

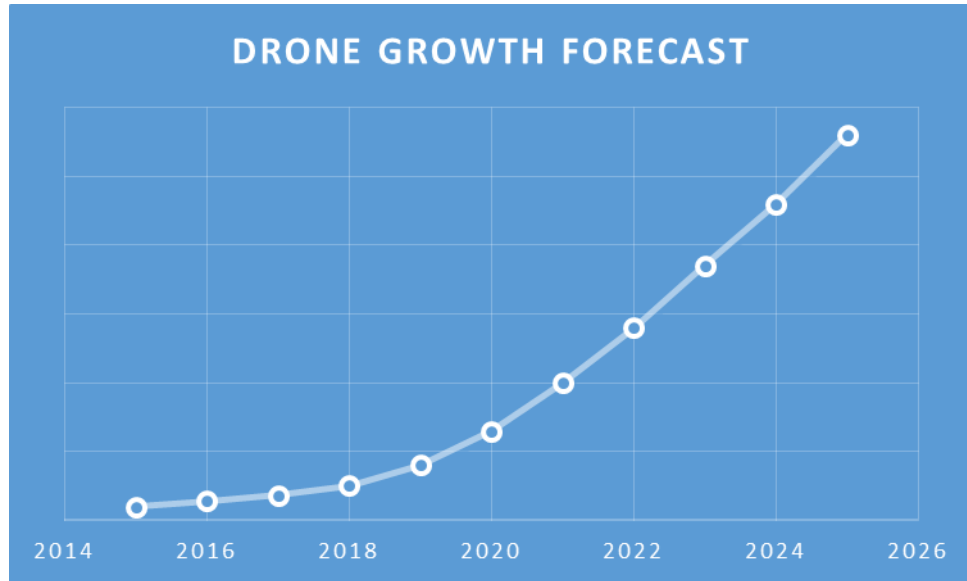


SPATMOS

Spatial Monitoring Service

Spatmos is a system which primary purpose is to monitor drones. An air traffic control system for drones.

The problem



Source: Embedded Vision Alliance

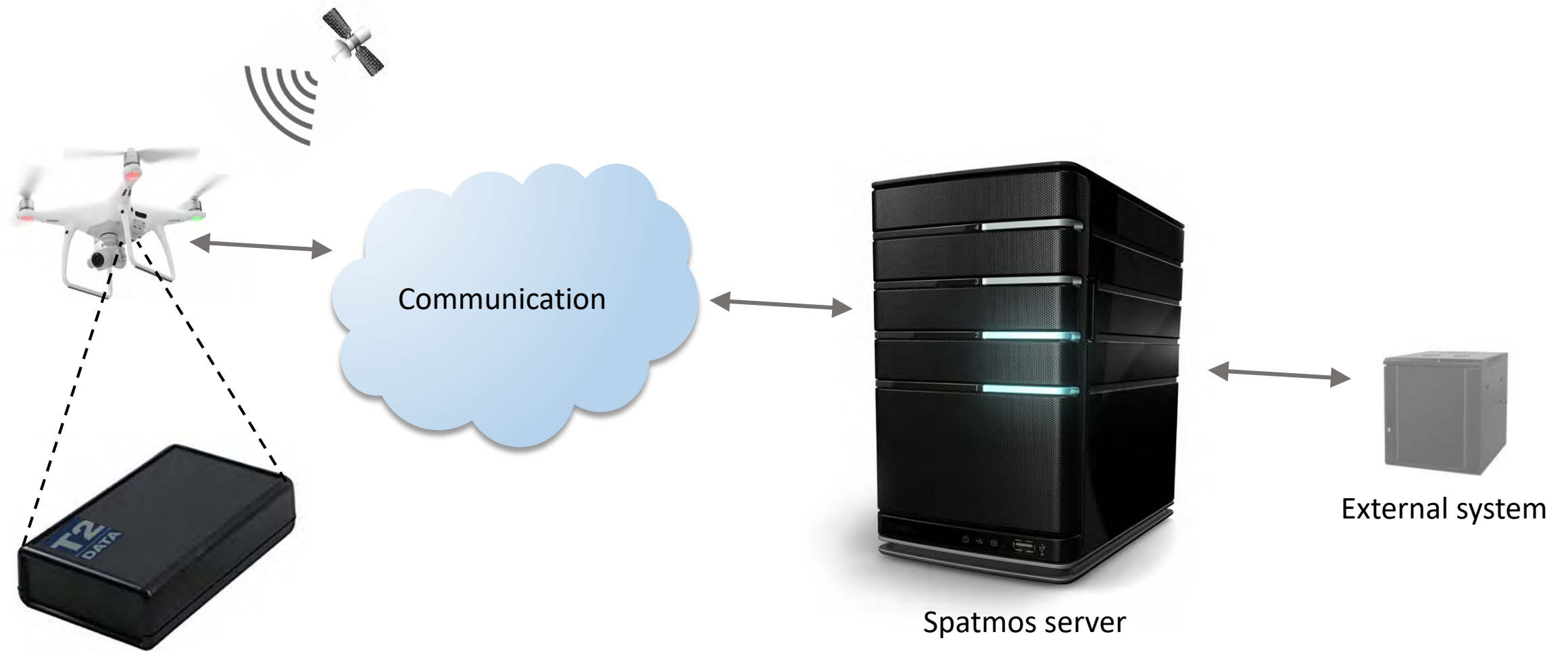
+



+



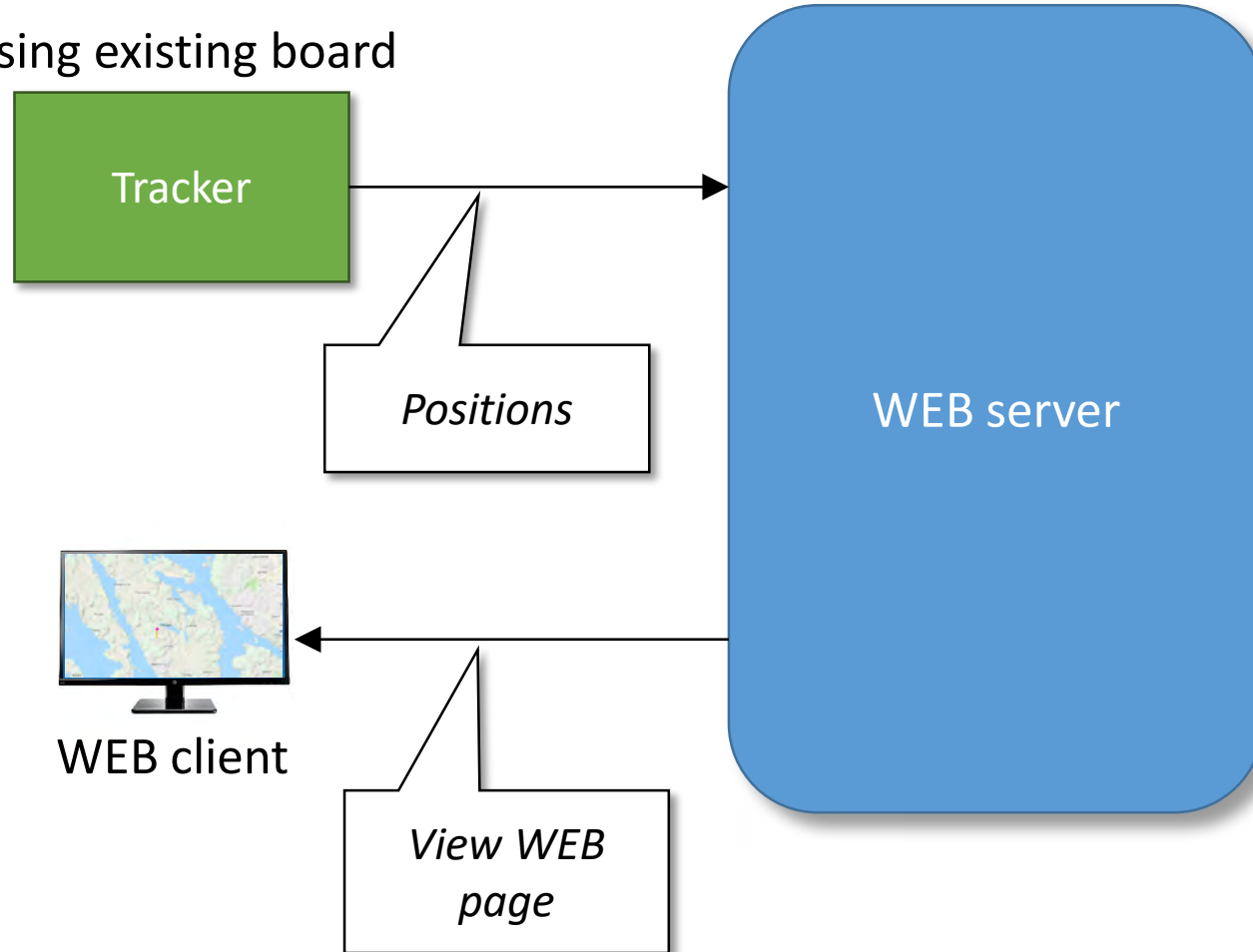
Schematic system overview



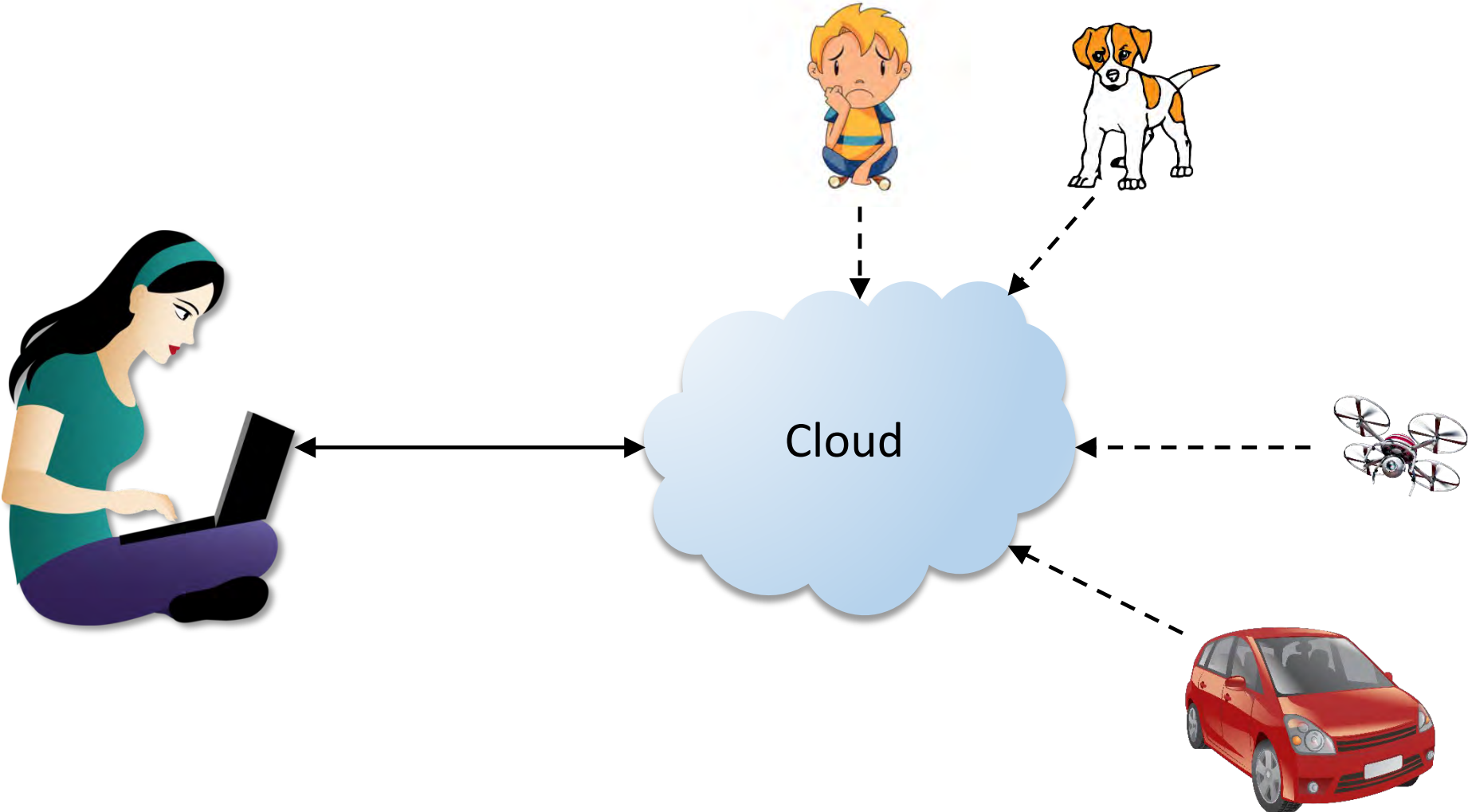
Proof of concept

Implemented and tested

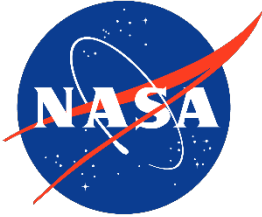
Using existing board



Most existing tracker solutions



Competitors



Unmanned Aircraft System
Traffic Management



Universal identification system
for UAVs



Standards and regulations



“JARUS is a group of experts gathering regulatory expertise from all around the world.”

“The purpose of JARUS is to recommend a single set of technical, safety and operational requirements for all aspects linked to the safe operation of the Remotely Piloted Aircraft Systems (RPAS).”



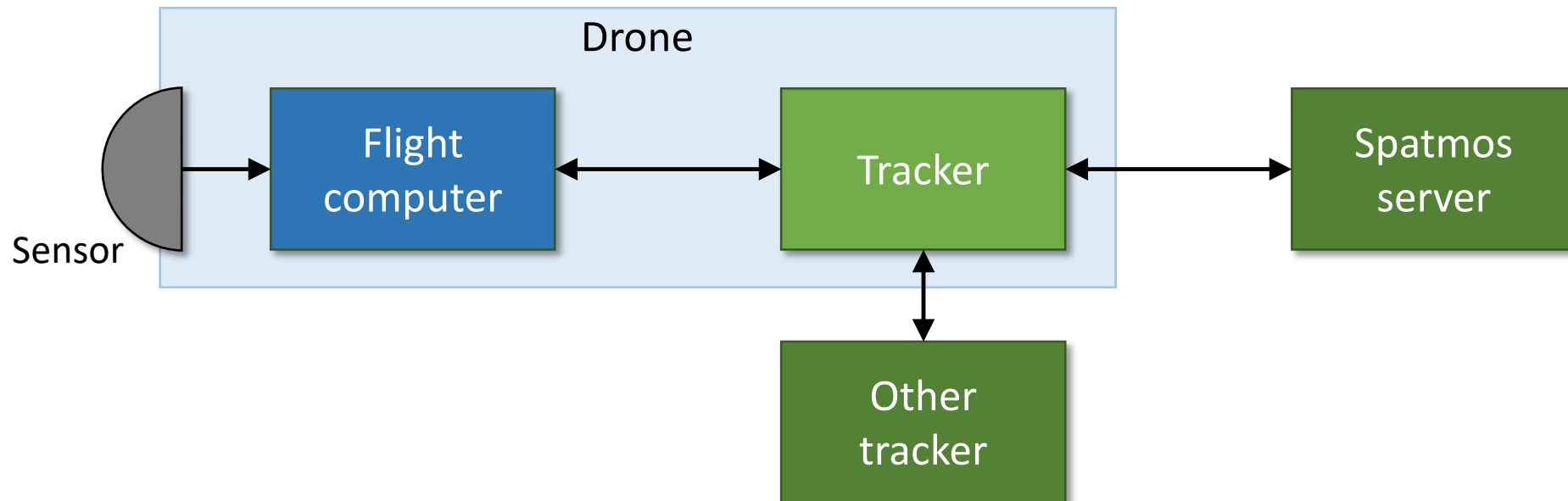
Currently 55 member countries



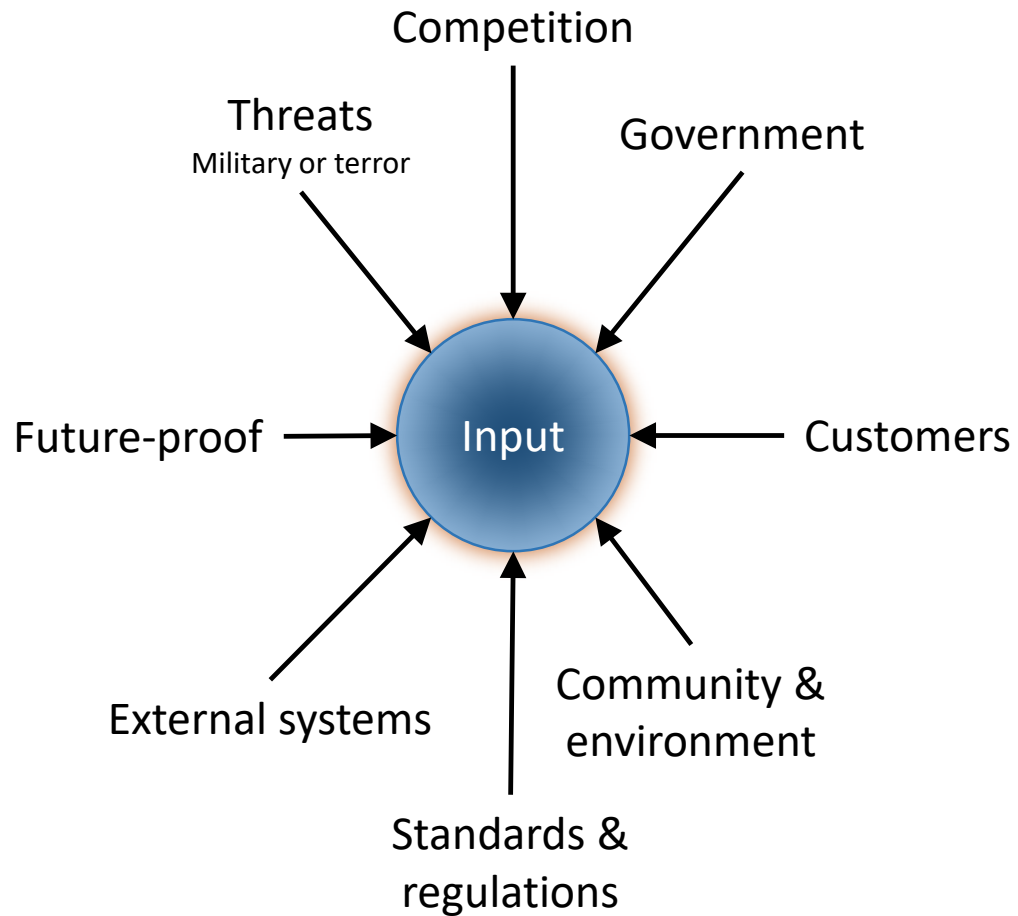
“A clear framework at EU level would allow the creation of a truly European market for drone services and aircraft, thereby harnessing potential for jobs and growth creation in this new sector of the economy.”

Possible additional capabilities

- Internal communication with flight computer
- Measurement data acquisition
- Airborne networking
- Incoming commands and restrictions, e.g. geofencing



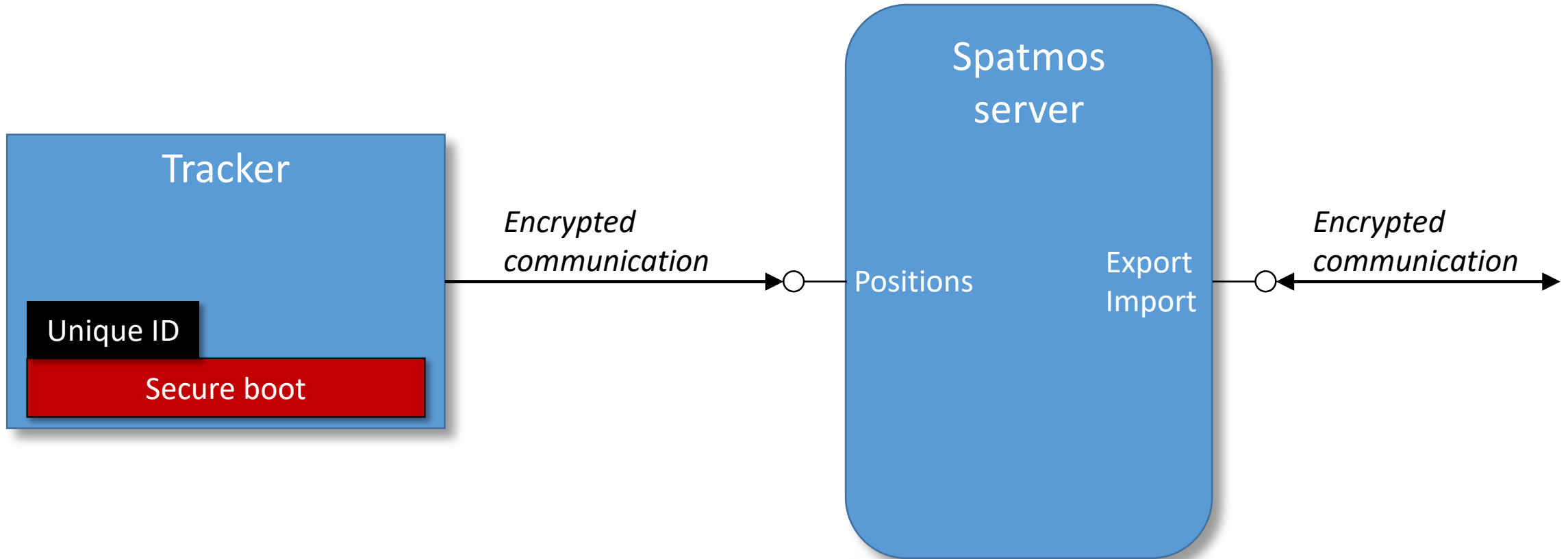
The challenge



Requirements

- Position acquisition
- Flight computer communication
- Measurement acquisition
- Data storage
- External system data exchange
- Drone traffic control system
- Two way communication
- Airborne networking
- Supporting different communication technologies
- Secure and reliable
- Flexible and adaptable
- Scalable

Secure solution

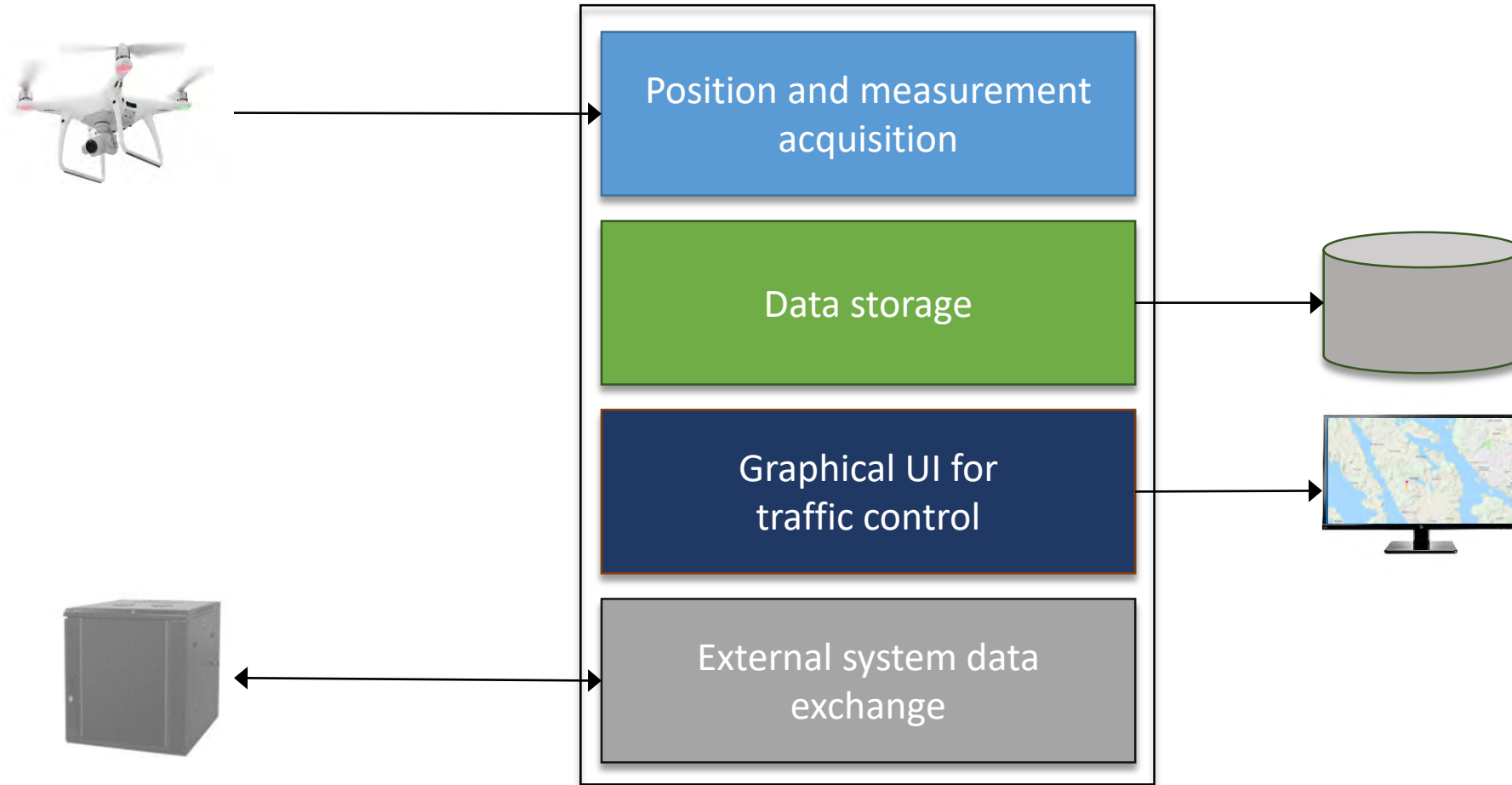


Tracker functions



- CPU
- GNSS (GPS, GLONASS etc.)
- Barometer
- Inertial navigation system
- Mobile network
- Airborne networking
- Other communication links
- Flight computer communication
- Secure software and communication

Spatmos server



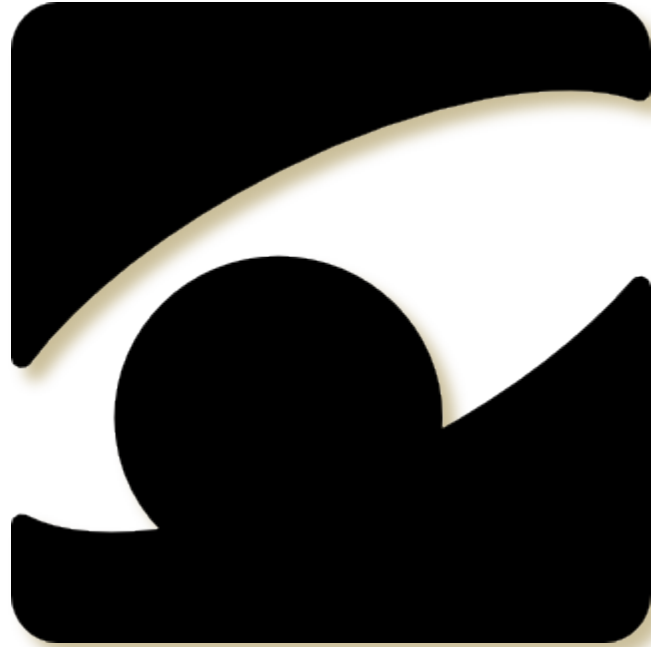
Possible system configurations



- Air traffic control system, both national and local
- Drone fleet coordination, centralized and distributed
- Measurement acquisition and live analysis
- Combinations of above

Next steps

- Finding partner(s)
- Getting financing
- Finalize Spatmos generation 1
- Installing Spatmos at Drone Center Sweden (Västervik)
- Scaling up, i.e. making tests with many trackers
- Develop customized circuit board, generation 2



SPATMOS