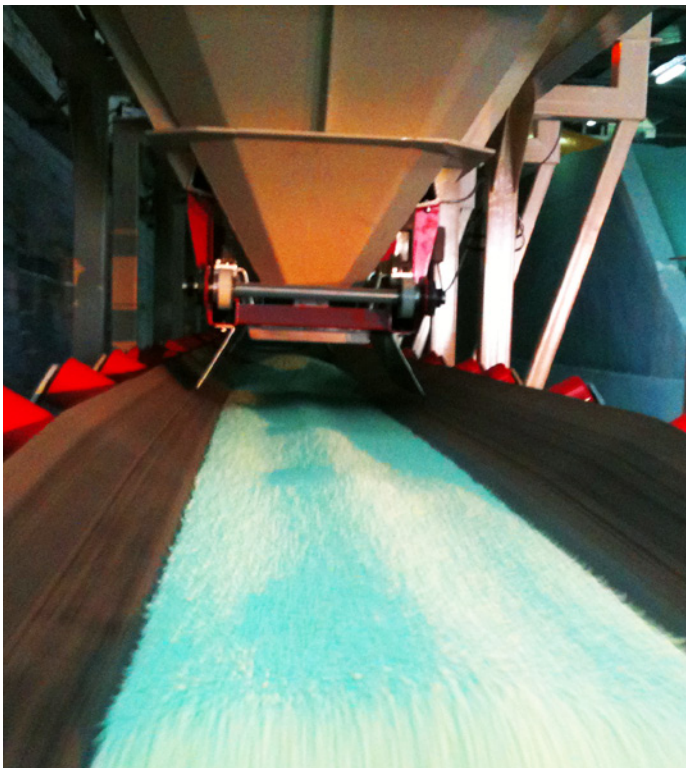
Kinematik

PROCESS TECHNOLOGY

Case Study

Fertilizer Production By Mixing Three Ingredients

K+S HELLAS S.A.
Corinthos (GR)



K + S

K+S is one of the world's leading suppliers of standard and special fertilizers.

K+S's factory facility located at Korinthos, Greece was recently upgraded. Kinematik planned, manufactured and executed a solution for mixing three different types of fertilizer ingredients to produce specific fertilizers, defined by numerous recipes.

System Operation Description

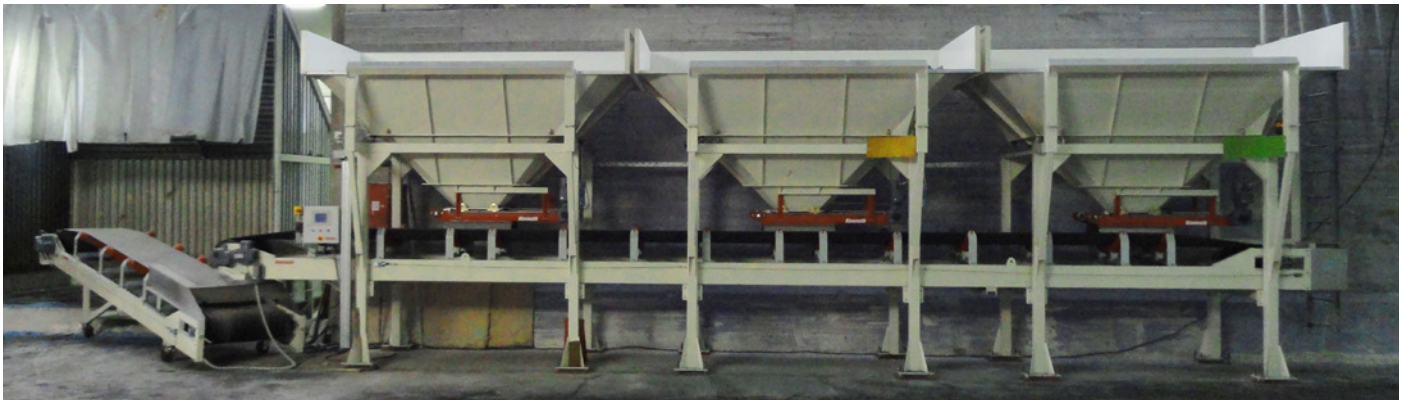
There are three silos which are filled with different types of fertilizer ingredients. Each silo dispenses the right percentage of fertilizer ingredient, through its hatch to the underlying conveyor, which forwards the produced fertilizer mix to the production and storage line.

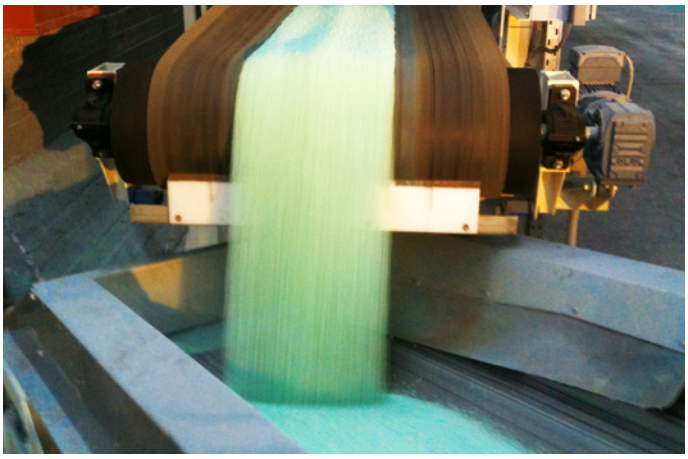
Each silo is weighted with a scale, which controls the hatch by opening and closing with very small increments monitored by encoder.

The almost unified fertilizer is then forwarded to a mixer for better results and then stored, waiting for packaging.

The Solution

- Three unloading Silos on scales with encoder montiored hatches
- Bulk material handling conveyors
- Engineering, Automation, Integration





Product Quality

Throughout the process each granule is being gently handled. The final fertilizer product mix is uniform, maximizing the product quality and value.

Accuracy

Product quality relies mainly on the mixing process. Through PID control the hatch opening is controlled regulating the exact supply of the specific ingredient. Hatch opening and closing is activated by gearmotors monitored by precice absolute encoders. The actual fertilizer ingredient supply is calculated from silo weighing scales.

Simple Use

The system works with the minimum possible supervision. It is operated by a touchscreen, which controls the mixing process. The system can store numerous recipes, which are entered easily through an intuitive menu.

Flexibility

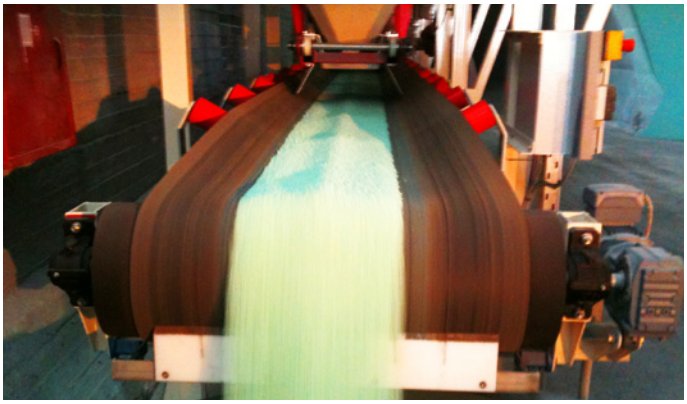
Numerous production recipes can be defined directly on the touchscreen and activated immediately. The silos can be refilled while the system is running, without having to stop, decreasing downtimes.

Safety

Personel and equipment safety is guarded with emergency buttons and pull-ropes.

Reliability & Minimum Maintenance

The system was designed especially to cope with the harsh and corroding environment. In fact the mixer is manufactured from top quality corrosive resistant steel alloy. Special paints are used to protect equipment from corrosion.



Kinematik

KINEMATIK SA
Theodora 3, Metamorfosi
144 52 Athens, Greece
Phone: +30 210 2846 893
Fax: +30 210 2846 894
www.kinematik.eu
info[at]kinematik.eu