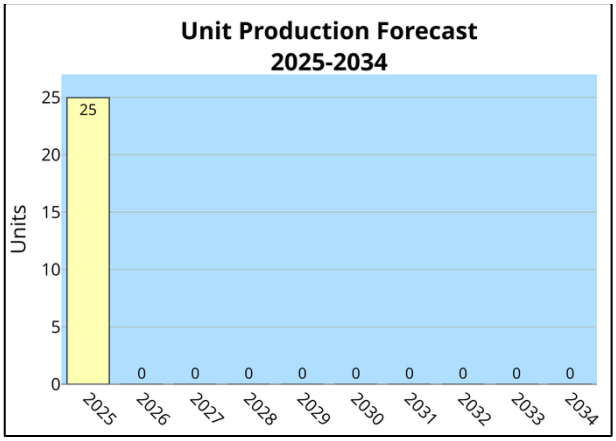
Bladon MTG12

Outlook

- Bladon company entering a formal process of insolvency
- Bladon MTP-40 has been introduced but no sales known.
- The MTG12 is now being adapted for pure hydrogen use
- Bladon secured orders for 200 machines destined for the Philippines
- Bladon has signed a distribution contract with Alkan CIT
- Bladon won a multimillion-dollar contract to supply and eventually integrate the MTG12 with solar power



Orientation

Description. Bladon's MTG12 is a relatively small microturbine optimized to power cellular towers.

Sponsor. The MTG12 was privately developed by the prime contractor, Bladon Jets (now Bladon).

Power Class. The approximate power output of the MTG12 is 12 kW at 25°C, sea level.

Status. In production

Total Produced. Some preproduction units were produced. The first production unit was shipped in December 2018. Currently in production.

Application. The MTG12 has a sole application – powering cellular towers. In the future, more applications are likely to surface.

Price Range. The estimated cost of an MTG12 microturbine is $13,900.

Competition. Due to its small size and output, the MTG12 currently faces no serious competition from other turbines. Diesel gensets are the MTG12's largest competitor.

Contractors

Bladon (UK) Ltd	https://www.bladonmt.com, The Proving Factory, Gielgud Way, Coventry CV2 2SZ, Warwickshire, United Kingdom, Tel: + 44 24 7651 1268, Prime

Contractors are invited to submit updated information to Editor, International Contractors, Forecast International, 75 Glen Road, Suite 302, Sandy Hook, CT 06482, USA; rich.pettibone@forecast1.com

Bladon MTG12

Technical Data

Dimensions

	Metric Units	U.S. Units
Length	0.90 m	2.95 ft
Width	1.45 m	4.76 ft
Height	1.47 m	4.82 ft
Weight (a)	600 kg	1,323 lb

(a) Excludes batteries

Performance

Power Output (a)	12 kW
Efficiency (b)	25.0%
Voltage Output	230 V single phase
Current	(250A max) (100A/52A max)
Fuel Types	Diesel Kerosene or diesel/kerosene blend Natural gas LNG/CNG
Noise	<65 dB @ 1 m
Service Life	25,000 hr
Minimum Service Interval (c)	Up to 8,000 hr

(a) 25°C at 100 m.
(b) For DC output.
(c) Subject to suitable air and fuel quality.

Design Features

Compressor. A single centrifugal compressor is standard.

Combustor. A single, clean-burning combustor is standard.

Turbine. A high-temperature turbine drives a generator to produce electricity.

Operational Characteristics. Bladon's MTG12 is a comparatively small unit, in terms of both size and power output, when compared with other microturbines. The microturbine has been optimized to power cellular towers, especially in remote, off-grid locations. The company's $7 million contract with QTE, an African-based telecom infrastructure services provider, reinforces its use as a flexible power solution.

The turbine can be run on a variety of fuels: diesel, kerosene, a blend, or indeed natural gas. In utilizing technologies such as micro air bearings, the MTG12 promises minimal maintenance and a relatively high service interval.

With claims that the MTG12 can run for 8,000 hours between servicing, the MTG12's service items consist of only the air and fuel filters; coolant and/or oil is not necessary. These features make the microturbine a strong rival to the diesel gensets that currently power a large number of cellular towers.

Variants/Upgrades

The MTG12 is the only model currently produced by Bladon. However, future applications, and therefore variants, are likely.

Program Review

Background. In 1989, the brothers Chris and Paul Bladon began studying the possibilities of a miniature gas turbine for power generation. After five years, electrical discharge machining (EDM) was acknowledged as the suitable production method, along with a refinement in design and production.

Patents for the design and manufacturing process were filed in 2002 along with the founding of Bladon Jets (U.K.) Ltd. In 2008, the Isle of Man was selected as the location for Bladon Jets' head office. That year also saw the first patent granted for the turbine.

Enter Jaguar Land Rover and TATA

TATA acquired Jaguar and Land Rover from Ford in 2008. The following year brought the second patent for Bladon Jets and a partnership with Jaguar Land Rover to investigate the Ultra Lightweight Range Extender (ULRE) concept for automobiles. The result of the collaboration between the two companies was the Jaguar C-X75 concept car, which was equipped with two Bladon Jets turbines.

TATA would invest in Bladon Jets in 2010, and, although a minority shareholder, TATA is currently an effective partner in Bladon, providing supply chain efficiencies.

Coventry Chosen for Engineering Center

In 2011, Coventry, U.K., was chosen as the site for a new engineering center. That same year, Bladon Jets acquired funding for further development of the ULRE concept, which led to another concept car: the Pininfarina Cambiano. The Cambiano utilized a Bladon Jets 50-kW microturbine as an auxiliary power unit to extend the range of the electric car.

Administration

Reported in July 2024, Bladon entered administration after struggling with significant financial losses despite substantial investments and increased revenue. The company, specializing in microturbine gensets, faced cash flow challenges and failed to secure necessary funding, leading to net liabilities exceeding GBP96 million. Administrators are now seeking a buyer for the company's assets, highlighting the firm's advanced technology and market potential. The administration follows years of multimillion-pound investments that did not translate into sustainable profitability. The joint administrators believe the company's research, development, and production capabilities offer a valuable opportunity for a new owner to expand operations. As of this writing, a buyer had not been found.

Funding

Bladon has in the past received funding from undisclosed sources. TATA is a minority shareholder.

Contracts/Orders & Options

Contractor	Award ($ millions)	Date/Description
Bladon Jets	7.0	Jun 2016 – Order from QTE for more than 500 MTG12 microturbines for cellular tower applications.
Bladon	N/A	Oct 2018 – Order from GRIDSERVE for an undisclosed number of MTG12s to be integrated with solar power.
Bladon	N/A	Jun 2022 – 200 machines ordered through Bladon's partner in the Philippines, One Commerce. The first installation is in a residential area close to Northern Luzon.

N/A = Not Available

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Worldwide Distribution/Inventories

Some preproduction units were built and tested at undisclosed sites. The first production unit came off the production line in December 2018. Machines of this size are difficult to track; however, contracts have been awarded and deliveries have begun.

Forecast Rationale

Bladon formally launched its MTG12 genset at the TowerXchange Meetup in Africa in October 2018. The MTG12 is optimized to power cellular towers.

The market for the MTG12 is vast, with Bladon's initial focus on the African and Australian markets. This has since been expanded to Asia with an order for 200 machines for the Philippines. Many mobile telephone towers are located in remote areas – off the grid – in these regions, and a majority are being powered by reciprocating diesels. Bladon hopes to obtain a substantial portion of what was a recip-dominated market. Indeed, the flexibility of the MTG12 lends itself well to gaining market share.

The machine can actually use diesel, kerosene, or a blend of the two. Also, its footprint is generally smaller than that of most diesel engines of the same output, and the warranty is two years or 5,000 running hours. It is therefore a competitive option for remote towers, and it has been reported that there is a healthy backlog of orders. A diverse set of applications will also help sales.

Unfortunately for Bladon, the company ran into financial difficulties and is now under administration. With that being said, a buyer might be found and production resumed; however that is highly speculative. Very little information is available about the state of Bladon at this moment. According to the company, there is now an MTP 40 turbine; however with Bladon's financial situation it is likely a prototype or prototypes.

The forecast reflects the financial difficulties Bladon is having, if a buyer is found the forecast will be adjusted accordingly.

Ten-Year Outlook

ESTIMATED CALENDAR YEAR UNIT PRODUCTION												
Designation or Program		High Confidence				Good Confidence			Speculative			
	Thru 2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total
Bladon (UK) Ltd												
MTG12 <> a MW <0.5 <> Industrial Generation - Power												
	470	25	0	0	0	0	0	0	0	0	0	25
Total	470	25	0	0	0	0	0	0	0	0	0	25