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TWD Industries, founded in 1998, is seeking strategic investors and industrial partners to extend our <u>Lossless</u> Wireless Technology (LWT), that is, **electricity transferred wirelessly (without physical media such as cables), at a distance, and through physical objects**, cleanly, safely and securely.

Our prototype (discussed at the Munich Security Conference 2019) wirelessly transfers electricity (a tiny 5V current) between two Faraday cages without losses, and can transfer data at the same time in a massively parallelized way (instead of serially for 5G) to achieve unprecedented (high) bandwidth and (low) latencies.

To our knowledge, to date, no one has even come close to achieving such a feat. Competing WET (Wireless Energy Transfer) technologies currently being pursued by WiTricity, Emrod, Reasonance, and even Tesla, have very significant shortcomings (notably losses) when compared to LWT, which:

- 1. *has potentially unlimited range* (immune to interference, absorption, diffraction and refraction); avoids the eye-watering 5G deployment (relays) costs and operating (energy) costs.
- 2. *seamlessly traverses metal and water* (not blocked or impeded by physical objects and/or atmospheric conditions); avoids "black zones" (no signal), either underwater (submarines) or underground (parkings, tunnels, mines, caves...) explaining why *unlimited range* is possible.
- 3. *does not rely on signal broadcasting* (its receivers *fetch* the exact amount of energy they need from the power source), resulting in vast energy savings, lower latency and reliable measuring of energy consumption; peer-to-peer 'on-demand' links avoid broadcasting (permanent energy consumption), peer-to-peer architecture avoids hops latency (generated by relays).
- 4. *is uniquely resilient* (critical infrastructure currently required to deliver and utilize electricity and telecommunication services is no longer needed); avoids deployment and operating costs, as well as room for accidents and sabotage.
- 5. *allows for massively parallelized data transfers and higher bandwidth* (frequency and wavelength are independently modulated, making it possible to use much lower frequencies: LTE is increasingly energy-hungry and range-limited as higher frequencies are used); avoids evergrowing inefficiency and deployment/operating costs.
- 6. *halts the ever-growing search for unused frequency bands* (it operates without saturating the chosen frequency band) increasingly borrowed from military applications, eliminating interference generated by other transmission and electric lines and devices, and reducing design and manufacturing costs (dedicated to isolating against electromagnetic interference); avoids ever-growing inefficiency and deployment/operating costs.
- 7. *is safe* (not exposing human beings and other living creatures to the health risks typically associated with wireless transmission of energy read *"The Invisible Rainbow"*, 1997); avoids future class-action claims (insurers currently refuse to cover this risk for Telcos).

- 8. *is secure* (as it is not vulnerable to theft, hacking or other unwanted human intervention); can avoid signal detection and jamming, physical sabotage and unwanted interference (i.e.: Man In the Middle attacks).
- 9. *is clean* (it does not pollute the environment, is highly efficient (as compared to anything in existence) and needs minimal equipment to operate); avoids deployment and operating costs, as well as accidents and sabotage.
- 10. *can be made fully-compliant* to satisfy current and future Telcos regulatory obligations. Avoids the feat of pure peer-to-peer platforms a threat to government interception (Microsoft got \$12.5B from the NSA to build an interception platform for the P2P Skype application).

LWT's competitive advantages, including those outlined above, can easily be demonstrated with varying degrees of working prototypes.

As it is implemented on an industrial scale, LWT will quickly supersede the antiquated and inefficient energy grid we all continue to rely on since Thomas Edison opened the first power plant in New York City in 1882.

LWT's applications are potentially limitless, from powering *stationary* receptors of energy, such as appliances, street lights, lights and devices in homes and buildings, to powering *mobile* energy receptors, such as hand-held devices, cars, trains, and even ships, submarines, airplanes, and satellites – while providing by-design *telemetry*.

It is TWD's firm belief that LWT will drastically reduce energy waste and the environmental pollution associated with it, greatly accelerating the development of electrification and telecoms of developing countries, creating significant wealth for power suppliers and consumers alike, and, ultimately, improving living conditions across the globe.

Trusting this will be of interest to you, I would be happy to engage a discussion about how to best proceed in this matter.

Sincerely,

Pierre GAUTHIER, CEO and President

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