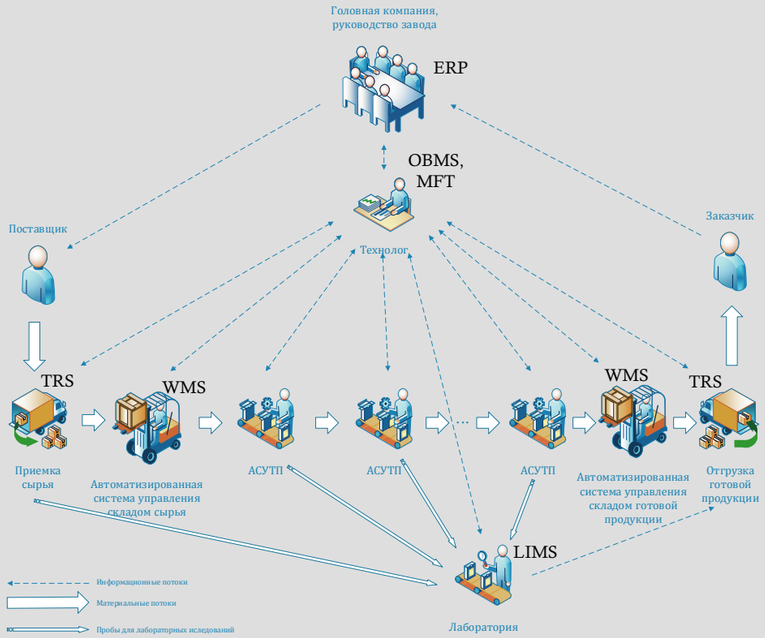
MES FOR GRAIN AND TRANSSHIPPING COMPLEXES

MES (Manufacturing Execution System, or industrial process control system) — are computerized systems used in manufacturing, to track and document the transformation of raw materials to finished goods. MES provides information that helps manufacturing decision makers understand how current conditions on the plant floor can be optimized to improve production output.

Main task of MES is a centralized process control in online mode on all production phases.

Information is transferred automatically to all phases; as a result - we avoid human factor.



TECHNOLOGIES

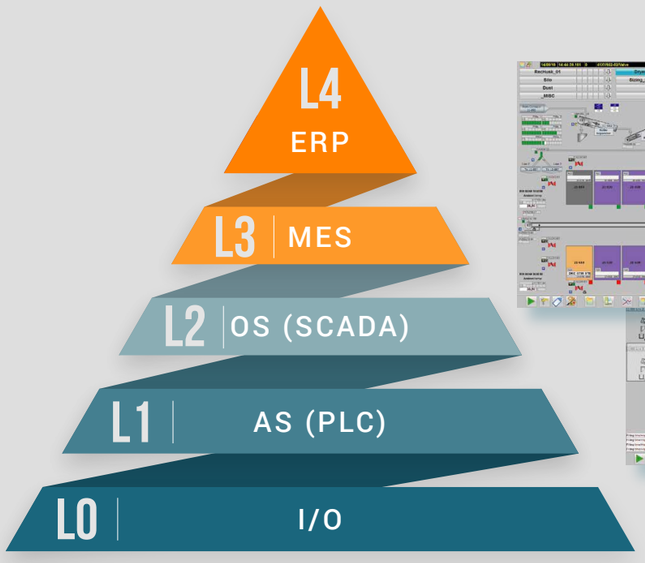
Microsoft .Net – basis of a MES - platform.

Microsoft BizTalk (could be replaced with **TIBCO**) – a platform of the information exchange between systems, which supports interfaces with information systems.

Barcoding – is used for identification of the end-products, storages, documentation, etc.

OPC, Simatic Batch, OSIsoft PI System – technologies, which allow information systems to get information from ACS and send control actions into ACS.

INTEGRATION OF ACS INTO MES



PRODUCTION CONTROL

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AUTOMATION SOLUTIONS

AUTOMATED CONTROL SYSTEM OF OIL EXTRACTION PLANT

AUTOMATION OF THE AGROINDUSTRIAL COMPLEX

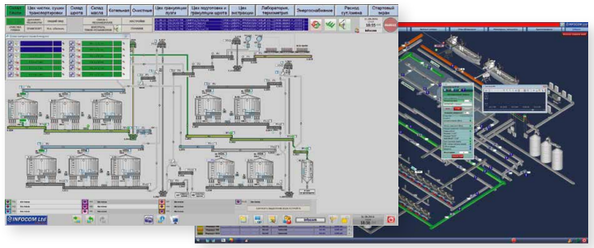
INFOCOM Ltd
TOTAL AUTOMATION

AUTOMATED CONTROL SYSTEM OF OIL EXTRACTION PLANT

1 ACCEPTANCE AND STORAGE AREAS

Area of grain acceptance and storage serves for unloading of grain from auto, -and railway transport, grain drying when required, its transportation into the grain storage, long-term storage and its further transportation into the winnow-hulling shop.

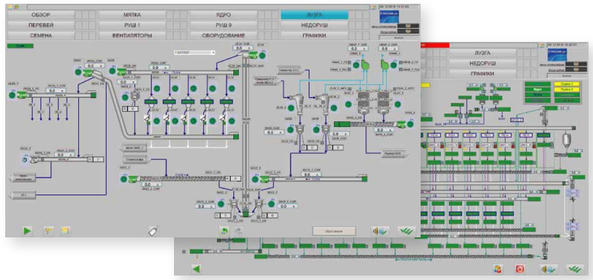
Technological modes are implemented, which improve productivity and ease of use: system of the automatic silos cleaning, reciprocal equipment interlocking system, and system of route selection for seed relocation with automatic start-up and shut-down.



2 WINNOW-HULLING SHOP (WHS)

Winnow-hulling area serves for hulling of seeds and separation of the seed kernels from glume.

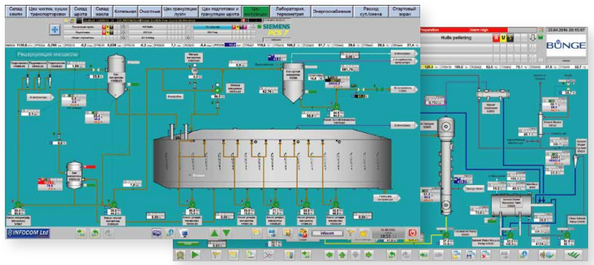
Technological modes are implemented, which improve productivity and ease of use: system of the semi-automatic start of the shop, start of sunflower or soya/rape seeds processing and reciprocal equipment interlocking system.



3 OIL PRESS SHOP

Oil press shop serves for seed preparation for extraction, further

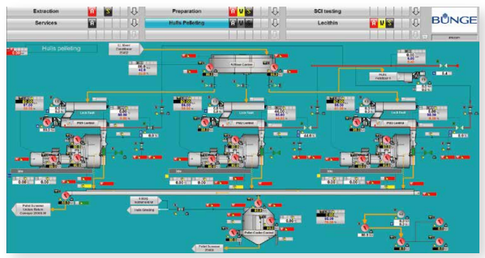
oil extraction in the press machines and oil filtering. Technological modes are implemented, which improve productivity and ease of use: start of sunflower or soya/rape seeds processing, system of automatic air conditioning control, system of automatic control of oil filtering, reciprocal equipment interlocking system, system of press productivity automatic control.



4 OIL CAKE AND HUSK GRANULATING SHOP

Oil cake and husk granulating shop serves for gaining granules from the processed oil cake and husk.

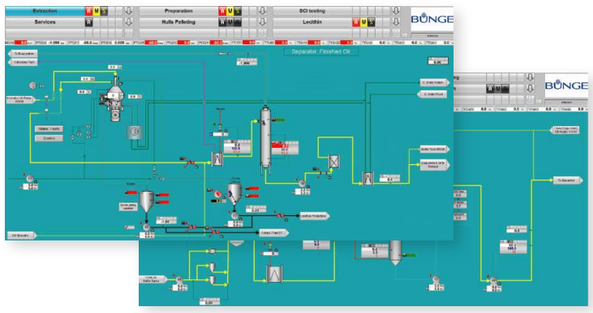
Within the area implemented semi-automatic start of granulation and reciprocal equipment interlocking system.



5 HYDRATION AREA

Hydration area serves for extraction of phospholipids from vegetable oils, oil dehydration, and oil cooling.

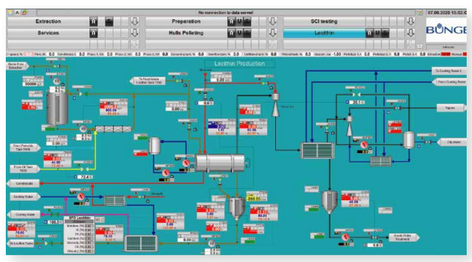
Within the area implemented the reciprocal equipment interlocking system, and user-friendly system of visualization of the production process.



6 LECITHIN PRODUCTION AND STORING AREA

Lecithin production area serves for lecithin production from the purified oil, its storage and discharge.

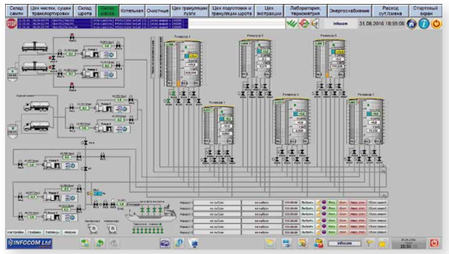
Within the area implemented fully automated lecithin production and storage process, and reciprocal equipment interlocking system.



7 OIL STORAGE AREA

Oil storage area is used for storing oil and its further unloading to the automobile or railway transport.

Automatic dosing system and equipment interlocks system is being inplemented on this area.



8 OIL CAKE AND HUSK RECEIPT AND TRANSPORTATION AREA

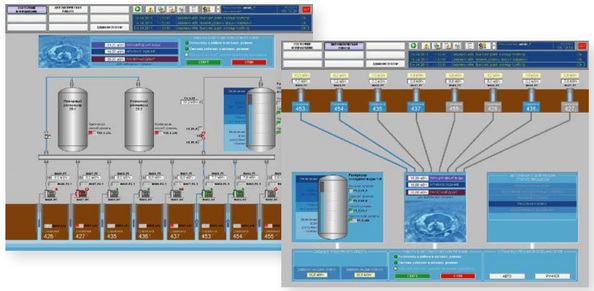
Oil meal and husk acceptance and transportation area is designed for accepting husk from winnowing section for storage, accepting granulated oil meal and husk from the oil meal and husk granulation section, and also accepting oil meal from the extraction section (in emergency situations).

Routs selection system of products transition with possibility of automatic start and stop is being implemented in this section.

9 ACS OF ARTESIAN WATER INTAKE

ACS of artesian water intake is designed for technical water to supplying water-treatment equipment with further supply of the treated water to the consumers.

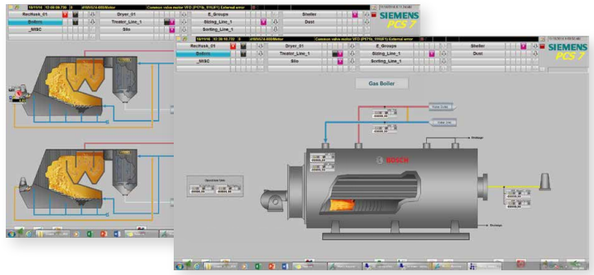
System of automatic selection of drillholes based on the current water supply by the plant, nominal debit of the drillhole and priority in water quality is realized on this area.



10 INTEGRATION SYSTEM OF DEAERATOR AND COGENERATION PLANT AREA

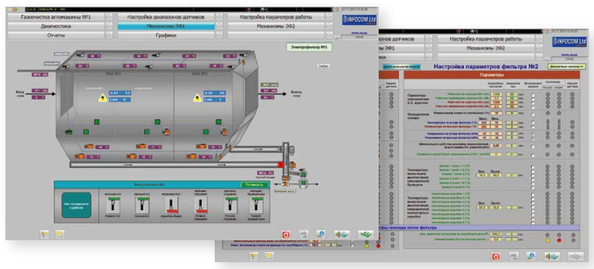
Integration system with the system of boiler control serves for provision of the feed water supply and husk to the boiler, and for the stream distribution to the consumption systems.

Within the area there is implemented a system of the automatic control of the husk supply to the boiler bin according to its current productivity and reciprocal equipment interlocking system.



11 ACS OF THE ELECTROFILTER OPERATIION MODES

ACS of electric filter operation modes is designed for implementing blockings and protections, provision of effective technological process management in the real time, control of electric filter mechanisms, processing and storage of data of technological process flow, output of operative information to the operator, gain in performance of equipment operation due to optimization of operation modes, reduction of equipment downtime and startup operation time.



12 DISPATCHING OFFICE OF OIL EXTRACTION FACTORY (EXAMPLE)

Dispatching system assures automation of the processes - gathering, processing, collecting, storage and displaying of data, received from ACS of all production areas of the enterprise.

It allows making fast decisions in raw material receiving, its transportation for processing, carrying out unloading and receipt of the end products and semi-finished products (components) from processing, carrying out mixing of the products for receiving market products and improvement of the substandard products.