

Drone Platform Comparison Matrix

Feature	Multirotor	Fixed-Wing	Hybrid VTOL
Flight Time	20-45 minutes	1-2+ hours	45-120+ minutes
Range	5-10 km	50-100+ km	20-60+ km
Hover Capability	Excellent	None	Good
Payload Capacity	Moderate (0.5-5 kg)	High (1-10+ kg)	Moderate-High (1-8 kg)
Speed	Moderate (40-80 km/h)	High (80-150+ km/h)	High (70-120 km/h)
Maneuverability	Excellent	Limited	Good
Launch/Recovery	Simple, vertical	Requires runway/launcher	Vertical, no infrastructure
Stability	High in low wind	Moderate, needs airflow	Moderate-High
Size/Portability	Highly portable	Larger, less portable	Moderate portability
Cost	Low-Moderate	Moderate-High	High
Ideal Use Cases	<ul style="list-style-type: none">• Aerial photography• Building inspection• Search & rescue• Precision agriculture• Surveillance• Delivery in confined areas	<ul style="list-style-type: none">• Large area mapping• Long-range surveillance• Pipeline inspection• Border patrol• Large-scale agriculture	<ul style="list-style-type: none">• Search & rescue• Delivery over distance• Infrastructure inspection• Mapping with detail work• Situations requiring both range and hovering
Limitations	<ul style="list-style-type: none">• Limited flight time• Reduced range• Wind sensitivity	<ul style="list-style-type: none">• No hover capability• Launch/landing space• Less maneuverable	<ul style="list-style-type: none">• Higher complexity• Higher cost• Reduced efficiency compared to pure fixed-wing