

CONTROLTM TECHNIQUES

UNIDRIVE SP DRIVES CHOSEN FOR THEME PARK RIDE REFURBISHMENT

CUSTOMER PROFILE

The refurbishment of Dalton Terror, a zero gravity drop tower, one of the most popular attractions at the Walibi theme park in Belgium, included high power Unidrive SP AC drives from Control Techniques to maintain excellent safety standards for thrill seekers and precise control for operators.

THE CHALLENGE

Owners of the theme park, the French 'Compagnie des Alpes', have invested heavily in refurbishing many of the rides, with a focus on safety. When updating The Dalton terror, the company required the same faultless and precise movement of speed profile of the previous Control Techniques drives originally installed in 1998 to haul the ride's seats to the top of the tower.

THE SOLUTION

The drop tower, 77metres in height, has five rows of seats, each with four-person capacity in a ring around the circular tower. The seats, weighing 1.5 tonnes empty, are hoisted by speed-controlled Leroy

Somer geared motors to the top of the tower, where they are released to drop in free fall at a maximum speed of 110km/hr, generating complete weightlessness.

Magnetic current brakes that comprise permanent magnets fitted in the seats generating powerful Foucault currents in the metallic frame of the tower, provide fault-free guaranteed braking, independent of the power supply, bringing the ride to a safe slow speed with hydraulic shock absorbers providing the final soft stop at the base.

The latest generation of AC drives and five heavy duty 75kW Unidrive SPs operating in closed loop flux vector mode were fitted as part of the total renewal of the control panels. Signals from encoders fitted to each of the Leroy Somer LSMV motors feedback to the drives and, using SM Universal Encoder Plus option modules, are re-transmitted to the PLCs that control the safety of the whole process.

THE BENEFITS

Dominique Fallon, Marketing and PR Manager, said, "This refurbishment dramatically reduces the downtime of the Dalton Terror as a result of breakdowns or repairs. So the flow of visitors through the turnstiles is greatly improved and our maintenance costs are consequently reduced. The revamping of the Dalton Terror has been a tremendous success that strengthens our position in the amusement park market."



KEY BENEFITS

- **FAULTLESS & PRECISE MOVEMENT**
- **EXTREMELY RELIABLE**
- **REDUCED DOWNTIME**
- **LOWER MAINTENANCE COSTS**

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