



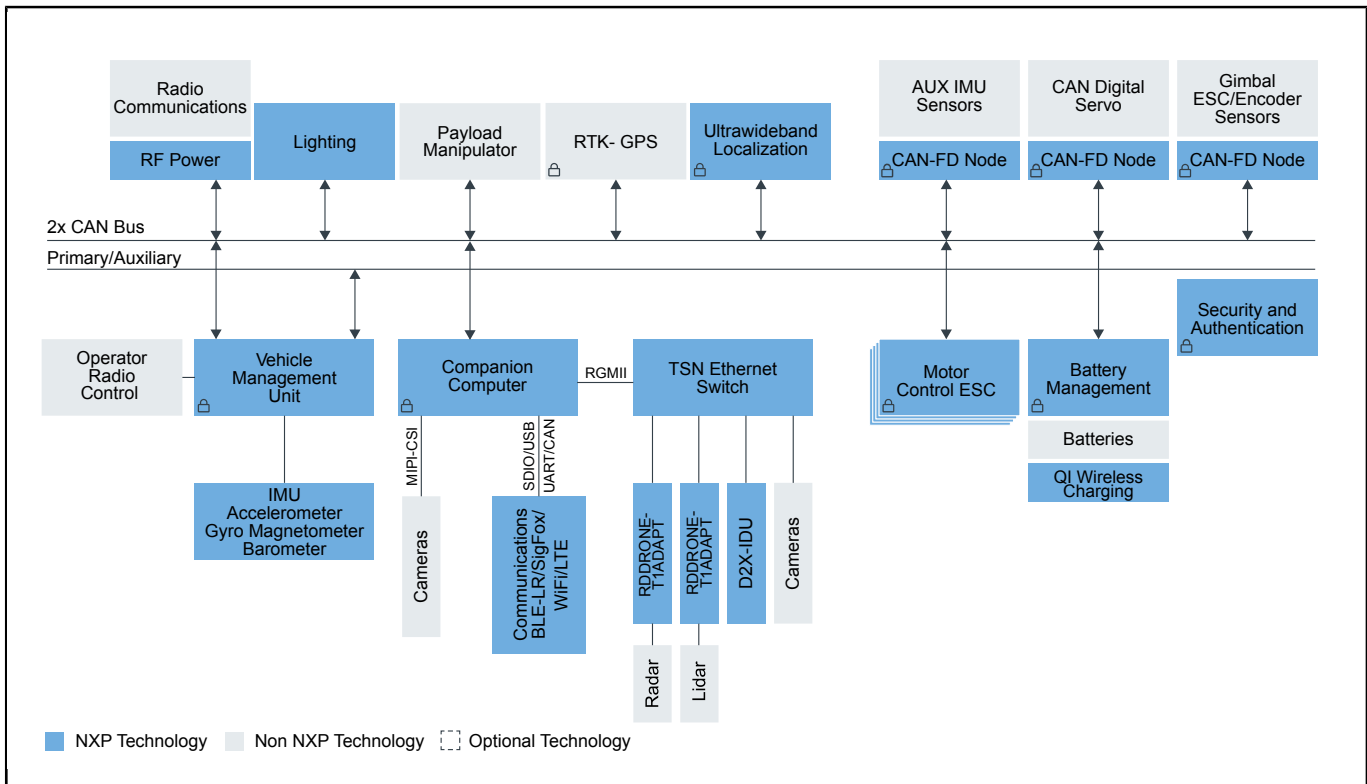
# Mobile Robotics Ecosystem

Last Updated: Mar 14, 2024

The Hovergames drone system is a modular flying robot development system that allows anyone interested in drone and automated driving technology to develop their own. The drone is PX4-enabled, the largest commercially deployed open source flight stack.

The platform is open and extensible. New components, from sensors to processors, can be easily added. The combination makes it helpful for learning and developing new forms of industrial mobility, whether it flies, roves on land or glides in water.

## Mobile Robotics Architecture Block Diagram

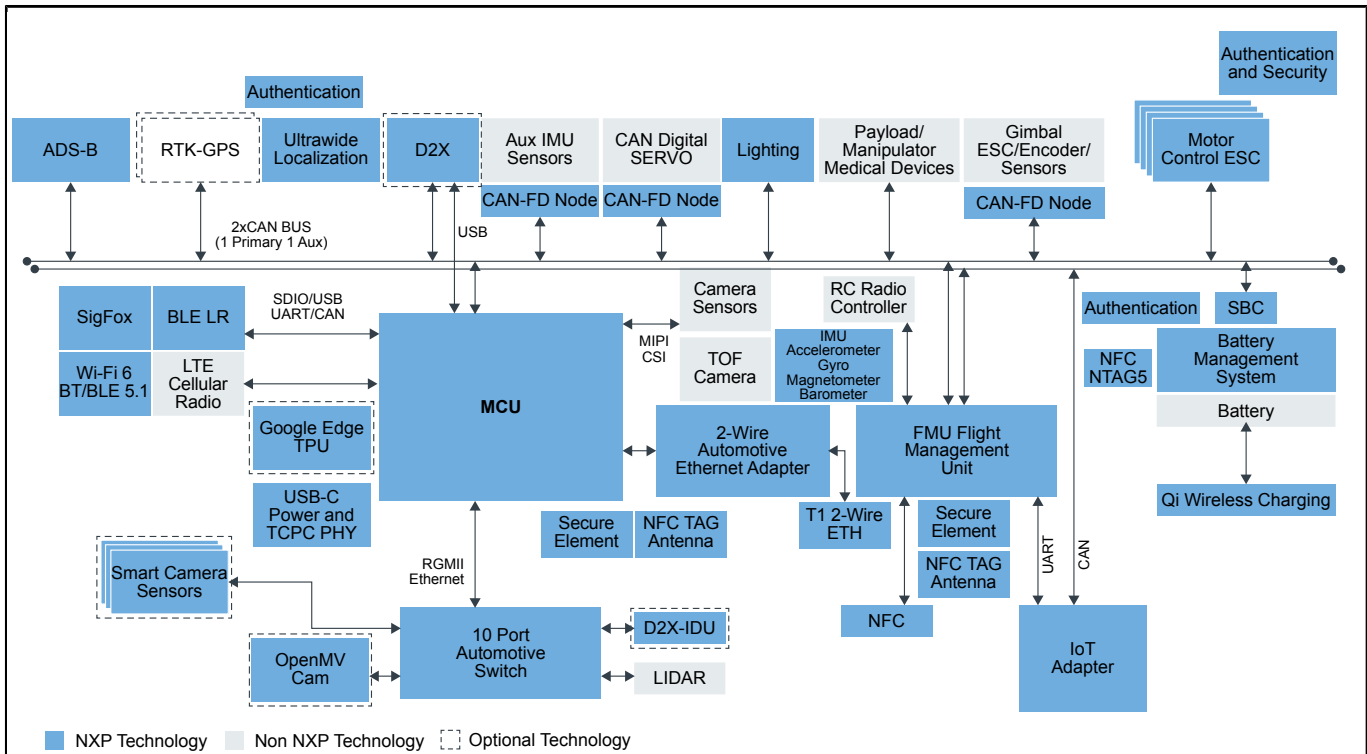


### Recommended Products for Mobile Robotics Architecture

RF Power	<ul style="list-style-type: none"> <li>• <a href="#">MMRF2010N</a>: 1030-1090 MHz, 250 W Peak, 50 V RF LDMOS Integrated Power Amplifiers</li> <li>• <a href="#">AFIC10275N</a>: 978-1090 MHz, 250 W Peak, 50 V Airfast® RF LDMOS Wideband Integrated Amplifiers</li> </ul>
Lighting	<ul style="list-style-type: none"> <li>• <a href="#">ASL341ySHN</a>: Three-Channel Automotive LED Buck Driver</li> <li>• <a href="#">ASL241ySHN</a>: Two-Channel Automotive LED Buck Driver</li> </ul>

Ultrawideband	<ul style="list-style-type: none"> <li>• <a href="#">NCJ29D5</a>: Trimension™ NCJ29D5: UWB IC for Automotive Applications</li> <li>• <a href="#">S32K1</a>: S32K1 Microcontrollers for Automotive General Purpose</li> </ul>
Ultrawideband	<ul style="list-style-type: none"> <li>• <a href="#">NCJ29D5</a>: Trimension™ NCJ29D5: UWB IC for Automotive Applications</li> <li>• <a href="#">S32K1</a>: S32K1 Microcontrollers for Automotive General Purpose</li> </ul>
CAN-FD Node	<ul style="list-style-type: none"> <li>• <a href="#">CAN with Flexible Data Rate</a>: High Speed CAN with Flexible Data Rate (CAN FD)</li> <li>• <a href="#">CAN Signal Improvement</a>: CAN Signal Improvement Capability (SIC)</li> <li>• <a href="#">Secure CAN Transceivers</a>: Secure TJA115x CAN Transceiver Family</li> </ul>
Vehicle Management Unit	<ul style="list-style-type: none"> <li>• <a href="#">i.MX RT Crossover MCUs</a>: i.MX RT Crossover MCUs</li> <li>• <a href="#">K Series Arm Cortex-M4</a>: Kinetis® K Series: High-Performance Microcontrollers (MCUs) Based on Arm® Cortex®-M4 Core</li> </ul>
IMU	<ul style="list-style-type: none"> <li>• <a href="#">FXLS8964AF</a>: ±2g/±4g/±8g/±16g, Low-Power 12-Bit Digital Accelerometer</li> </ul>
Companion Computer	<ul style="list-style-type: none"> <li>• <a href="#">i.MX8MMINI</a>: i.MX 8M Mini - Arm® Cortex®-A53, Cortex-M4, Audio, Voice, Video</li> <li>• <a href="#">i.MX8MPLUS</a>: i.MX 8M Plus – Arm® Cortex®-A53, Machine Learning, Vision, Multimedia and Industrial IoT</li> </ul>
Communications	<ul style="list-style-type: none"> <li>• <a href="#">QN9080</a>: QN908x: Ultra-Low-Power Bluetooth Low Energy System on Chip Solution</li> <li>• <a href="#">OL2385AHN</a>: Low-Power Multi-Channel UHF RF Wireless Platform</li> <li>• <a href="#">KW41Z</a>: Kinetis® KW41Z-2.4 GHz Dual Mode: Bluetooth® Low Energy and 802.15.4 Wireless Radio Microcontroller (MCU) based on Arm® Cortex®-M0+ Core</li> </ul>
TSN Ethernet Switch	<ul style="list-style-type: none"> <li>• <a href="#">SJA1110</a>: Multi-Gig Safe and Secure TSN Ethernet Switch with Integrated 100BASE-T1 PHYs</li> </ul>
D2X - IDU	<ul style="list-style-type: none"> <li>• <a href="#">SAF5400</a>: RoadLINK® SAF5400 Single Chip Modem for V2X</li> </ul>
Motor Control ESC	<ul style="list-style-type: none"> <li>• <a href="#">i.MX-RT1050</a>: i.MX RT1050 Crossover MCU with Arm® Cortex®-M7 Core</li> <li>• <a href="#">S32K1</a>: S32K1 Microcontrollers for Automotive General Purpose</li> <li>• <a href="#">KV Series Arm Cortex-M4/M0+/M7</a>: KV Series: Real-Time Motor Control and Power Conversion MCUs Based on Arm® Cortex®-M0+/M4/M7</li> </ul>
Battery Management	<ul style="list-style-type: none"> <li>• <a href="#">MC33772B</a>: 6-Channel Li-Ion Battery Cell Controller IC</li> <li>• <a href="#">S32K1</a>: S32K1 Microcontrollers for Automotive General Purpose</li> </ul>
Security and Authentication	<ul style="list-style-type: none"> <li>• <a href="#">SE050</a>: EdgeLock® SE050: Plug and Trust Secure Element Family – Enhanced IoT security with high flexibility</li> </ul>
Qi Wireless Charging	<ul style="list-style-type: none"> <li>• <a href="#">Single Coil Wireless Power Solution</a></li> </ul>
Ethernet Media Converter	<ul style="list-style-type: none"> <li>• <a href="#">Ethernet Media Converter for Drones, Rovers, Mobile Robotics and Automotive</a></li> </ul>
Ethernet Media Converter	<ul style="list-style-type: none"> <li>• <a href="#">Ethernet Media Converter for Drones, Rovers, Mobile Robotics and Automotive</a></li> </ul>

## Hovergames Drone Systems Block Diagram



**Recommended Products for Hovergames Drone Systems**

Authentication	<ul style="list-style-type: none"> <li>• <a href="#">SE050</a>: EdgeLock® SE050: Plug and Trust Secure Element Family – Enhanced IoT security with high flexibility</li> </ul>
Authentication	<ul style="list-style-type: none"> <li>• <a href="#">SE050</a>: EdgeLock® SE050: Plug and Trust Secure Element Family – Enhanced IoT security with high flexibility</li> </ul>
Authentication	<ul style="list-style-type: none"> <li>• <a href="#">SE050</a>: EdgeLock® SE050: Plug and Trust Secure Element Family – Enhanced IoT security with high flexibility</li> </ul>
CAN-FD NODE	<ul style="list-style-type: none"> <li>• <a href="#">S32K1</a>: S32K1 Microcontrollers for Automotive General Purpose</li> <li>• <a href="#">CAN with Flexible Data Rate</a>: High Speed CAN with Flexible Data Rate (CAN FD)</li> <li>• <a href="#">CAN Signal Improvement</a>: CAN Signal Improvement Capability (SIC)</li> <li>• <a href="#">Secure CAN Transceivers</a>: Secure TJA115x CAN Transceiver Family</li> </ul>
Lighting	<ul style="list-style-type: none"> <li>• <a href="#">PCA9685</a>: 16-Channel, 12-Bit PWM Fm+ I<sup>2</sup>C-Bus LED Controller</li> <li>• <a href="#">ASL341ySHN</a>: Three-Channel Automotive LED Buck Driver</li> <li>• <a href="#">ASL5XXXHZ</a>: Smart Matrix LED Controller for Automotive Lighting</li> </ul>
SBC	<ul style="list-style-type: none"> <li>• <a href="#">UJA1169ATK</a>: Mini High-Speed CAN System Basis Chip</li> </ul>
NFC	<ul style="list-style-type: none"> <li>• <a href="#">NTAG5-BOOST</a>: NTAG® 5 Boost: NFC Forum-Compliant I<sup>2</sup>C Bridge for Tiny Devices</li> <li>• <a href="#">NCx3320</a>: Automotive-Grade NFC Frontend IC</li> </ul>
NFC	<ul style="list-style-type: none"> <li>• <a href="#">NTAG5-BOOST</a>: NTAG® 5 Boost: NFC Forum-Compliant I<sup>2</sup>C Bridge for Tiny Devices</li> <li>• <a href="#">NCx3320</a>: Automotive-Grade NFC Frontend IC</li> </ul>
NFC	<ul style="list-style-type: none"> <li>• <a href="#">NTAG5-BOOST</a>: NTAG® 5 Boost: NFC Forum-Compliant I<sup>2</sup>C Bridge for Tiny Devices</li> <li>• <a href="#">NCx3320</a>: Automotive-Grade NFC Frontend IC</li> </ul>

Sensors	<ul style="list-style-type: none"> <li>• <a href="#">Accelerometers</a>: Accelerometers</li> <li>• <a href="#">Barometric Pressure 15 to 150 kPa</a>: Barometric Pressure 15 to 150 kPa</li> </ul>
USB-C	<ul style="list-style-type: none"> <li>• <a href="#">PTN5110</a>: USB PD TCPC PHY IC</li> <li>• <a href="#">NX20P3483UK</a>: USB PD and Type-C High-Voltage Sink/Source Combo Switch with Protection</li> </ul>
Bluetooth + Wi-Fi 6	<ul style="list-style-type: none"> <li>• <a href="#">Wi-Fi&amp;reg + Bluetooth&amp;reg + 802.15.4</a>: Wi-Fi&amp;reg + Bluetooth&amp;reg + 802.15.4</li> </ul>
Bluetooth + Wi-Fi 6	<ul style="list-style-type: none"> <li>• <a href="#">Wi-Fi&amp;reg + Bluetooth&amp;reg + 802.15.4</a>: Wi-Fi&amp;reg + Bluetooth&amp;reg + 802.15.4</li> </ul>
SigFox	<ul style="list-style-type: none"> <li>• <a href="#">OL2385AHN</a>: Low-Power Multi-Channel UHF RF Wireless Platform</li> </ul>
Automotive Switch	<ul style="list-style-type: none"> <li>• <a href="#">SJA1110</a>: Multi-Gig Safe and Secure TSN Ethernet Switch with Integrated 100BASE-T1 PHYs</li> <li>• <a href="#">VR5510</a>: Multi-Channel (9) PMIC for S32G Processor – 8 High Power, 1 Low Power, Fit for ASIL D Safety Level</li> </ul>
Google Edge TPU	<ul style="list-style-type: none"> <li>• <a href="#">Coral Dev Board TPU</a></li> </ul>
D2X - IDU	<ul style="list-style-type: none"> <li>• <a href="#">i.MX 6 Processors</a>: i.MX 6 Series Applications Processors: Multicore, Arm® Cortex®-A7 Core, Cortex-A9 Core, Cortex-M4 Core</li> </ul>
Smart Camera	<ul style="list-style-type: none"> <li>• <a href="#">Front View Camera</a>: Front View Camera</li> <li>• <a href="#">i.MX8MMINI</a>: i.MX 8M Mini - Arm® Cortex®-A53, Cortex-M4, Audio, Voice, Video</li> </ul>
OpenMV Cam	<ul style="list-style-type: none"> <li>• <a href="#">i.MX-RT1060</a>: i.MX RT1060: Crossover MCU with Arm® Cortex®-M7</li> </ul>
Motor Control ESC	<ul style="list-style-type: none"> <li>• <a href="#">KV4x</a>: Kinetis KV4x-168 MHz, High Performance Motor / Power Conversion MCUs based on Arm® Cortex®-M4</li> <li>• <a href="#">i.MX RT Crossover MCUs</a>: i.MX RT Crossover MCUs</li> <li>• <a href="#">S32K1</a>: S32K1 Microcontrollers for Automotive General Purpose</li> </ul>
Qi Wireless Charging	<ul style="list-style-type: none"> <li>• <a href="#">Single Coil Wireless Power Solution</a></li> </ul>
Battery Management Systems	<ul style="list-style-type: none"> <li>• <a href="#">Smart Battery Management for Mobile Robotics</a></li> </ul>
IoT Adapter	<ul style="list-style-type: none"> <li>• <a href="#">Rapid-IOT to Drone Adapter Board</a></li> <li>• <a href="#">NXP® Rapid IoT Prototyping Kit</a></li> </ul>
Ethernet Media Converter	<ul style="list-style-type: none"> <li>• <a href="#">Ethernet Media Converter for Drones, Rovers, Mobile Robotics and Automotive</a></li> </ul>
PX4 Robotic Drone FMU (RDDRONE-FMUK66)	<ul style="list-style-type: none"> <li>• <a href="#">PX4 Robotic Drone Vehicle/Flight Management Unit (VMU/FMU) - RDDRONE-FMUK66</a></li> </ul>
Ultrawideband	<ul style="list-style-type: none"> <li>• <a href="#">NCJ29D5</a>: Trimension™ NCJ29D5: UWB IC for Automotive Applications</li> <li>• <a href="#">S32K1</a>: S32K1 Microcontrollers for Automotive General Purpose</li> </ul>

D2X - IDU	<ul style="list-style-type: none"><li>• <a href="#">SAF5400</a>: RoadLINK® SAF5400 Single Chip Modem for V2X</li></ul>
Ethernet Media Converter	<ul style="list-style-type: none"><li>• <a href="#">Ethernet Media Converter for Drones, Rovers, Mobile Robotics and Automotive</a></li></ul>

View our complete solution for [Mobile Robotics Ecosystem](#).

**Note:** The information on this document is subject to change without notice.

---

**[www.nxp.com](http://www.nxp.com)**

NXP and the NXP logo are trademarks of NXP B.V. All other product or service names are the property of their respective owners. The related technology may be protected by any or all of patents, copyrights, designs and trade secrets. All rights reserved. © 2024 NXP B.V.