



# From sensors to sensor networks

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# About Needronix



- SME company
- Radio and sensoric systems for spacecraft
- Experience with ESA projects
- Experience with CubeSat space technologies
- Cubesat integrator
- Ground segment & mission support
- HQ located in Bratislava, Slovakia

# Our experience



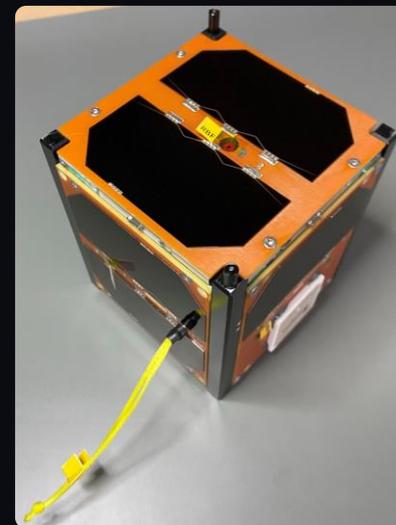
- **Our ESA projects**

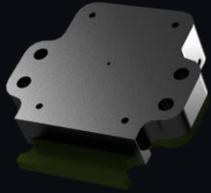
- ESA RPA project with FEI STU - AISSSA
- ESA top down call - CSS Development Activity
- ESA PECS project - coarse sun sensor OROL

- **Our space missions**

- 8 missions in Slovakia, Italy, Poland, Hungary and Czech Republic
- GRBAAlpha satellite - design, development and integration
- skCUBE satellite - design, development and integration

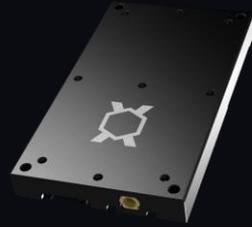
- **NATO DIANA test centre**





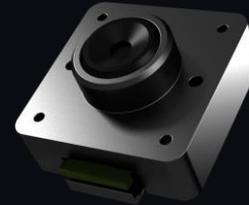
### **Eagle**

Miniature sun sensor



### **Cormorant**

CubeSat transceiver



### **Osprey**

Miniature earth sensor



### **OROL**

Coarse sun sensor



### **Sparrow**

On-board computer

- ✓ Reliability
- ✓ Easy integration
- ✓ Sensor simulators
- ✓ Fast lead time
- ✓ Miniature components

# Satellite Constellations

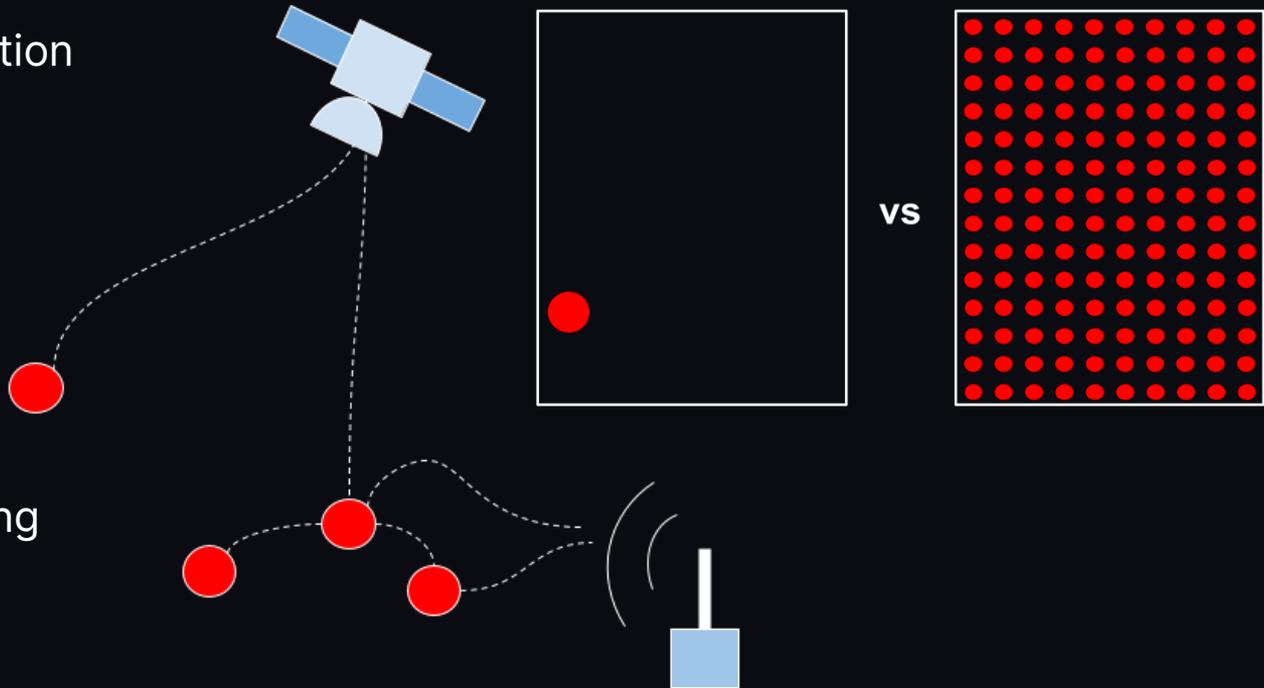
- Rapid deployment
- Redundancy and resilience
- Improved data collection
- Flexibility and scalability
- Global coverage
- Scientific research
- Innovation and experimentation
- Lower launch costs
- Cost-efficiency



Analysed by **touch4IT**

# Mesh Sensor Networks

- Remote monitoring
- Wireless communication
- Data collection
- Data fusion
- Real-time data
- Cost-efficiency
- Fault tolerance
- Scalability
- Energy efficiency
- Adaptability
- Distributed processing
- Security



# Partners



# Thank you for your attention

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