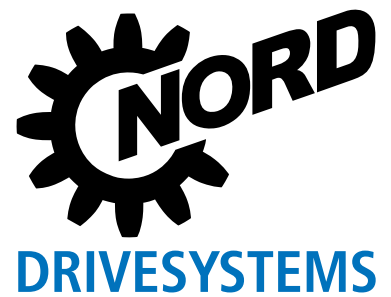


DRIVE SOLUTIONS FOR QUARRY OPERATIONS

CASE STUDY: SMIL



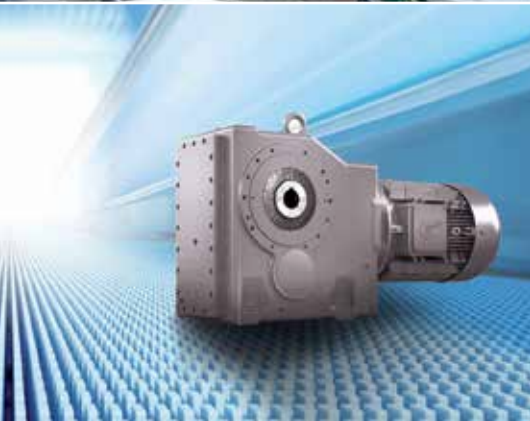
Bulk Material
Conveying in Quarry Operations



Resilient Design
For Even the Harshest Conditions



Long-Life Systems
Easy Maintenance



NORD 90.1 Series
Right-Angle Helical-Bevel Gear Drives



Featuring backlash protection, NORD gear drives for belt conveyors achieve excellent operational safety. These drive solutions are very durable and also allow for quick and simple field repairs.

PROJECT CHALLENGE



Aggregate & Materials Industry
Belt Conveyors



AC Vector Drives
SK 540E



Gear Drives
90.1 Series
Helical-Bevel
Gearmotors

Operating a quarry in the southern area of France, Durance Granulats, a EUROVIA group subsidiary, was seeking to increase the site's production capacity. To achieve this they turned to SMIL, a metal construction specialist, who were entrusted with the design and complete installation of 25 new belt conveyors for an aggregate processing plant. By completely retrofitting the process, partially demolishing the current layout would eventually lead to obsoleting the entire facility as it once stood.

Utilizing additional resources – One key goal for the new installation was to enhance capacities in order to enable the usage of three different sources of material, rather than just one as was the case before. After the completion of the project, sand, gravel, crushed stone, and run-of-mine materials are now excavated from the main quarry


as well as from another site that is located 18 miles away. These products are primarily used for the sub-base and base layers that are involved in road construction. The third source of material is from a recycling facility, where old materials are recovered from the rubble of public construction projects. SMIL's new belt conveyor system provides links between the point of arrival of the raw materials, the processing machinery, and the location where the products leave the quarry.

Long-life design – SMIL's belt conveyor had required a solution that would enable safe operation from the start, but also ensure reliable performance and a long service life. Since there is a chance for many types of application failures, the drive system solution needed to allow for quick and flexible replacements.

FOCUS ON THE CUSTOMER

A metal construction specialist, SMIL – short for Société de Montage Industriels du Languedoc – a manufacturer of complex conveyor systems, usually designed for heavy loads. SMIL primarily serves customers in three markets: quarries and mines, industrial buildings, and aeronautical and marine applications. SMIL engineers as well as manufactures many types of custom systems & provides all necessary on-site installation services.





“NORD offered the best solution, both technically and economically. We were looking for robust and particularly reliable drivesystems.”

Franck Herry, Project Manager at SMIL

APPLICATION SOLUTION

Working with a tight budget, NORD was able to provide reliable, safe, and easy-to-service drive solutions for the conveyor installation.

Integrated safety

The belt conveyors were equipped with SK 90.1 series helical-bevel gearmotors, sealed to IP55 standards and featuring a backstop option. The backstop is a mechanism that operates when the conveyor has been stopped in order to prevent the belt from running backwards under the weight of the load. This option has been included in 26 gear drives that are rated from 3.0 hp to 30 hp.

Robust and user-friendly

One-piece UNICASE™ gear housings with integrated shaft bearings provide maximum torsional strength and excellent radial and axial load capacities. Since all of the bearing

surfaces are machined in a single operation, these drives have an incredibly long lifespan.

Pre-assembly was carried out in SMIL's workshop to fit the drives onto the conveyor heads. Universal motors with IEC adapters and fittings were used to allow for quick and easy replacements in case a motor does break down.

Comprehensive cooperation

In the early engineering stage, SMIL also required support from NORD engineers who had assisted in the specification of the most suitable equipment for the target application. While the work on the complex Gardanne project was underway, NORD drives had been selected for several other conveyor belts installed at another plant operated by Durance Granulats.

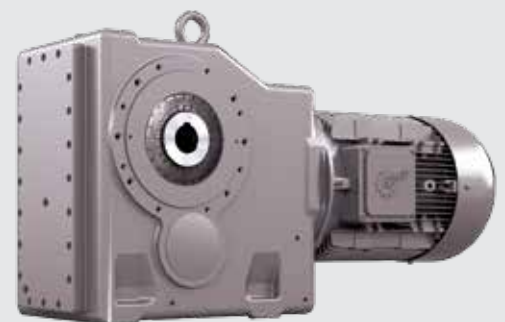


Tough Design - Robust
NORD gear drives are designed to withstand harsh conditions at the quarry.

FOCUS ON THE PROJECT

At the Durance Granulats quarry in southern France, a new intra-logistics system supplied by SMIL considerably increased the plant's productivity. New belt conveyors equipped with SK 90.1 series helical bevel gear drives from NORD enable:

- The utilization of three sources of material instead of one
- A 25% increase in production capacity to a new total of 500,000 tons of processed material per year



MORE REFERENCES AND CASE STUDIES MAY BE FOUND AT :

▪ www.nord.com/references



NORD Gear Corporation MEMBER OF THE NORD DRIVESYSTEMS GROUP info.us@nord.com

Waunakee, WI
800 NORD Drive
Waunakee, WI 53597
Tel. 608.849.7300

Corona, CA
1180 Railroad St.
Corona, CA 92882
Tel. 608.849.0190

Charlotte, NC
300 Forsyth Hall Dr.
Charlotte, NC 28273
Tel. 608.849.0140

NORD Gear Limited - Canada MEMBER OF THE NORD DRIVESYSTEMS GROUP info.ca@nord.com

Brampton, ON
41 West Drive
Brampton, ON L6T4A1
Tel. 800.668.4378

Global Vision, Local Support

NORD makes its wide product range easily available through a global network that includes representation in over 60 countries. By providing all of our customers with prompt delivery, and expert support services, we are firmly committed to exceeding customer expectations and being responsive to the ideas and specifications of every customer, anywhere in the world.