



Министерство сельского хозяйства  
Российской Федерации

приоритет2030<sup>+</sup>  
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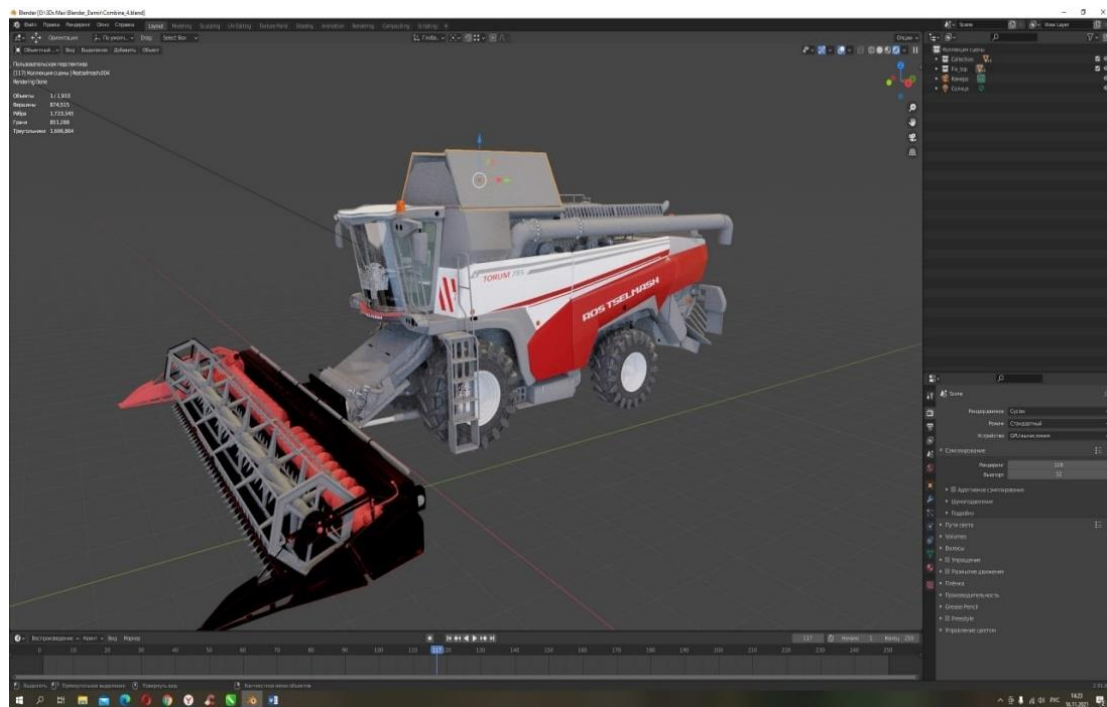
# Implementation of Competencies of the Future through the Integration of Digital Twin Technologies, Virtual and Augmented Reality into the Educational Process

Rector of FSBEI HE Saratov State Vavilov Agrarian University  
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# Integration of Digital Competencies into Educational Programs

During the transition to the new educational standards of the FSES 3 ++ in 2019-2021 all integrated groups of educational programs were updated and disciplines on digitalization were introduced in the relevant areas



100% of educational programs contain disciplines for digital competences:

- Visualization and 3D modeling;
- Information technology in the agro-industrial complex;
- Intelligent control systems;
- Digital twins;
- Digital technologies in agro engineering
- Digital technologies in veterinary medicine
- Digital technologies in agronomy
- Computer modeling in agricultural production
- Robotic hardware in agricultural production

# VAVILOV Platform for a Consortium of the Volga Federal District Universities as Part of the Priority 2030 Program

## Features

- Dealing with agro classes of rural schools;
- Innovative digital solutions for agribusiness
- Extracurricular professional programs with digital models

**VAVILOV** 8 (8452) 23-32-92 Сведения об образовательной организации Поиск по курсам...

Саратовский государственный аграрный университет имени Н. И. Вавилова

## VAVILOV ОБРАЗОВАТЕЛЬНАЯ ПЛАТФОРМА

Выбрать курс Войти

По самым выгодным ценам России!

\*Презентация онлайн платформы

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**VAVILOV** 8 (8452) 23-32-92 Сведения об образовательной организации Поиск по курсам...

Выберите, к какому экзамену вы готовитесь

### Направления курсов

ЕГЭ ОГЭ

VAVILOV - это онлайн-школа подготовки к ЕГЭ и ОГЭ №1. За 5 лет мы выпустили более 50 000 учеников, среди которых более 15 000 сдали на 90+ баллов, а 1510 учеников сдали экзамен на 100 баллов.

Выберите предмет для изучения:

Русский язык v

Наш рейтинг: ★★★★★

Здесь есть все для вашего удобства: записи занятий, домашние задания, разборы, дополнительные варианты.

ПЕРЕЙТИ

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### ДПО

Дополнительные профессиональные программы

Дополнительный текст дополнительный текст  
Дополнительный текст дополнительный текст

Наши бестселлеры:

Наименование программы	Наименование программы
16 000 ₽ 30 000 ₽	14 000 ₽ 17 000 ₽
Объем программы: 60 часов Продолжительность: 3 месяца	Объем программы: 60 часов Продолжительность: 3 месяца
подробнее	подробнее

Ознакомьтесь с полным каталогом

ПЕРЕЙТИ

\*Презентация онлайн платформы

# Establishing Digital Competence Centers as Part of the Priority 2030 Program

## Targets

- DCC in agro engineering;
- DCC in veterinary medicine, food and biotechnology



## Implementation phases

**Education:**  
Academic staff,  
postgraduates,  
students



**Internships:**  
Business, research  
institutes, universities



**Creation of digital models and  
twins of the VAVILOV  
agrobiotechnopark**

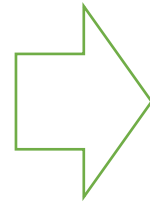


**Science-intensive  
breakthrough research**

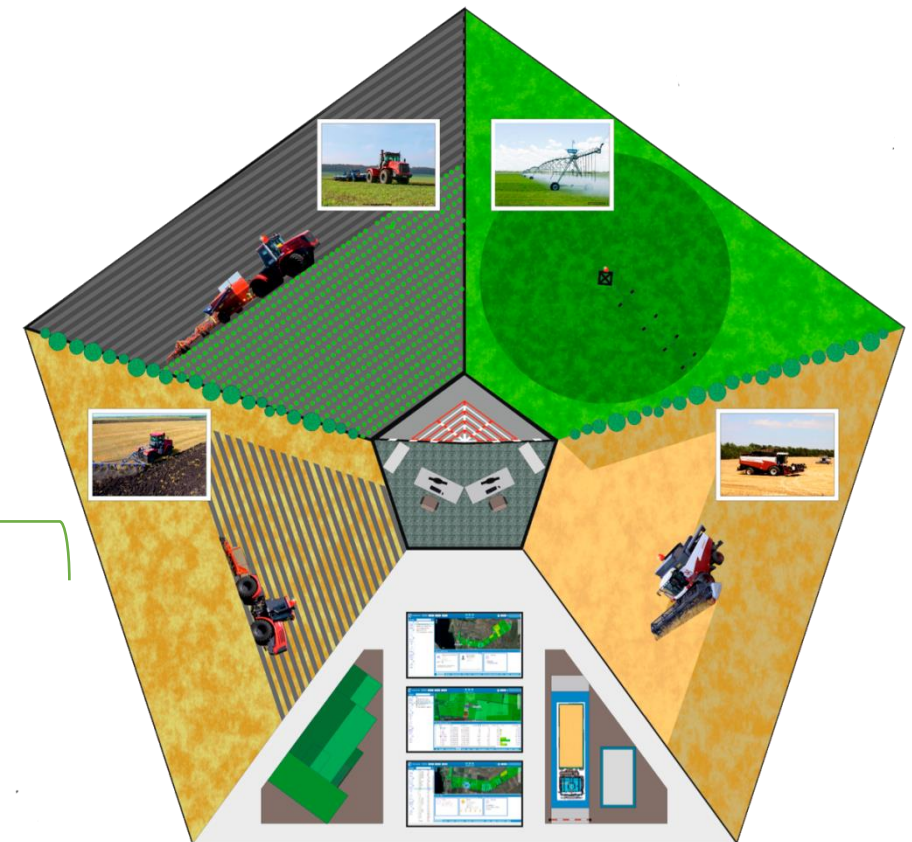
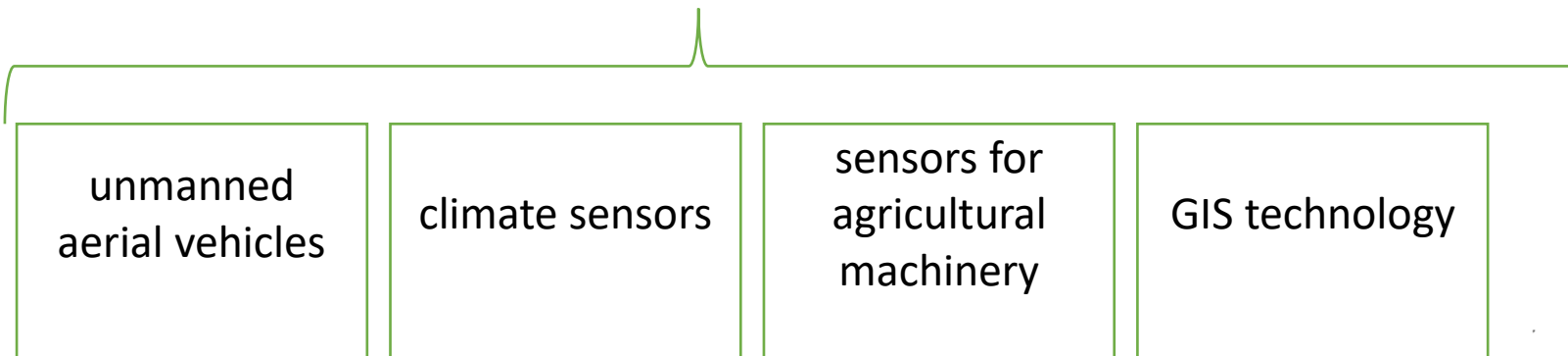
# "Digital twin" of an Agricultural Enterprise Based on Scientific Training and Production Complexes "Povolzhye" and "Mummovskoye" of Saratov State Agrarian University



- fertilization;
- field consistence;
- harvest;
- machinery movement ;
- feed consumption;
- animal health;
- herd rotation.



- harvest forecast;
- control of machinery parameters;
- detection of animal diseases;
- reduction of all types of costs.



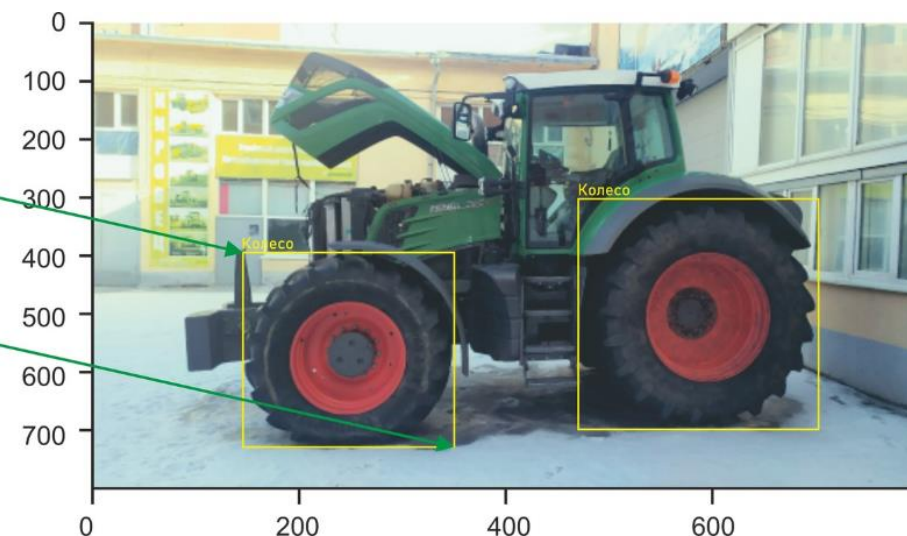
**Industrial Partner:** LLC «Infobis», implementing the «Agrosignal» project in the Russian Federation (more than 6 million hectares) and the CIS countries



# Innovative Platforms: Center of Agro-robotics, VR/AR-Technologies of Saratov State Agrarian University

## Industrial partners:

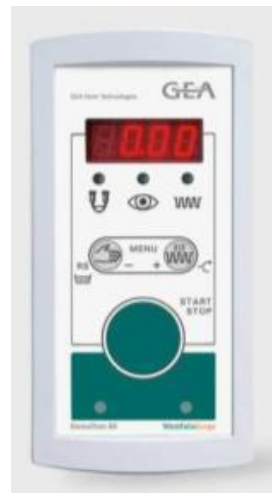
- CLAAS,
- FENDT dealer service
- OJSC Minsk Tractor Plant
- JSC Rostselmash



# Innovative Platforms: Digital Animal Breeding Center of Ulyanovsk State Agrarian University



- A unique model of a digital farm with a full cycle: feeding, housing, milking, management and treatment
- Milking room: milking herd control devices, digital classroom, control software
- Recognition system for automatic registration and processing of parameters of any animal
- Cowscout system - informs about the best moment for insemination, registers the movement, eating feed, sanitary and veterinary safety of the animal



# Innovative Digital Solutions of Samara State Agrarian University

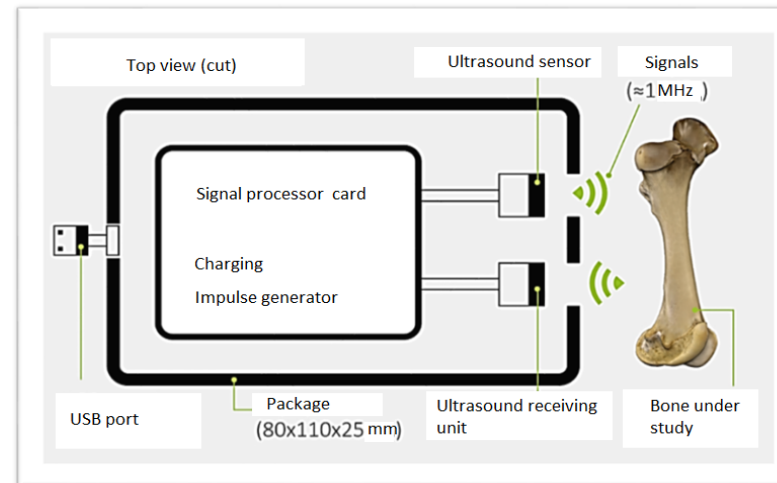
## Digital training material "Interactive anatomical 3D-atlas of a farm animal"

- ✓ Anatomically accurate tissue detailing
- ✓ 3D model allows you to see the object at any angle
- ✓ Ability to study each tissue separately
- ✓ Tips with the name and description of objects
- ✓ Modeling any combination of anatomical formations
- ✓ Intuitive familiar interface and ease of use



## Diagnostic instrument "Ultrasonic echoosteometer for diagnosing disorders of mineral metabolism and physiological status of animals"

- ✓ Rapid diagnosis of up to 90% of physiological problems in animals
- ✓ Identification of nutritional deficiencies
- ✓ Light weight and ease of use
- ✓ Independence of operation up to 5 hours
- ✓ Formation of a measurement database and tracking of dynamics







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# Thank you for your attention!

