

### Case Study



Greece

Company / Project

**MEZOLIFT**

Applications

Elevators

Global sales, service & application support network in over 80 countries

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### Optidrive Elevator ensures pioneering elevators meet eco targets

When discussing AC variable frequency drives, it's easy to imagine them tucked away doing essential but low-profile duties behind more 'exciting' front-end equipment.

Increasingly, however, Inverter's Optidrive VFDs make possible the innovative projects that everyone talks about. Such is the case with the pioneering solar lifts designed, manufactured and installed by Greek company Mezolift – the first of their kind in the world. Vital to each installation is Inverter's trusty single-phase Optidrive Elevator – a variable speed drive designed specifically to ensure smooth carriage through precise motor control.

Optidrive Elevator's compact external dimensions and factory parameter settings are perfectly suited to simple elevator applications and make installation and setup fast and easy, whilst the optional incremental/EnDat encoder feedback interfaces allow compatibility with a wide range of motors.

Inverter's renowned motor control capability ensures maximum ride comfort under all conditions thanks to features including five independent S-ramps and a dedicated motor holding brake control algorithm which allow fine tuning of the system. And the short floor operation, coupled with a high motor switching frequency (max 32 kHz), provides a quick, smooth, quiet journey.

The Mezolift solar lift that relies on Optidrive Elevator is an ultra-efficient traction elevator. At the moment it's primarily used in small apartments and houses up to four storeys.

However, that's set to change if the lift's inventor has his way. The innovative machine is the brainchild of mechanical engineer Yiannis Sachsamanoğlu from Kilkis in northern Greece. Although initially aimed at low-rise buildings, Mr Sachsamanoğlu plans to develop the technology, with its catchy 'Going up? Ride the sun!' tagline for taller structures.

Since launching to critical acclaim at Thessaloniki's International Expo in 2011, Mezolift solar lifts have impressed with massively reduced energy consumption (80% less than conventional lifts), environmental friendliness and the fact that they don't require costly, space-hungry lift plant-rooms.

**Mr Sachsamanoğlu** explains: "Each lift produces the required power and energy from a small autonomous photovoltaic assembly. This is a genuinely energy-autonomous machine that can be used up to 30 times a day and work for three days without charging. Of course, because of our environmental stance the lift components, including the Inverter variable speed drives, must be eco-friendly too."

Mezolift also claims this is the World's first lift to manage power consumption by a sophisticated software and energy management system. So how did Inverter, via Greek sales partner Automation Experts, come to supply the variable speed drives (VSDs) at the heart of Mr Sachsamanoğlu's elevators?

#### **Theodore Amiridis, Automation Experts' Technical Director and Business Development Manager for North Greece**

says: "As an ultra-efficient elevator, these solar lifts require VSDs of the same capabilities in energy management and efficiency. We quickly realised that the Inverter lift drive was the only drive that could match these demanding energy requirements."

In particular, Mr Amiridis highlights Optidrive Elevator's impressively low standby consumption, which perfectly complements Mezolift's eco-friendly proposition for discerning architects and developers. "Inverter's Elevator drive has a tiny sub-10W demand on standby, compared to the 30W typically required for other manufacturers' VSDs under similar operational conditions."

"What's more," **Amiridis** continues, "the software and parameter groups are easy to handle and the single-phase input operation means Mezolift elevators can operate in a wide range of buildings, including those using domestic-rated power supplies."

