IoTechWorld Avigation Pvt Ltd

BUISLDING DRONE ECOSYSTEM

PLOT #1643, SECTOR 52, GURUGRAM, HARYANA

IoTechWorld Avigation Pvt Ltd

DIRECTORS

1. Mr. Deepak Bhardwaj – B-tech & MBA
   20+ Years Industry Exp in India, Japan, China

2. Mr. Anoop Upadhyay – B-Tech,
   20+ Years Industry Exp in India, USA, Malaysia

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OUR JOURNEY

2015-16
Conceptualizing,
Started R&D in
USA and INDIA

2017
Incorporated
Company in India

2018
Sold first Drone,
Applied for Govt
approval

2019
Involved in Govt Drone
Policy with IARI, MOA&FW
R&D with Bayer

Obtained DGCA
approval for AGRIBOT,
Business agreement
with MNCs like Bayer,
Sumitomo.

2020
Tenders Awarded:
DRDO, MOA&FW,
Focus online marketing

Orders: Haryana
& Punjab Agri
Universities, etc.
Other customers

2021
Expand dealers' network
Manufacturing unit setup
More corporates engagements
Genset Integration
Crop Health Monitoring VTOL

2022
Expand dealers' network,
DGCA approvals for Fixed wing
VTOL, Multi-lingual UI/ UX

2023
More AI & ML features
International expansion
Raise Series A Funding

2024
Heavy Lifting drone,
Night vision capability,

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USECASES/PRESENCE IN STATES

1- India's First Type Certified DGCA approved drone manufacturer
2- Presence in terms of network – Haryana, Punjab, Rajasthan, UP, Madhya Pradesh, Gujarat, Maharashtra, Telangana, Karnataka
3- Service Centres – Haryana (Karnal), Punjab (Khanna), Maharashtra (Pune), MP (Bhopal), Rajasthan (Jaipur), Gujarat (Ahmedabad), Telangana (Hyderabad)
4- Crop Sprayed – Paddy, Wheat, Sugarcane, Cotton, Red Chilli, Moong, Chana, Arhar, Mustard, Potato, Groundnut etc/Horticulture – Pomegranate, Apple, Kinoo, Ashwagandha, Cashew,

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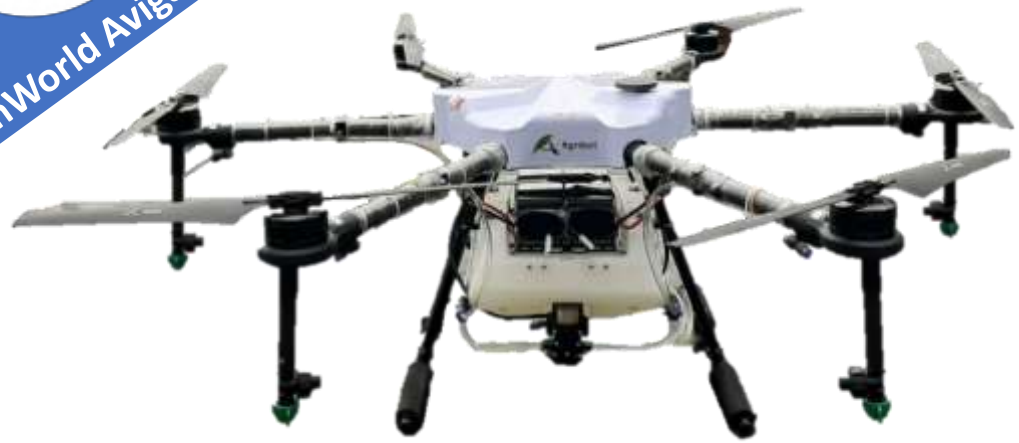
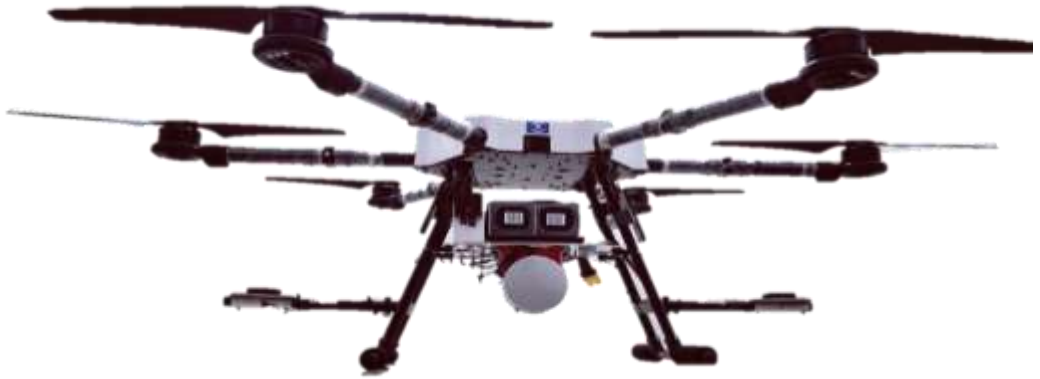
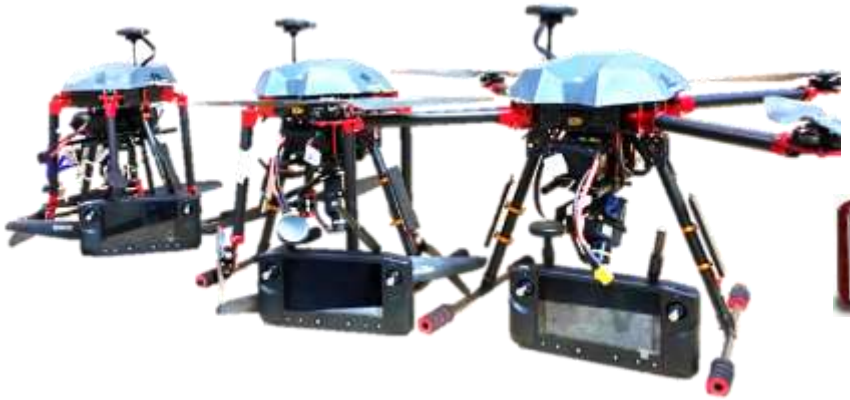
PRODUCTS PORTFOLIO

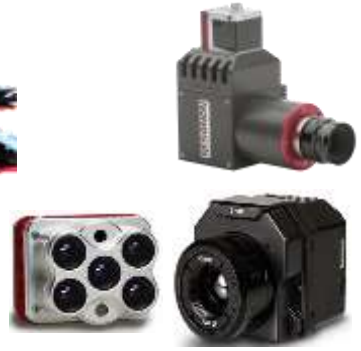


AGRIBOT (DGCA Approved)



SURVEYBOT (DGCA Approved)





Payloads

DRISHTI
(For Defense/Govt Sector)

HEAVYBOT
(For Defense/Govt Sector)

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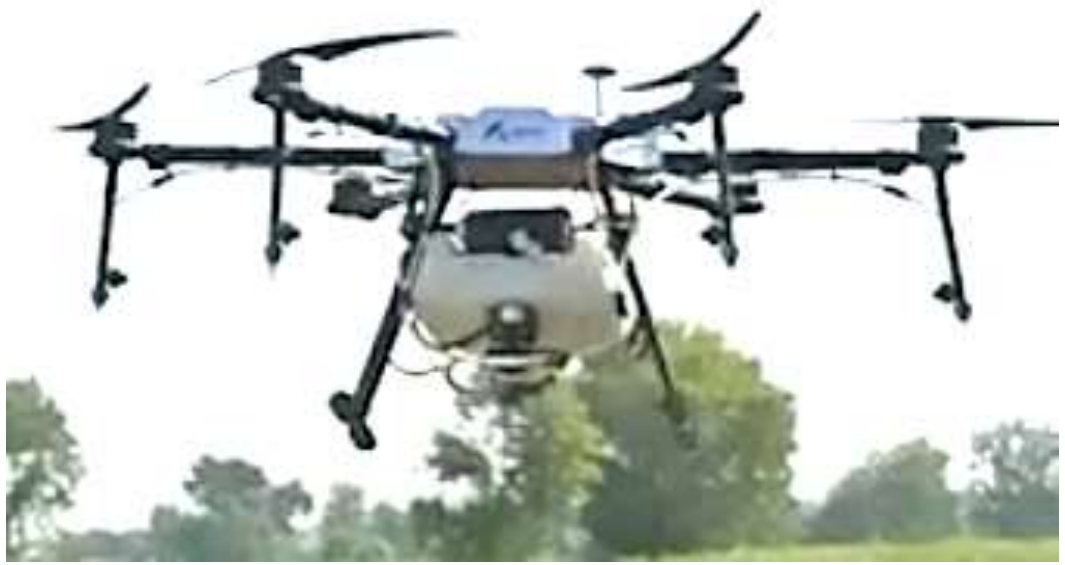
AGRIBOT



S. No	FEATURES	DESCRIPTION
1	Type	Hexacopter (6 Motor)
2	Tank Capacity	10L as approved by Govt. Of India.
3	Acreage per day	30 acres per day
4	Range	500mtr
5	Time of flight	Up to 20 minutes with one set of Li-Po battery
6	Collision avoidance	Obstacle detection up to 22m and avoidance.
7	Legal Compliance	Compliant to DGCA

S. No	AGRIBOT	IMPORTED UAV
1	Agribot UAV is completely Made In India. DGCA Complaint.	Import is restricted, National security issue as these are not DGCA compliant
2	SERVICE AFTER SALES is local. Spare parts, Software and Firmware updates, Training, AMC is locally. It reduces overall down time of the UAV in case of any failure.	During any failure, UAV must be sent back to country of origin for any repair and upgrade support following all the custom clearance procedures which actual is time consuming hence will impact UAV downtime adversely.

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COMPARISON

जल शक्ति अभियान
संचय जल, बेहतर कल

PARAMETER	MANUAL / TRACTOR SPRAY	DRONE SPRAY
PRECISION	Not uniform prone to human error	Scientific way using GPS and RTK (Real Time Kinematics) based precise and accurate location spraying following a predefined pattern
CONTROL	Manual control which is prone to human error	Very fine and precise electronic stepwise control on Nozzle flow rate using remote control
WATER SAVING	Knapsack uses 100 - 150 Liters per acre. Tractor mounted boom sprayer uses 400 – 600 Liters per acre.	Up to 10 Liters water required per acre and hence, Minimum 90% savings in water
CAPABILITY	Knapsack can cover 1 Hectare in 8 Hours, Tractor mounter sprayer can cover 1 Hectare in 1 Hour.	Drone can cover 1 Hectare in 10 Minutes.
QUALITY OF SPRAY	Improper and Non-Uniform coverage of crops.	With ULV nozzles it provides precise and uniform spray.
CHEMICAL UTILIZATION EFFICIENCY	40% of chemical is used effectively. Rest goes waste and pollutes ecological environment.	More than 95% utilization of chemicals. Useful in maintaining ecological environment.
HEALTH OF FARMER	Human exposure to chemicals while spraying leads to various health hazards. 1000 of farmers die every year.	**Eliminates** any such issues as farmer always remain far from spray area.
ADAPTIBILITY	Difficult for farmers to work in wet-farms, in step farms, Orchids, Beverage crops on mountain, tall (Sugarcane), bushy (Cotton).	Easily farmer can spray anywhere as, it has Autonomous flying. Using Google map drone can cover any area even in uneven & tough terrain (Step farms/Wet farms/Orchids/etc.)
DEPENDENCY ON LABOR	Big landholding farmers are totally dependent on availability of Labor. They face lot of loss. **In sudden pest/disease outbreak they become vulnerable.**	No dependency on farm labor, Day & Night operation is possible.
YIELD	Crop damage because of human entering in it for spray, Need to leave more space between crops for human.	At least 5-10% saving as no branch or crop is damaged by human need to enter farm. For spray – no need to leave walkways.

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REQUIREMENT

- FLIGHT TIME WITH ONE BATTERY SET = 20 MINUTES
- ONE SPRAY CYCLE TIME (FLY + FILL) = 7 MINUTES(App)
- IN ONE HOUR AGRIBOT CAN COVER = 4 ~ 5 ACRES (INCLUDING MOTOR COOLING TIME)
- OPTIMUM COVERAGE PER DAY = 30 ACRES
- ONE BATTERY SET- CHARGING TIME = 1 HOUR
- MINIMUM BATTERY SETS REQUIRED = 6 SETS (12 PCS)

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COST CALCULATION PER ACRE FOR "SERVICE PROVIDERS"

SR. NO.	EXPENSE HEAD	CAPEX/OPEX	QTY	UNIT	PERICE/UNIT	NET COST	AMORTISATION DAYS	COST/DAY
1	AGRIBOT (10L) - With 1 Set of Batter	CAPEX	1	NOS	6,78,000	6,78,000	3 Years (365X3)	619.18
2	Charging Hubs	CAPEX	2	NOS	13,200	26,400	3 Years (365X3)	24.11
3	Pilot License (Validity - 10 Yrs)	CAPEX	1	NOS	65,000	65,000	10 Years (365X10)	17.81
4	Insurance (3rd Party)	CAPEX	1	NOS	37,600	37,600	1 Years (365)	103.01
5	Vehicle (Maruti Eco)	CAPEX	1	NOS	5,00,000	5,00,000	10 Years (365X10)	136.99
6	**Total Battery Cost (Li-Ion)	CAPEX	22	NOS	36,000	7,90,963	5993 Acres	2,167.02
7	Fixed Office Charges	CAPEX	1	NOS	3,000	36,000	Per Year (365 days)	98.63
8	Pilot Salary/Day/Year	OPEX	1	NOS	833	3,00,000	182 days	1,666.67
9	Co-Pilot Salary/Day/Year	OPEX	1	NOS	500	1,80,000	182 days	1,000.00
10	Repair & Maintenance/Year	OPEX	1	NOS	45,340	45,340	Per Year	124.22
11	Working Capital	OPEX	1	NOS	1,50,000	1,50,000	182 days	824.18
	TOTAL CAPEX COST - (SR. 1-7)					INR	PER DAY	3,166.75
	TOTAL OPEX COST - (SR. 8-11)					INR	PER DAY	3,615.06
							TOTAL OPERATIONAL COST/DAY	6,781.81
							ACRES PER DAY IN 8 HOURS	30.00
							COST OF THE DRONE/ACRES	**226.06**

DRONE SPRAY SERVICE C	500.00

** 10 additional batteries are required to spray 30 acres/day
** After every 500 acres, Battery needs to be replaced with new one
** Battery Life = 250 Cycles 1 Cycle = 2 Acres
** Spray window is = 200 Days Per Year

INPUTS		
SPRAY DAYS PER YEAR		
Days/Year	365	Days
Monsoon	60	Days
Non Working	60	Days
Festival	18	Days
Working window	227	Days
Idle days - 12%	27	Assumption
Active window	200	Spray Days/Year (Including Agrochemical & Fertilizers)

Spray Days Per Year	200	
Spray Acres Per Day	30	
Total Acres Per Year	5993	

Total Battery Required		
Battery Cycle/Set	250	Li-Ion Batteries
Acres Per Cycle/Set	2	2 Acres Per Charge of Battery Set
Total Acres/Battery Se	500	Acres
Req Battery Sets	12	To Spray 5448 Acres
No of Batteries	24	(2+10) - 2 in drone cost

LOCUST CONTROL

दैनिक भास्कर

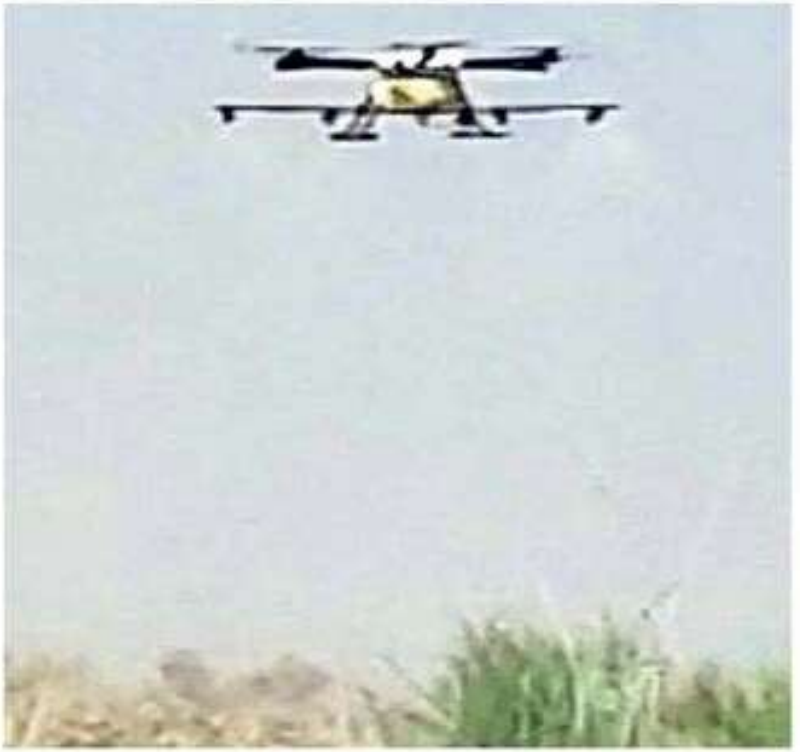
टिड्डी नियंत्रण को लेकर अब सिंध की सरकार कराएगी हवाई स्प्रे, चीन एवं यूएई से मांगी मदद

दोस्त अली | बाड़मेर

...के
...ांत
...ाबे
...त्री
...एवं
...में
गिरदावरी करने के निर्देश दे गए।

केंद्रीय कृषि मंत्री कैलाश चौधरी ने भी प्रभावित क्षेत्र का दौरा कर किसानों से रूबरू हुए थे। पिछले दो दिन से राजस्व मंत्री हरीश चौधरी पूरी रात विभिन्न क्षेत्रों में जाकर किसानों से मिल रहे हैं। चौधरी ने जिला प्रशासन से प्रभावी मॉनिटरिंग के निर्देश भी दिए हैं। उधर, पड़ोसी मुल्क पाकिस्तान ने काफी देर बाद अब टिड्डी नियंत्रण के लिए हवाई छिड़काव करने की तैयारी की है। सिंध के मुख्यमंत्री सैयद मुराद अली शाह ने सोमवार को कृषि मंत्रालय

10 लीटर की क्षमता का ड्रोन 8 दिन में 500 एकड़ में टिड्डी मारेगा



पाकिस्तान से आ रहे टिड्डियों के खात्मे के लिए केंद्रीय कृषि एवं किसान

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BUSINESS RELATIONS

INDIAN INSTITUTE OF TECHNOLOGY KANPUR

INDIAN AGRICULTURAL RESEARCH INSTITUTE

CHAUDHARY CHARAN SINGH HARYANA AGRICULTURAL UNIVERSITY 1970

PUNJAB AGRICULTURAL UNIVERSITY 1962

ReXil Agro BV

NETHERLANDS

CSIR-INDIA

IHBT

CSIR-NAL

DRDO DEFENCE R&D ORGANISATION MINISTRY OF DEFENCE

उत्तराखण्ड वन विभाग

इसरो ISRO

BAYER

TATA STEEL

SUMITOMO CHEMICAL

FLIR

USA

APEX TEC

OMAN

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THANKS