**Sensors:**

Current main competitor WOO use just MPU I think. Others have launched with MPU and GPS but this did not offer enough differentiation to move users away from WOO. So the commercial opportunity is totally based on improvement of accuracy of read in the vertical plain. With this in mind I have included radar as part of the prototype process. Below are links to sensors and information for each that I have found in internet with price if available.

**MPU’s – accelerometers, gyro etc all in one**

<https://www.sparkfun.com/products/13762> $14.95

<https://www.sparkfun.com/products/13284> $15.95

**Radar sensors – 40 meter min range target**

<https://www.baumer.com/gb/en/product-overview/distance-measurement/radar-sensors/distance-measurement-to-flat-or-round-objects/c/38250/products?q=%3AproductPriority%3Apa_productattribute_20707%3A0%2C5+%E2%80%A6+40+m> price tbc

<https://www.amazon.co.uk/gp/product/B01IRS2U36/ref=pe_885341_359419801_em_1p_1_lm> £9.02 (range 30m – acceptable)

**Radar Chips possible to buy TBC**

<https://www.mouser.co.uk/Semiconductors/Wireless-RF-Integrated-Circuits/RF-System-on-a-Chip-SoC/_/N-af71n?Keyword=radar&FS=True>

<https://www.mouser.co.uk/ProductDetail/Texas-Instruments/IWR1642AQAGABLR?qs=sGAEpiMZZMvQqVCO1QUke%252BSB7TLBrhorNLs4alaregMFMAjg7KUDCg%3D%3D>

**Think this is best solution???**

<https://www.arrow.com/en/research-and-events/videos/what-is-radar>

**info on radar**

<https://www.digikey.co.uk/en/articles/techzone/2016/nov/radar-sensing-for-driverless-vehicles>

**UltraSonic Sensors – 40m min range**

[https://www.aliexpress.com/item/JSN-SR04T-integrated-ultrasonic-ranging-module-waterproof-ultrasonic-reversing-radar](https://www.aliexpress.com/item/JSN-SR04T-integrated-ultrasonic-ranging-module-waterproof-ultrasonic-reversing-radar/32883393686.html?spm=2114.search0104.3.44.d0fb2901R4MiLH&ws_ab_test=searchweb0_0,searchweb201602_6_10065_10068_10130_10890_10547_319_10546_317_10548_10696_10190_453_10084_454_10083_10618_10307_10820_10303_537_536_10902_10059_10884_10887_321_322_10103-10890,searchweb201603_51,ppcSwitch_0&algo_expid=eb245af1-28e6-4448-b66b-d59ede4dd3d4-6&algo_pvid=eb245af1-28e6-4448-b66b-d59ede4dd3d4)

**Ultrasonic sensor info**

<https://www.waterworld.com/articles/iww/print/volume-16/issue-3/columns/product-focus/ultrasonic-sensors-for-water-level-measurement.html>

**GPS**

<https://uk.rs-online.com/web/p/gps-chips-gps-modules/9054630/> £30.55

<https://www.broadcom.com/products/wireless/gnss-gps-socs/bcm47755> No price

**info on GPS**

<https://www.sparkfun.com/pages/GPS_Guide>