



MIDAS CONSULTING GROUP

IVO, Ltd.

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2803 Hogan Drive, Bismarck,
North Dakota 58503
(701) 214-1291
www.ivoltd.com

Midas Consulting Group

2215 Weber Street, Orlando,
Florida 32803
(407) 308-2079
www.themidasgroup.org

IVO

IVO, Ltd. is a leader in the development of wireless power capabilities and on target to disrupt the \$1.4 trillion energy industry. Founded in 2018, IVO leverages uniquely combined next-generation technology that enables complete interoperability of power distribution to devices of all kinds.

The company's **patented** Capacitive Based Aerial Transmission ("CBAT") technology is designed to wirelessly transmit true power to multiple devices from a single transmitter. With CBAT, properly tuned devices such as mobile, tablets, electric vehicles, and even drones can receive continuous power while in use and without the need of any power chords or charging. CBAT enables manufacturers the flexibility to **reduce** their battery size by up to **50%**, with future products allowing the **elimination** of the **battery** entirely. IVO has tested the strength and validity of CBAT at the Wireless Research Center in North Carolina and has received an experimental license from the FCC to transmit power using the 535 – 1200 kHz bands.

IVO's CBAT is highly cost-effective and can be deployed to enhance device longevity and product quality for Original Equipment Manufactures ("OEM"). CBAT provides the added advantage of continuous device operations without incurring any obstructions from obstacles. IVO's CBAT technology can be customized to suit the needs of OEM products and applications while enhancing device operational performance and duration. Exclusively using the electric field, CBAT safely transmits power making EMF radiation, harmful lasers and concentrated RF effectively obsolete due to the dangers of transmitting at a distance.

IYO

POWER: 13.17
CBAT

Tailored Power Transmission Solutions

IVO's CBAT technology has a growing successful track record across multiple applications.

Drones:

CBAT increases UAV platforms flight time while also saving manufacturers cost on materials. With proper infrastructure, operators won't have to stop operations to switch a battery or a device. Maintain continuous power at a distance with CBAT.

Electric Vehicles:

With CBAT, EV manufacturers can eliminate their customer's range anxiety completely. Integrating CBAT, OEMs can now ensure customers piece of mind with a better, long-lasting method for their vehicles power.

IoT Devices:

CBAT enhances IoT developers and manufacturers approach to energy transmission while reducing infrastructural change. Using CBAT can bring power to places no one has imaged before.

Consumer Electronics:

CBAT gives devices the ultimate advantage of utilizing wireless power, with or without a battery. Consumers can look forward to the day they don't have to worry about keeping their devices charged or their devices dying.



Redefining Power Transmission

“Our ambition is to not only push the bounds of modern technology, but to also place the innovator and inventor into an atmosphere where the impossible can be made possible. The preservation of our great planet will not be achieved with the creation of toxic batteries and unsafe charging technologies. That is why I have focused our company's energy into advancing wireless energy transmission solutions. This type of innovation only happens in an atmosphere where we challenge the very foundation in which energy transmission has been built upon.”

- IVO CEO Richard Mansell

IVO's mission is to provide cutting-edge technology and revolutionary solutions for industries and organizations across the globe. With a long-term vision focused on powering the world with CBAT, eventually eliminating any pollution associated with the creation and consumption of batteries.

The company's solution to transmit power safely consists of a transmitter with a transmitting plate at the power source and a receiver with a receiving plate on the device. The two plates functionally act as two halves of a capacitor with all the air, materials, objects and obstructions between as the dielectric. An oscillating power signal in the transmitter prompts an oscillating electric field (not a magnetic field) between the two plates. This in turn drives an oscillating current within the receiver that becomes usable power for the device.

Normally, just inducing an oscillating power signal into a transmitter plate would not transmit power and attempts at receiving power via a normal receiver would not work. CBAT's transmitters and receivers consist of a **patented** frequency resonant component and a reservoir component that lets CBAT work at a distance.



IVO

DESIGNED BY
CBAT

18:16

Distinguished Differentiators

How is CBAT different from any other “wireless” charger in the world? IVO’s patented CBAT technology is the **world’s** first and only safe and practical system for **wireless transmission of power**.

No Common Ground

Since the commercialization of electricity and consumer electronics, there has always been one major requirement; a common ground. This necessity creates limitations and sets boundaries for manufacturers, innovators and inventors. IVO’s revolutionary CBAT technology has redefined and shifted the power transmission pendulum entirely by **eliminating** the need of a common ground **completely**. CBAT functions without the need of any physical ground or electronically conductive connections between a transmitter and a receiver. This enables technologies to transmit and receive power through any medium, such as, air, water, vacuum and even space. Simply, CBAT can influence power over many distances without the need of any physical or electrically conductive connections, making power transmission truly mobile.

No Inductive Coils

It’s no secret that traditional “wireless charging” solutions use electromagnetic induction between a transmitting coil and receiving coil to distribute power. This method produces electric and magnetic fields (EMF) during the charging process. EMF is harmful in many ways. At its best, EMF creates interference with other wireless technologies, such as Wi-Fi, and at its worst EMF can be very harmful physically. CBAT removes these risks all together. **Rigorously tested** at the Wireless Research Center in North Carolina, CBAT, while transmitting, does not produce any back EMF and does not interfere or jam with any of the popular RF bands in commercial use. Conventionally transmitting power by electromagnetic induction can also generate substantial heat.

As CBAT has no inductive coils, an **omnidirectional** sphere of influence is possible instead of a need for direct coupling, which removes the generation of heat entirely. Power can now be safely distributed through CBAT's sphere of influence.

Solely Utilizes the Electric Field

Power is typically distributed through three mediums types: magnetic field, electric field, and radio frequency. Each medium has its advantages and disadvantages. However, when assessing the levels of EMF radiation produced by each medium and the power requirement needed to transmit energy over a distance, it is clear the safest and most efficient medium is the electric field. CBAT solely utilizes the electric field for power transmission. This allows CBAT to influence power at a distance without the involvement of magnetic fields. Additionally, with CBAT utilizing the electric field, obstructions increase efficiency for power transmission and enables penetration of walls and other obstacles. CBAT permits power transmission at any distance truly **scalable**.

Simultaneously Power Multiple Devices

By eliminating the need for a common ground, inductive coils and utilization of the magnetic field, CBAT's omnidirectional sphere of influence can simultaneously transmit power to **multiple devices** without needing direct alignment. CBAT also makes it simple to seamlessly connect transmitters to scale the range of power transmission. Within CBAT's sphere of influence, devices can now be used on the move, without interruption.



CBAT Technology vs. The Rest

Current battery usage systems:

- Require charging time which necessitate loss of operational status.
- Utilize dangerous chemicals being carried by personnel.
- Susceptible to temperature changes and possible flammability.
- Bulkiness that diminishes payload space.
- High maintenance costs.

Current wireless electrical power transmission systems:

- Dangerous due to their fluctuating electromagnetic fields.
- Limited in distance due to requirements to stay physically within the near field.
- Susceptible to deterioration in transmission effectiveness with obstructions.
- Not truly mobile.
- Still dependent on having batteries on board the receiving device for mobile operation.
- Limited to a single receiving device at a time.
- Limited to a single receiver operational voltage.

CBAT Technology:

- Transmits true power at a distance.
- Directly powers receiving devices without the need for batteries.
- Capable of powering multiple receiving devices simultaneously and at different operational voltages as needed.
- Enhances its transmission effectiveness with obstructions.
- Truly mobile.
- Completely safe by not producing a fluctuating electromagnetic field.
- Unobstructive as it cannot be received in devices without CBAT's patented receiver/transmitter technology.
- Eliminates dangerous chemicals.
- Eliminates charging times.
- Not susceptible to temperature changes.
- Low, if any, maintenance costs.



Management Team

Richard Mansell

Chief Executive Officer

Richard Mansell is the Chief Executive Officer and co-founder of IVO Ltd. He is an experienced inventor who has worked alongside companies such as GE Health and Local Motors Industries to develop new hardware and processes. For GE, Mr. Mansell developed a compression algorithm for their CT scans as well as helped create hardware specifically for pipeline inspections. Mr. Mansell holds multiple utility patents both individually and jointly. He is known in the automotive industry for his invention, O.S.E.M.O, which is an open-source electronic hardware and firmware suite for operating and managing equipment specifically aimed at automobile systems. Richard is the inventor of the world's first truly wireless power solution, Capacitive Based Aerial Transmission (CBAT). His extensive work with capacitive based power systems has led to multiple breakthroughs in the understanding of the electric field.

Daniel Telehey

Chief Operations Officer

Daniel Telehey is Chief Operating Officer and co-founder of IVO Ltd. Prior to founding IVO Ltd he successfully ran multiple startups ranging from automotive design to veteran assistance. Most recently he founded WACO Motors that purchased the rights to manufacture the Rally Fighter, which is a lightweight performance vehicle that can be seen used by Michelle Rodriguez in Fast 8. Daniel is a driven project manager with years of experience from his time as a non-commissioned officer in the United States Marine Corps. He is an award-winning program manager for his work on multiple programs aboard MCAS Camp Pendleton, such as the reauthorization of the Hazardous Materials and Safety Program 2015. He brings years of experience in energy generation from his time and education in North Dakota's energy sector. Specialized in Power Plant Operations for Ottertail Power Company. AAS Power Plant Technology, Bismarck State College.

Mike Buiter

Chief Financial Officer

Mike Buiter is Chief Financial Officer of IVO Ltd. Mr. Buiter is a financial professional with over 40 years of experience and has served as a Senior Auditor for Price Waterhouse Coopers, and as an Internal Audit Manager, Assistant Treasurer, Treasurer, and Vice President of Finance for Dr. Pepper. Mr. Buiter is the current Dean of the School of Business for Bob Jones University in South Carolina where he responsible for leadership of approximately 450 business students and faculty members. For Dr. Pepper, Mr. Buiter initiated a leveraged buy-out of Dr. Pepper operations from company stockholders as well as leveraged the acquisition of The Seven-Up Company and IBC Root Beer. Mr. Buiter obtained a Bachelor's degree in Finance from Bob Jones University in 1977 as well as an MBA from Duke University in 1999. He also Chair's the Greenville Area Development Corporation and serves as the Finance Chair for the Wilds Christian Camp in North Carolina.



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For more information

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