iTARRA

Co-Pilot

Drive Smarter. Work Safer. Build Faster.

Introduction

iTARRA is creating the next generation of autonomous agriculture and construction platforms.

What is Co-Pilot?

Co-Pilot is an advanced retrofit kit designed to **modernize hydrostatic dumpers**, enabling remote operation, autonomous following, **and** GPS waypoint navigation.

By combining **robust** safety systems with cloud-powered fleet management, Co-Pilot delivers a **future-proof solution** for construction, mining, and industrial sites.

Three modes of operation

1. Co-Pilot Drive

- Remote safe control up to **1,000+ feet**.

- Up to **20 controllers** can request/release control.

- **Instant remote E-Stop** from any controller.

- Ideal for **hazardous areas** or **line-of-sight operation**.

2. Co-Pilot Follow-Me

- **Ultra-Wideband (UWB) positioning** ensures precise following.

- Dumper mirrors the movement of the operator carrying the controller.

- Maintains **safe distances** and avoids collisions.

- Perfect for **short-haul site material movement**.

3. Co-Pilot GoTo Mode

- Define **waypoints and routes** from a phone or tablet.

- Dumper navigates autonomously between start and end points.

- Supports **automated dig, haul, and deposit tasks**.

- Enables **repeatable, optimized cycles** for maximum efficiency.

Connected Data Services

Powered by Google Cloud – Co-Pilot integrates into a secure and scalable data platform.

- **Live Machine Tracking** – Real-time GPS and controller positions.

- **Material Flow Analysis** – Log each load, tip, and haul cycle.

- **Task Management** – Assign dig zones, deposit areas, and progress goals.

- **Worksite Insights** – Track productivity and safety events.

- **Fleet Oversight** – Manage a single dumper or a global fleet across multiple sites.

Mobile App Features

- Remote control requests

- Live dashboards

- Job/task lists

- Site progress updates

- Fleet maintenance alerts

Benefits

✅ Safety First

- Multi-user E-Stop redundancy

- Remote operation in hazardous areas

- Follow-me with operator proximity awareness

✅ Efficiency Boost

- Faster site prep with waypoint automation

- Reduced downtime via live tracking & reporting

- Optimized material movement cycles

✅ Scalable & Retrofit Ready

- Works with **any hydrostatic dumper**

- Simple retrofit installation

- Scales from **one to one hundred machines**

Vision & Future

Building Safer, Smarter Sites

Co-Pilot is more than a kit. It is a platform for connected construction – blending autonomy, telematics, and safety into one system.

Future extensions include:

- AI-based obstacle detection

- Integration with site planning software

- Predictive maintenance analytics

- Shared site dashboards for contractors & clients

System Costs

Breakdown

Category	Cost
Package	€14000
Installation	€500.00
Platform access	€50/month

Summary

iTARRA is redefining autonomy in agriculture and construction with a smart, open platform model.