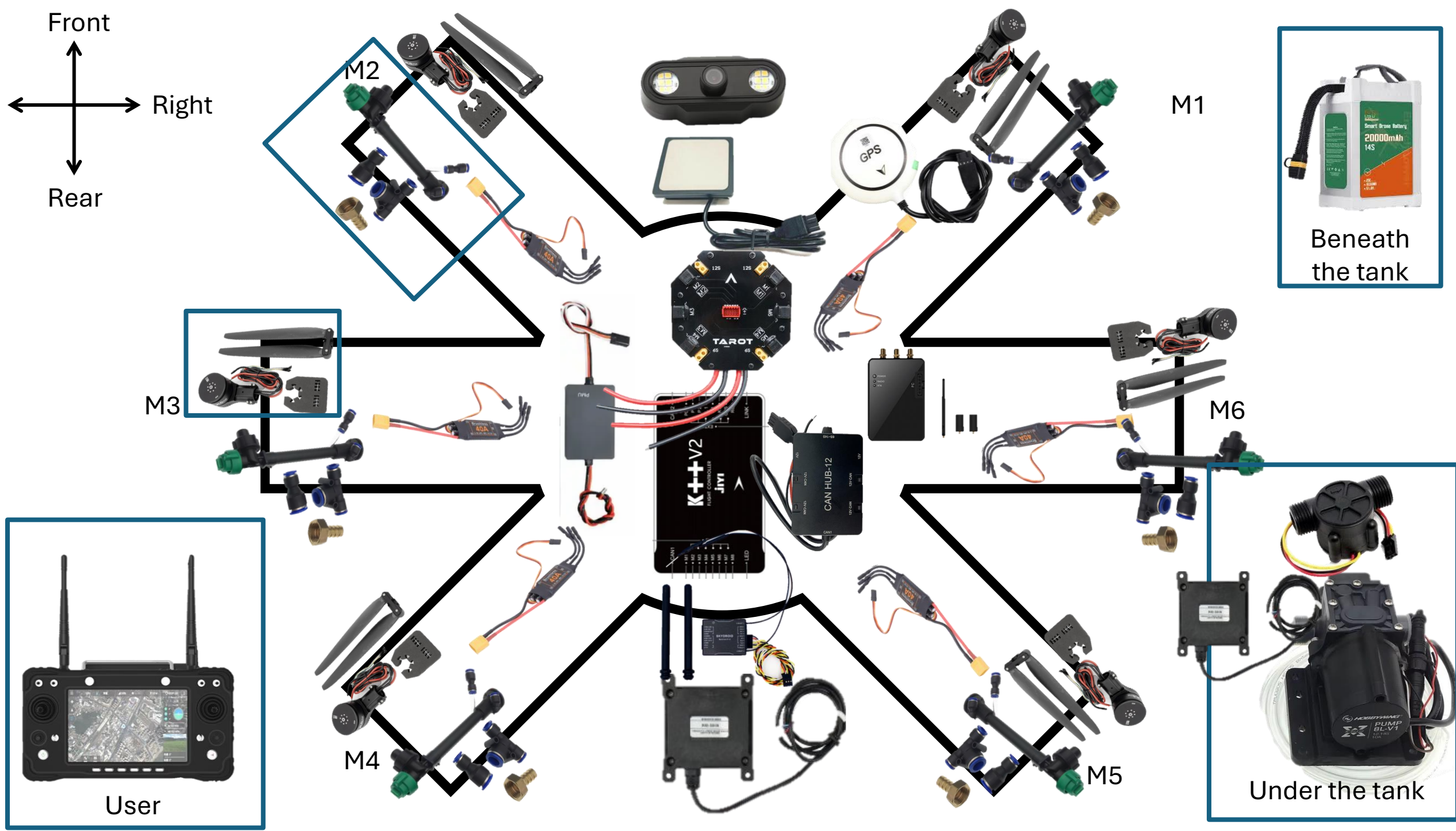


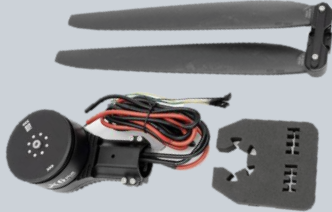






Agricultural Drone System Architecture




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MECH 4362 Robotics Hardware Systems



Picture	Name	Function
	Propeller and brushless motor	<p>Propeller- Converts the rotational motion from the motor into thrust, enabling the drone to lift off, hover, and maneuver.</p> <p>Brushless Motor- Provides the rotational force to spin the propeller efficiently and reliably.</p>
	ESC (Electronic Speed Controller)	<p>Controls the speed and direction of the brushless motor by regulating the power supply from the battery.</p>
	Sprayer, pump and flow sensor	<p>Sprayer- Disperses over the target area.</p> <p>Pump- Ensures a continuous flow of liquid from the storage tank to the sprayer.</p> <p>Flow Sensor- Monitors and measures the rate of liquid flow to ensure accurate application and avoid wastage.</p>

Picture	Name	Function
	Power Distribution Unit	Distributes power from the main source to other components.
	Original JIYI K++ flight control Dual CPU optional obstacle avoidance radar Special agricultural drone	<p>Flight Controller - Acts as the brain of the drone, managing its stability, navigation, and control.</p> <p>CANHUB- Acts as a bridge between the flight controller's internal CAN bus and external devices, enabling communication and data transfer</p> <p>PMU (Power Management Unit) - Regulates and monitors the power supplied to the drone's components.</p> <p>Front and Rear Obstacle Avoidance Sensor - Detect obstacles in the drone's flight path to prevent collisions.</p> <p>GPS- Provides precise location data for navigation and positioning.</p>

Picture	Name	Function
	Skydroid H16pro HD Display Screen 1080P Video Transmission Agriculture Spraying Remote Controller Give away LED camera	Remote Controller- Control the drone FPV Camera - Captures visual data for imaging, mapping, and surveillance. Multilink Receiver- Receiving radio control signals from the transmitter (remote control), decoding them, and translating them into commands to control the drone's flight movements, while simultaneously transmitting real-time HD video footage and telemetry data back to the pilot
	RTK Unit	Records GPS information and geotags images as they're captured during flight
	Battery Pack	Provide source of energy for the drone to function.