

11 April 2013

# Acta S.p.A.

## Acta Power launched at Hannover Messe

### Integrated Back-up Power System for Telecoms

Acta launched its fuel cell-based back-up power unit, Acta Power, aimed at the telecommunications market on April 9, 2012 at the Hannover Messe. The unit is targeted at both grid-connected and off-grid applications, and was developed in response to the fast-growing demand for back-up power systems in mobile base stations, particularly in Asia, and the requirement in a number of markets for a solution that integrates an electrolyser with a fuel cell stack. This development follows on to a large extent from the October 2012 deal with Taiwan-based M-Field Energy for electrolysers for integration into a fully-integrated fuel cell back-up power system for a major Australian telecoms company.

Acta's low-cost electrolyser technology generates dry, high pressure hydrogen, thus giving it greater cost-effectiveness than any other commercially available electrolyser. Thus, with an initial price of around €30-40k, depending on specification, Acta Power is around half the current selling price of comparable units using PEM electrolysers with fuel cells.

As well as providing back-up power for base stations powered by unreliable grid, in off-grid applications the system can use surplus photovoltaic power to generate hydrogen via the electrolyser, which is then converted to electricity through a fuel cell when back-up power is required. This arrangement provides the back-up power system with extended run-time capability for the primary battery array, and allows the telecom operator to remove the diesel generator typically used for extended run-time capacity.

In many locations the back-up diesel generator and its fuel are targets for theft, and delivering fuel to remote locations is costly. Even fuel cells used as back-up power but running on bottled hydrogen suffer the same economical penalty. Acta's technology, which is sufficiently tolerant to use rainwater as the source of water for electrolysis thus offers substantial benefits to telecoms companies seeking to reduce the operating costs and security risks of their off-grid base stations.

### Conclusion

This announcement highlights Acta's increasing traction in the back-up power market, which is expected to represent a major opportunity for fuel cell systems in Asia in the near future, builds strongly on the successful order and pipeline development achieved in 2012.

#### Company Details

EPIC	ACTA
Share price p	8.1
52 week High/Low p	11.8 / 3.4
Market cap £m	11.4

#### Share Price, p



Source: ADVFN

All our research is available at  
[www.equitydevelopment.co.uk](http://www.equitydevelopment.co.uk)

#### Equity Development contacts

##### Denis Gross

0207 065 2690  
denis@equitydevelopment.co.uk

##### Andy Edmond

0207 065 2691  
andy@equitydevelopment.co.uk

## Base station back-up

The rapid growth of mobile communications throughout Asia, India and Indonesia, which now account for over 50% of global mobile subscribers, is driving demand for back-up power systems to ensure reliable operation of the networks' base transceiver stations in areas with fragile electricity grids and, increasingly, in areas with no grid at all.

Following more than a decade of strong growth, mobile markets across Asia continued to expand during 2012 and into 2013. At the start of 2012 there was a total of around 2.7bn mobile subscribers in the region, with an annual growth rate of around 15%, following a period where annual mobile subscriber growth rates in Asia had been well in excess of 50%.

While diesel generators are currently the most widely used back-up system for back-up power, in remote areas they present economical and logistical problems compounded by their adverse environmental impact. Batteries are also a costly, often unreliable component of back-up power systems.

Consequently, the "green base station," which is essentially a combination of renewable, battery, and fuel cell technologies, is starting to see market traction. Pike Research, for example, forecasts that revenue for off-grid base station power will grow from US\$1.6bn in 2012 to more than US\$10.5bn in 2020. To date, around 1000 fuel cell systems for base station back-up power have been deployed worldwide, with Indonesia accounting for around half of these, again highlighting the importance of Asian markets for the future of this technology.

## Acta and FutureE

Acta Power uses FutureE's fuel cell systems, which are based on the Ballard stack. FutureE Fuel Cell Solutions GmbH is a leading provider of stationary fuel cell systems in the telecommunications sector, and operates globally from its base in Stuttgart, Baden-Wurttemberg/Germany.

Previously, in November 2012 Acta announced a five-year non-exclusive supply agreement with FutureE for Jupiter electrolyzers based on Acta's low-cost EL500 series electrolyzers. Acta's electrolyzers are to be integrated into FutureE's fuel cell and electrolyser system, Jupiter Independence, for back-up and off-grid power, in tandem with Acta's integration of the FutureE fuel cell. Jupiter Independence comprises a fuel cell, electrolyser, energy management, hydrogen storage and a water container in a single housing. This system has sold into a number of major customers, including China Mobile. China Mobile has around 700m subscribers and a 70% share of the Chinese market, and has committed to energy saving and emissions reduction. China Mobile is pursuing a corporate 'Green Action Plan'.

It can be expected that the process of parallel integration of Acta and FutureE systems will, over the coming months, highlight areas of duplication and opportunities for cost savings that should result in even more competitive products.

They are currently building the first three Acta Power units to order, with customer deliveries expected in Q3 2013.

Acta Power units will be available with a 2kW or 4kW power output, and with a 500l/hr or 1,000l/hr electrolyser. Acta has also developed a flexible GSM communications unit which will enable remote management, control, alarm and assistance. This facility is expected to generate useful information for telcos which should allow them to replace costly, over-specified back-up units with better-targeted systems.

### Recent news

This announcement follows on from the 27 March 2013 preliminary results announcement for the year to 31 December 2012, and the MVS Energy Solutions Indian distribution deal, announced on the same day.

The results for 2012 were in line with expectations, and underscored the ramp-up of orders and pipeline that Acta achieved. Thus revenues of €0.4m compare with 2011's €0.1m (€3.9m including the discontinued PV EPC services). Products and R&D services generated €261k of revenues (2011: €66k), the forward order book went from nil at the end of 2011 to €0.9m at year end 2012, and the proposals pipeline stood at €0.5m (2011: €20k). Reflecting the exit from PV activities, the operating loss rose to €3.1 million (2011: €1.8 million loss). In the course of the year, Acta raised £4.1 million before expenses (2011: nil), and received €0.4 million grant funding during 2012 (2011: €0.9 million).

MVS will integrate Acta's largest electrolyser, the EL1000, with a fuel cell to produce a back-up power solution for the telecommunication market. MVS Energy Solutions addresses the growing need in the Indian market for back-up power solutions, especially in the telecom market where there are 65,000 base stations being installed annually. MVS predicts sales in 2013 of Acta's electrolysers in excess of 100 units, with significant further growth in 2014.

### Summary

We believe that the telecoms back-up power market requires a hydrogen-based system that is 'stand-alone', ie not requiring costly truck-rolls to replenish fuel. Acta's unique technology that can use intermittent renewable power to electrolyse rain water looks strongly placed to benefit from this need.

In the current market, there is an opportunity to offer end users and systems integrators an integrated fuel cell/electrolyser unit. To that end, the increase in capacity announced at the end of January 2013 will allow production space for the assembly of these units, as well as allowing Acta to successfully fulfil its growing pipeline for product deliveries during 2013.

## Sales Contacts

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### Head of Corporate

Gilbert Ellacombe

Direct: 0207 065 2698

Tel: 0207 065 2690

email: [gilbert@equitydevelopment.co.uk](mailto:gilbert@equitydevelopment.co.uk)

### Investor Access

Hannah Crowe

Direct: 0207 065 2692

Tel: 0207 065 2690

email: [hannah@equitydevelopment.co.uk](mailto:hannah@equitydevelopment.co.uk)

## Analyst Contacts

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### Consumer, Support Service

Peter Temple

[peter@equitydevelopment.co.uk](mailto:peter@equitydevelopment.co.uk)

### Mining, Infrastructure

Conor Fahy

[conor@equitydevelopment.co.uk](mailto:conor@equitydevelopment.co.uk)

### Renewables

Denis Gross

[denis@equitydevelopment.co.uk](mailto:denis@equitydevelopment.co.uk)

### Financials

John Borgars

[johnb@equitydevelopment.co.uk](mailto:johnb@equitydevelopment.co.uk)

### Oil & Gas

Samantha Dobbin

[samantha@equitydevelopment.co.uk](mailto:samantha@equitydevelopment.co.uk)

### Technology

John Walter

[johnw@equitydevelopment.co.uk](mailto:johnw@equitydevelopment.co.uk)

### Pharmaceuticals / Biotechnology

Lorenza Castellon

[lorenza@equitydevelopment.co.uk](mailto:lorenza@equitydevelopment.co.uk)

### Strategy

Andy Hartwill

[andyh@equitydevelopment.co.uk](mailto:andyh@equitydevelopment.co.uk)

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Equity Development, 65 London Wall, London, EC2M 5TU. Contact: [info@equitydevelopment.co.uk](mailto:info@equitydevelopment.co.uk), 0207 065 2690