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THE IMPACT OF BIG DATA, TECHNOLOGY AND INNOVATION

TUESDAY OCT 15



AFTERNOON

1:00 - 3:15 PM PANEL I - USING BIG DATA AND NEW TECHNOLOGIES TO ENHANCE THE ENVIRONMENTAL SUSTAINABILITY IN AIRPORT AREAS

3:15 - 3:30 PM NETWORKING COFFEE BREAK

3:30 - 5:00 PM PANEL II - HOW BIG DATA AND NEW TECHNOLOGIES WILL IMPACT JOBS, SKILLS AND EDUCATION

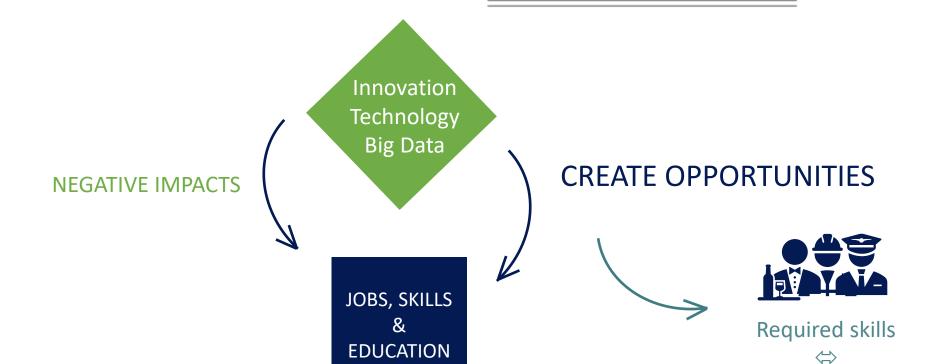
END OF THE FIRST DAY



PANEL 2

How Big Data and new technologies will impact jobs, skills and education

Local workforce competences







PANEL 2

How Big Data and new technologies will impact jobs, skills and education

MODERATOR



SPEAKERS



Vienna Int. Airport



Geoff Herdman **Edmonton Int. Airport**



Atlanta Center for Transportation and the **Environment**



Marc Deman **Hubstart Alliance**



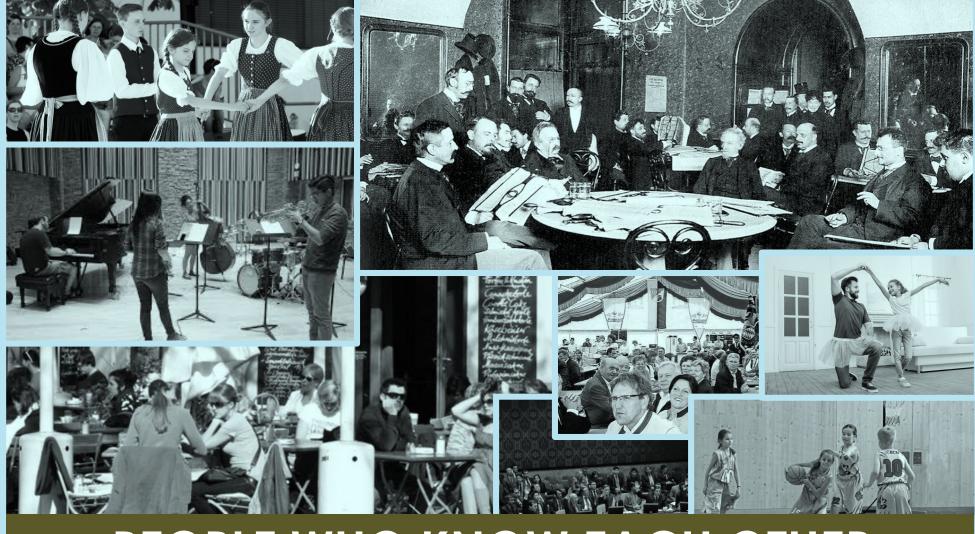
David Aboulkheir **Orly International**



AIRPORT CITY VIENNA

EXAMPLES WHERE WE NEED BIG DATA FOR OPERATIONS





PEOPLE WHO KNOW EACH OTHER LIKE TO EXCHANGE







OTHER, DO NOT LIKE TO EXCHANGE



WHO OWNS THE DATA?

- People willing to exchange
- GDPR in Europe still creates questions
- Minding data privacy by collecting data
- Minding data privacy by using data
- Airports have a responsibility















EVERYONE OF US PRODUCES DATA THAT WE NEVER WILL AGAIN NEED



BUT EVEN DATA CONSIDERED AS USELESS BY ITS OWNERS CAN GET ANALYSED BY SYSTEMS





...BECAUSE BIG DATA SOLUTIONS NEED A DATA BANK OF CERTAIN SIZE





AIRPORTS USING BIG DATA

THE PURPOSE MUST BE DEFINED

- There is data enough for any purpose
- Collecting data is the easiest part
- Mostly, the problem to solve is not defined.
 Let people discuss about what they need!
- Keep aware about Data Ownership!



1/3 SECURITY IN TERMINALS

- Smoothening processes
- Predict peaks or inconvenient situations
- Detect unusualities and danger





2/3 CARGO PROCESSES

- Predicting peaks
- Using synergies for higher efficiency
- Analysing goods flows in cooperation systems





3/3 BUILDING INFORMATION

- Understanding utilisation
- Measuring consumption
- Predict maintenance





WORKING STATEMENTS

INFORMATION STORAGE HAS BEEN DISCONNECTED FROM NEEDS

KNOWLEDGE ABOUT NEEDS IS FOUND IN COMMUNICATION BETWEEN PEOPLE

DATA OWNERSHIP NEEDS TO GET UNDERSTOOD AND TAKEN RESPONIBILITY FOR

DATA HANDLING IS A NEW INDUSTRY



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Edmonton International Airport

Geoff Herdman

Director, Real Estate & Investment Attraction





- 1. Disruptive Technology Edmonton Airports Approach
- 2. Case Study: Ubbe
- 3. Case Study: Aerium Analytics
- 4. Geoff's Prediction on a Future Opportunity for Airport Development

Disruptive Technology – YEG Approach

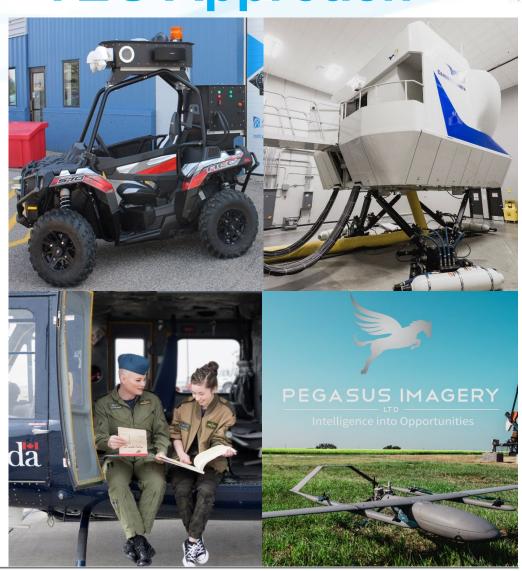
Edmonton Airports Proactive Approach to the Changing Technology Landscape

Strategy

- Alberta Aerospace and Technology Centre (AATC)
- Digital Strategy

<u>Culture</u>

- Embrace education and promote training opportunities
- Willingness to experiment and take risk
- Focus on partners with shared vision and values









Developed by BBE: a leading Edmonton (YEG) based firm with over four decades experience in northern Canadian Expediting, Supply Chain Logistics, Project Staffing, and Cargo Handling

Problem: How do we make shipping process more efficient? How can the experience of northern based customers be better?

Solution: Develop a client managed end-to-end shipping solution, in one system with capacity for rapid quotes and real-time tracking



Case Study:







Your direct-to-home parcel shipping service











Economic Impact

- BBE has hired a number of programmers along with sales and marketing specialists
- Additional work created through outsourced work on implementation
- Potential further positive business impact on northern communities via improved access to import/export of products and services

Social Impact

- Serves communities not tended to by major e-commerce or other retail firms
- Significantly reduces cost and delivery timelines
- Dramatic improvements in consumer choice



Problem: Drones regulations fractured in Europe – RPAS operations at airports were not possible

Solution: Canada / Edmonton International Airport / AATC





Firsts Achieved

- First integrated RPAS operations at an airport in the world took place in EIA
- First official RPAS flight at an airport at night in Canada
- AERIUM achieved > 1500 RPAS flights at EIA to date (more than any other airport in Canada)

Drone technology applied to airport operations

- Robird used in bird control reducing largemass bird strikes by 50% in 2018
- Runways and approach inspections (Markings Analysis, OLS inspection, PAPI/CASI inspection & calibration)
- Makes airport safer, and more efficient for airlines while increasing efficiency for airports









Economic Impact

- Projected to have created 15 FTE jobs by 2020
- Job growth is in well paying technology positions including Data Analysis, Data Automation and Manufacturing







Geoff's Prediction

Drone Cargo Deliveries

- Industry in infancy but use case playing out (i.e. Zipline, Dronamics,+ others)
- First applications in low density markets due to regulatory issues
- Immediate scalability with regulations in place
- Prediction drone focused aerodrome requirement in < 5 years
 - What regulatory requirements will exist for a drone focused aerodrome?
 - Workforce development and requirement for drone focused aerodrome operations
 - How/should established airports play a role?
 - What ancillary infrastructure may be required?





Questions



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Sustainable Airport Areas International Seminar 2019

Automation and Airport Workforce Impacts

October 15, 2019 Atlanta

Nathaniel Horadam

Managing Consultant –

Automated Vehicle Specialist

CTE

Introduction



- The Center for Transportation and the Environment (CTE) is a national 501(c)(3) non-profit that specializes in the development and deployment of clean, efficient, and sustainable transportation technologies.
- Since its start in 1993, CTE has managed a portfolio of over \$530 million in team research, development, and demonstration projects.

CTE...

- Educates federal and state policymakers
- Assembles top-notch teams
- Writes winning proposals
- Oversees grant contracting, cash flow, and reporting
- Provides technical assistance to early adopters
- Manages technology demonstrations and deployments

Our reach





Our members



Manufacturers









Suppliers

BAE SYSTEMS











End Users



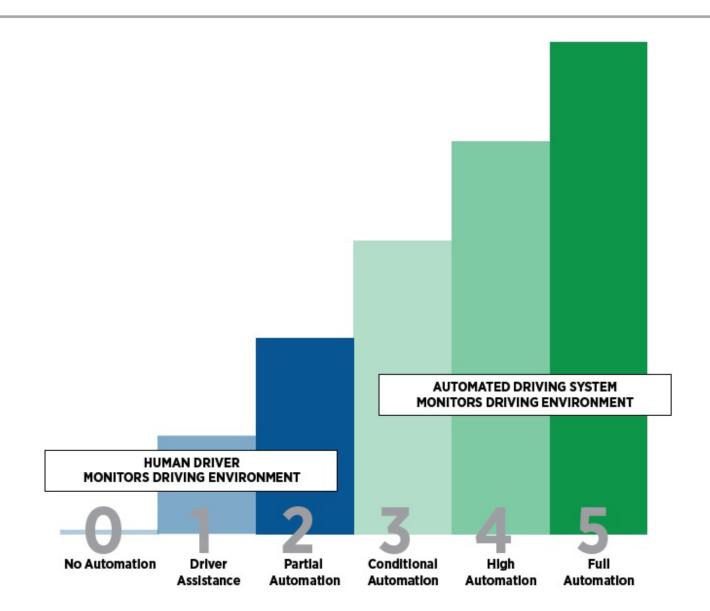






Degrees of automation





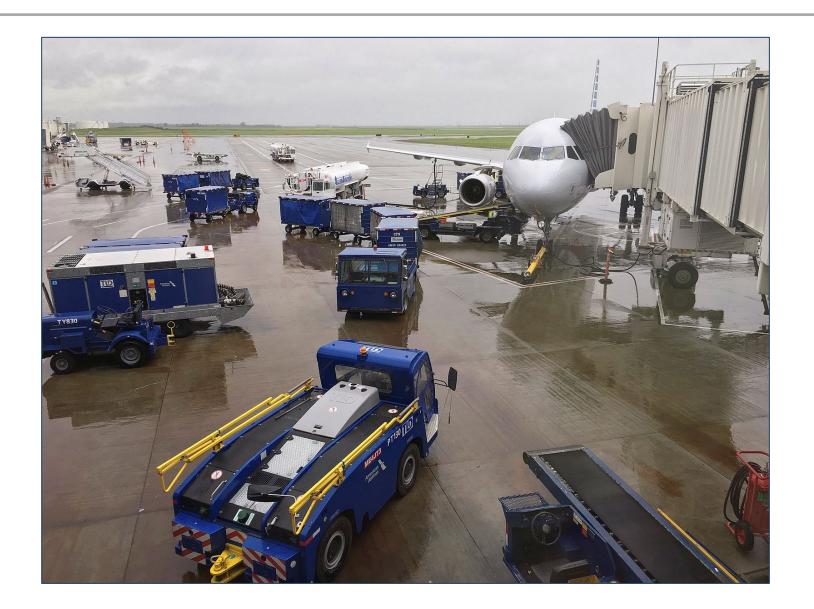
Easy to automate





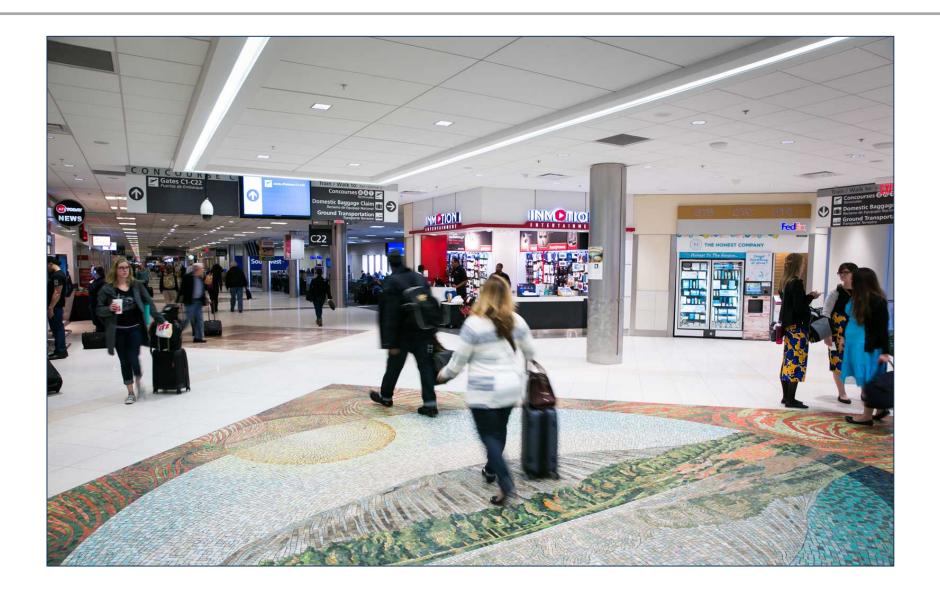
Not as easy to automate





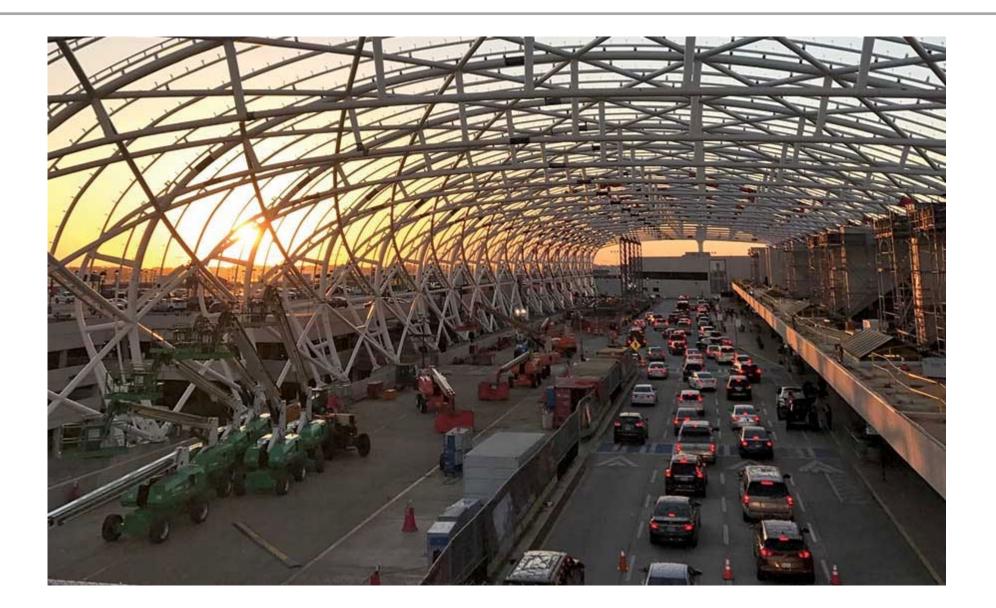
Really, really hard to automate





Also really hard to automate





Now that's more feasible





You can already see these





And soon you will see these (automated)

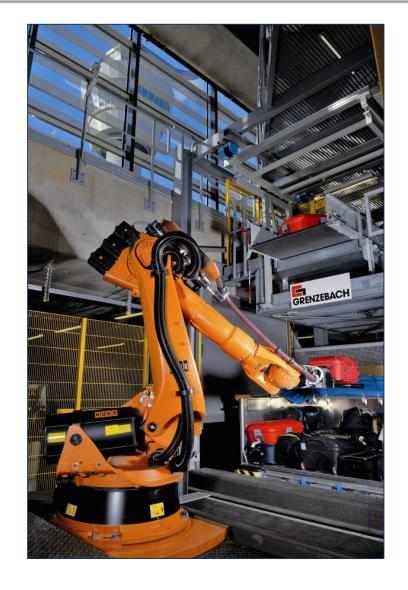




But it's not just driving...







...and even when it is...





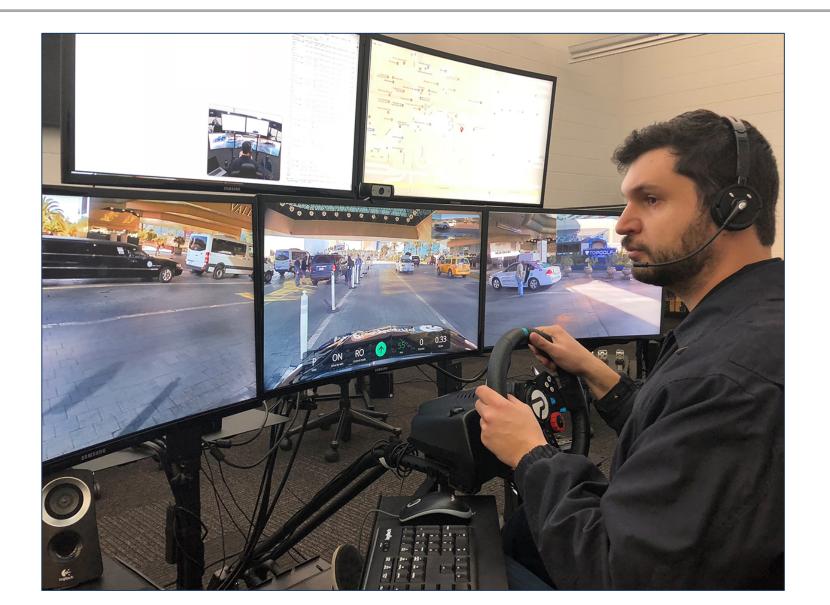
...her job isn't disappearing anytime soon... (





...and his job is brand new





Thank you!



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Hubstart ParisRegion®

Paris CDG Airport Area:

How do digitalization impact jobs and training? 10/15/2019



How do we work on forecast study?



Terminal 4
Forecast study



How many jobs impacted?

For each jobs, the skills expected

4 main components to study



Evolution of passengers numbers



Evolution of air fleets



Evolution of surface area



Evolution of the jobs (new practices and technological development)

Large scale of jobs

Flight services

Airport services

Security

Shops

Food & Hotel

Transport & Logistic

Flight attendant
Aeronautical
mechanic
Stopover agent

Welcomer Electromechanical Cleaning agent

•••

Security officer
Suspicious
Behaviour
detecting agent

Sales Demonstrator

•••

Cook Receptionist Warehouse manager Logistic officer

•••

An example of evolution



53



Airport security officer

- Today
 - Mainly technical job on security checks
- Tomorrow
 - Monitoring of digital tools (3D pictures...)
 - Welcoming and reassuring passenger
 - Comportemental detection

Titre





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Paris Airport Area by Orly Paris













KEY FIGURES

Paris Orly airport / Orly (France)

101_{Years} 33 m passengers % 3.4 100 187 1

tons airfreight

28 360 jobs 156 flight connexions



Orly Paris® airport area

372 000 inhabitants 187 000 jobs 10 700 ha

Mains sectors:

Airport activities, logistics Food industry, Health, Scientific research

22 000 compagnies

Main current projects

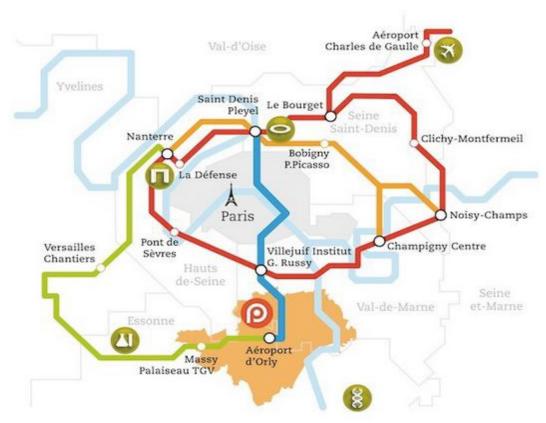
New junction building **Grand Paris Express Network Saclay Campus**

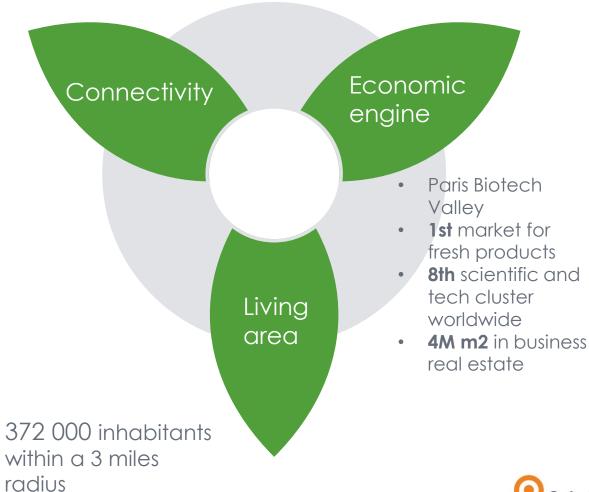


THREE PROPELLING FACTORS

South Paris Region 1st Economic hub

South Paris Region Gateway







Digital program

To make airport area's opportunities visible











Airport area job newsletter

700 updated job offers
1200 contacts

A weekly newsletter

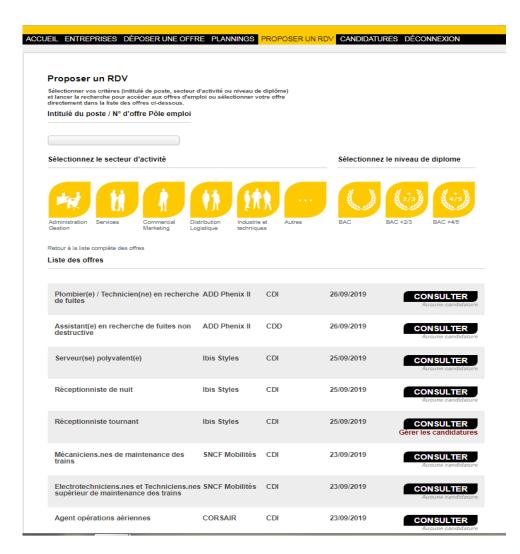


Job meeting plateform

A management tool for stakeholders



1200 candidates placed







hucLink.

Suggestions pour:







100 applications after 5 days





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SAAIS 2019

THE ROLE OF BIG DATA

THANK YOU

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