

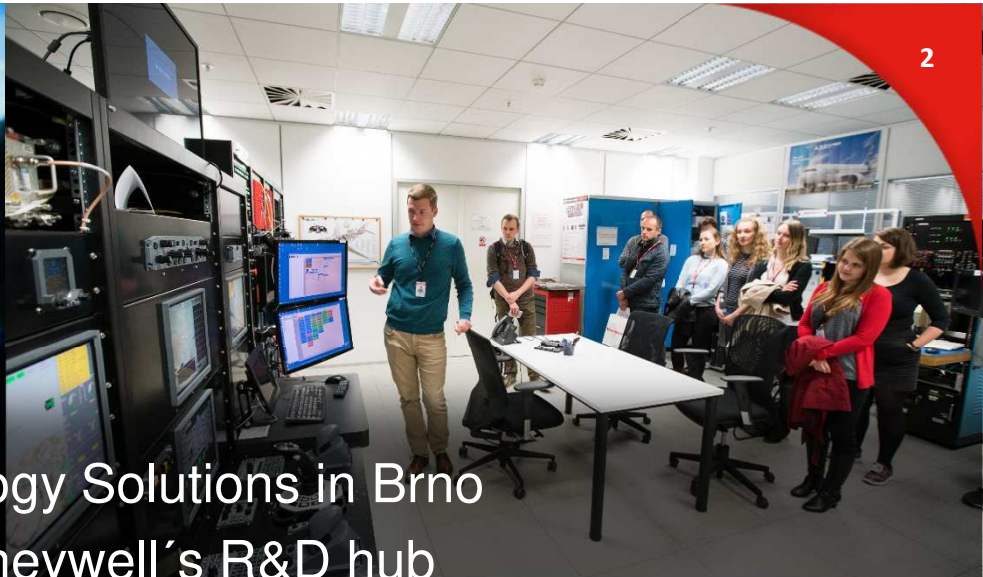


Dec 6<sup>th</sup>, 2018

## Honeywell R&D

Faculty of Informatics, Masaryk University

**Honeywell**  
THE POWER OF **CONNECTED**



Honeywell Technology Solutions in Brno  
is the biggest Honeywell's R&D hub  
in Europe



## Why Brno?

It's Czech  
„Silicon Valley“

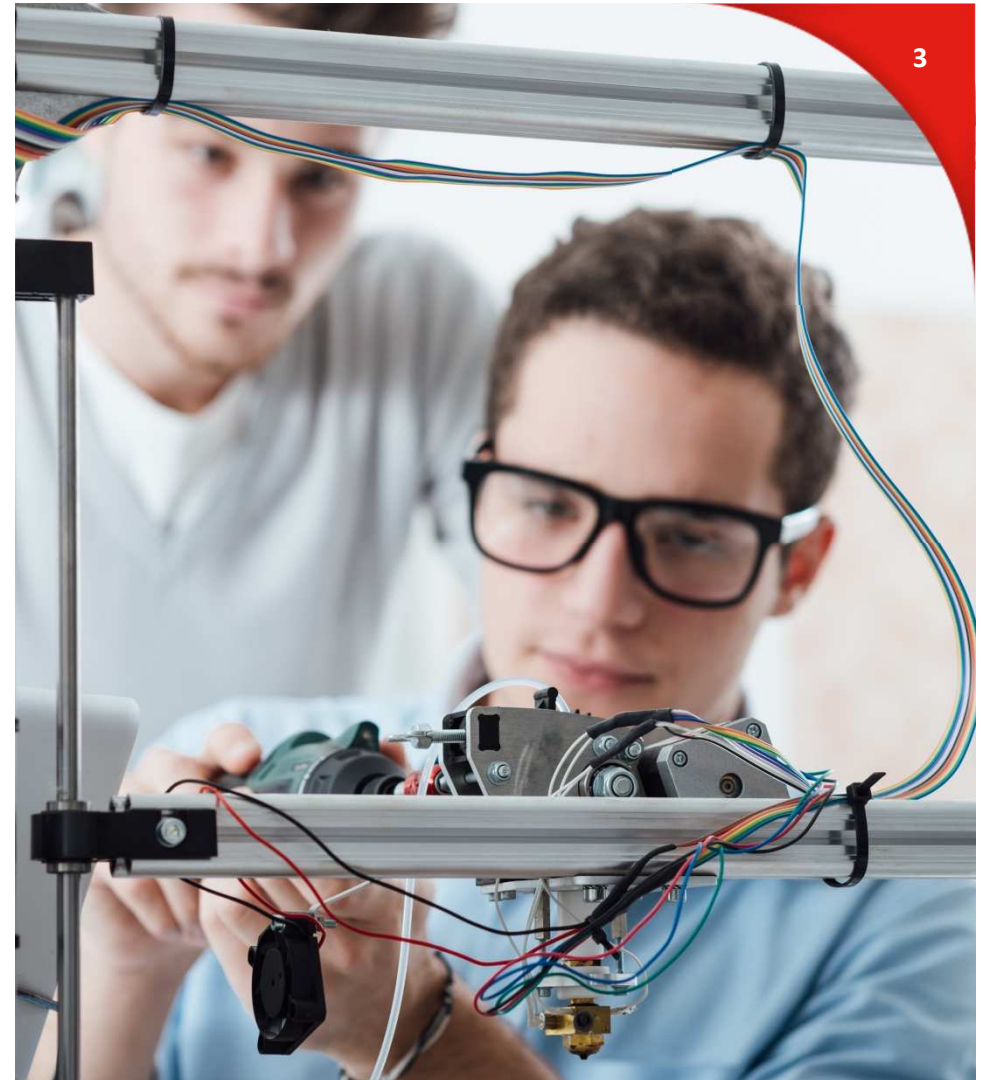
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**80.000+** students  
at prestigious universities

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**200+** years  
of industrial tradition

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## Brno Site at a Glance

High talented  
engineering community

1100

Engineers with strong multi-disciplinary skills

96%

Electronics, Mechanical, Software, Materials, Systems and Program Management Engineers have master's degree or PhD

27

Different nationalities

# Brno Site at a Glance

Innovation eco-system

130+ Patents granted

210+ Patents filed

Strong cooperation with all Czech Technical Universities  
Regional Innovation Strategy Connection

# Honeywell Technology Solutions (HTS) in Brno

## Aerospace

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**Advanced technologies** – advanced material processing, future navigation, communication and surveillance technologies, novel cockpit concepts

**Embedded development** – avionic instruments, navigation systems, engine controls, satellite communication

**Information Systems** – 3D weather simulations in various flight levels

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# Honeywell Technology Solutions (HTS) in Brno

## Safety & Productivity Solutions

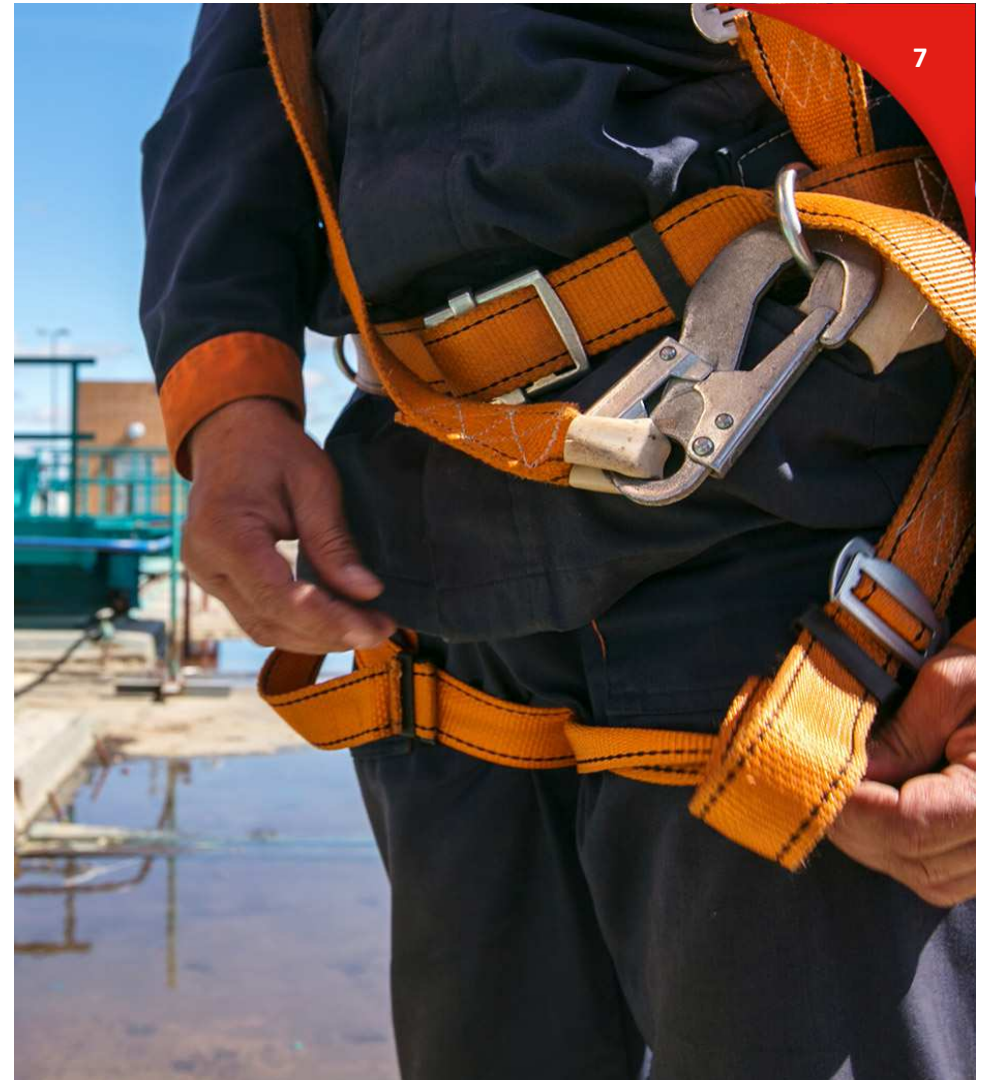
**Hearing protection** – products for active and passive hearing protection

**Gas detection** – design of sensors for gas leakage detection

**Fall protection** – design and testing of fall protection equipment

**Footwear** – design of safety shoes for various industry environments

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# Aerospace Advanced Technology

## Voice controlled cockpit

### Why speech recognition for cockpit?

Reduce pilot workload and increase flight safety:



**Benefits for pilots** – Natural, multimodal interaction, direct control, master higher automation

**Challenging environment** – Noisy, multilingual environment, regulation, avionics performance

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**Automatic speech recognition**

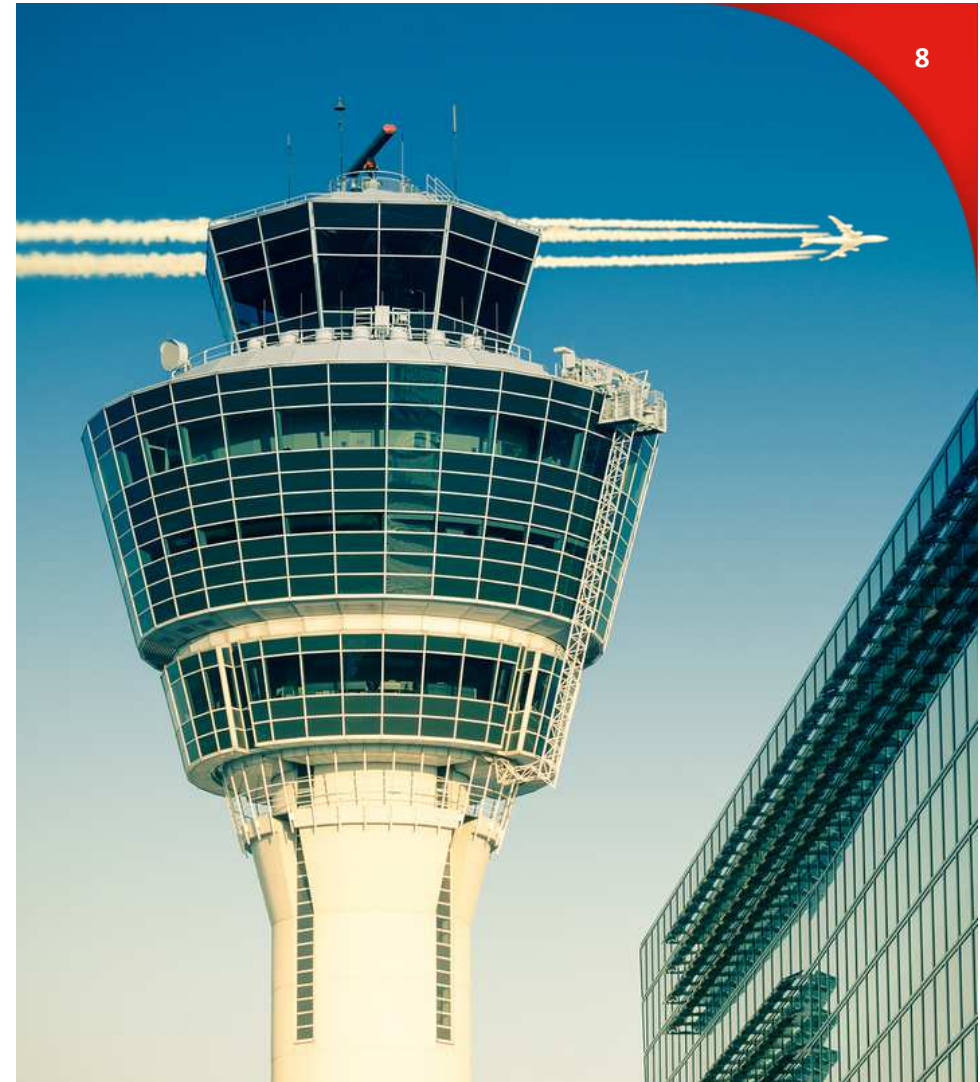
**Human centered design**

**Natural language processing and understanding**

**Deep learning**

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# Aerospace Advanced Technology

## Flight Trajectory optimization

**Avoid moderate / severe turbulent weather** – Find the optimal flight plan in real 3D weather grid and airways

**Multicriterial optimization** – flight planning or integrated real time optimization

**Flight economy for airlines** – trade-off between passengers' comfort and costs (fuel, flight time)

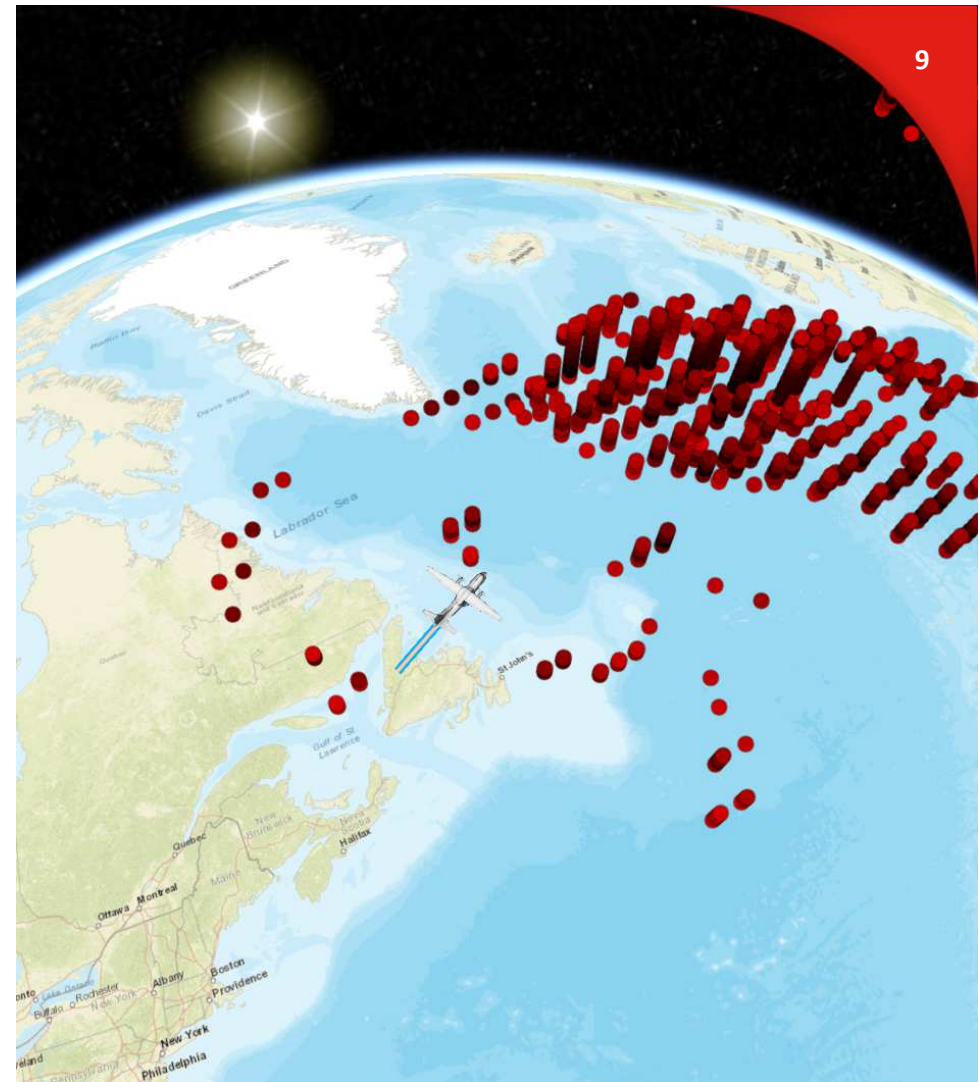
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**Complex weather modelling**

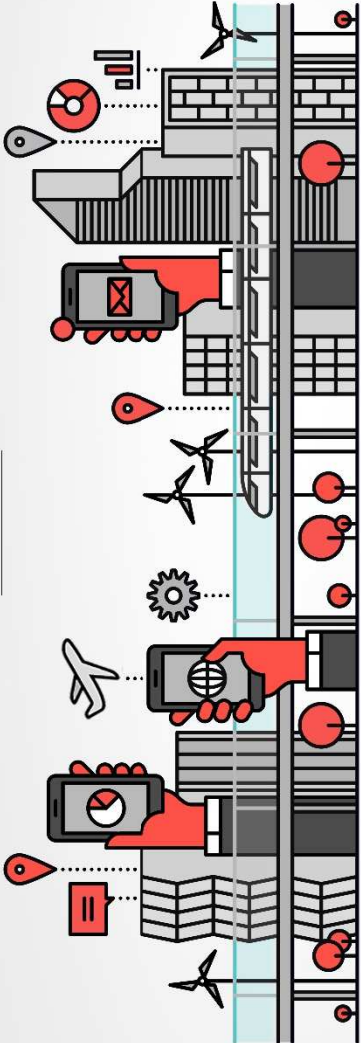
**Flight management system optimization**

**Real traffic, data analytics**

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Honeywell is building smarter, safer  
and more sustainable world.



THAT'S THE POWER OF **CONNECTED.**

Connected Aircraft • Connected Automobile • Connected Home • Connected Building  
Connected Plant • Connected Supply Chain • Connected Worker

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# Final thesis with Honeywell

## 1. Find your topic within already defined topics [honeywell.jobs.cz](https://honeywell.jobs.cz)

### Topic Examples:

- Operační systémy reálného času na hardwarové platformě Raspberry Pi
- Nastroj pro zaznam a vizualizaci namerenych dat z leteckeho cockpitu
- Návrh a realizace prediktivního řízení proudového motoru JetCatP80SE
- Radar altimeters for space satellite applications
- Distance measurement system for UAV

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## 2. Define your own topic

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## 3. Contact Honeywell

[lenka.zemanova@honeywell.com](mailto:lenka.zemanova@honeywell.com)

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