

# XAG CORPORATE SOCIAL RESPONSIBILITY REPORT 2020



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**ADVANCING AGRICULTURE**



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# EDITORIAL

## “DIGITAL AGRICULTURE, THE PATH FOR SUSTAINABLE DEVELOPMENT”

Around 1920, a flu outbreak took the lives of tens of millions of people worldwide. In 2020, a similar virus struck, overwhelming the defenses of modern society and posing a huge risk to the global economy. Owing to digital technology, the number of fatalities resulting from this pandemic are much lower. Health codes and cloud consultation have improved the efficiency of the health system; online entertainment and social networking have effectively curtailed negative emotions; and virtual offices and video conferences have significantly reduced the impact of the epidemic on business operation.

Human beings, after all, are social creatures who need connection. Given that the virus is also spreading via human-to-human contact, digital technology, which is contact-free by nature, has become our best weapon against COVID-19. The pandemic highlights the advantages of the digital world, which humans have begun a massive migration to. Many places in the physical world have become "manless" while the digital

world has seen the introduction of more and more "digital men". As explored in Steven Spielberg's movie "Ready Player One", every natural person will have one or more digital identities in the future. Digital people can lead all kinds of lives in the virtual game world. They can travel around the world without ever leaving home, work remotely across borders without traveling, and digitally manage the farms of the physical world.

With the rapid development of 5G, cloud computing, and AI technology, the power of digital people will become even stronger. Digital interaction will gradually become the basic form of social participation, and in a sense, human can achieve a kind of "digital immortality". This may be the biggest change of society in the 21st century and will have a profound impact on history.

People, both as producers and consumers, show different economic characteristics at different ages. People are primarily consumers in their early and old

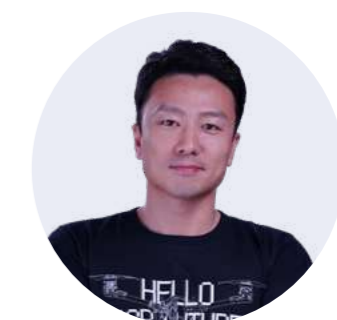
age, consuming more than they produce. In China, the number of working-age people began to decline significantly after 2008, with the producer-to-consumer ratio also beginning to fall. In fact, globally, there are fewer and fewer producers while the number of consumers continue to rise.

However, according to the United Nations, the world may not be able to feed the growing population by 2050. The current agriculture system still heavily relies on excess pesticides and fertilizer. Food security and safety become the main focus of sustainable development.

Seven years ago, with devotion to tech and passion for land, we knocked on the door of smart agriculture with drones. Today, from the wineries in South Australia, the Northern Wilderness in Heilongjiang, to the orchards in California, over 52 million hectares of farmland have embraced intelligent production due to our technology. As XAG reaches increasing sophistication in its product offerings, our dream is turning into reality: to put more

food and safer food on people's tables; and make every farmer committed to scientific cultivation to have fair returns and recognition.

Yes, we are driving a great technological change. It is taking place in rural areas, but will ultimately reach each and every human being.



**Justin Gong**

Co-founder of XAG  
February 2021, Guangzhou

# HELLO, THIS IS XAG

## About XAG

On 1 April 2007, XAG was founded by a group of geeks with a dream of using technology to change the world. Now, it is a world-leading agritech company which delivers efficient, accurate and safe agricultural production solutions to 9.31 million farmers across 42 countries and regions.

Over the past 13 years, we've never faltered in our pursuit of innovation, instead constantly pushing the boundaries of what technology can achieve, to transform agriculture and tackle global challenges such as hunger, poverty, land degradation and resource

shortages.

We have introduced unmanned technology to the oldest industry on this planet, helping farmers improve their yield and quality of food. Today, with advanced R&D capabilities, we have launched six product lines – the agricultural drone, remote sensing drone, unmanned ground vehicle, autopilot console, agriculture IoT, and smart agriculture system to make more farmers enjoy the benefits of agritech. We are now in the journey to the future, making agriculture more efficient and eco-friendlier, invigorating the rural

economy, and granting farmers equal access to development.

We hold the firm belief that technology is a great equalizer, as CSR is not only our commitment to society but also our major business. While contributing to change agriculture through technological innovation, we are also committed to creating more economic, social and environmental value. In 2020, we were honored to be the only Chinese company winning the Reuters Responsible Business Awards, which reaffirms our confidence in our ideals and goals.



Number of Countries and Regions Covered

42



Number of Farmers Served

9.31+ million



Market Share in Agricultural Drone (China)

53%

Business Performance



Mission

Advancing Agriculture



Vision

We aim to build the agricultural infrastructure of the next 100 years that will provide the world with sufficient, diversified, and safe food.



# Milestones

- On 1 April, Peng Bin leading a group of flight enthusiasts established XAG - formerly XAIRCRAFT

- Explored the industrial application of drones in scientific expedition, inspection, search & rescue and logistics
- Began a deep dive into the agriculture industry
- XAIRCRAFT was rebranded as XAG, focusing on the development and manufacture of agricultural drones

- Launched the first generation of P Series Plant Protection UAS and the Intelligent Rotary Atomization Spraying System
- Set up XAG Academy to train agricultural talent

- Rolled out the international multi-award winner - P30 Plant Protection UAS, which secured a market share of over 50% in China's crop protection industry
- XAG Cloud became the only agricultural drone management system authorised by CAAC

- XAG transformed into an agri-tech company, aspiring to build an unmanned agriculture ecosystem
- Released the dual-rotor V40 Agricultural Drone and promoted the application of AI prescription maps



- Dedicated to the development of multirotor drones, launching the industry-leading X650 series UAS.
- Unveiled the revolutionary SUPERX flight control system

- Introduced the first plant protection UAS and founded XPLANET, the largest drone service teams for crop protection in China

- The world's first fully autonomous plant protection UAS P20 was debuted; commenced R&D on remote sensing drone and agriculture IoT
- Started building HD field maps in rural China to enable precise drone operations

- Upgraded its Plant Protection UAS into Agricultural UAS with the launch of the JetSeed Granule Spreading System
- Released XAG Unmanned Ground Vehicle, Autopilot Console and Smart Agriculture System

**New Change, New Growth**

# XAG Corporate Value

Our interest may diversified, our mutual character is always Chasing Perfection. Just as "perfect person", "perfected products" is more likely "the carrot on a stick" to us, it is the capacity of providing our customers "better things" that really matters, as well as the key to keeping ourselves trustworthy and excelsior

XAG users are all residents of this planet, including billions of agricultural producers and consumers, even our planet itself. By transmitting our Mission and Vision into superb products and services, we not only aim to impress customers with our sincerity, but also let people from all generations enjoy benefits brought from technology

XAG regards our credit as our life. Treating each other with sincerity and being honest with ourselves are creeds carved in our mind. We know Keep Promises is not always easy since people usually give up holding their principles and surrender to enticements and challenges. But, persist promises to our partners and clients, dare to overcome difficulties and say NO to great temptation, that's how we do



XAG is evolving from a tech company toward a Smart Agriculture Ecosystem. The most significant difference between them is not how big the scale but how heavy it shoulders. Global Vision is like a torch we hold meanwhile pursuing our dreams. Even if some of us might start a new career decades after, we'd still be proud of what we once did to improve people's life.

Life just like a long trip on a moving train that never turns back. The more places you reach, the deeper understanding of the world you can get. Unless you get tired of exploring and find curiosity faded inside of you, Stay Hunger and keep advancing your life.



# SUSTAINABILITY MANAGEMENT

## Priorities

The UN Sustainable Development Goals (SDGs) are a call for action by all nations around the world to end poverty, protect the planet, and make the lives and future better for everyone. XAG values the fulfillment of SDGs, and is committed to creating social values through innovative tech applications and responsible business models. We continue working towards achieving these key goals – including no poverty, zero hunger, good health and well-being, gender equality, decent work, and climate action – and offer our modest contribution to the sustainable development of the world.

Goal	Action
1 NO POVERTY	<ul style="list-style-type: none"> <li>Empower smallholder economy to help farmers reduce agricultural production costs and raise their income</li> <li>Bridge the urban-rural digital divide, advance digital farming infrastructure, and support rural economic development</li> </ul>
2 ZERO HUNGER	<ul style="list-style-type: none"> <li>Develop innovative products to improve agricultural production efficiency, control pest risks, and ensure food security</li> </ul>
3 GOOD HEALTH AND WELL-BEING	<ul style="list-style-type: none"> <li>Participate in malaria control operations</li> <li>Set up a special fund for pandemic prevention and disinfection</li> <li>Establish the XSpace - a comfortable and healthy working environment for employees</li> <li>Perform proper quarantine, inspection and health protection for employees</li> </ul>
5 GENDER EQUALITY	<ul style="list-style-type: none"> <li>Utilize gender-inclusive technology to improve the social and economic power of rural women</li> <li>Follow the principle of openness, fairness and justice, helping female employees achieve their self-value in tech industry</li> </ul>
8 DECENT WORK AND ECONOMIC GROWTH	<ul style="list-style-type: none"> <li>Create new occupations such as drone operators and instructors</li> <li>XAG Academy to equip farmers with knowledge and technical capabilities</li> <li>Improve employees' salary &amp; welfare system and create a work-life balance</li> </ul>
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	<ul style="list-style-type: none"> <li>Reduce the use of pesticides and fertilizers while saving water in agricultural production through precision spraying technology</li> </ul>
13 CLIMATE ACTION	<ul style="list-style-type: none"> <li>Use clean power to cut greenhouse gas emissions</li> </ul>
15 LIFE ON LAND	<ul style="list-style-type: none"> <li>Restore wetland vegetation and protect fragile ecosystems</li> <li>Relieve crop pollination crises and protect biodiversity</li> </ul>

# Stakeholder Engagement

Stakeholder	Expectations to XAG	Countermeasure
 <b>Government</b>	<ul style="list-style-type: none"> <li>Compliance with macro policies</li> <li>Honest and legal operations</li> <li>Tax payment by law</li> <li>More job opportunities</li> </ul>	<ul style="list-style-type: none"> <li>Participate in drafting of policies</li> <li>Operate by laws and regulations</li> <li>Receive supervision and assessment</li> </ul>
 <b>Shareholders &amp; Investors</b>	<ul style="list-style-type: none"> <li>Ability to create long-term value</li> <li>Good information disclosure</li> <li>Clean business environment</li> </ul>	<ul style="list-style-type: none"> <li>Convene shareholder meeting</li> <li>Ensure open and transparent corporate information</li> <li>Establish investor relations management system</li> <li>Enhance compliance and internal control system</li> </ul>
 <b>Users</b>	<ul style="list-style-type: none"> <li>Quality products</li> <li>Optimized customer services</li> <li>Customer information security</li> </ul>	<ul style="list-style-type: none"> <li>Keep innovating</li> <li>Strengthen quality management system</li> <li>Build a holistic service network</li> <li>Provide professional solutions</li> </ul>
 <b>Suppliers, Dealers &amp; Partners</b>	<ul style="list-style-type: none"> <li>Comply with business ethics</li> <li>Open, fair and impartial procurement</li> <li>Achieve mutual benefits and common development</li> <li>Support the growth of suppliers, dealers and partners</li> </ul>	<ul style="list-style-type: none"> <li>Develop fair and transparent procurement policies</li> <li>Undergo strict audits and certifications</li> <li>Strengthen bilateral communication</li> <li>Organize and deliver relevant training</li> </ul>
 <b>Employees</b>	<ul style="list-style-type: none"> <li>Protection of basic employee rights</li> <li>Focus on employee career development</li> <li>Employee care</li> <li>Work-life balance</li> </ul>	<ul style="list-style-type: none"> <li>Establish a long-term talent training mechanism</li> <li>Organize cultural and recreational activities</li> <li>Consideration for employee health</li> </ul>
 <b>NGOs, Industry Organizations &amp; Professional Institutions</b>	<ul style="list-style-type: none"> <li>Contribution to the UN SDGs</li> <li>Contribution to economy, society and environment</li> <li>Openness and transparency</li> </ul>	<ul style="list-style-type: none"> <li>Attend or host industry meetings</li> <li>Participate in seminars on standard formulation</li> <li>Join collaborative projects on sustainable development</li> <li>Participate in research &amp; academic activities</li> </ul>
 <b>Other Businesses</b>	<ul style="list-style-type: none"> <li>Fair competition</li> <li>Strategic cooperation</li> </ul>	<ul style="list-style-type: none"> <li>Oppose commercial bribes</li> <li>Reach strategic cooperation agreements</li> </ul>

# Honors

No.	Honor	Awarded by
1	Reuters Responsible Business Awards 2020 - Sustainability Innovation Award	Reuters Event
2	Top 10 Application Cases of Digital Agriculture by the United Nations	The UN Food and Agriculture Organization (FAO) & the International Telecommunication Union (ITU)
3	Crop Science Awards - Best Innovation in Precision Farming Technology	Agribusiness Intelligence
4	50 Most Innovative Companies in China for 2020	Fast Company
5	Top 10 New Technology Application Cases of Smart Agriculture in China	Ministry of Agriculture and Rural Affairs
6	Pioneer Enterprise in Digital Agriculture 2020	World Digital Agriculture Conference
7	For Good Awards 2020: Annual Social Enterprise – List of For Good Businesses	Caixin Global, CYZone and China Social Enterprise & Impact Investing Forum
8	Excellent Poverty Alleviation Cases in the Agricultural Machinery Industry	China Agricultural Machinery Distribution Association, China Media Group CNR, China Agricultural Machinery Safety News Press



# EXTREME INNOVATION THE FUTURE IS NOW

XAG dives deep into smart agriculture and keeps exploring technological innovations in a variety of application scenarios. We empower farmers with digital technology to make agricultural production more effective and profitable, as well as broadening the appeal of countryside, so everyone can enjoy equal opportunities in rural communities.



## Contribution to SDGs

1  
NO  
POVERTY



5  
GENDER  
EQUALITY



8  
DECENT WORK AND  
ECONOMIC GROWTH



# TECHNOLOGY, UNLOCKS NEW POSSIBILITIES FOR AGRICULTURE

Population aging, rural hollowing, and the abandonment of farmland are restricting the sustainable development of agriculture. Though agriculture was never a stage favored by innovations, XAG firmly believes that technology can bring greater changes and value to rural areas. For years, we have travelled to different farmlands, listening to the voice of farmers, and always aligned our product design with the actual needs of producers. By scaling up cutting-edge agri-tech, we help farmers improve productivity, reduce operating costs, and transform agriculture into a sustainable pattern.

Key Results



Operational scale of XAG unmanned devices

**66,000+** set



Area of farmland served (ha.)

**52** million



Number of R&D patents

**1,540**



Number of invention patents

**717**



Number of utility model patents

**536**



Number of design patents

**287**

## Redefine Agriculture

Outdated tools, limited resources, and poor infrastructure are all factors that not only lead to low productivity, but also expose farmers to overwhelming burdens and business risks. To address these issues, we introduce agri-tech products powered by self-driving, AI, and IoT, building up a new "unmanned" agricultural ecosystem to meet the ever-growing demand for food. As part of XAG's DNA, unmanned technology frees farmers' hands by making farmland management simpler, smarter and more efficient.

XAG Product Lines



**Agricultural Drone**

Integrate spraying, spreading & mapping



**Remote Sensing Drone**

An expert in constructing HD farmland maps



**Unmanned Ground Vehicle**

A lightweight robotic platform born for unmanned farms



**Autopilot Console**

Transform large & medium agricultural machinery into autonomous vehicles



**Agriculture IoT**

24/7 real-time farmland monitor



**Smart Agriculture System**

A refined farm production management software

CASE

### Break Through the Challenges of Terrace Cultivation

The Hani Terraces, located in the south of Ailao Mountain, Honghe Prefecture, Yunnan, are the production base for high-quality red rice with a history of 1,300 years. Since the steep terraces make it difficult for large ground machinery to access, most work from sowing, transplanting to harvesting has to be done manually.

In 2013, the Hani Rice Terraces were listed as a World Heritage Site by UNESCO. However, as urbanization accelerates, young people choose to flee their rural hometowns and work in cities, leaving only locals aged over 50 to cultivate the farms. The overwhelming workload may bring the millennium-old farming civilization to the brink of extinction.

In March 2020, XAG and a group of young operators introduced agricultural drones to the Hani terraces for the first time. This mountainous land, which has witnessed the same rice

cultivation method for over a thousand years, finally took its first step towards intelligent production. After processed rice seeds were placed in the granule container, and the power was switched on, the drones began fully autonomous flight with precise seeding operations. The drones were also used to spread fertilizers and pesticides, with work efficiency 60-100 times greater than that of manual approach. From then on, Hani people no longer needed to climb hillsides with heavy hand sprayers on their back.

The villages of Hani which suffer from population exodus are the microcosm of most Chinese rural areas. Through bringing sustainable farming method, XAG not only liberates human labor and reduces the workload of farmers, but also protects the yearly harvest of red rice. Fewer people are required to maintain the vast terraced field and the rice farming system continues to live on.

Hani Rice Terraces Herald its first drone seeding



## Innovative R&D, Catered to User Needs

XAG is well aware that only by delving deep into the farmlands can it develop agri-tech products that better meet market needs. Thus, our engineers are sent to the countryside, walk through fields, observe each stage of production, and identify the actual demands of different users. For example, we provide farmers with alternatives to large agricultural machinery to cope with terrain restrictions, and help them avoid cost increases caused by excessive use of pesticides.

CASE

### A Transformer Born for Unmanned Farms

After years of technical upgrades and customer education, XAG is gradually seeing an increase in the use of agricultural drones in rural areas, with more and more farmers looking to reduce tedious and laborious manual work, such as planting, fertilizing, and applying pesticides. However, drones alone can hardly change the entire agricultural ecosystem. Due to the harsh terrains, scattered land and high cost of tractors, manpower is still required for many production tasks in most places of China.

Farmers' strong demand for small and medium-sized smart farming devices has pushed us to ponder the question of how to develop products for diverse agricultural scenarios. Instead of working behind closed doors in labs, XAG's R&D team travelled to villages for field investigations, and finally discovered the real needs of farm robot users: lightweight, all-terrain, and flexibility in shuttling through dense groves. With utmost attention paid

to every technical detail, countless brainstorming, experiments and improvements, the world's first mass-produced farm robot finally came into being. With XAG R150 Unmanned Ground Vehicle on different payloads, farmers are able to easily complete operations such as seeding, crop spraying, mowing, and material transportation. Simple and easy-to-learn operation and a rich set of functions have brought improved productivity, reduced labor and less resource wastage.

Problems are always uncovered and resolved after numerous on-field tests and patient collection of farmers' feedbacks. This allows our products to be rapidly upgraded and in the best form possible. Behind each product lies XAG people's insights into the pain points of agriculture, as well as our dream to change the industry and the world.



XAG's R&D staff and R150 Unmanned Ground Vehicle

## REVITALIZE THE RURAL ECONOMY

Poor digital infrastructure as well as huge gaps in public services, educational resources, and job opportunities have resulted in continuous outflow of young labor force from the rural areas. XAG has been promoting the use of drones and robots on farmlands, and providing vocational skill training for new farmers. Technology is no longer a privilege only enjoyed by the city. By increasing income from food production and making farming more decent, our agri-tech attracts more and more young blood back to village. We are making people convinced: the future is bright for agriculture as well.

Key Results



Area of HD farmland maps collected (ha.)

10 million



Number of RTK base stations

2,300+



Coverage of RTK network

35,000 villages



Number of talent trained

90,125

### Bridge Digital Divide, Narrow Urban-Rural Gap

XAG is deeply engaged in the construction of digital villages, allowing more intelligent devices to reach the countryside and serve farmers. Working with the government and partners, we have built high-definition field maps powered by real-time kinematic (RTK) technology in China, and this forms up a high-precision positioning network covering over 35,000 villages. Drones, robots and other unmanned systems are therefore able to carry out fully autonomous and standardized operations on farmland. Through collecting digital field maps for farmers, we help them capture insights into crop growing and make AI-assisted decisions. With risks and uncertainties greatly reduced, the convenience brought by digital life becomes equally accessible to farmers.

Farmers accessible to the benefits of digital technology



## Young People Embrace the Countryside

"Back to the sky, face to the ground" – such conventional working environment in agriculture has kept many young people away from rural areas, instead choosing to work in the cities. So XAG steps forward to make agriculture a tech-savvy sector, by empowering farmers with smart agritech and assisting decision making with deep learning algorithms and AI image recognition. New and decent job opportunities, such as drone operators and instructors, are created for rural youth who start their own businesses in agriculture and bring back new concepts and lifestyle of the digital age. The countryside is expected to shift from being a low-value area to an emerging economic growth pillar.

CASE

### Rural Youth Achieve Self-worth in Agriculture

Intensive manual labor, unstable incomes, and poor prospects are drawbacks of traditional agriculture that force young people to give up farming and flee their villages. With the determination to change this situation, XAG has been spearheading the application of drones, robots, and AI on farmlands, which grants young workers the abilities to make a difference in rural areas.

Sun Wei, a young man born in the rural areas of Fuyang, Anhui in 1993, is among the first group of "new farmers" benefiting from smart agriculture. After learning about XAG for the first time in 2016, he saw the huge potential of drones in crop protection and as a result returned to his hometown where he started his own business offering farmers cost-effective farming services with the help of drones.

From drone operator to XAG distributor, Sun traveled across the nation all year round, working hard to perform on-site operations and offer treatment to food and cash crops such as wheat, rice, and cotton. Today, his company has become the largest provider of drone-assisted crop protection service team in Fuyang. This more decent and profitable job is attracting more young people with the same shared dream as Sun to join the agricultural workforce.

These new farmers with their strong passion for the land will surely become the coolest and most admirable group in China. Together, our eyes are aiming to make agriculture smarter, more precise and more sustainable.



Young people back in their hometowns

## Foster Agriculture Talent of the Future

Talent is a must for both agriculture sustainability and the broad application of smart agri-tech. To address the shortage of talents, XAG Academy is founded as a modern agricultural training and knowledge sharing platform. It offers both online and offline courses for users to master modern farming skills covering drone operation, crop cultivation and pest control. Since 2016, we have trained a total of 91,025 rural youth who are prepared for the role of new farmers, such as drone operators, service specialists, and field managers.

Agricultural experts and practitioners are invited to give open classes and share their experiences with users



Provide students with a full range of training and certification services on the use of agricultural drones

CASE

### Unleash the Potential of New Farmers

As part of its efforts to shift technological revolution from cities to rural areas, XAG has long been sponsoring various competitions with the aim to train "new farmers" who understand technology, love agriculture, and know how to run a business. We bring together more young people and agricultural elites to showcase their expertise and share experiences.

In the 2020 Hubei Craftsman Cup Skills Competition – XAG Agricultural Drone Challenge, contestant Cai Le won the third place. It was the second time this young and energetic farmer had participated in the competition. Cai said, "In the past, farmers had to spray pesticides manually and the efficiency was quite low

especially in bad weather. Today, with XAG agricultural drones, our process is safer and much more effective in controlling weeds, pests and crop diseases." Three years into crop protection services, Cai has transformed from a beginner to a technical expert, earning over ten thousand yuan each year and living a better life.

With accessible vocational training and strong technical support, more and more young people like Cai Le are entering the agriculture industry, to make up the major force who firmly support the sustainable development of rural areas.



Offline training in XAG Academy

# EMPOWERING WOMEN IN AGRICULTURE

In rural areas, women constitute a large proportion of the farming labor force. However, traditional agriculture relies largely on manpower and cumbersome tools, while rural women were often marginalized with limited access to fair work and education. Until recently, when gender-inclusive technology such as the easy-to-use autonomous drone is introduced to the countryside, rural women start to break through the physical limit and free from the intricate and tiring farming activities. In addition, we also provide modern skills training for rural women to increase their qualifications and agricultural know-how to then raise their incomes.

## CASE

### The Female Hero in Spring Farming

Rural women are responsible for much invisible and unpaid housework and production tasks. Despite such huge efforts, their value and talent are rarely appreciated. Because of limited production resources, implicit employment discrimination and gaps in physical conditions, they struggle to reach their potential in agriculture, even with the same learning ability and initiative.

Jiang Minglan from Tianmen, Hubei is among the first group of young women to team up with XAG and introduce drones to the countryside. In 2020, the outbreak of COVID-19 caused huge obstacles to spring planting around China, faced with the travel restrictions and rural labor shortage. With XAG's technical support, Jiang arranged 120 sets of fully autonomous agricultural drones to provide local farmers with "contactless"

crop spraying services, covering a total area of 5,333 hectares. With the disease control measures strictly in place, Jiang helped farmers in Tianmen to close yield gap and minimize the impact of the pandemic on spring farming. For her contributions to food security, Jiang was named the Food Hero 2020 by the UN Food and Agriculture Organization.

Smart agri-tech can not only narrow the gap between rural and urban areas, but also help amplify rural women's voices in making economic decisions. By removing technical barriers in agriculture, XAG is dedicated to creating more opportunities and possibilities for rural women, supporting them to fulfill self-improvement goals in fields that were once inaccessible to them.



FAO "Food Hero" Jiang Minglan

## CASE

### Show Powerful Presence in Rural Development

Due to gender bias in the tech industry, women rarely take up posts as drone operators – let alone in the plant protection segment. But with empowerment of technology, women can have a better say and play a greater role in the social and economic development of rural areas.

Sheng Guangning from Kangbao County of Zhangjiakou, China was once a staff member at the Administration for Natural Resources and Planning. Concerned with her undeveloped hometown, Sheng decided to introduce drones to the locals and received training at XAG Academy. Kangbao is a severely impoverished county troubled by aging and labor shortage, where elder farmers had to carry heavy sprayers and farm the fields – exposing them to high risk of intoxication and heatstroke in summer. In 2017, Sheng obtained professional qualifications for both drone operator and instructor in just one week and became a female agricultural drone pilot.

After returning to her hometown, she made visits from door to door, trying her best to promote this new technology. Later she

founded a crop protection company, which is now serving more than half of the farmers in Zhangjiakou. The growing business has attracted many young people to join her, boosting local employment and social development.

Now agribusiness has further diversified as female pilots like Sheng continue emerging one after another. They embrace smart agriculture, grow up with their teams, help their hometowns end poverty and improve their collective positions.



Female pilot Sheng Guangning

XAG drone featured at the Solomon R. Guggenheim Museum



# GATHER STRENGTH REVITALISING OUR PLANET

Protecting ecosystems is part of XAG's DNA. We offer advanced technology and safe, reliable products to reduce water and pesticide use, as well as cutting carbon emissions in agriculture. By pushing the boundaries of agri-tech, we promote biodiversity and contribute to eco-sustainability.



## Contribution to SDGs



# LESS CONSUMPTION, GREATER DEVELOPMENT

In the past, pesticides were usually sprayed aimlessly over a large area by knapsack sprayers or tractors. This often led to excessive pesticide use and a waste of water resources. XAG's industry-leading AI brain makes it possible to accurately perceive the growth of crops, identify target areas and calculate spraying dosage, which provides tailored and refined "prescriptions" for the control of crop diseases, pests and weeds. Through our intelligent atomization spraying technology and centimeter-level navigation system, we help farmers ensures precise and even sprays that only target where it is needed, growing more food with less water, pesticides and fertilizers.

### Key Results



Water saved (tons)

**15.39** million



Equivalent to the annual water consumption of

**200,000** residents



Pesticide reduced (tons)

**45,363**

Avoid soil or water pollution

Precision spraying by XAG Agricultural Drone



AI makes pesticide use more environmental



XAG remote sensing drone captures HD images of farmlands, then XAG Agricultural AI accurately identifies farmland boundaries, crop density and growth status to determine where pesticides or fertilizers are needed.



AI deep learning algorithms help calculate the amount of pesticide or fertilizer needed in each area, which is consolidated into a "prescription map" that indicates how much pesticides and fertilizers are actually needed.



XAG drone and unmanned ground vehicle conduct autonomous operations in designated areas according to the pre-set route. This avoids repeated spraying and omission, saving pesticide use by 30% and water by nearly 90%.

Plant protection in dragon fruit orchard by XAG R150 Unmanned Ground Vehicle



## REDUCING OUR CARBON FOOTPRINT

According to the United Nations, agriculture and other related activities account for one third of the world's greenhouse gas emissions. In particular, traditional medium and large agricultural machinery run by non-renewable fossil energy, such as gasoline and diesel, is among the culprits of global warming. Through replacing oil-fired machinery with drones and unmanned vehicles powered by electrics, XAG strives to reduce carbon emissions and make farming greener, pushing rural areas to embrace the age of new energy.

Key Results



Fuel saved (liters)

**282 million**



Equivalent to putting

**470,000**

cars off the road for one year



Carbon emissions reduced (tons)

**760,000**



Equivalent to planting

**10.32 million trees**



XAG Agriculture IoT device powered by solar panels



XAG Agricultural Drone using battery power instead of fuel

## PROTECTING BIODIVERSITY

Biodiversity is the crucial basis for all life and our survival. However, human activities and climate change have led to a loss of biodiversity. Therefore, XAG calls on global users to take proactive actions, innovatively applying precision spreading technology to the scenarios of ecology protection. Facing bushfires, land desertification, and pollinator decline, we use safe and efficient agri-tech to restore degraded vegetation and support the reproduction of plants.

### Invigorate the Earth

Soil is the foundation of agriculture, while vegetation serves as a natural barrier against land degradation. On our ceaseless journey to push the boundaries of agri-tech, XAG integrates drone survey and remote sensing with IoT monitoring system to quickly analyze vegetation growth and help develop AI-assisted land protection measures. We have introduced autonomous precision seeding devices to destroyed grasslands and wetlands, speeding up vegetation recovery and curb desertification.

CASE

#### AI + Drone: Sowing Hope in High-altitude Grasslands

Ruoergai Grassland, located in northwest Tibetan region of Sichuan Province, China, is the world's largest high-altitude wetland prairie. It is home to abundant natural resources and diverse flora and fauna. However, due to overgrazing and climate change, the grassland is troubled by aggravating desertification in recent years, which put the livelihood of local herders under threat. To address the worldwide challenge of reseeding on plateaus, XAG has come up with an innovative aerial solution and commenced its mission to restore the grassland spanning hundreds of hectares.

Traditionally, people can only rely on manual approach to locate desertified areas on vast grassland and spread seeds with hands, which is not only inefficient but also leads to uneven distribution. To overcome such drawback, XAG used remote sensing and AI to identify weak areas with poor grass

growth and generate "AI prescription maps". Then agricultural drones were summoned for fully autonomous, accurate grass seed spreading based on such prescription maps, despite low pressure and strong winds at high altitude.

This approach not only ensures more even seed spreading, but also offers an efficiency 50 times that of manual operation. XAG has also joined hands with local government to set up China's first Tibetan drone plant protection team, which contribute to recover the degraded grassland vegetation and improve the quality of pastures while helping herders raise their income.

With agricultural drones introduced to plateaus where traditional technology is rarely seen to play a role, XAG has been helping to turn the once bare land into healthy and fertile grassland.



Grass seed spreading in Ruoergai Grassland



CASE

## Breathe New Life into the Bushfire-hit Australia

The Australian bushfire that began in September 2019 destroyed 20 million hectares of land and killed over 1 billion animals. This brought about unprecedented climate change impacts and a biodiversity crisis to the country. Many forests and wetlands suffered devastating damage, making it difficult for vegetation to regenerate naturally.

Lake Cobrico, a swamp wildlife reserve in Australia, was one of the hardest-hit areas that was in urgent need of manual intervention to accelerate restoration. However, there were plenty of flammable peat bogs in this area, which meant manual or ground equipment were of little use, and any improper operation could cause another fire to break out again.

In April 2020, with the support of Victoria's Department of Environment, Land, Water and Planning, XAG and Heytesbury District Landcare Network (HDLN) together launched the first large-scale drone seeding restoration project in Australia. XAG's agricultural drones accurately spread mixed grass seeds from above Lake Cobrico in a safe, cost-effective manner. As an innovative solution to restore wetlands after bushfires, drone

has transformed the way ecological protection is carried out – which was traditionally completed by hand and helicopter.

In response to the frequent wildfires in Australia, smart agri-tech is expected to accelerate ecosystem restoration, reinvigorating the burned land and helping countless homeless animals re-inhabit.



XAG Agricultural Drone on mission in Australia



CASE

## XAG Electronic Scarecrow, The Forest Guardian

As of March 2020, over 550 million users have participated in Ant Forest, an anti-desertification initiative launched by Alipay. Under the project, more than 122 million trees were planted in Northwest China to form a forest in desert areas, which

are supervised by XAG Electronic Scarecrow - responsible for monitoring the growth status of every sapling under heat, dryness and wind.

The Field Monitor, also nicknamed Electronic Scarecrow, were set up in the Ant Forest to record the health conditions of trees and weather 24/7 using IoT sensors and cameras. When detecting plant diseases and pests, they function as "scouts" to provide information for forest managers. With real-time images transmitted by the Field Monitor, users are able to see the hope sown by them on mobile and see the trees growing even if they are thousands of miles away.



XAG Field Monitor in Ant Forest

Silently standing in remote deserts and guarding the green hope, XAG Field Monitor helps forest managers improve the survival rate of trees. This has also raised public sense of responsibility in protecting the environment, generating a steady stream of support for the entire green cause.

## Tackling Pollinator Crisis

The earth on which we live is marvelous yet fragile. As species grow extinct at an ever-rapid speed, the loss of biodiversity is posing a grave threat to the sustainable development of mankind. Facing the pollinator crisis caused by the plummet in the number of bees, XAG used its agricultural drones for fruit tree pollen spraying and helped endangered species to thrive and survive.

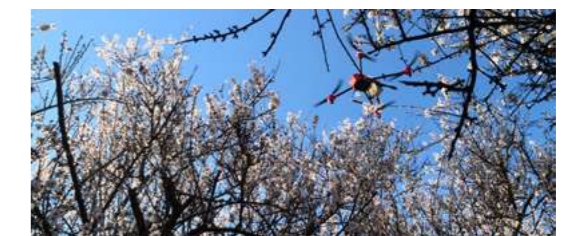
CASE

## "Electronic Bees" Pollinating Australian Almond Trees

Due to climate change, the number of bees in Australia has been shrinking in recent years, leading to insufficient natural pollination and consequently less yields of almonds, a major economic crop in the country. Pollination by hand spraying not only takes a long time, but also works poorly on tall trees.

friendly supplement to the single insect pollination method of almond trees. This helps bee colonies rest and recover their population, while fruit trees are able to retain their regular yields, resolving the concerns of farmers.

To find a viable alternative, XAG worked with the South Australian Agricultural Research Center to explore the feasibility of using agricultural drones in almond tree pollination. Thanks to their small size and high flexibility, drones were able to shuttle through tress freely and operate fully autonomous flights, making pollination more efficient and precise while reducing the waste of pollen.



As shown, drones are harnessed by XAG as an innovative eco-

XAG Agricultural Drone pollinating almond trees in Australia

# SAFETY FIRST

## PROMOTING HEALTHY LIVING

While promoting food safety, XAG also values the health and well-being of agricultural producers and consumers, harnessing digital technology to make agriculture a safer workplace. And in response to global public health crises, we innovatively expanded the application scenarios of unmanned technology, which has emerged as an indispensable force in disease control.



### Contribution to SDGs



# REDUCE HUNGER, NURTURE THE FUTURE

The global food crisis caused by social and environmental issues, such as the rural ageing population, the decline of agricultural workers and the frequent occurrence of natural disasters, is a long-term challenge facing all mankind. Targeting the Zero Hunger goal, XAG help farmers steadily close yield gaps, and better resist the impact of extreme weather, pests, and epidemics, thus enhancing the robustness and resilience of food supply chains.

## Take the Lead in "Unmanned" Spring Farming

For farmers, spring season is the most important and busiest time of the year. To cope with serious labor shortages in special period, XAG has allocated unmanned agricultural devices in large scale, encouraging drone pilot teams to provide farmers with "contactless" agricultural services. Due efforts invested in spring farming can build a solid foundation for good harvests.

Key Results In 2020



CASE

### The Spring Farming Battle during COVID-19

Back in March 2020, when COVID-19 was still rampant, the annual spring farming season was about to kick off. Due to travel restrictions, rural areas across China faced severe labor shortages. Fewer manpower and difficulty in hiring extra hands were major challenges faced by farmers.

For this reason, XAG launched the Smart Spring Farming operation which called on agricultural service providers in China to introduce "contactless farming" services with drones. Farmers could directly make appointments and indicate which land to be seeded via mobile phones. Once received, service teams carried XAG's agricultural drones to the designated fields for operation. The two sides didn't have to meet face-to-face at all during the entire process.

Thanks to that, farmers in many rural areas were relieved from worries about insufficient and costly labor, while the impact of pandemic on food production was minimized. Without even leaving their homes, farmers could still catch up on planting and check work progress in real-time on their mobile phones.



XAG Agricultural Drone spread rice seeds

## Reduce Crop Loss during Disasters

XAG aims to protect the healthy growth of crops and maintain desirable yields. As climate change leads to frequent occurrences of plant diseases, insect pests, heavy rains, floods and other natural disasters, global food production is suffering huge losses – so are farmers. In case of disasters, we quickly deployed agricultural drones for aerial pest control and post-disaster plant protection to avoid crop damage and minimize the reduce of food yields.

Key Results



CASE

### Post-disaster Protection, We Fight Crop Diseases

In 2020, a number of provinces in China suffered severe floods. Among them, Fuyang, Anhui and Wenzhou, Zhejiang, where rice and wheat were right at the heading stage, were hardest hit. If not been treated shortly after the floods receded, they would easily develop bacterial diseases and eventually die.

spray pesticides and supplement nutrition. Technicians stood beside the rice fields to instruct drones for plant protection and told farmers how to scientifically use pesticides and manage farmland.

In response, XAG, together with the local government and service teams, arranged agricultural drones to spray the disaster-stricken farmland in a timely manner. Through accurate positioning and automatic route planning, XAG drones flew above the fields to

At the moment critical to production resumption, XAG has managed to prevent bacterial diseases from spreading with the help of drones, not only allowing the crops to regain health but preventing food losses caused by pest outbreaks.



XAG Agricultural Drone spraying wheat fields

CASE

### Debug the Fall Armyworm in Africa

Since 2016, a new type of insect pest called fall armyworm began to wreak havoc in many African countries. Its larvae are extremely destructive as they consume a wide range of crops such as rice, sugar cane and maize. Having caused Africa economic losses totaling USD 6.19 billion, fall armyworm is seen a serious threat to local food security.

Due to the lack of intelligent equipment, African farmers mostly use hand sprayers for pesticide application, which is inefficient and small in coverage. For maize and other high-stalk crops that grow luxuriantly and densely, it is even more difficult to apply pesticides manually or by tractors.

In 2019, XAG worked with Sunagri Zambia to introduce agricultural drones for fall armyworm control in Africa. Drones were dispatched for fully autonomous operations safely and reliably during the night to combat the nocturnal pests when they crawled out from the rhizomes. This shows that drones were able to accurately target

pests with less pesticide used, becoming a major high-tech force to fight fall armyworms due to their quick response and low cost.

For pest control operations to continue, XAG's partners also delivered drone operation and maintenance training to the young people in rural Africa, helping more locals save food from pests while protecting the livelihoods of farmers.



Fall armyworms eating crops

In Zambia, a pilot preparing for a drone operation



## FOOD SAFETY, FROM FARM TO TABLE

As living standards keep improving, people are pursuing more than the taste of food, but also its nutrition and safety. As estimated by the United Nations, one in ten people globally still suffer from diseases caused by contaminated food. Frequent food safety incidents are widely concerning, pushing all industries to explore how to ensure "table safety". In this regard, XAG applies precision spraying technology to reduce chemical pollution from the source. Through a transparent and traceable system built upon agriculture IoT, we are dedicated to keeping the quality and safety of agricultural products visible.

### Reduce Pesticide Residuals in Produce

Pesticide residual is one of the most concerning food safety issues. Long-term intake of agricultural products with excessive pesticide residues will cause serious harm to health. XAG has come up with an industry-first innovation in precise spraying technology to minimize the use of pesticides, helping farmers produce food in compliance with the Good Agricultural Practices. Together with our flexible, intelligent, and fully automated agricultural drones, we can locate the positions to be sprayed and control dosage precisely. Without compromising the efforts to curb diseases, pests and weeds, we also reduce pesticide residues in soil, water and crops.



Fruits and crops under protection by XAG's precision agricultural equipment

## Make Farming Traceable

The best way to ensure food safety is to closely monitor and control each stage of the production process. Building closer partnerships with all industry stakeholders, XAG develops plant protection solutions, and applies IoT field monitoring technology to record data including light, temperature, water, soil, pesticides, and fertilizers throughout every stage of crop growth. From the production side, we help farms build a traceability system so that consumers can have access to traceable information and enjoy “a bite of security.”

### CASE

#### For Tomorrow's Table: Scientific Use of Pesticides

Pesticide abuse has been under the spotlight in recent years. Consumers are always worried about food safety, since they have no way to know whether the agricultural products they buy have been contaminated by pesticide residues. In order to make the application of pesticides more scientific, transparent and traceable, XAG launched an initiative called Tomorrow's Table, which is based on a sustainable production model.

Under the Tomorrow's Table project, XAG leverages drones and robots to help farmers cut the use of pesticides and fertilizers, making our food on the dining table safer and healthier

through green production and precise traceability. Also, we have engaged in strategic partnerships with well-known pesticide manufacturers such as Dow DuPont and Bayer to co-develop eco-friendly crop protection solutions specifically for drone spraying. The precise application provided by XAG's unmanned devices not only avoids the abuse of pesticides, but also records the actual use of pesticides in every spraying operation. All these efforts go towards ensuring the food safety of tomorrow and promote the sustainable development of agricultural production.

Use water-sensitive paper to measure the quality and pesticide utilization rate of drone spraying



### CASE

#### Behind the Tech-backed Honey Pomelo

Honey pomelo is a specialty grown in the Pinghe town of Fujian Province, China. Seeing its market popularity, fruit merchants kept asking farmers to increase yields. However, without scientific knowledge on planting, farmers tended to overuse pesticides and fertilizers, not only damaging local soil and water, but also compromising the fruit's taste and quality.

From 2018, Chen He, a farm owner in Pinghe reached out to XAG to build up a sustainable orchard management system for producing high-quality pomelos. Through the XAG Field Monitor installed at the farm, all changes to the honey pomelos was recorded and then fed back to Chen's mobile in a timely fashion, allowing him to draft more scientific production management plans.

Each growth stage of a pomelo – from sprouting to harvesting – is recorded by XAG Agriculture IoT system. Owing to a green traceability system, consumers can trace information such as planting site and pesticide use by scanning the QR code attached. With the whole production process visible to consumers at a glance, they can more easily make purchase decisions and eat at ease.

In the "smart farm," a pomelo lives not only on sufficient sunlight and rain, but also on the responsibility of its producer. Alongside its constant journey to secure food safety, XAG keeps exploring on how to make food production transparent and traceable with technology, and bridges the gap between producers and consumers.

Chen He's honey pomelos harvested in Zhangzhou of Fujian



# PROTECTING LIVES AND WELL-BEING

Apart from being a guardian of food, XAG also values personal safety and health. With a greater focus on safe and user-friendly details in product design, we are committed to creating a secure field operating environment for users. At the same time, we proactively participate in disease control campaign for the cause of global public health.

## Create Safe Working Environment

Traditionally, farmers are often exposed to pesticides while working in fields, with high risks of intoxication. To protect them from harm, XAG has developed the smart liquid tank and chemical refillers in a people-centric approach, which helps minimize the direct contact between people and pesticides. Our drones and robots are also fully autonomous to keep operators away from sources of danger. Concurrently, XAG Academy has formulated a series of product use instructions to avoid danger caused by improper operation.



Reduced exposure to pesticides

### Fully Autonomous Operations

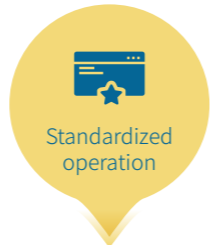
XAG's robots can spread fertilizers or apply pesticides based on a pre-set route, so people won't be exposed to chemical on fields.



People-chemical separation

### Intelligent Refillers

After the liquid container is placed in the refiller, the two are connected via Bluetooth, completing refilling or liquid change automatically to protect operators from any contact with chemical.



Standardized operation

### Use Instructions

XAG Academy released operator guides and product manuals to instruct users on the safe use of equipment. Pharmacology courses are offered online to empower farmers with crop protection knowledge and avoid the misuse of pesticide.

Farmers using drones for safe, automated spraying operation



## Maintain Public Health and Safety

Maintaining public health and safety is the shared responsibility of all countries, businesses and individuals. Today, due to the lack of public health resources, many states and regions around the world are not able to control the spread of pandemic diseases. Thousands of people are still living under harsh conditions, with their lives and health seriously endangered. XAG has expanded the use of drone technology into the regional control of infectious diseases, cutting off routes of virus transmission so the world can be less painful, more peaceful.

### CASE

#### Fly into High-risk Areas for Zero Malaria in Africa

Malaria is a life-threatening disease that is caused by the Plasmodium parasite and spreads through mosquito bites, regarded as a "super killer" in Africa. Without the support of technology and public health infrastructure, many African countries lack effective means to eliminate malaria parasites. In 2018, malaria infections across the continent accounted for 93% of the global total.

drones' role in saving much effort and time as well as avoiding repeated spraying or omission caused by manual operation. In this battle against malaria, XAG has brought African people an efficient, precise spraying solutions to help protect tens of thousands of lives. Technology is capable of changing, and also saving lives.

Against this backdrop, the drone technology developed by XAG emerged as a "new weapon" to support the Zero Malaria operation in Rwanda, Africa. In the nationwide anti-malaria program led by the Rwandan government, XAG drones joined the operation of vector control in 6 high-risk regions. Multiple drones flew to the designated mosquito breeding locations to kill the larvae, reducing the likelihood of residents contracting malaria due to mosquito bites.



Launch ceremony of Zero Malaria in Rwanda

Dr. Daniel Ngamije, the Rwanda Minister of Health, affirmed the



Technician conducting drone spraying tests for mosquito control

# PROMPT ACTION FIGHTING THE COVID-19 PANDEMIC

Facing unprecedented public health crisis, XAG launched an operation to help enhance the capabilities of pandemic control in China, while providing global partners with innovative disinfection solutions. By the aid of technology, we helped emergency responders improve disinfection efficiency and block virus spreading, inspiring more people to build up a robust defensive wall.



XAG  
极飞科技  
防疫消杀

XAG  
极飞科技  
防疫消杀

MICROGARD

Contribution to SDGs



## SPRING THUNDER OPERATION

As coronavirus ran rampant at early 2020, XAG launched the Spring Thunder Operation and established a special fund for pandemic control. We called on our nationwide users to conduct voluntary disinfection services and provide them with technical and financial backup. Owing to their precision and stability, XAG Unmanned Ground Vehicles and Agricultural Drones have contributed to pandemic control in complex environment. To protect operators' safety, XAG Academy published standard of procedure in line with national regulations. By applying unmanned equipment to fight the pandemic, we prove technology can bridge the gaps between industries and benefit more people.

CASE

### Gather Forces for Virus Killing

To reduce the risk of virus spreading, XAG proactively deployed drones and robots for ground-air disinfection operations in densely populated areas, such as hospitals, industrial parks, schools, and communities, as well as facilities like anti-pandemic vehicles, abandoned supplies collection locations. Through comprehensive, full-coverage spraying operation, XAG's unmanned devices were leveraged to improve disinfection efficiency, while substantially saving manpower and reducing disinfectant use.

On 31 January 2020, XAG officially launched the Spring Thunder Operation, setting up an RMB 5 million special fund and releasing standard of procedure for disinfection. We supported and encouraged XAG users across the country to join the fight against COVID-19 with their agricultural drones, and most of them responded enthusiastically. They teamed up with local governments to carry out disinfection operations for their communities, harnessing the power of technology to win this important battle for the entire nation.

## PARTICIPATE IN GLOBAL ANTI-EPIDEMIC BATTLE

As COVID-19 pandemic raged across the world, the global community has realized the significance of building a shared future for mankind. In face of the most severe crisis for human beings since World War II, XAG worked closely with its global partners, sharing anti-pandemic drone solution and experience to UK, Italy, South Korea, and Vietnam. As a responsible Chinese company, we delivered China's care and contributed our wisdom as well as strength to the global anti-pandemic battle.

CASE

### Partnering with the UK Government

The British healthcare system was facing challenges as the number of people infected with COVID-19 kept rising. Insufficient staff and inefficient disinfection measures prompted the British police to seek for another way to curb the virus. They invited Harper Adams University, UK's top automation engineering institution, to assist with due diligence to verify the reliability of drone disinfection. XAG agricultural drone stood out with its excellent waterproof and dust-proof ability, better adapting to the complex and changeable local climate. Superior features in safe operation and precise spraying eventually persuaded the British police to adopt XAG drones.

police stations and 100 fire departments in the UK. By thoroughly cleaning high-risk areas, drones were expected to reduce the risks of contact infection.

Meanwhile in Lombardy of Italy and Yangpyeong County, Gyeonggi Province in northwestern South Korea, local governments have also used XAG drones to disinfect neighborhoods, squares, sidewalks, household waste recycling stations, parking lots and other outdoor facilities. By helping to contain the spreading of COVID-19, XAG contributed its own strengths to the restoration of social order in an efficient and safe manner.

Afterwards, XAG provided guidance on drone disinfection to 48 local

Key Results Up to 28 February 2020



Number of drone-assisted pandemic prevention teams

370+



National coverage

20 provinces



Number of XAG Agricultural Drones engaged

2,600+



Number of communities served

19,870



Total area of disinfection (m<sup>2</sup>)

902 million



Size equivalent to nearly

130,000

standard football fields



Joint operation with Guangzhou Public Security



Kindergarten Disinfection



Community Disinfection



Hospital Disinfection



# POST-PANDEMIC RECOVERY

After several months of pandemic control, China has finally gone through the most difficult stage of Coronavirus outbreak, with both the economy and society steadily recover. As a responsible enterprise, XAG faithfully fulfilled its obligation in fighting the pandemic as government required. We resumed work and production with quarantine and health inspection measures in place, while setting up a supply chain fund to help partners overcome ongoing difficulties.

## “Five Key Measures” for Business Recovery

 <p><b>Internal Management</b></p> <p>Flexible working hours; temperature check and protective equipment; daily disinfection of workplace; suspend all unnecessary business travels, and promote work from home.</p>	 <p><b>Prevention and Control</b></p> <p>Establish an Emergency Leading Group, formulating Emergency Response Plan and Work Guidelines in compliance with government regulations.</p>	 <p><b>Facilities and Supplies</b></p> <p>Ensure adequate anti-pandemic supplies such as masks and disinfectants at once, provide to all employees for 4 months.</p>	 <p><b>Staff Investigation</b></p> <p>Employees returning to Guangzhou must go through quarantine and observation before back to office.</p>	 <p><b>Publicity and Education</b></p> <p>Organize online training on pandemic prevention knowledge, require all employees to complete the course before returning to work.</p>
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Employee temperature checks on the first day back to work



## Stabilize Supply Chain



Set up an RMB 20 million relief fund to support supply chain partners resume production.



Expand recruitment in response to increasing orders and production requirements.

Guarantee on-time payment to suppliers, make sure staffs could focus on production without worrying about payment and sales.



XAG Manufacturing Center steadily resuming production with protective measures in place

## Support Drone Users in Adversity

 <p><b>Maintain Large-Scale Crop Protection</b></p>	<p>Organized a back-up team of over 50 people and 25 support vehicles, and prepared accessories worth 30 million to ensure the equipment maintenance efficiency of China's nationwide wheat protection operation.</p>
 <p><b>Pandemic Subsidy</b></p>	<p>Offered delayed delivery subsidies, and extended the warranty by one month for users who ordered during or before the COVID-19 outbreak but hadn't received products.</p>

# ALTOGETHER WE GROW CREATING INFINITE POSSIBILITIES

XAG shares the same aspiration of advancing agriculture with its employees and partners. In response to your trust, we strive to become an enterprise that care for customers, respects partners, and support its employees. We will work hand with our cherished partners to build a sustainable agricultural ecosystem, providing sufficient, diversified and safe food for the future 9 billion global citizens.



## Contribution to SDGs



## COLLABORATE, SHARE, STRIVE TOWARDS COMMON GROWTH

At XAG, "Users First" is not only a part of our corporate culture, but also the guideline of our business practices. We work with distributors to set up a service network accessible to all users, while improving our service system and training maintenance professionals to establish an industry benchmark. Through timely, comprehensive and effective agri-tech services, we are making sure each flight operation is more secure than before.

### Build An Inclusive Network

XAG aims to build mutually beneficial partnerships with distributors. Through offline national distributor conferences, we built trust and understanding with them to make us work more closely as a team.



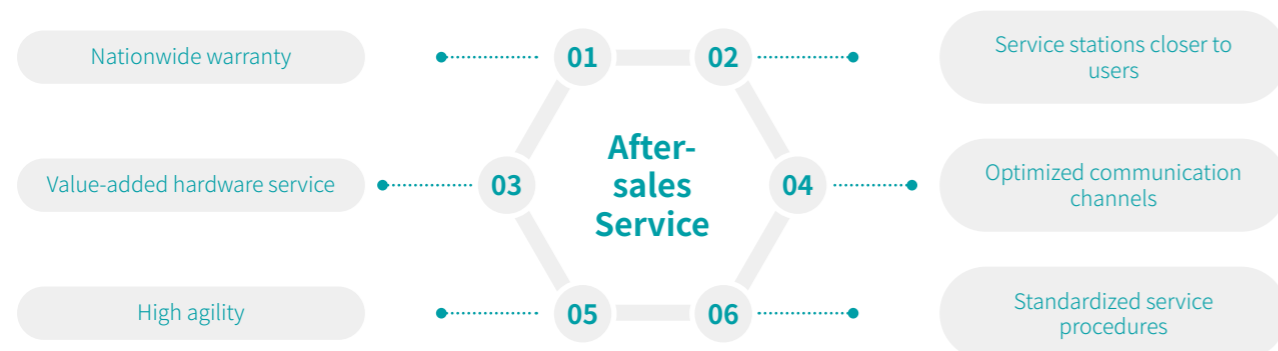
XAG National Distributor Conference 2020

We also launched the full-warranty servicing and battery schemes, providing comprehensive, fast and unlimited repair services and new power systems. A quick purchase channel to full-warranty servicing was made available for both new and existing customers. Under these schemes, all XAG users are able to keep their equipment in perfect condition throughout the device's service life.

### All for A Better Experience

XAG hopes every partner can maximize their service value, and enjoy higher efficiency and more profits with lower barriers and costs. Therefore, we invest great efforts in building up a scientific and mature modern service system. By offering diversified service approaches, we are providing more timely, efficient and superior after-sales to users across China.

Complex working environments in agricultural production require unmanned devices to receive regular and meticulous maintenance, ensuring that they can contribute the best performance. Thus, XAG released the User Care Service, a tailor-made periodic maintenance solution for agricultural drone. It includes component inspection, upgrades, and replacement that make users feel at ease with every flight operation.



## DRIVE DIGITAL TRANSFORMATION WITH PARTNERS

To approach for the mutual goal of digital agriculture, XAG has partnered with demonstration farms and research institutions to construct a supportive, benign cooperation system. Through building demo farms and improving regulations of civil aviation and agriculture system, we promote the optimal integration of technological advances and resources to inspire smart agriculture innovation.

### Set Up Benchmark for Smart Farms

XAG collaborate with demonstration farms in an active response to the national "digital village" strategy. Combining respective resources and technological advantages, we promote the application of remote sensing, IoT, big data and unmanned systems in agricultural production. This is helping facilitate delicate management in farms, as well as improving the operation quality and efficiency of agricultural machinery to increase food yields in steady, eco-friendly manner.

#### CASE

#### Unveil the First Demonstration Smart Farm

Happy Farm is one of the largest modern agricultural zones in China's Guangdong Province that boasts abundant vegetable resources but was yet troubled by substandard production and high labor costs. In March 2020, XAG and Happy Farm unveiled the very first demo smart farm to assist vegetable industry embrace standardized and scalable production pattern.

person. Instead, they can monitor crop growth and weather conditions via a digital platform to decide the use of pesticides, fertilizers, and water as well as the deployment of drones and robots. With data recorded by XAG's automated agricultural machinery, farm managers can optimize resource allocation and make better decisions. Besides greatly reduced labor costs and higher efficiency, such agriculture system also lowers the risk of crop cultivation and makes it easier to manage large farmlands.

XAG Smart Agriculture System is introduced to put the entire production under accurate data-supported management. Today, farm managers no longer need to scout the fields in



“The smart agricultural ecosystem built by XAG is an inspiration to the future development of our farm. Though the promotion of new agri-tech brings a short-term increase in investment, in the long run, it will definitely cost less input and substantially elevate efficiency.”

—Manager of Happy Farm

CASE

### Taking Lead to Construct Autonomous Farms

Jiangsu Dazhong Farm is a state-level green food producer and organic rice production base in China. In the exploration of transformation, high labor costs and primitive management systems were the main challenges to deal with.

Dazhong Farm and XAG reached strategic cooperation in May 2020. The partnership is based on the former's extensive experience in agronomy, as well as the latter's pioneering strengths in smart agriculture software and hardware solutions. As strongly agreed, the two sides aim to construct a Smart Agriculture Demonstration Zone, as a model for the application of cutting-edge scientific research outcomes to agriculture and rural areas.

XAG Smart Agriculture System was then tested over the past planting season. The results indicated that Dazhong Farm managed to save over RMB 1 million in pesticide costs, while with the introduction of drones and robots, the cost of machinery oil

dropped by nearly RMB 1 million as well. Moreover, the farm raised its overall wheat output in 2020 by 1.98 million kilograms, which therefore has been acclaimed as "the textbook of standardized wheat planting" by the department of agricultural technology in Jiangsu Province.



Transforming into an unmanned farm

### Join Forces Against Tech Challenges

XAG has established close partnership with research institutions such as South China Agricultural University and Queensland University of Technology. Leveraging the research and technological merits of both sides, we have launched a series of R&D and promotion projects to bring more advanced technologies to the international stage, so that the global food system can benefit from the greener, more efficient model of precision agriculture.

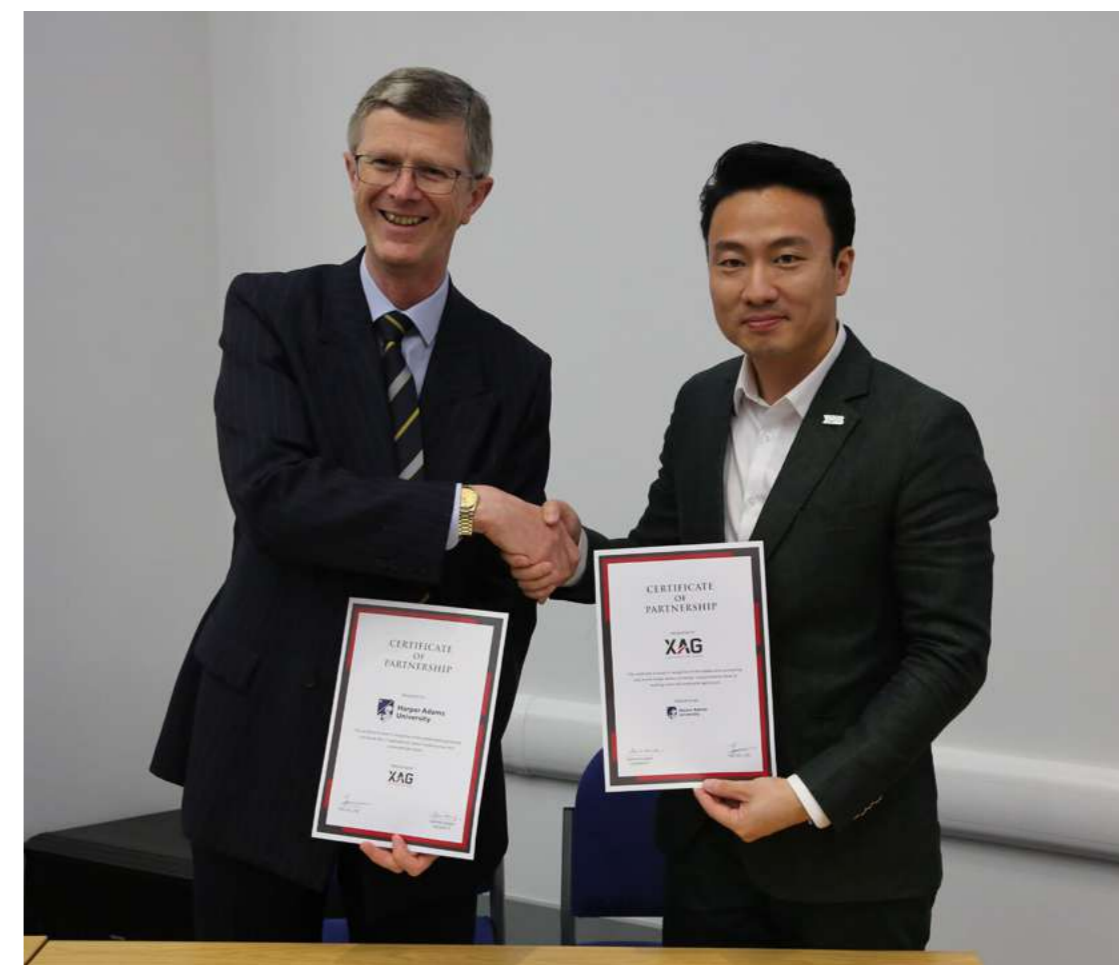
CASE

### Explore "Hands Free Farms" with Harper Adams University

As XAG extensively brings drone-assisted precision plant protection technology to China's rural areas, its actions have drawn significant attention from Harper Adams University, the largest agricultural college in the UK and top research institution in the field of automation. The university has set up the world's first "autonomous farm" project called Hands Free Hectare, where plowing, planting, managing and harvesting are all made automatic.

Since 2018, XAG and Harper Adams University have maintained long-term strategic cooperation in precision agriculture research. Specifically, XAG has provided its agricultural drones to support the study of university in the realm of precision farmland management. As the two sides gather global technological resources in agricultural machinery, a role model for international exchanges of advanced technologies is set to help China and the world to embrace smart agriculture.

Sharing the same commitment to explore future autonomous



## Promote Sustainable Agriculture

To XAG, advancing agriculture is both its main business and social responsibility. We work with industry chain partners such as Bayer, Corteva, and governments to promote the sustainable development of agriculture with cutting-edge technology, letting smart agriculture serve the survival and development of mankind.

CASE

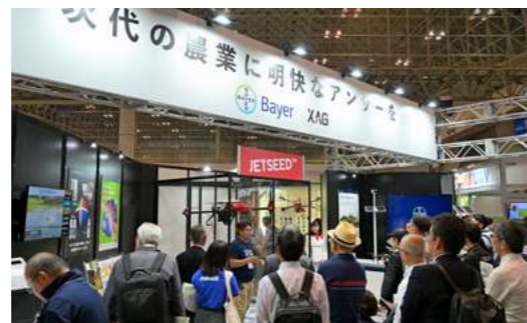
### Establish Smart Agriculture Together with Bayer

Southeast Asia and Pakistan are the world's major food production bases, where smallholders constitute the large majority of local communities. However, they have long been isolated from modern agriculture, due to factors such as low efficiency, poor industrial development, low added-value produce, scarce technology, fund unavailability, and less qualified manpower.

In March 2020, XAG entered into a strategic cooperation agreement with Bayer to provide customized solutions integrating agricultural drones, robots, IoT and AI, under the same objective to promote smart agriculture in Southeast Asia & Pakistan. The two parties are expected to make smallholder farming more cost-effective and sustainable to support global food security and economic growth.

Meanwhile, XAG and Bayer Japan have also upgraded their partnership to accelerate the application of drone-assisted

plant protection, farmland remote sensing, and agriculture IoT in local market. The scaleup of agri-tech has been helping Japanese farmers reduce labor costs and use pesticides scientifically, while improving productivity and boosting the value of farm products to propel local agriculture towards intelligent and sustainable development.



## Voice for Industry Advancement

As a company with the world's leading drone technology, XAG plays an active role in business-government partnership with the Civil Aviation Administration of China (CAAC) and the Ministry of Agriculture and Rural Affairs. We have been offering advice on the formulation and improvement of industry regulations, and contributing to a sound regulatory environment in China.



Join the formulation of the *Interim Administrative Measures on Operation of Unmanned Aircraft (Draft for Comments)* by the State Council and the Office of the Air Traffic Control Commission of the Central Military Commission, and the *Guideline on Accelerating Agricultural Mechanization and the Transformation of Agricultural Equipment Industry* by the State Council



Lead in drafting China's first operation quality evaluation standard on plant protection drones – the *Operation Quality of Plant Protection Unmanned Aircraft*



XAG Cloud is one of the first cloud service systems for plant protection approved to be connected to the UAV Cloud of CAAC

## GEEKS WHO CHANGE THE WORLD

At XAG, every employee has a platform to realize their self-worth and dreams. While protecting the rights and interests of employees, we create a safe, healthy, and harmonious working environment, along with an open and transparent communication mechanism and a sound training system. We appreciate and encourage each employee's contribution and devotion, and always ready to bring him or her closer to their dreams.

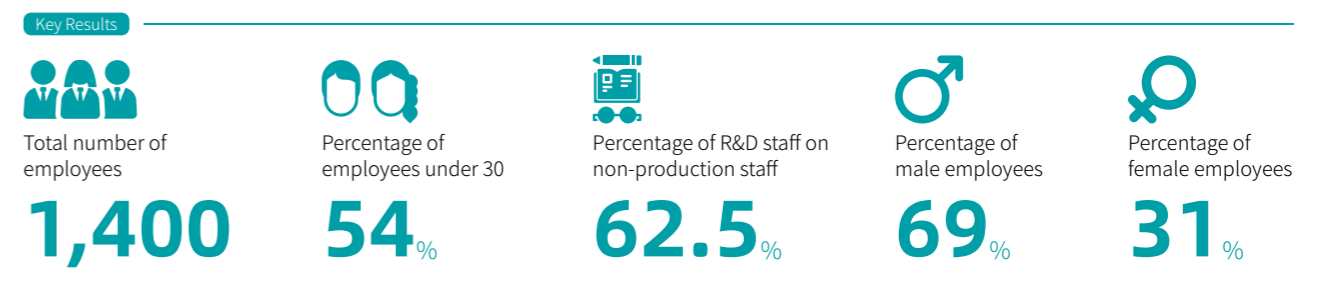
### Encourage Diverse Culture

XAG is privileged to have a group of young "geeks" who aim to change the most traditional industry with the latest technology, and believe that agriculture can also be "cool". Here, XAG staff are convinced that technology can change the world, as we are working hard to pave the way for the global agricultural sector to embrace drones and robots.



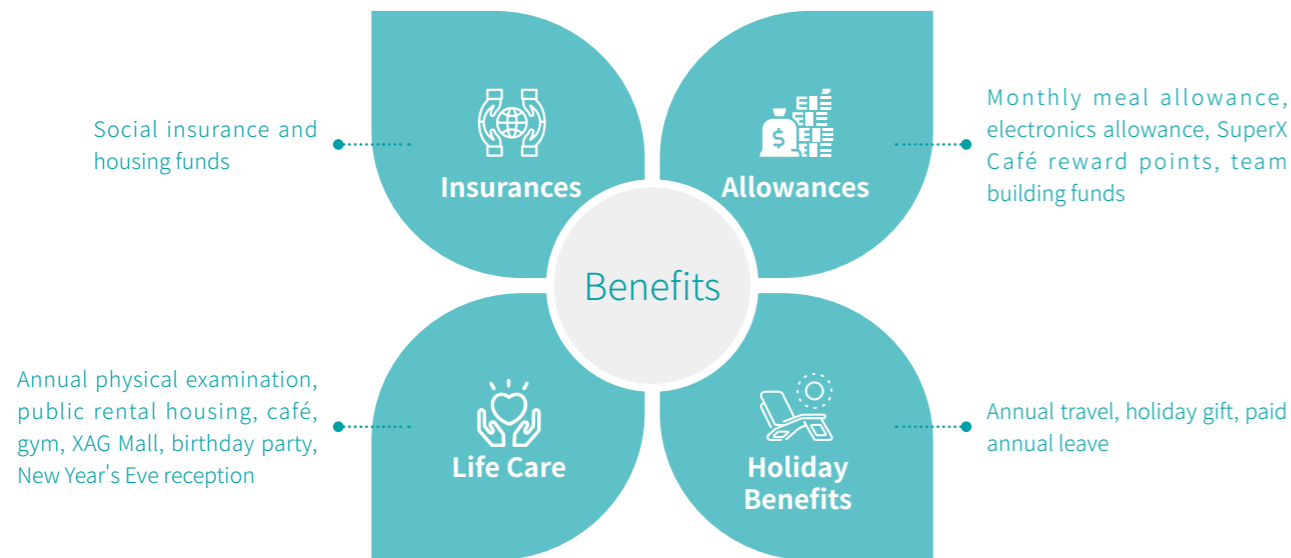
### Hand in Hand to Seek Shared Goals

As a young and energetic tech company, XAG values diversified corporate culture, so that all XAG employees enjoy equality and respect. We stick to open, fair and impartial recruitment, and champion the development and self-worth of female employees in an R&D-driven enterprise. Bearing a strong sense of social responsibility, we are growing up together with our diligent, outstanding and like-minded employees.

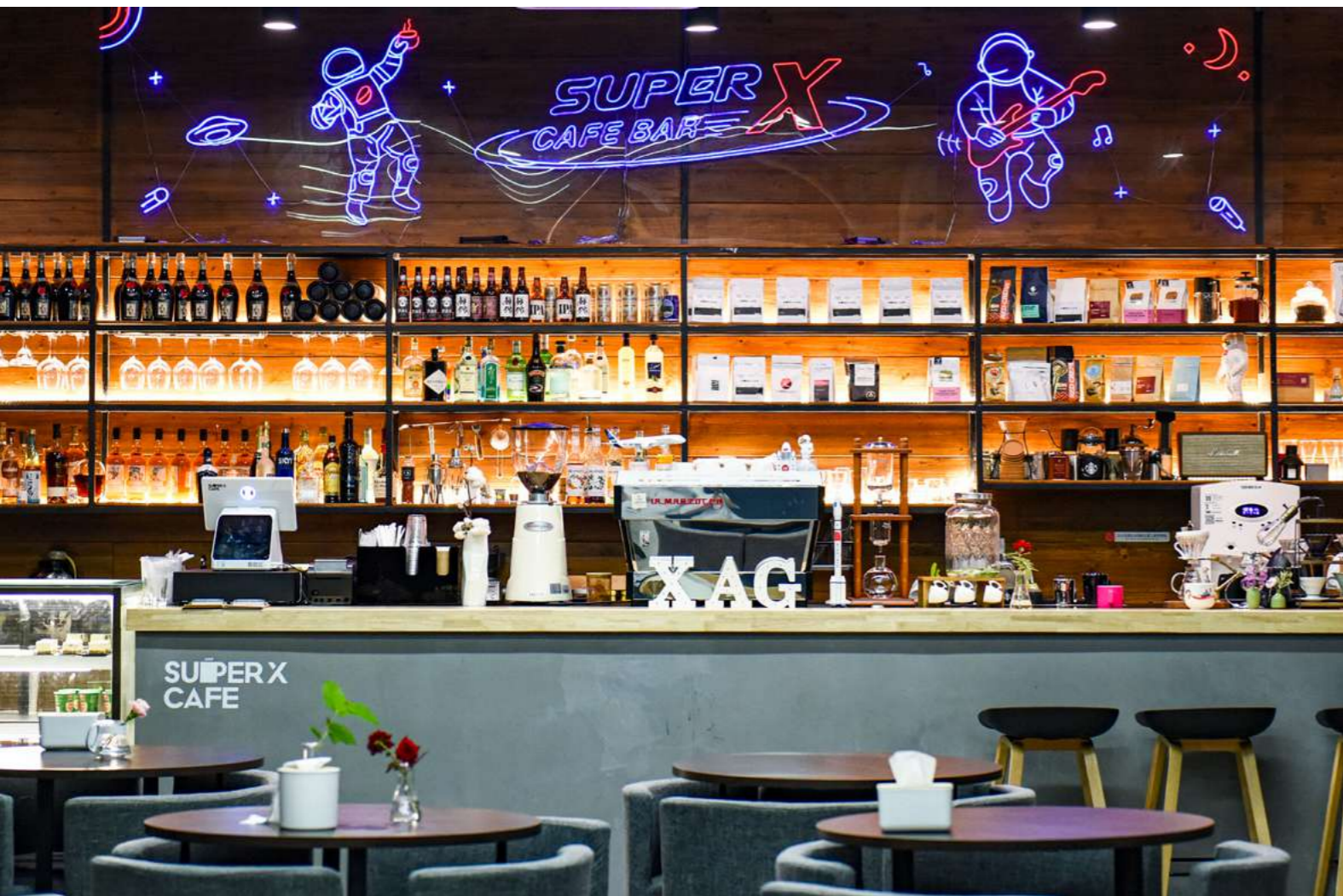


## Care for Employees in Every Way

At XAG, you can have both the moon and sixpence. While protecting the basic rights and interests of employees, XAG keeps improving its salary and benefits system and makes company an efficient, relaxing and caring workplace. We care for each and every employee, respect the growth needs of individuals and teams, and strive for the work-life balance of our employees.



SuperX Café



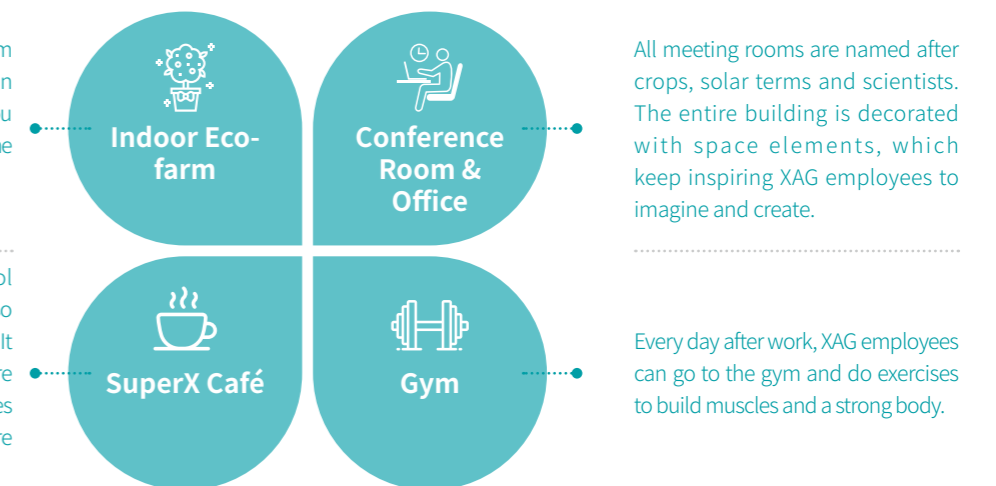
Indoor Eco-farm

## Recreational Facilities

The "force" that drives XAG is the employees who are happy in work and life. Bearing this in mind, XAG has built an eco-workplace at headquarters – X Space, which covers an area of over 10,000 square meters and is surrounded by forest and lake. Designed with functional areas such as an indoor farm, gym, shower room, roof garden, and SuperX Café, the X Space is a comfortable and healthy working environment with superb facilities and friendly services.

This combination of farm and showroom features a unique ecological design. In this farm within an office building, you can grow fruits and vegetables, enjoy the sweat and happiness of harvest.

Named after the SuperX control system, it is more than a café, but also the center of XAG's "inner power". It serves as a "powering station" where XAG employees recharge themselves with the aroma of coffee and prepare for full day work.



## Recreational Activities

XAG organizes a variety of recreational activities on a regular basis, which adds more joy to the after-work life of employees. Basketball, football, badminton, yoga and other sports clubs create opportunities for employees to communicate across departments and expand social circles. To encourage employees to balance work and life, XAG sets up a funding system for quarterly department activities. All departments are allowed to organize periodic team building events, where team members can get to know each other from a new perspective and better enjoy work and life.



## Improve Employee Competitiveness

The development of employees is a prerequisite for business growth. Thus, XAG takes the initiative to guide employees in career planning, standardizes its employee rank system and builds a professional training platform. By providing methods and sharing experiences, we motivate our employees to unleash their unlimited potential and fulfill their own needs for self-improvement.

### SuperX Talk

XAG holds regular knowledge sharing salons at X Space. Besides internal employees, farmers, entrepreneurs, scientists, gourmets and artists from all over the world can be our speaking guests. From food, wine and classical music, to how to start a company, SuperX Talk delivers knowledge in a variety of disciplines to help employees uncover new perspectives and thoughts.



### XAG Smart Agriculture Experience Camp

XAG provides every employee an opportunity to stand on farmland and have direct contact with agriculture. The Camp includes a wide range of activities, such as an introduction to agri-tech, crop harvesting, farming culture experience, and robot operation. Employees are able to learn about XAG's values, philosophy, technical advantages and main business in an immersive way, and gain the most intuitive understanding of how technology is changing agriculture.



### XAG Microlecture Contest

This Contest encourages all employees to pass on and inherit internal know-how. Contestants are provided with tutorials and competition guidance to prepare lectures on six work scenarios such as product R&D, marketing and sales. It not only motivates employees to learn how to use various knowledge sharing tools and office software, but also turns the expertise from different departments into intangible assets accessible to all. In this way, knowledge can truly "flow" within XAG.

## 2021 OUTLOOK

Here at XAG, over the past year, we've managed to stay true to our original mission, fulfill our obligations, and pursue excellence. On our path towards the blueprint of smart agriculture, we brave the wind and waves, while breaking through all challenges and barriers. Working together with our stakeholders, we harness unmanned technology to create many moments of unprecedented glory on farmlands, relentlessly contributing our due efforts to the sustainability of agriculture and mankind.

Looking towards 2021, we will remain passionate about the land and longing for technology. Seizing opportunities, embracing changes, and overcoming challenges, we will continue supporting the development of global agriculture. XAG never fails expectations. Instead, we will accelerate the construction of digital agricultural infrastructure, improve channel service capabilities, develop more intelligent, precise agricultural equipment, and reduce the environmental footprint along our food security journey.

In the near future, XAG will be scaling up technology to cross over to all fields, making agriculture more efficient and easier, and food production safer and more reliable. We anticipate, with the continued provision of knowledge, skills and services, all farmers will have an equal stage to fulfill their self-worth. In addition, we expect more and more young people back to the countryside and enjoy new opportunities in revived rural communities. Our technology and philosophy could serve as a powerful engine to drive us towards a green and low-carbon future. We look forward to XAG becoming a bridge that connects more people with the same vision, who will together explore the infinite possibilities of agriculture and a wider range of fields.

XAG is convinced that the future of agriculture must be powered by technology. Technology and agriculture together will write the grand narrative of this age. We are honored to have our own future matched the greater trend of our times, shouldering the responsibility and mission for a better future.



**Peng Bin**  
Founder and CEO of XAG

## EXPERT INSIGHTS

Critically important to achieving zero hunger and ending poverty, food security has always been a top priority of global concern. When a tech company regards "advancing agriculture" as its mission, people cannot help but become curious about what it hopes to achieve and do.

Full of questions and curiosity, I read through the XAG Corporate Social Responsibility Report 2020. Afterwards, I am quite moved and shocked that a tech company can be so devoted to the agricultural sector. By introducing the cutting-edge unmanned technology to agricultural production, it has liberated and boosted productivity, reinvigorating the once marginalized rural areas. Moreover, I am thrilled by what have been created beyond that: XAG also harnesses the power of tech to advance the United Nations 2030 Sustainable Development Goals – including gender equality, climate action, ecological restoration, and biodiversity. Under a sustainable business model, it is bringing value to economy, environment and society, with its own CSR competitiveness rising continuously.

This first CSR report ever released by XAG not only allows us to better know what the company is and does, but also highlights the power of technology and the prospects of smart agriculture. Following an innovative narrative, the report has connected the chapters themed around technology, environment, safety, pandemic, and society in a sensible way. The report contains the substantive practices through which XAG leverages its own advantages in the industry for sustainable development, which is both systematic and comprehensive. At the same time, the report is reader-friendly and describes to readers how XAG fulfills its responsibilities with vivid cases and detailed data. In this way, stakeholders are able to gain a more thorough understanding of the company's developments and CSR performance, as well as its commitment to transparent and open communication.

This is a story about a young company and a group of young people empowering the ancient industry of agriculture. We look forward to the future when XAG connects its business growth more closely with sustainable development and create greater value. More stakeholders can appreciate the power of tech and the charm of agriculture, while impressed by the efforts and contributions made by the company. Now let's look forward to the next corporate social responsibility report presented by XAG.

**Yu Zhihong**

President and Editor-in-Chief of China Sustainability Tribute



# PREPARATION NOTES

This Report is the first annual corporate social responsibility report made public by XAG Co., Ltd. (also "XAG" or "we").

## References

This Report is prepared with reference to the *Global Reporting Initiative (GRI) Standards* by the Global Sustainability Standards Board (GSSB), the United Nations Sustainable Development Goals (SDGs), the *ISO 26000:2010 - Guidance on social responsibility*, the Chinese national standard on social responsibility *Guidance on social responsibility reporting* (GB/T36001-2015), and the *China Corporate Social Responsibility Reporting Guide (CASS CSR4.0)* by the Chinese Academy of Social Sciences.

## Time Range

This Report roughly covers the period from 1 January 2020 to 31 December 2020, with some beyond this time frame.

## Data

All the information and data contained in this Report are from XAG's official documents and statistical reports. The financial figures herein are in RMB, unless otherwise specified.

## Get the Report

To protect the environment, we recommend you read our electronic-edition report in PDF format. You can visit our official website and download it on <https://www.xa.com/en/about/csr>

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