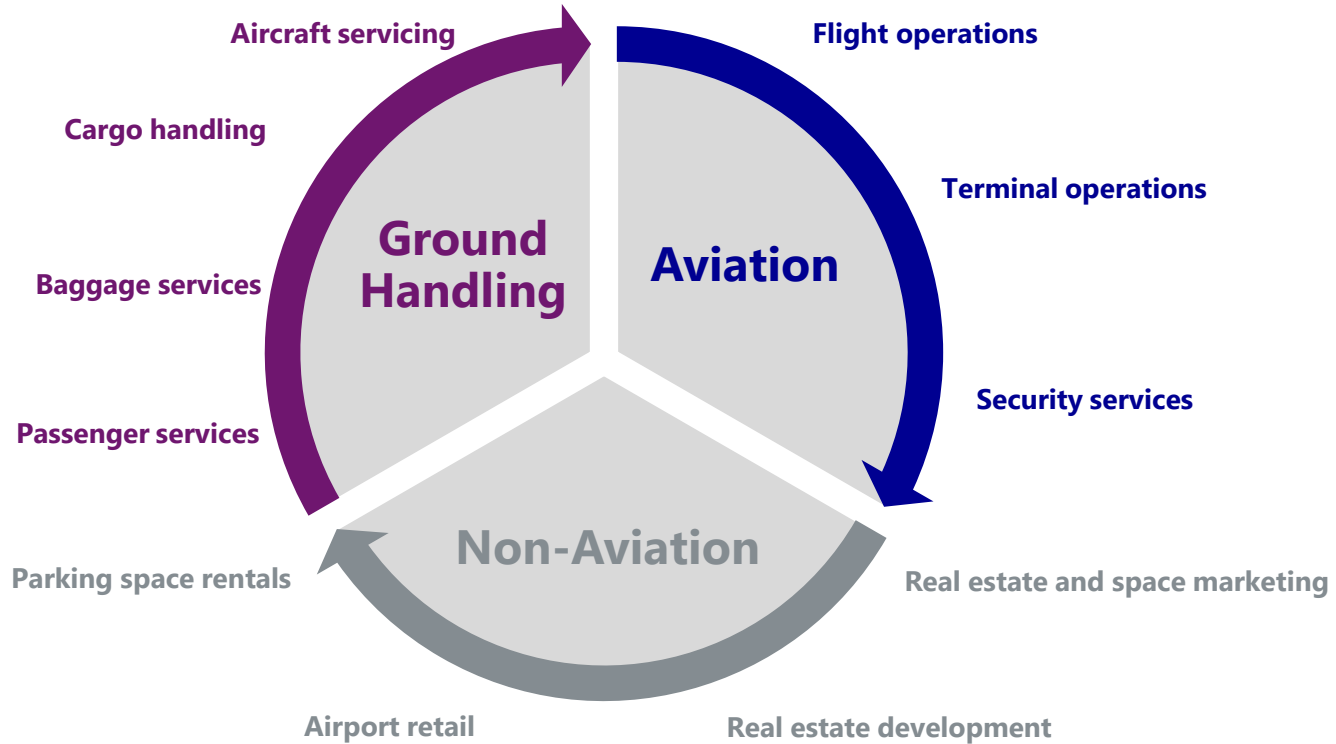
Thilo Schneider, Fraport AG



EXPERTISE IN DEMAND WORLDWIDE



SEAMLESSLY MESHING PROCESSES AT FRANKFURT



STRATEGIC LIGHTHOUSES



GROWTH & SUSTAINABILITY



EFFICIENCY & INNOVATION



EMPLOYER OF CHOICE

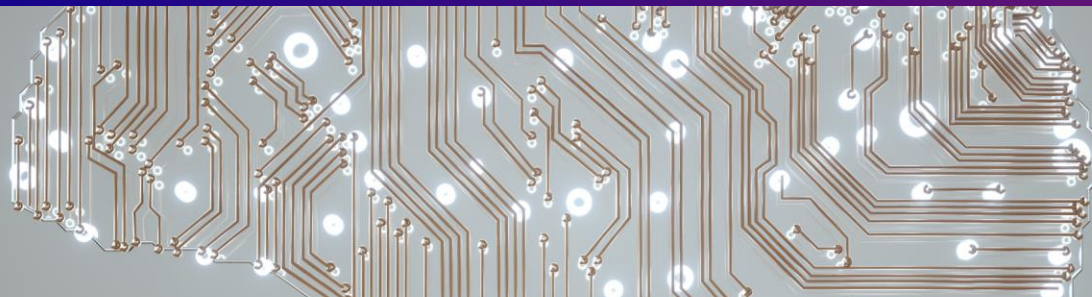
Strategic Lighthouse

- Decarbonisation master plan
- Competitiveness Ground Services@FRA
- Terminal Development FRA
- Masterplan CargoHub
- Lima Airport Expansion
- HRneo
- Securitycheck
- Automated Baggage Drop-off
- Biometry
- Standardized building automation/infrastructure systems
- Initiative AI@Fraport
- SAP S/4 Software

Pays off...



***AI assists in fortifying our company for the future and
serves as the cornerstone for prospective growth***



**High customer
satisfaction based on
efficient &
transparent
processes**



EFFICIENCY & INNOVATION



GROWTH & SUSTAINABILITY



TOP EMPLOYER



**Mitigation of
labor shortage
through intelligent
workload relief**

AI INITIATIVE LED BY IT AND CORPORATE STRATEGY TO EMPHASIZE STRATEGIC IMPORTANCE IN ADDITION TO TECHNICAL KNOW-HOW

AI@Fraport

Change Management

Communication

AI@Basics

Compliance with ethics, law and governance as well as empowerment of all employees

AI@Ops

Developing AI-powered processes to ensure our operational excellence

AI@Workplace

Enhancing the workplace of the future with AI-supported everyday administrative tasks



AI@Basics

creates ethical, legal and technical foundations

and enables Fraport for future application of AI

Our AI principles – Underlining our responsible use of AI

...take responsibility

It is clearly regulated who is responsible and accountable for our AI systems.

...maintain safety and security standards

AI applications are always safe, robust, and reliable.

...protect privacy

Applicable data protection regulations are permanently upheld.

...put people at the center

AI systems do not patronize humans and can be switched off at any time.

...stand for transparency

It is continually clear where we are using AI.

...act in accordance with our values

Our AI systems treat all people equally, fairly, and without discrimination.

...are committed to sustainability

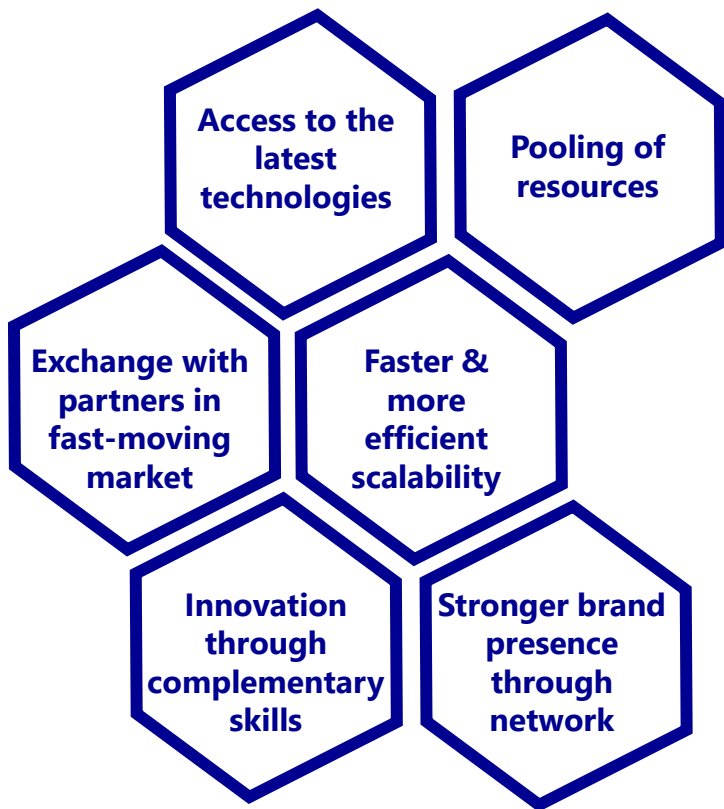
Our AI systems promote ecological, social, and economic well-being.

...empower and engage in discourse

Our employees are educated on AI and all stakeholders are involved in the ethical discourse.



RAPID INNOVATION CYCLES IN THE AI SECTOR REQUIRE BROAD-BASED PARTNERSHIPS IN ADDITION TO IN-HOUSE EXPERT KNOWLEDGE



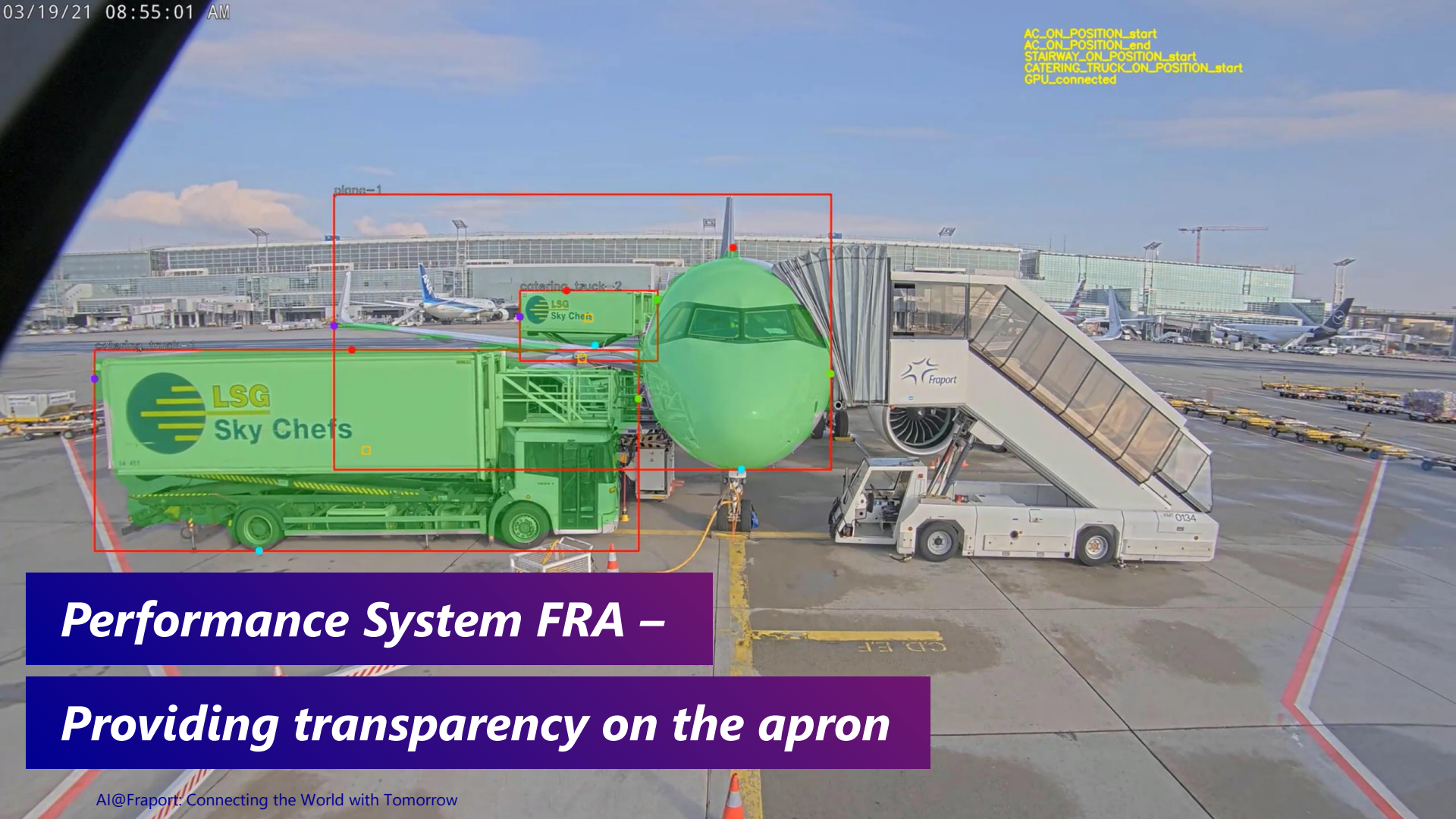


AI@Ops

creates AI-supported apron processes

to ensure our operational excellence

AC_ON_POSITION_start
AC_ON_POSITION_end
STAIRWAY_ON_POSITION_start
CATERING_TRUCK_ON_POSITION_start
GPU_connected



Performance System FRA –

Providing transparency on the apron

IMPLEMENTATION OF AI-DRIVEN SOLUTIONS TO INCREASE EFFICIENT PROCESSES AND OVERALL PUNCTUALITY AT FRANKFURT AIRPORT

Step 1: Generation of process data with AI

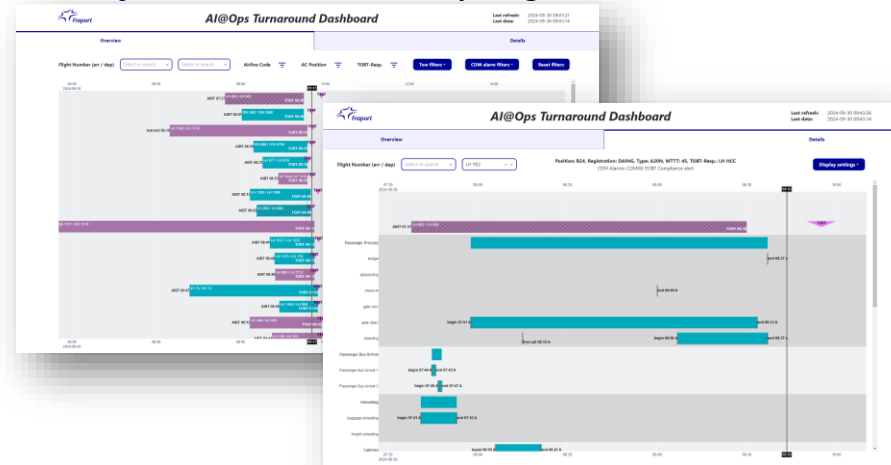
- **Computer Vision** generates process timestamps from the video images
- Up to 62 sub-processes can be **documented automatically**



More transparency about the overall turnaround process and all sub-processes

Step 2: Create turnaround forecasts with AI

- Calculation of **forecasts** for the sub-processes and the entire turnaround process
- **Identify bottlenecks** at an early stage



Better turnaround management to increase quality and performance










 **KI Innovation
AWARD**

Fraport AG

SUPER HEAVYWEIGHT

WINNER

2024

Veranstalter:       

Automatic dispatching of loading crews –

Relieving staff by distributing work in a fairer way

FACTS AND FIGURES

Airport traffic



160,000

number of passengers
per day



5,200

tons of cargo per day



1,000

flight movements per
day



5,000

handling orders per day



1,000

employees on duty per
day



1,000,000

operating hours per year



- Based on **Reinforcement Learning**
- Goal by **2026**:
 >**80%** of all handling orders
 to be **fully automated**
- Optimized **staff and resource allocation**
- Benefits:
 - Increased **efficiency**
 - **Reduced CO₂ emissions**
 - Improved **employee satisfaction**

INITIAL SITUATION: DISPATCH OF LOAD CREWS IS HIGHLY MANUAL AND PROCESS ADJUSTMENTS RISK TOTAL SYSTEM BREAKDOWN



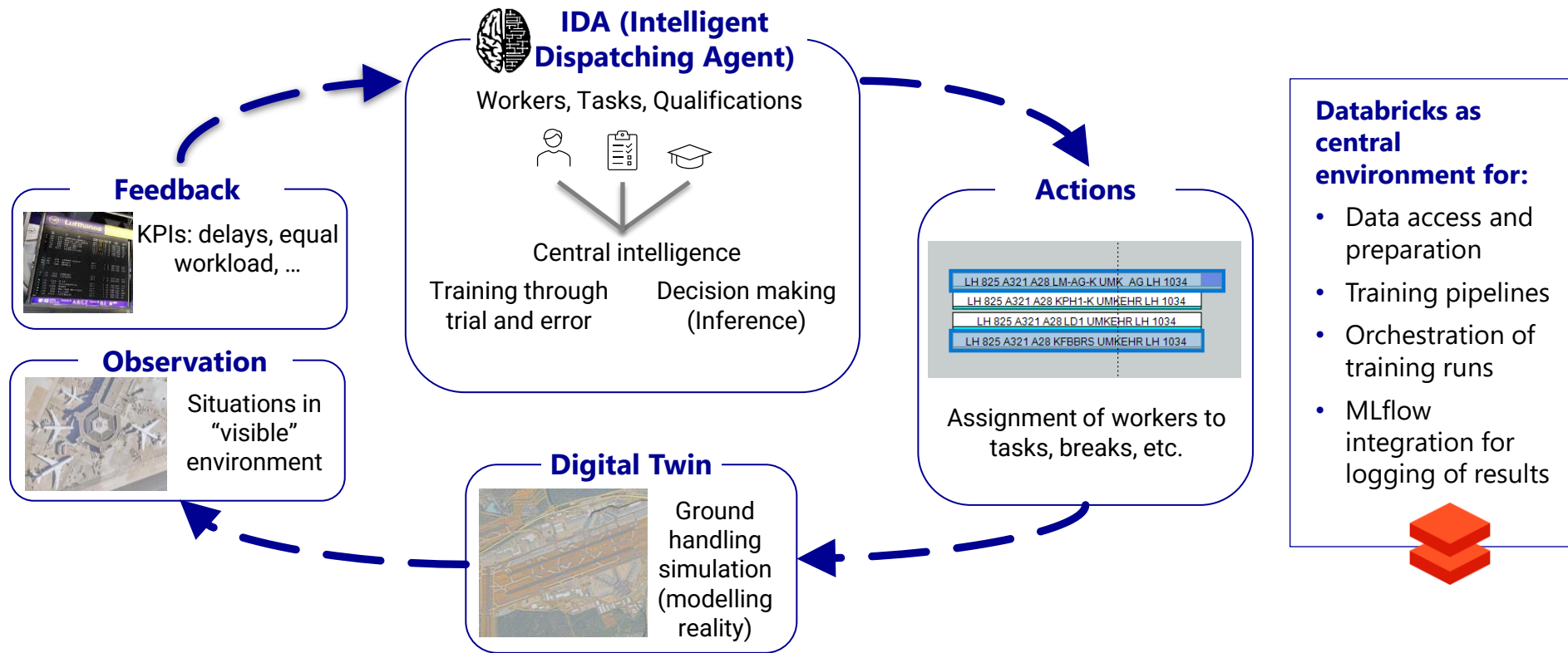
Starting situation

- **Manually** instructed 100% of all task – **no decision support** available
- 10 dispatchers quickly **work at their limits** in critical operating situations – focus of dispatching in bottlenecks: **avoiding loss of control**
- Every process change is "**open-heart surgery**" and carries the risk of destabilizing operations – risks can neither be simulated nor evaluated
- Forecasting operational performance is difficult
- **Assessment of dispatch quality** across shift blocks hardly possible



Load crew dispatching has **the greatest impact on ground service operations** – **greatest need for action** and **greatest potential for improvement**

DEEP REINFORCEMENT LEARNING: TRAINING AI AGENT IN SIMULATION ENVIRONMENT TO LEARN SUPER-HUMAN DISPATCHING QUALITY





AI@Workplace

creates the workplace of tomorrow

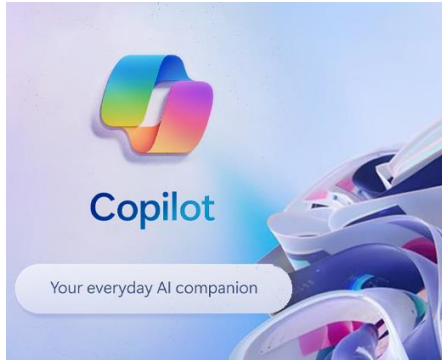
through AI support in administrative daily work

Our central question:

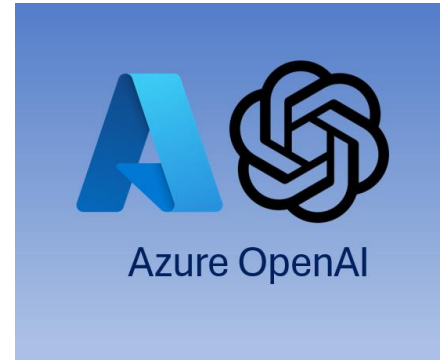
**How can generative
AI change our work?**



AI@WORKPLACE RELIES HEAVILY ON THE USE OF GENAI IN VARIOUS FORMS TO INCREASE PROCESS EFFICIENCY



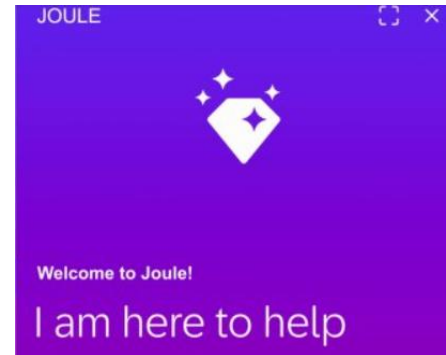
- **Copilot for Microsoft applications**
- integrated into the 365 Office applications and Teams
- First functions available in PowerBI (report dialog)
- Test with 300 users



- Fraport **GenAI platform** for special use cases
- Complaint management first use case, others from the area of legal, retailing or infrastructure management in the backlog



- **FraportGPT** as a ChatGPT clone in Fraport's own security infrastructure
- Compliance and governance compliant



- Integrated **GenAI assistants** in various tools
- SAP, Databricks, etc.
- Natural language will become the medium of interaction with digital services

NEIGHBORHOOD DIALOGUE: DIGITALIZATION OF NOISE COMPLAINT PROCESSING AND CUSTOMER SELF-SERVICE IN FOCUS

Job cuts during the pandemic

Long processing times due to a high number of complaints per employee

Increase in flight operations leads to an increase in noise complaints

> 5 information sources needed per research

THE NEIGHBORHOOD DIALOGUE AIMS TO SIMPLIFY, SPEED UP, AND EFFICIENTLY MANAGE THE RESEARCH AND RESPONSE PROCESS WITH GENERATIVE AI

EXAMPLARY INQUIRIES

At 18:30, a four-engine jet from LH approached the airport from the south, flying too low and too loud. Please investigate.

You have ONCE AGAIN violated the night flight ban, and this is the 4th time. Really great of you!

Unfortunately, I have to notice that the planes are coming closer and lower to our house in Rodgau. As a result, the noise disturbance is increasing. I originally moved away from Offenbach Tempelsee because the noise was unbearable. Now it's starting to get worse here too!!!



In recent days, I have the feeling that the southern flight route has shifted slightly to the east. Normally, planes fly south and then towards the town, keeping them farther away from us. However, it seems that the departure route has changed, and now they are closer to the residential area and louder. What has changed?

Hello Neighborhood Dialogue, once you have responded to my complaint, please delete my data immediately!

Hello Fraport, recently, planes have been flying so low over Bad Vilbel Dortelweil that every time, people look out the window thinking a plane is about to crash. [...] Would it not be possible to route the flight path between Bad Vilbel Dortelweil and Groß Karben? There's open field there, so it wouldn't be as disturbing.

GENERATIVE AI CAN SUPPORT COMPLAINT MANAGEMENT IN SEVERAL AREAS



1

Detection of urgent inquiries

Immediately upon receipt, the AI examines the inquiries for threats and other urgent issues (e.g., data protection requests) and reports findings via email.

2

Identification of key topics

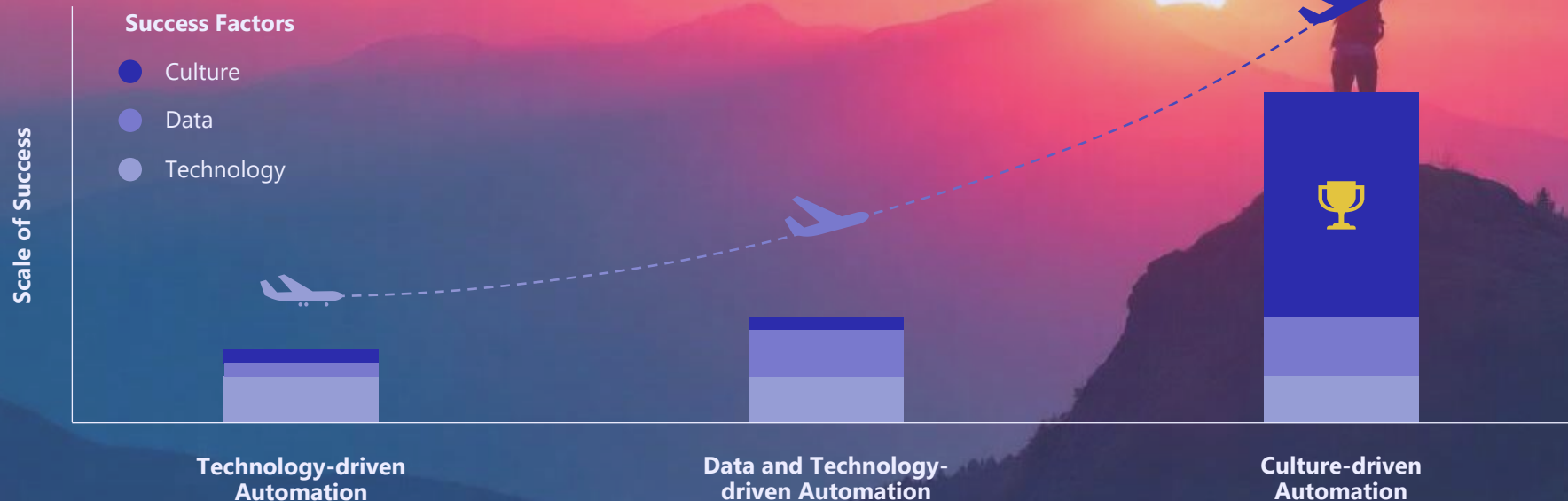
AI-assisted classification by topics (e.g., flight route, altitude, night flight ban) allows for analysis of the frequency and importance of issues.

3

Semi-automated response

The AI extracts important details from the text, conducts research for the required information, and drafts an initial response.

Digitalization rarely fails due to technical maturity but primarily due to cultural resistance



THANK YOU FOR JOINING US ON THE JOURNEY TO THE FUTURE!

Dr. Thilo Schneider

Information and Communication
Product Manager Data Value Office

