


 Directory

E-mobility

WiTricity

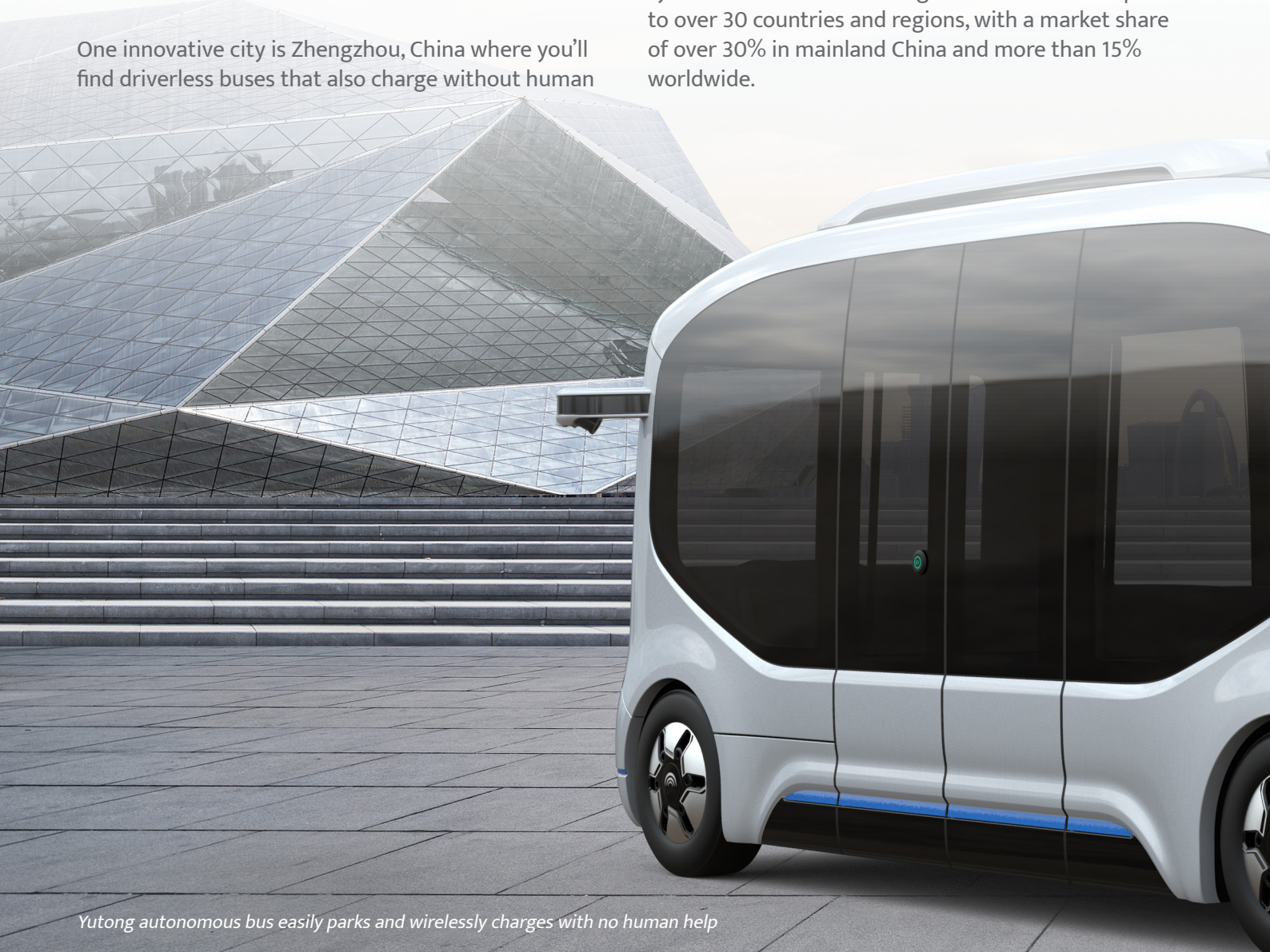
An Industry First: Wirelessly Charging Autonomous E-buses

From Geneva, Switzerland to Trikala, Greece and Kronach, Germany to Oslo, Norway, autonomous buses and shuttles can be found in cities around the world.

Although these electric buses are driverless, they still require someone to plug them in to charge – and unplug when done.

One innovative city is Zhengzhou, China where you'll find driverless buses that also charge without human

assistance. These buses are a result of a unique collaboration between **WiTricity**, the pioneer in wireless charging for electric vehicles, and **Yutong Bus**, one of the world's major bus and coach suppliers. This collaboration marks the first-ever commercial application of wireless charging for an autonomous electric bus, with WiTricity providing a key feature in one of the most advanced public transportation systems in the world. Yutong buses have been exported to over 30 countries and regions, with a market share of over 30% in mainland China and more than 15% worldwide.



Yutong autonomous bus easily parks and wirelessly charges with no human help

“We are so excited to see this first real demonstration with Yutong Bus of wireless charging powering autonomy at scale,” said Alex Gruzen, CEO of WiTricity. “As autonomy progresses, the logistics of charging and servicing will become even more critical. WiTricity wireless EV charging can enable the next generation of electrified transportation and logistics.”

The commercial deployment of wireless charging in Yutong’s e-buses debuts in Zhengzhou, China, on the Xiaoyu 2.0 autonomous minibus. This level 4 autonomous bus seats ten passengers and has a range of 150km.

Why Wireless Charging?

Wireless charging makes driving an electric vehicle easier, safer and more convenient than driving a plug-in vehicle. But, beyond this, full autonomy is not possible without wireless charging; it’s the perfect complement to predictable, repeated routes of municipal buses and airport shuttles. For instance, static wireless charging pads can be placed at the bus depot for end-of-shift charging or at locations where buses and shuttles

consistently stop for passenger pickup and drop off. While waiting for passengers to leave and new passengers to board, the vehicle can be charging – with no human intervention. This ability to provide charging throughout the day can help reduce the size of EV batteries and peak energy demand.

Safety is of utmost concern when it comes to fleets. Trips, slips and falls are the most common workplace injuries. With large, heavy charger cords at your employees’ feet, accidents are waiting to happen. Safer working conditions are realised by eliminating trip hazards and the need to wrangle these unwieldy cords and cables. And employees are happier not having to remember to plug in.

Bus and other commercial fleets can achieve a lower total cost of ownership of their electric cars, vans, buses and trucks with wireless charging. From reducing peak load and associated utility company demand charges with vehicle-to-grid (V2G) to build-out costs and reduced maintenance, fleets can maximise driver and vehicle uptime through more efficient wireless charging.





Watch our video to see the Yutong bus charging wirelessly!

With wireless charging, drivers don't need to worry if their vehicle isn't charged due to the previous driver forgetting to plug in. Charging starts as soon as the vehicle is parked over the charging pad and stops when the vehicle is fully charged. One less thing to worry about at the end of a shift – or the beginning of one!

Why WiTricity?

WiTricity is the leader in wireless charging, now focused on its fifth-generation solution. WiTricity's automotive-grade wireless chargers have been tested by automotive OEMs and are proven safe, efficient and reliable. WiTricity's patented magnetic resonance technology is the foundation of its overall solution. Its specially designed low-loss resonators allow high efficiency, while proprietary tuning technology enables efficient operation over a wide range of conditions.

WiTricity Halo™ chargers simplify the charging experience by removing the need to plug in. This is particularly significant as transit applications for autonomous shuttles and buses grow worldwide, wireless charging will play a key role in keeping those vehicles on the road.

Fleets, like Yutong Bus, rely on WiTricity's design and architecture, which has been demonstrated to be the most efficient and interoperable system available. WiTricity worked tirelessly with the industry to develop the global standards that will drive interoperability: SAE International and IEC/ISO (International); DKE and Project STILLE (Germany); and the CEC and CATARC (China).

The result is a magically simple driver experience with advanced foreign object and living object detection to safely protect and disable charging should metal, hands or feet enter the charging area. The flexible system can charge vehicles from low-ground-clearance sports cars to medium-clearance sedans to high-ground-clearance SUVs, trucks, or buses – all with the single system design.

In addition to Yutong, WiTricity has seen the deployment of its wireless EV charging to date in passenger vehicles, including **FAW's HongQi** and **Genesis's GV60. Taxi trials** are also underway, showing off the use of wireless charging in queues to give the taxis 'powersnacks™' as they wait for their next fare. The Yutong buses are the first demonstration of wireless charging with autonomous commercial vehicles.

For more information contact Eric Cohen

eric.cohen@witricity.com

witricity.com

Watertown, MA, USA

