What type of imports might desert countries purchase from Europe?

Sand might not be the first thing that comes to mind, but for Sibelco UK in Cheshire, it most certainly is.

An open cast sand extraction quarry, Sibelco ships 750-800,000 tons of red and white silica sand each year.

With the help of Siemens process instrumentation, Sibelco sends high-quality products worldwide.

And yes, even to the desert.

From the ground to Manchester United

Front-end loaders dig large scoopfuls of sand from the 12- to 15-meter deep (40- to 50-foot) quarry, depositing them in a hopper.

After 800 tons of sand each hour makes its way along kilometers of conveyor belts, it is cleaned, conditioned, graded, and sorted.

Sibelco ships white sand for use in glass products. The site also contains a substantial amount of red sand, not typically suitable in the glass industry. For this reason, Sibelco’s Research and Development team
got creative, finding a number of interesting new uses for this product.

One such example is as drainage material for football pitches – Wembley Stadium, Manchester United, and Bristol City all use a layer of red sand below the stadiums’ grass.

Red sand also makes an excellent bedding surface for horses and cattle, which is where Saudi Arabia comes in.

Saudi Arabian racetrack owners and breeders find the sand extracted in Cheshire more desirable for their animals, making this desert country a new market for Sibelco UK.

Tracking sand on the move

This site has two different processing plants – one for white sand and one for red – with production intakes of 130 tons per hour.

Each plant processes four to five different grades of sand, depending on customer requirements. Granule size, moisture content, color – specific uses call for specific types of sand.

Once finished processing, sand is stored in several massive silos. To track exact amounts in the silos, Sibelco uses a combination of measurements from conveyor belt scales and level radar transmitters.

Two Siemens Milltronics MCS belt scales monitor the flow rate of sand as it enters the storage silo. The compact scales fit into fairly tight locations under the enclosed conveyors and are ideal for this rugged application.

The scales are connected to a Milltronics BW500 weighing integrator, which monitors belt speed, material rate and volume. The weighing system is certified by an external agency to ensure sand measurements remain consistent.

Levels above the competition

Once sand moves inside the 20- and 49-meter silos, SITRANS LR560 radar level measurement transmitters give precise level readings.

Previously, Sibelco had guided wave radar devices installed on these silos, but sand’s abrasive nature is very hard on contacting measurement devices. A technician needed to adjust the guided wave radar units quite often to ensure that they were reading levels correctly.

Using SITRANS LR560’s Quick Start Menu, installation of these transmitters was quite easy for technicians at Sibelco. The high-frequency radar’s 78 GHz frequency and narrow beam angle ensure that level measurements are consistently accurate.

And because the transmitters are flush-mounted and non-contacting, technicians don’t need to worry about the abrasive qualities of sand affecting the instruments.

Process control for ponies

Throughout sand extraction, processing, and storage, Sibelco is dedicated to accurate process control and operational efficiency.
The site processes sand 24 hours a day during the week, so production stoppages are not a welcome occurrence. Time spent frequently maintaining the same piece of equipment is time that could be spent elsewhere in the busy facility.

As Adam Daniels, Operations unit manager says, “SITRANS LR560 needs very little – if any – maintenance. We are pleased with the time savings we’ve gained from using these transmitters.”

From under the ground in this northwest English site through processing and shipment, sand under racehorses in Saudi Arabia has traveled a long way.

Sibelco’s high standards for quality combined with Siemens process instrumentation means that these hard-working animals are in for a good night’s rest.