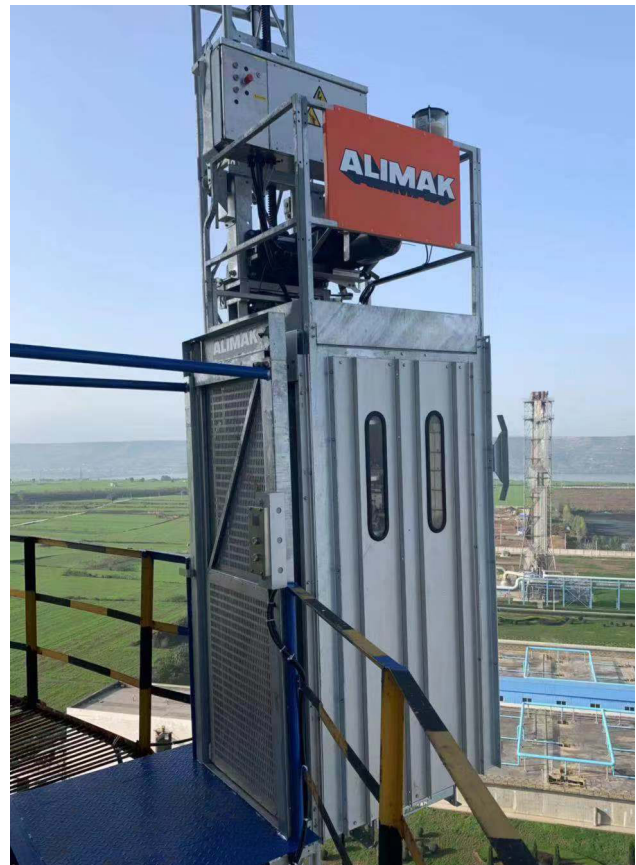


CASE STUDY

A robust external industrial elevator for an inclined chimney

Shanxi Changqing Energy Chemical Co., Ltd. located in the Shanxi Province of China is a busy coal and chemical plant employing over 500 people in the city of Baoji. The nature of this kind of material and chemical processing activity makes the monitoring of emissions a vital part of daily operations and a suitable high-quality external vertical access solution was therefore required for the chimney. Alimak was the natural choice to deliver a robust and hard-wearing outdoor industrial elevator based on a strong global reputation as the originator of the tough rack and pinion elevator drive system and an extensive portfolio of successfully deployed elevators for chimneys.

This particular project presented the additional challenge of an inclined surface with the chimney tapering inwards at an angle of two degrees. In order to achieve the best possible outcome, this necessitated Alimak's expert team working closely with stakeholders at the plant to develop a complete turnkey vertical access solution ready for immediate use. Accurate force calculations and careful planning were required for the mast section, including foundation and installation, to ensure the SL650 FC elevator would remain level throughout its 65-metre journey. The comprehensive scope of the project also included landing platform modifications and operator training. The modifications to the platform built by the facility were required to ensure appropriate tolerance for the inclined installation.



Shanxi Changqing Power Plant, China

ELEVATOR DETAILS

Location:	Baoji City, Shanxi Province, China
Applications:	Outdoor chimney
Elevator type:	Rack and pinion
Elevator model:	SL650 FC levelling
Capacity:	650 kg
Elevator car size:	1040 x 1170 x 2170 mm (WxLxH)
Speed:	0.4 m/s
Lifting height:	65m
No. of landings:	4
Installation year:	2019

This vertical access system will be indispensable in contributing to the continued safe operation of the plant, with four landings allowing facilitating reliable access for gathering measurements as part of the all-important continuous emissions monitoring system procedures. The elevator itself also features a wireless CCTV system located inside the car which provides a live feed to a remote monitoring centre, contributing further to effective safe working practices.

The bespoke solution this project demanded represent a number of firsts for the Alimak team including the first installation of an SL model industrial elevator on a two-degree incline and the first SL elevator to be deployed at a coal and chemical plant.