
Protection against attacks on the airport navigation and telecommunications systems



COMPANY PROFILE

PnP Systems is a technology start-up created to develop innovative hi-tech products and solutions using satellite navigation systems for industry and public safety purposes



Satellite & Space Industry

(Solutions for GNSS, transportation and telecommunications applications)

GNSS – Global Navigation Satellite Systems

COMPANY LOCATION

AEROPOLIS Podkarpackie Science and Technology Park

- Specialization of the region: aviation and space
- Polish Space Agency branch office
- Aviation Valley Association
- Strong support from Rzeszow Regional Development Agency
- Scientific potential of Rzeszów University of Technology
- Dedicated EU funds for innovative R&D projects
- Good connection – airport and A4 highway



PRODUCTS & SOLUTIONS

Development of dedicated applications

- recRWY – Aircrafts Identification System
- Protection against attacks on the airport navigation and telecommunications systems
- Software Defined GNSS Receiver

Technology consulting

- Consulting in the field of telemetry and spectrometry
- Consulting in the field of GNSS, radiocommunications, navigation algorithm, electronics

ABOUT THE PROJECT

Customer problems

- Airports and air traffic control agencies face serious number of problems with communication between aircraft and airport tower during take offs and landings as well as unavailability or unreliability of navigation systems
- It is a serious threat to public safety which causes interruptions in the operation of the airport
- It results financial losses
- The problem is caused by increasing number of interferences and **attacks** on airports positioning and telecommunication systems
- Lack of tools for monitoring and supervision of legally protected radio frequency bands dedicated to the airport navigation and telecommunications systems

ABOUT THE PROJECT

Proposed solution

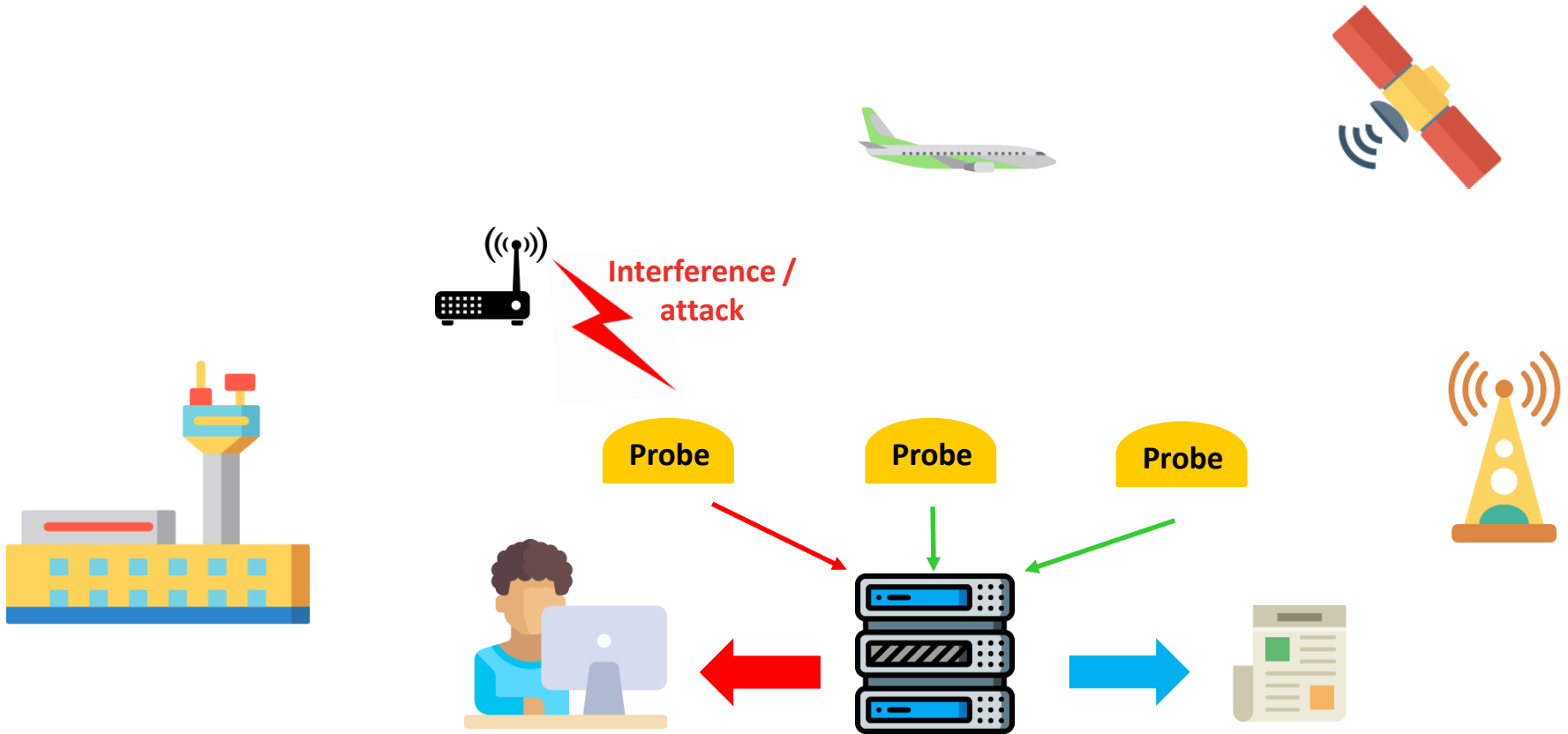
- **System for monitoring, detection and location of interferences in the selected radio frequency bands used in aviation**
- Monitoring and analysis of signal parameters and information contained in the radio signal
- System components: monitoring probes, central IT system, database with interference characteristics

Features & Benefits

- Possibility of continuous monitoring of selected radio frequency bands
- Immediate information about appearance of interference
- Possibility of location and elimination of the source of interference
- Increase public security and safety
- Reduction of financial losses resulting from the unavailability of airport systems

SYSTEM CONCEPT

System for monitoring, detection, location and support in elimination of interferences in radio frequency bands dedicated to navigation and telecommunication systems used in aviation



MARKET ANALYSIS

The target group of customers

- The transport sector:
 - Airports
 - Air traffic control agencies
 - Seaports
 - National road administration
- Crisis management service
- The telecommunications sector
- Units responsible for public safety
- Army

MARKET ANALYSIS

Market opportunity

- Increasing demand for the usage of communication and navigation systems
- Increasing number of interferences and attacks on those systems, due to the growing number of users and terrorists attacks
- Competitors analysis shows the lack of complex solution which allow to protect airports against interferences and attacks on airport navigation and radiocommunication systems
- Company plan to make first reference deployment at Rzeszów-Jasionka Airport and promote the solution and project results on various conferences and through sales activities
- The main barriers is lack of awareness of attacks that cause unavailability or unreliability of navigational and radiocommunication systems
- Increase of financial losses related to interruptions in enterprises operation
- Increased demand for navigation and radio-communication systems protection against attacks

PROJECT PARTNERS



Rzeszów-Jasionka International Airport – Deployment Partner

- First commercial deployment will be done at Rzeszów-Jasionka Airport



National Institute of Telecommunications – Scientific Partner

- conducting EMC and radio emission tests
- support for algorithms development
- assessment of probe prototype safety
- validation of the technological parameters of developed prototypes

REFERENCES



Rzeszów-Jasionka Airport

- recRWY – Aircrafts Identification System



Clear Sky Systems

- Maintenance of Automatic Weather Observation System
- Deployment and maintenance of IT reporting and validation system in the Polish Air Navigation Services Agency (PANSA)



Astri (Airbus Defence & Space)

- GNSS Computation Server



Łódź University of Technology

- Consulting services in the field of computer design and modeling

SUMMARY

Why it is worth to cooperate with us:

- Focus on the realization of innovative and technologically advanced projects
- The international area of operation
- Unique and niche directions of company growth which are in line with the strategic direction of the European Commission (GNSS and ICT)
- Flexibility
- Experienced team in the realization of hi-tech project

CONTACT DETAILS

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