Kingdom of the Netherlands

Russia: robotics in agriculture

What is happening in Russia in the area of robotics in agriculture and horticulture?

Photo by Dominik Scythe

The Netherlands has always been strong in agricultural techniques.

There are more than 60 engineers and researchers working with industrial partners on new robotic systems and drone technology for the agricultural and food sector at Wageningen University. Furthermore, Brainport Eindhoven has set up a program on food technology in which a lot of work is done with Artificial Intelligence, sensor and vision technology, smart lightning and robotics.

Robotization offers opportunities for precision agriculture, sustainable (including organic) agriculture and the reduction of the use of pesticides. For example, the chemical control of weeds can be replaced by a 24/7 operating robot that removes weeds mechanically and, in this way, can contribute to

The Russian AgroTech market is still at the stage of formation.

Russia reacted to Western sanctions in 2014 by introducing a more autarkic policy with regard to food security, meaning that it wants to organize the production of agricultural products inside its own borders as much as possible. This triggered a major upscaling of the sector which became very dynamic in the last couple of years. According to the International Federation of Robotics, the interest in modernization and robotics intensified significantly, although the implementation rates and investment level are still low comparing to the average international.

Approximately 24% of farms express demand for robotic agro-solutions. Most of them are big agro holdings which are able to plan and invest on the horizon of 5-10 years. There's less interest from SME's.

SWOT-analysis for agro technology sector in Russia:

STRENGTHS	WEAKNESSES
• Agriculture is one of the leading industries in Russia (4.5% of GDP) with 10% of the global arable land and strong positions in export; • The industry is consolidated: top 50 holdings cover about 20% of agricultural land in RF and a significantly larger share in processing, accumulating resources and demand for technology; • Strong engineering basis in education.	• The lack of skilled and educated people willing to work in agriculture, including in economics of agriculture; • The practice of working with start-ups in the agricultural sector has not been developed; • The lack of large-scale reliable industrial testing and market integration system. Product testing may take several seasons. Risks in product implementation.
OPPORTUNITIES	**BARRIERS**
• More than 200 Russian start-ups working in different segments of agro technologies; • Federal and regional loans and subsidies for modernization of equipment and new agro projects, including support of SMEs; • Soft-landing programmes for localization of foreign companies in Russian regions.	• A limited circle of strategic investors in Russia; • Most global companies consider the Russian market only to market the solutions they have created, and not to co-create such solutions; • Short term (cheap labor cost) vs. long term (value of automatization).

Russia has developed roadmaps with rather ambitious goals up to 2024: the share of domestic developers of industrial robotics is 30% and the density of robotics is 40 robots per 10000 workers (there were 5 robots in 2018). The estimate of the industrial robot market is appox. €345 mln.

According to the Russian Ministry of Agriculture, IT in agriculture market accounted for appox. €4 bln in 2018 and it should grow by 5 times by 2026. By 2024, it is planned to allocate more than €1.7 bln from the federal budget to support creation of a special digital platform, specialists training and subsidies.

Dutch agricultural companies are mainly active in the following Russian regions: Krasnodar region, Moscow region, Leningrad region, Voronezh region, Lipetsk region, Murmansk region, Belgorod region and Tatarstan.

Practical examples

There are multiple companies focusing on modern technologies such as AI, VR and machine learning to develop solutions for agriculture. The main areas of development and some examples are below:

- Analysis of satellite images (Innoter, Sovzond, TerraTech)
- Creation of unmanned tractors, harvesters and simulators (Cognitive Agro Pilot, Cognitive MDK-Simulator)
- Creation of unmanned aerial vehicles (AgroDroneGroup, Geoscan, Skyf, AeroTechAgro, Avrora Robotics, TSURU)
- Analytical systems for precise agriculture (Magrotech, Agronout, Agroshturman, Agrointellect)
- Agro consulting and management systems (Connectome, Intterra, Agromon)
- Automatized greenhouses (iFarm, UrbaniEco, "Local roots" – Mestnue korni, EcoRepka)
- Livestock management and care (ITProject, R-SEPT)
- Agro robots for various tasks, e.g. apples or berries picking

AgroTech provides a map of Russian of agro tech companies divided by sub sectors (in Russian).

Developments in the field of science and education

There are multiple agrarian universities in Russia, working in robotics and agriculture in the same dimensions. Amongst those, which include the business areas for high-tech industries in Russia are e.g. Innopolis in Tatarstan, Skolkovo in Moscow and 16 special economic zones.

There are educational programmes at state universities aimed at robotics and mechanics, agricultural studies and also new programmes devoted to specifically robotics in agriculture.

The most prominent universities are Russian State Agrarian University, Innopolis, University of Tomsk, Skoltech University of Science and Technology, Kuban Agrarian University, Vavilov Saratov State Agrarian University, Astrakhan Agrarian University, HSE Institute for Agrarian Studies and Financial university under RF Government.

Other useful links

- Smart farming club
- AgTech marketplace
- AgroNext Forum
- Golden Autumn Exhibition
- Research cooperation support opportunities

What can the Embassy do for you?

The Netherlands Embassy in the Russian Federation can facilitate your company in a number of ways:

- Provide more detailed market information based on
- on your specific questions and needs, including a company check on a prospective partner on the Russian market;
- Answer first-line questions regarding doing business in Russia;
- Facilitate contacts with regional or federal authorities.

Sanctions

There are sanctions from the EU and other countries imposed on the Russian Federation. These sanctions can particularly affect companies seeking to do business in the energy sphere and/or to cooperate with certain state enterprises. EU measures include restrictions on:

- Doing business with specific Russian entities like energy companies (often financial restrictions);
- Export of goods, technologies or services for deep sea, Arctic and shale oil exploration and production;
- The export on dual-use goods.

Please note that such restrictions are applied on certain goods, technologies and services regardless of their end use.

Goods, technologies and services that are intended for use in non-restricted oil and gas projects may also require an export license. Companies are advised to contact the Dutch Central Import and Export Office (CDIU) if they have any questions regarding the potential need for an export license.

Companies are responsible to ensure that their activities comply with the sanction regulations. For more information

about sanctions, you can contact the Netherlands Enterprise Agency's sanctions desk (in Dutch) and consult the handbook on dealing with sanctions on their website.

More Information

For further information, you can contact the Economic department of the Netherlands Embassy in Moscow via mos-ea@minbuza.nl. You can find general information about doing business in Russia, available subsidies and financing for entrepreneurs on the Embassy's website and on the website of the Netherlands Enterprise Agency (in Dutch). You can follow us via our LinkedIn and Facebook pages.