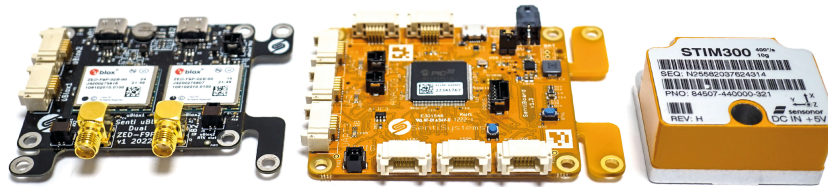




## GNSS-Inertial Sensor Package



### Introduction

The GNSS-Inertial Sensor Package is an extendable, fully synchronized, plug-and-play sensor payload with Dual GNSS receivers and an Inertial Measurement Unit (IMU). IMU measurements are time-synchronized to the GNSS to a sub-microsecond accuracy. The sensor data is forwarded to your favourite real-time middleware or logged for post-processing.

### Payload Summary

The Visual-Inertial Payload includes:

- Xsens MTI600-series IMU
- uBlox F9P Dual GNSS board
- SentiBoard
- All cables
- SentiUtils software and libraries for ROS, C/C++, Python and Matlab

SentiSystems Payloads are *sensor agnostic*, refer to Supported Sensors for an overview the sensors and Linux Host computers we have integrated so far.

## **SentiUtils Software**

The LiDAR-Inertial Payload ships with the SentiUtils software. SentiUtils includes sensor parsers, frame-to-trigger synchronization, clock filtering, and sensor monitoring. SentiUtils is a real-time host application connecting the sensors to your favourite middleware. SentiUtils support the following middlewares:

- ROS1
- ROS2
- Dune

SentiUtils can also be integrated with custom frameworks through a socket-based interface carrying SentiSystems Protobuf messages.

## **Applications**

- Positioning
- UAVs
- AGVs
- Agriculture
- Automotive

## **SentiSystems Payloads**

The SentiSystems Payloads are fully integrated plug-and-play sensor payloads. Using the SentiBoard technology the sensor events are timestamped to a sub-microsecond accuracy. Sensors can be upgraded or replaced without any hardware or software updates and without sacrificing timestamp accuracy. Integrating new and custom sensors and signals is done on request.