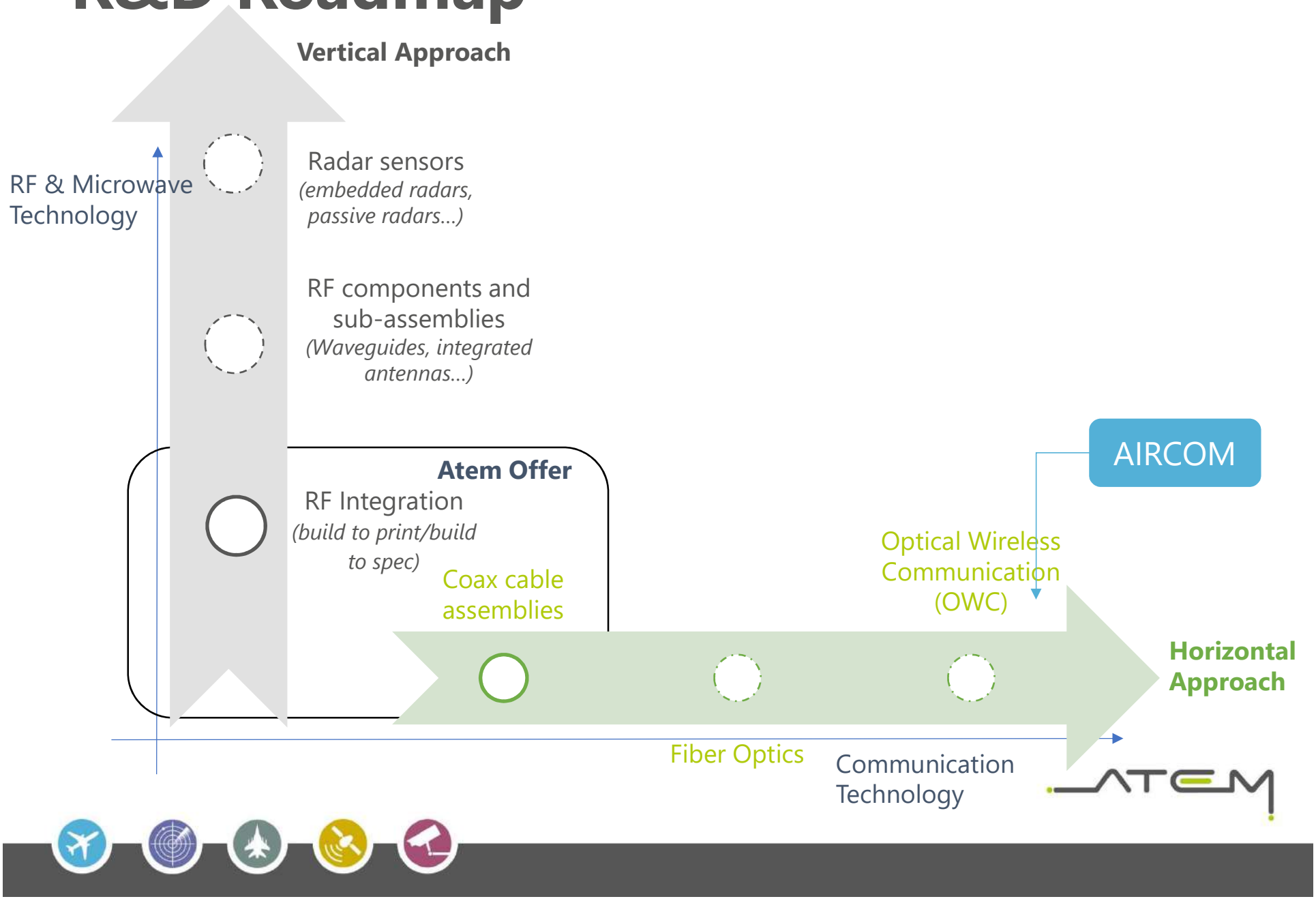
ATEM : CUSTOMIZED CONNECTIVITY

R&D Roadmap


Vertical Approach
RF & Microwave Technology
Radar sensors
(embedded radars, passive radars…)
RF components and sub-assemblies
(Waveguides, integrated antennas…)
Atem Offer
RF Integration
(build to print/build to spec)
Coax cable assemblies
AIRCOM
Optical Wireless Communication (OWC)
Horizontal Approach
Fiber Optics
Communication Technology
ATEM

AIRCOM

Aeronautic InfraRed COMmunication

Objectives

- Develop wireless optical data communication within aircrafts

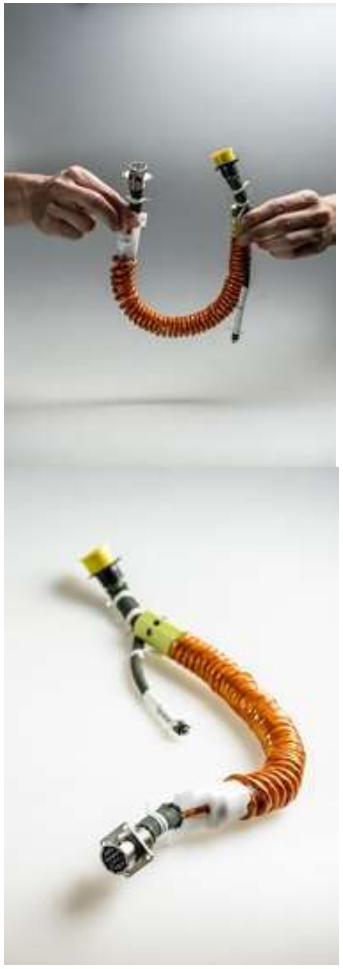
- Key factor successes
  - Erase electromagnetic waves interactions
  - Increase discretion/safety within data communication
  - Reduce the cable needs → reduce the weight of aircrafts

- Apply the technology on specific aeronautic use case
  - 1st use case : specific harnesses for cockpit which is hard to manufacture

Specific use case

- **ATEM = designer & manufacturer of “etyro harness” for A350/A380**
  - Stretchable harness to open and close the tablet handling
  - Specific aeronautic tips
  - Power and data transfer from the keyboard to the cockpit (flight operations: logbook, checklist…)

Etyro harness

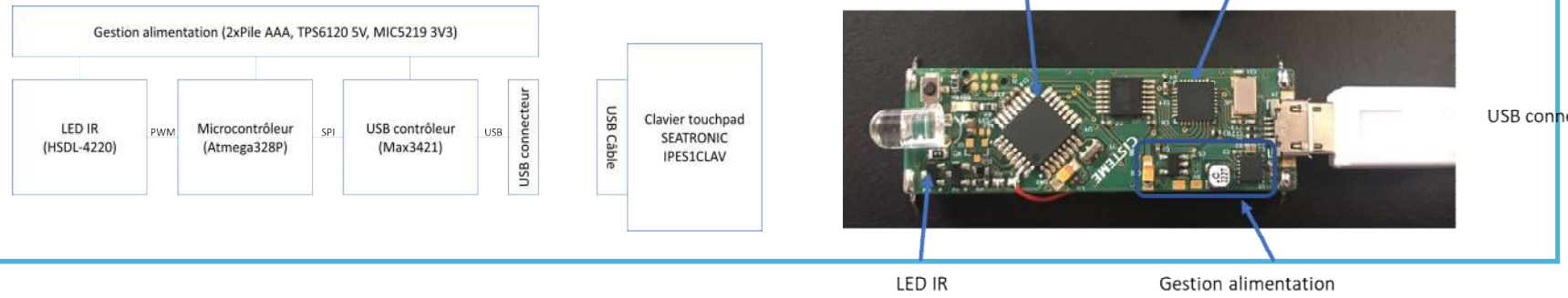


Tablet within the cockpit A350-A380

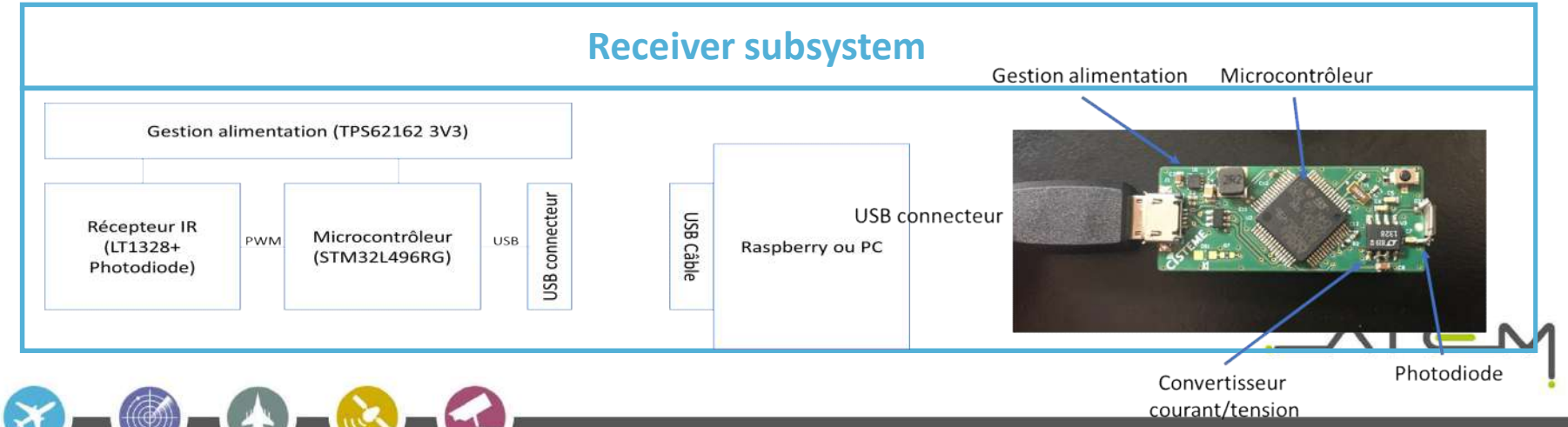
AIRCOM Project

- **Develop wireless data communication with high level in reliability at a competitive cost on a real aeronautic use case → Prototype**
  - Optical communication (one-way data transfer)
  - This device has to take the place of the "etyro harness" (same interfaces & dimensions)

Emitter subsystem

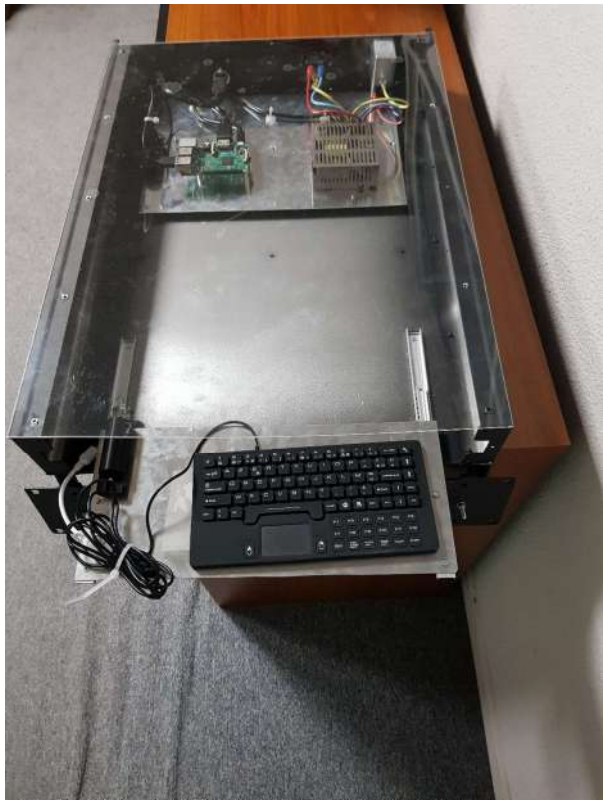


Receiver subsystem



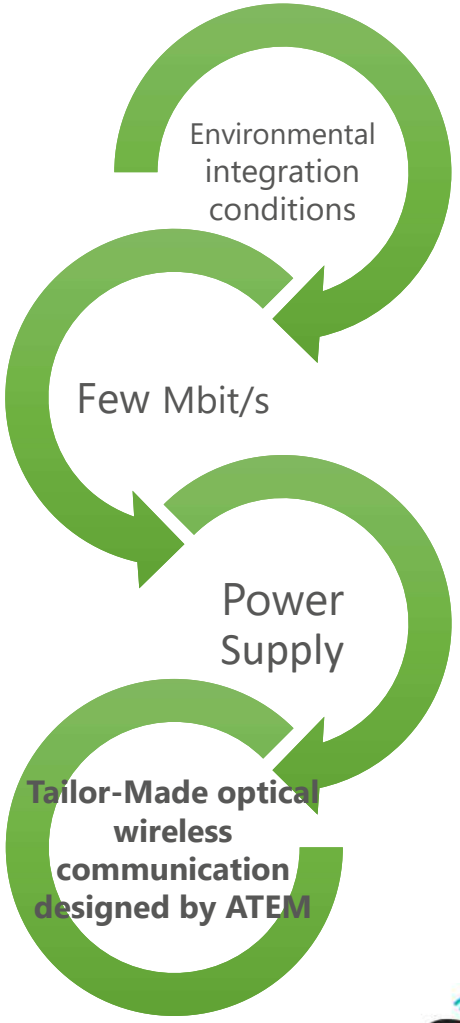
Results

- **Performances**
  - Keyboard/Touchpad use without any latency
  - Range is bigger than requested
  - Ability to get an angle between emitter/receiver (≈30°)
- **Safety data transfer**
  - No electromagnetic waves (no jamming)
  - No obstacles between emitter and receiver
- **Weight saving**
  - Divide by ≈10 the mass of the connection system
- **Cost attractiveness**
  - Make easier the way of manufacturing
  - The components are very affordable



ATEM Capabilities

Optical communication suitable to Mbit/s



No obstacles between photodiodes

No power transmission by optical communication

CISTEME ATEM

ATEM Capabilities

Become your partner to design and manufacture OWC systems within aircrafts

(form factor, design, aeronautic product, integration…)

- Reduce weight
- Reduce cost
- Increase safety

<u>Next steps</u>: get your use cases and demonstrate the advantages to move forward optical wireless communication

CISTEME ATEM

Thank you for your attention

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