




FEERUM

**YOUR RIGHT TO FOOD**



**FEERUM is a leading company specialising in ensuring the best protection of stored grain as per the right to quality food and to achieve suitable income from sustainable agriculture.**

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*The right to food is a fundamental human right. We want to act in favour of its general enforcement. We are aware of the importance of proper grain storage in the process of ensuring the right to food. We know how to do it.*

*Effective and efficient maintenance, protection and safety of the stored grain is part of our mission. We work with passion and engagement to fulfil this goal.*

*We design, test and implement unique, innovative, and patent-protected solutions.*

*We are a loyal, dependable and reliable partner. Our business is based not only on economic analysis and calculations but also the values important for other people throughout the whole world.*

*Sustainable agriculture has to yield profits at a specified level. Caring for grain is not solely a business for us. In pursuit of minimisation of losses, expenses and agricultural outlay, we also care for the quality and nutritive value of each stored grain. Under the right to high-quality food.*



*founder and president of FEERUM S.A.*



# The best at caring for grain.

- > We have **know-how**, which we are continuously developing, and **experience**, which we are continuously **enhancing** through cooperation with other crop producers in **Europe, Asia and Africa**
- > We ensure that losses are **minimised**, costs optimised and that the value of grain in storage is **improved**
- > We **protect the environment**
- > We promote the idea of **sustainable agriculture**, support **educational activities** aimed at promoting grain care and protection
- > We are full of **passion and commitment**. We boldly face difficult tasks to come up with **the most effective and efficient** solutions



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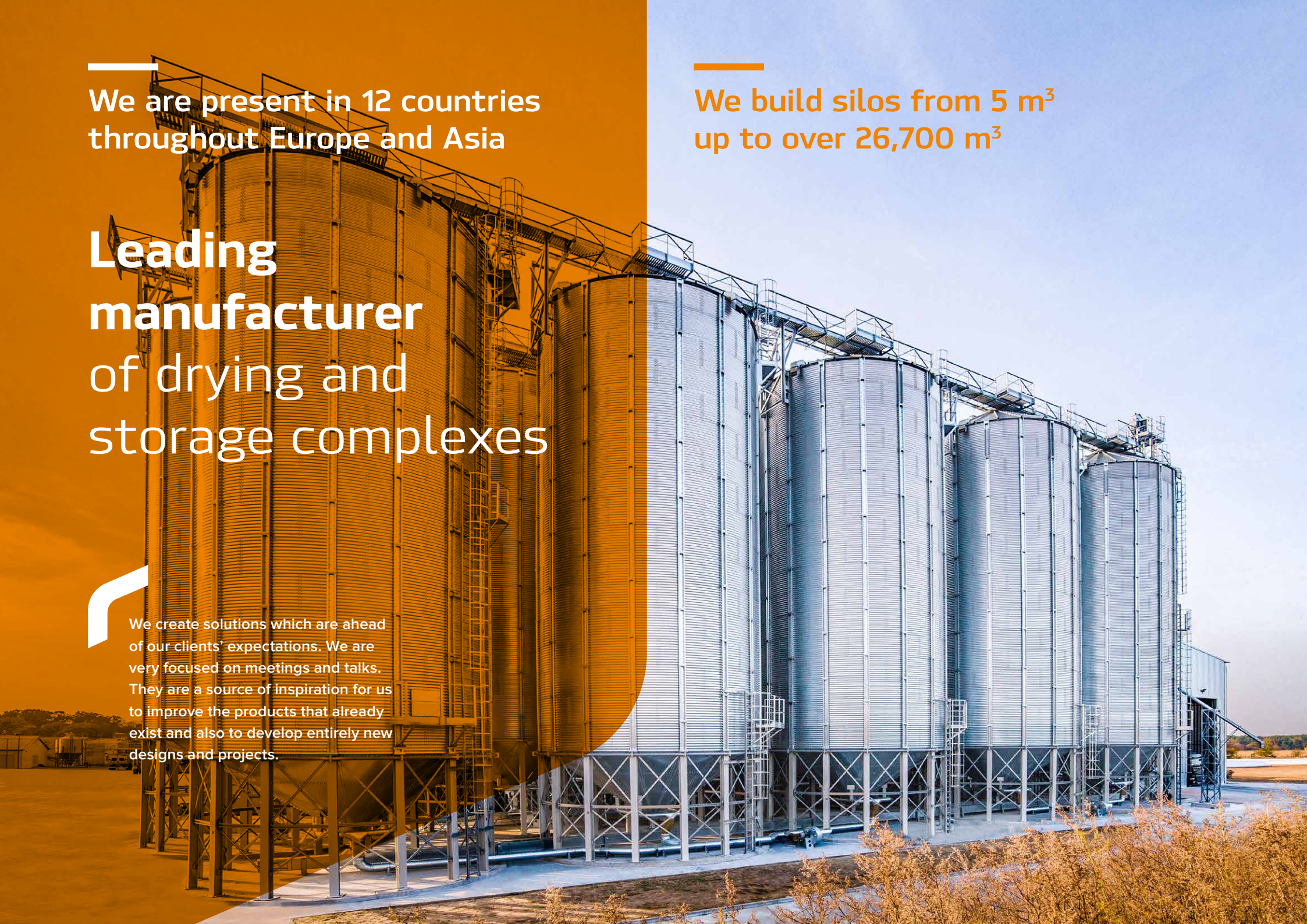
We are present in 12 countries  
throughout Europe and Asia

**Leading  
manufacturer  
of drying and  
storage complexes**

We create solutions which are ahead  
of our clients' expectations. We are  
very focused on meetings and talks.  
They are a source of inspiration for us  
to improve the products that already  
exist and also to develop entirely new  
designs and projects.

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We build silos from 5 m<sup>3</sup>  
up to over 26,700 m<sup>3</sup>





## Smart management system

We build **comprehensive drying and storage complexes**, consisting of silos, a wide range of drying plants and reliable grain transportation systems.

FEERUM silos are used for long and short-term grain storage, **mainly different types of seed crops, maize and oil crops**. We manufacture flat-bottomed, hopper, bulk loading and feed silos.

FEERUM's innovative drying system ensures **grain safety**, allowing it to maintain its quality and nutritive content, reduce expenses and accelerates the entire process.

FEERUM's fully automated drying and storage complexes are provided with **smart online management systems**. They are reliable and can be used in any conditions.

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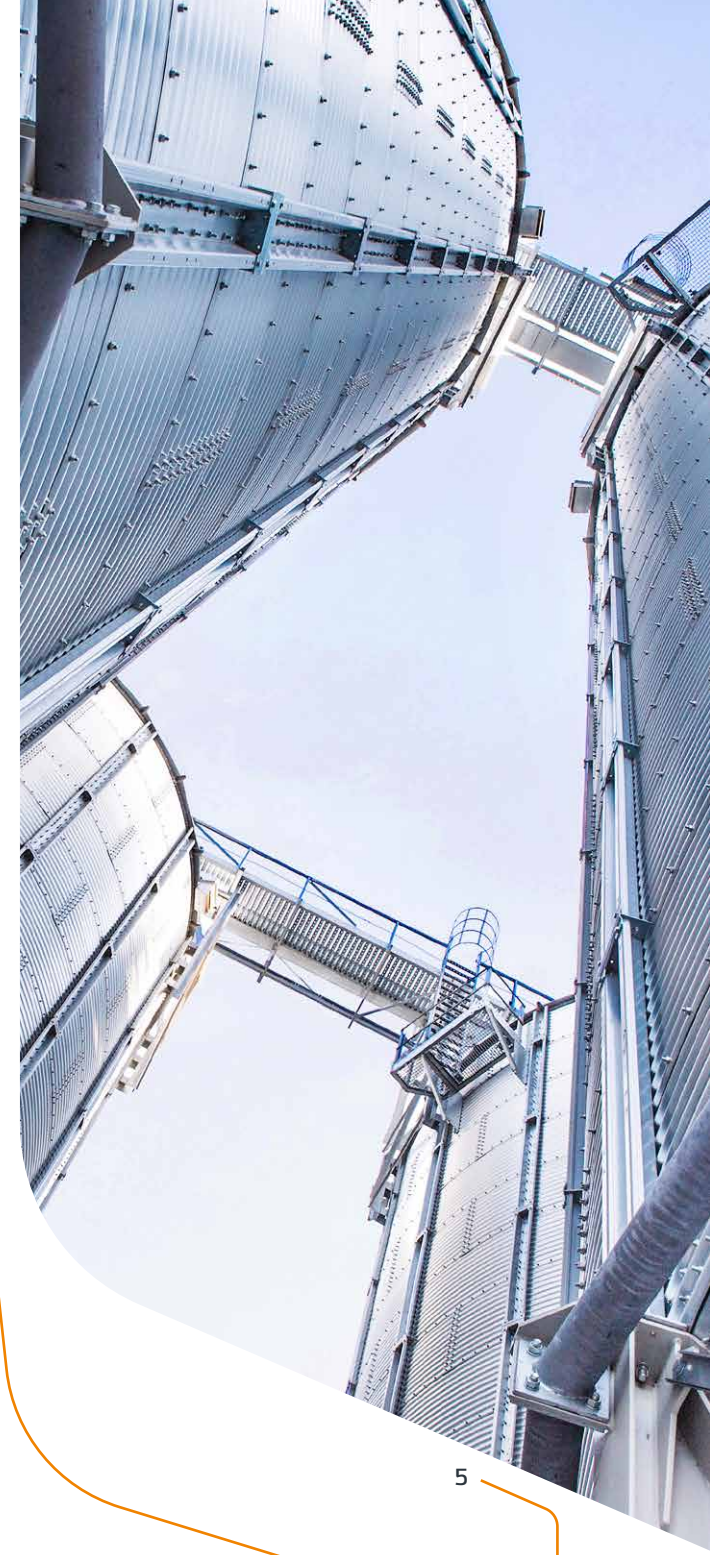
**We have completed projects with a total capacity exceeding 4 million m<sup>3</sup>**

**We are an innovation leader. In cooperation with leading research centres, we are continually improving our products. We design, test and implement unique and innovative, patent-protected solutions. We are growing our own Research and Development Centre – all products are reliably tested before they are ready for dispatch to our Clients.**

## Reliable service

The design, construction and launching of the drying and storage complex is only the beginning of our cooperation with our Clients. We maintain the complexes throughout their life, including during the post-warranty period. **This is possible owing to the online operation monitoring system.**

We diagnose any potential issues remotely and we introduce modifications to the system's operation. Each facility is provided with a data archiving panel which enables the analysis of equipment and proper evaluation of the grain storage and drying process.



## Over 26,000 m<sup>3</sup> of grain in a single silo

FEERUM's flat-bottomed silos with a diameter from 3.8 m to 33.4 m are made from structural, zinc-plated, corrugated steel sheets. They ensure **structural strength, extended silo useful life** and at the same time reduce the heating effect from the sun.

## Silos resistant to high temperature

- > Ventilators and turbo fans minimize condensation under the roof in case of temperature differences inside and outside the silo
- > The silo's ventilation system allows also to cool the grain
- > Thanks to temperature probes installed inside the silo and an intuitive on-line system we can monitor the temperature and all grain parameters
- > Roofs with a special reflective coating

**Reliability and simplicity of handling. The automatic FEERUM complex control system enables monitoring of a multi-level process of grain acceptance, purification, drying and storage. It is very simple and intuitive in use. This is available online and as a smartphone app.**

## Reliable and energy saving FEERUM drying plants

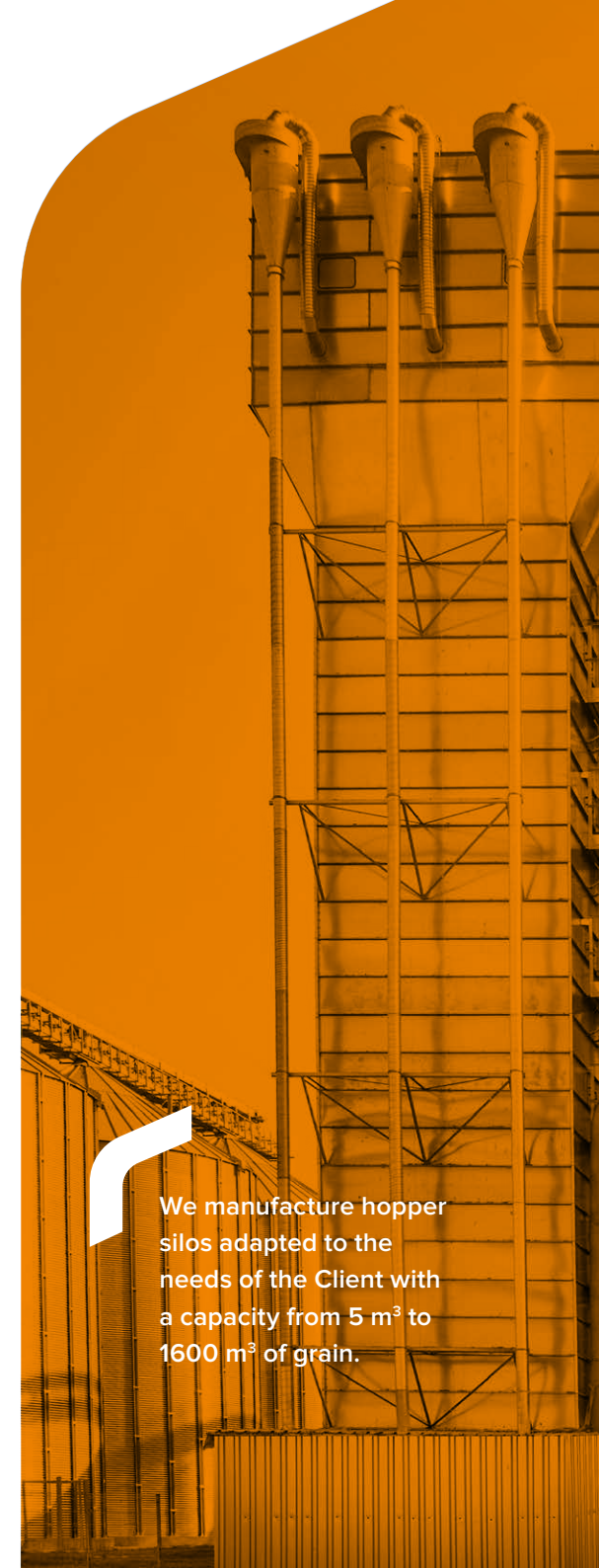
- > Continuous or partial cycle
- > Drying of all kinds of crop seeds (including corn), pulses and oil crop seeds
- > Supply - natural gas, liquid gas, fuel oil and other alternative sources (water exchangers, for solid fuel)
- > Filling capacity from 19 m<sup>3</sup> to 405 m<sup>3</sup>
- > De-dusting system and thermal insulation provided as a standard

The best drying effects are achieved when a multi-stage **low-temperature method** based on heat recuperation and buffer silos is applied. **FEERUM** has patented an **original system** using a cross-flow recuperator that allows **reducing fuel consumption by up to 20%**.

FEERUM uses **special silo spreaders**, reducing the seed flow speed and preventing seed damage when hitting a surface.

We have also developed **FEERUM grain coolers** used in silos which reduce the temperature of the material and air humidity in the cooling process. FEERUM is also a **leading manufacturer** of this type of cooler.

**We manufacture hopper silos adapted to the needs of the Client with a capacity from 5 m<sup>3</sup> to 1600 m<sup>3</sup> of grain.**





## Grain transport

We offer a wide range of grain transporting equipment, mainly different types of crops, maize, oil crops and feed products.

Feerum has its own chain production line and scoop pressing plant.

### Vertical grain transport


- > Bucket elevator

### Horizontal grain transport

- > Straight and diagonal chain conveyors
- > Arched and z-type chain conveyors
- > Straight (also with a trolley) and arched belt conveyors
- > Screw conveyors
- > Silo screw augers

The smart horizontal and vertical control systems ensure automatic adjustment of its transport speed to the bucket elevator and other elements of the complex.

We manufacture transport equipment with a capacity of 30 to 300 tons per hour. All devices are adapted to work in industrial facilities (continuous work) due to the use of wear-resistant materials in crucial places.



We protect crops. Efficient and effective crop protection is ensured by modern solutions which are one of many elements of our sophisticated drying and storage complexes. They allow full monitoring and, as and when required, adjustment of the temperature and humidity inside the silos.



# Unique technology

SCIENCE  
CUTTING-EDGE

## Our know-how makes us different!

We know how important it is to store grain properly in the process of ensuring the right to quality food.

Our sophisticated drying and storage complexes enable **grain storage which guarantees the highest quality and the preservation of nutritive values** at the lowest possible costs.

We are the best at caring for grain.

## FEERUM means:

- > ITS OWN R&D CENTRE
- > UNIQUE SOLUTIONS
- > PATENT PROTECTION OF OUR OWN DESIGNS AND PROJECTS
- > INTEGRATED DESIGN AND PRODUCTION SYSTEM
- > AUTOMATED PRODUCTION LINES
- > SMART DRYING AND STORAGE COMPLEX OPERATION CONTROL SYSTEMS
- > ONLINE SERVICE



## Our partners:

- Wroclaw University of Science and Technology
- Zielona Gora University
- Dar es Salaam Institute of Technology
- University of Dodoma
- Mbeya University of Science and Technology
- Western Expertly Tec
- Western Expertly Tec (certificate for Ukraine)



## Innovation is what makes FEERUM different.

### Goals of our R&D Centre's projects:

- > Further improvement of quality of stored grain and its nutritive values
- > Lower energy demand by FEERUM complexes
- > Increased efficiency, reliability and performance of FEERUM facilities
- > Care for the natural environment by reduced noise and dust accompanying the drying process
- > Further process automation
- > Reduced production expenses
- > Reduced operating expenses

We save energy. In our drying plants, we use an unrivalled, multi-stage, low-temperature heat recuperation system thanks to which we reduce fuel consumption by up to 20% while maintaining the highest grain parameters.

## INNOVATION TECHNOLOGY





# Products offered by FEERUM are appreciated by the Clients based in 12 countries



Work is our passion and therefore we are not afraid to take up new challenges and difficult projects. We are entering the African market because work in very extreme conditions is nothing new to us. In Mongolia, despite sandstorms, strong winds and temperature variations, we built a facility with a total capacity of 11,000 m<sup>3</sup> within three months.



We consider Eastern markets, including Ukraine in the first place, to be the most promising. We have been producing for the needs of this country for many years. The contracts with Epicentr K LLC are the largest in the history of our company to date and their total value is close to 88 million EUR\*. The agreement between Feerum and Epicentr K LLC, implemented under the supplier's loan (government program Financial Export Support), with KUKE insurance and purchase of receivables by BGK, was the first of its kind in Europe.

Under the Program, Bank Gospodarstwa Krajowego grants foreign buyers (directly or via the buyer's bank) loans to finance the purchase of Polish goods and services. Funds from the loans are paid directly to domestic exporters and foreign buyers repay the loans after the goods and services are delivered. Financing provided to foreign borrowers is protected by KUKE, which insures them against political and commercial risks. BGK also offers loans to Polish exporters for the implementation of foreign contracts.

The second area of our foreign interest are the countries of the Sub-Saharan African region. We are currently building strategic grain storage warehouses for a government agency from Tanzania. Sub-Saharan Africa will increase its population by another billion in the coming years. The issue of food security is already one of the biggest problems of this society. We have the know-how, production and logistics capabilities to do the work that has not been undertaken in the 20<sup>th</sup> and 21<sup>st</sup> century.

The contract with NFRA (National Food Reserve Agency) is our first step in long-term expansion on this continent. This is the best region to do business. Polish companies, creating innovative and technologically advanced products, can develop over there on a large scale.

*\*according to figures from December 2019*



**Foreign expansion  
is our strategic goal**



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registered trademark

  
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