



CHURCH SPIRE CHALLENGE IN HISTORIC TOWN CENTER WORKING IN CITIES WORLDWIDE

In March 2012, Bocholt-based crane service provider Autokrane Schares GmbH was missioned to lift a 9 t (9.9 US t) spire off a church steeple from a height of 89 m (292 ft) in the Rhineland town of Erkelenz. The team chose a Terex® AC 350/6 for the lift, and the compact Terex® AC 40 City as an assist and setup crane.



Projects performed in cities are often a challenge - particularly in historic town centers. For the Schares lifting team, it came as no surprise when they were faced with precisely these conditions in Erkelenz where they dismantled a church spire in dire need of restoration.

Careful planning to access through narrow, winding streets. As Schares project manager Eric Reichmann reports, "Accessing the jobsite itself wasn't easy as the church was located down a narrow, 3.50 m wide (11.5 ft) oneway street. Extremely tight bends and a slightly offset 5.0 m wide (16.4 ft) parking lane were an additional challenge. There was also very little room to setup our two cranes in front of the church, let alone park the six setup vehicles that we were using."

The team prepared an elaborate access plan to help coordinate the process. While the AC 350/6 approached from one side, the compact AC 40 City arrived in the opposite direction, maneuvering easily through the narrow, winding streets. Timing of the support vehicles that followed was crucial. As one truck arrived, the next one was already waiting in position directly next to it ready to leave. AC 350/6 with superlift and luffer ready to work in less than six hours. "We also had other good reasons for choosing the AC 40 City on this job," notes crane operator Tony Hentschel. "On confined sites, its short outrigger spread and tight operating radius are great advantages. Its boom telescopes and retracts quickly too." Configured with 40.7 m (133.5 ft) main boom, 4 m (13 ft) adapter, 48 m (157.5 ft) luffing fly jib - to make full use of the superlift configuration - and 75.1 t (82.8 US t) counterweight, set-up of the AC 350/6 was completed within six hours. Besides being the most compact six-axle, 350 t (385 US t) mobile crane in the industry, among its many advantages, the AC 350/6 is powerful enough to perform a wide range of heavy tasks without the superlift configuration. "We find the AC 350/6 very maneuverable, fast to set up and cost-effective to operate. On this job, we took the superlift system along with us, only to find that the crane didn't need it all!" says project manager Erich Reichmann.

The expertise to handle a delicate task in a tight location Before completing its mission there remained a number of delicate tasks for the Schares team to perform, and notably the careful planning required to avoid the counterweight and superlift system from colliding with the surrounding trees and buildings. The church weather vane located on top of the spire also needed to be removed before the spire itself could be lifted down from its 89 m (292 ft) perch.

At this stage of the job, the Shares rigging crew used a rectangular spreader, equipped with slings



and shackles that it slung over and attached to the steeple, safely secured by crane operator Christian Emmerich under a tension of approximately 3 mt (3.3 US t). Smooth precision and control down to the ground The riggers could then begin the time-consuming task of unscrewing, one by one, the 400 bolts that were used to replace the original mounting rivets that were previously drilled out to save time during the lift. Once every single bolt was removed, the team was ready to lift down the load with a working

radius of 26 m (85.3 ft). "Hoisting the load required just the right touch to avoid tilting and a dangerous 'bowing' effect," says Emmerich. "With the AC 350/6's precise controls, everything went smoothly," comments the crane operator, whose experience with this kind of lift was just as crucial as the machine's accuracy. After lowering the crane's boom structure and increasing its lifting radius to 32 m (105 ft) the spire was safely set on the ground under the watchful eye of the church pastor, who didn't miss a second of the spectacle, followed by a hearty round of applause from curious passers-by.

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