Micro-ROS enabled GNSS receiver

HydraSystem introduction

Hydrasystem is young and rapidly expanding enterprise created by experienced engineers on electronics and automation. We provide state of the art positioning solutions for agricultural machines, with work automation in mind. Our main product is a system for precise localization based on real-time kinematic corrections, which enable field navigation with 1-2cm precision. Starting with localization our system can be expanded with further modules, providing navigation and automated work functions.

HydraSystem in action

An example of a tractor equipped with a Hydra Box module with an autosteer system.

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HydraSystem in action

ROS/ROS2 enabled modules

Hydra Twins example

GNSS family parameters

Hydra Box DGPS
- < 1m accuracy
- Wifi, BT, RS232,CAN(optional)
- SBAS corrections

Hydra Box
- 1-2cm accuracy
- Ethernet, Wifi, BT, RS232,CAN, RS485(optional)
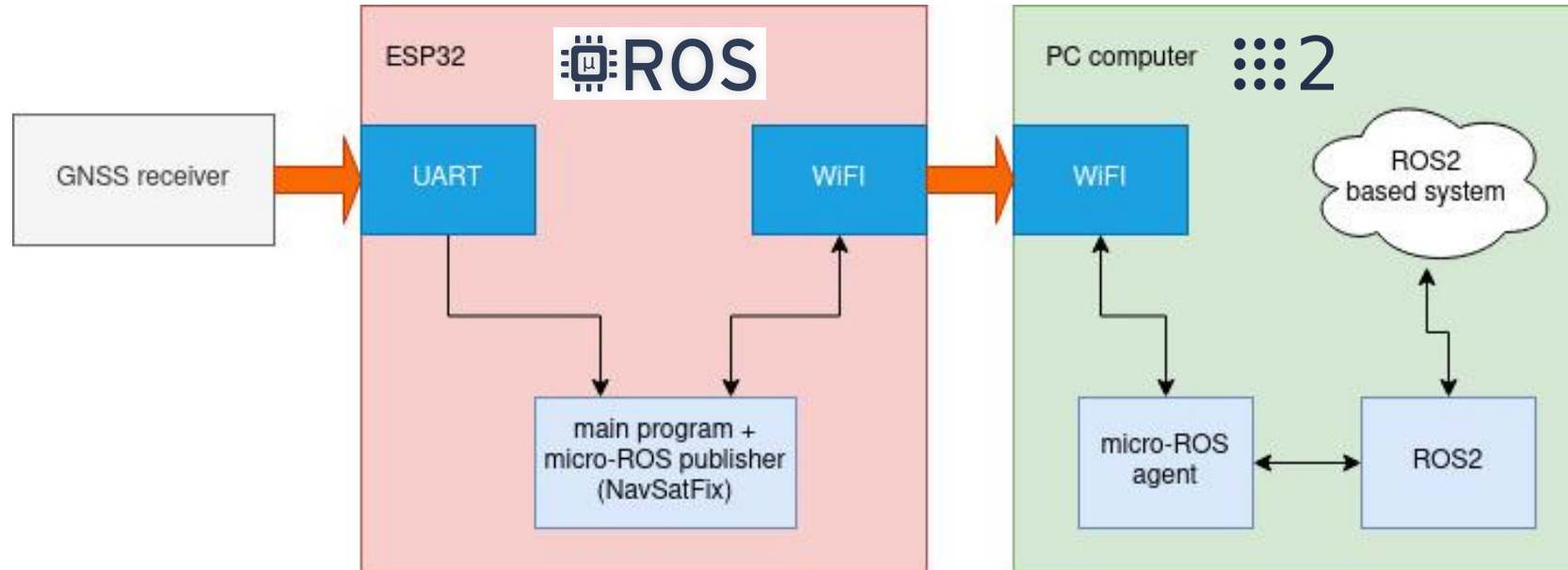- RTK corrections
- IMU

Hydra Box Twins
- < 1-2cm accuracy
- The same interfaces like Hydra Box
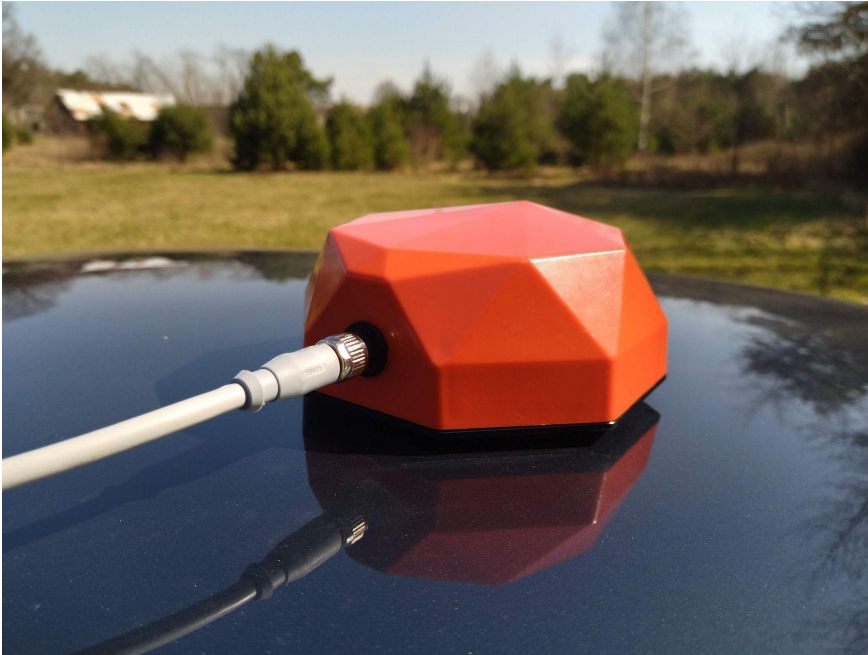- <0.5 degrees heading absolute accuracy

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ROS compatible GNSS products

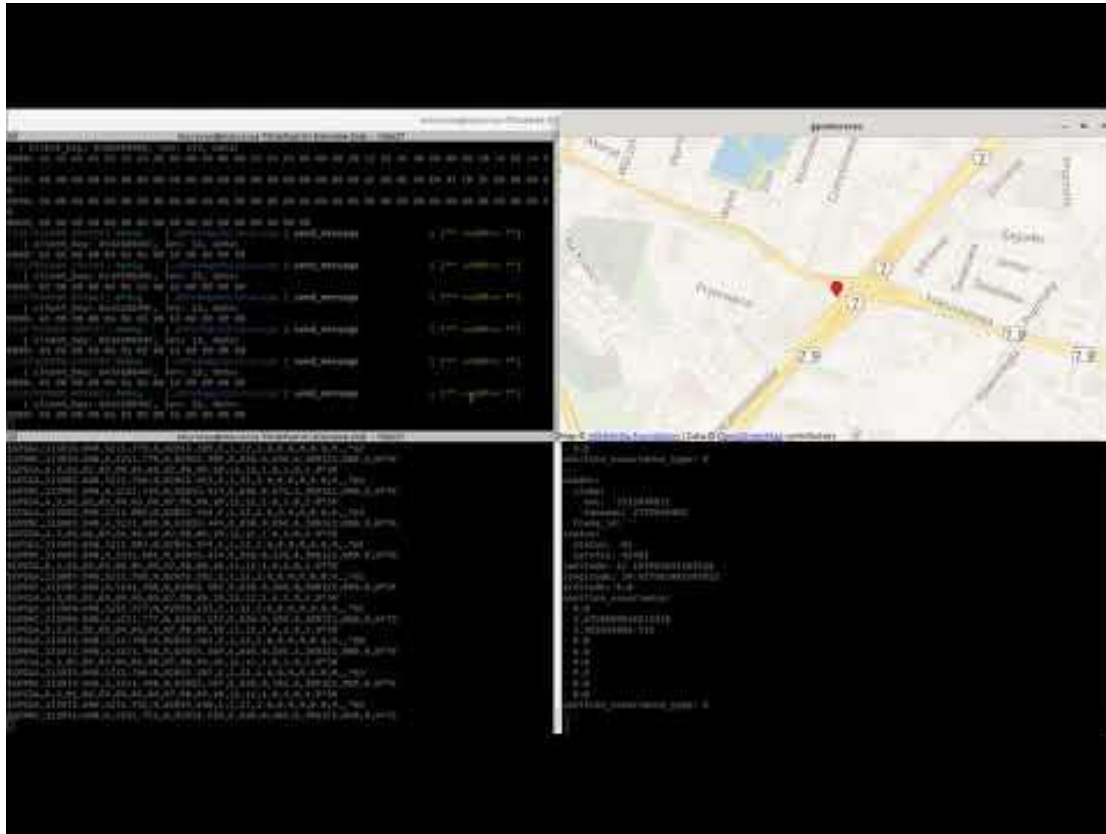|	Hydra Box DGPS	Hydra Box	Hydra Twins	Hydra Base
micro-ROS	Yes	No	No	-
ROS	No	Yes	Yes	-
ROS2	No	Yes	Yes	-
other	Based on ESP32	Smart receiver with IMX6 based computer (Yocto Linux)	Two receivers solution for absolute heading	RTK base station for Hydra Box

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micro-ROS enabled module

micro-ROS enabled module

Hydra Box DGPS
- ESP32 based
- micro-ROS on board
- NavSatFix message
- supported by

Łukasiewicz
Przemysłowy Instytut Automatyki
i Pomiarów PIAP

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GNSS micro-ROS demo

Thank you for your attention

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