

*Source: Avto Metals plc
November 18, 2013 02:00*

Power Chips plc and Cool Chips plc Confirm the Ability to Enhance Electron Emissions Using Avto Metals Technology

GIBRALTAR, Nov. 18, 2013 (GLOBE NEWSWIRE) -- Power Chips plc (OTC PINK:PWCHF) and Cool Chips plc (OTC PINK:COLCF) announce that their licensed Avto Metals technology to enhance the emission of electrons from surfaces has now been successfully replicated in a series of independent tests. When commercialized for Power Chips™, this technology should make possible an array of new products over many industries and applications, including a more efficient way to generate electrical power directly from heat with no moving parts.

When commercialized for Cool Chips™, the technology will offer greatly enhanced thermal management capabilities for many consumer and industrial applications, enabling more efficient, smaller, cleaner, lower-cost and non-polluting products.

Power Chips plc and Cool Chips plc plan to both licence and directly develop these applications.

The patented proprietary technology, called Avto Metals™, reduces the work function of materials including metals and semiconductors. Work function is a measure of the energy required to remove an electron from a material. By reducing the work function barrier, electrons can escape more readily. This technology allows, for example, the design and building of more efficient thermionic/thermoelectric converters and better thermal management devices and possibly has use in many other industrial processes.

The new technology results from the discovery that quantum interference, which reduces quantum state density at a material's surface, can be achieved on a macroscopic scale. Simply by modifying the surface texture of a material in precise ways, using methods commonly applied in the manufacture of semiconductor devices, engineers should be able to exploit this Avto Effect™ and transform existing materials into materials with precisely-engineered properties for many new applications. When we fully understand the Avto Effect, we could possibly be able to custom design work functions for multiple different applications.

Tests completed last week, conducted on silicon wafers with a nanoscale line pattern, covering millimeter-scale test pads and forming a surface texture to demonstrate the Avto Effect, showed significant and consistent reductions in work function. Results were in line with prior tests using surfaces of several metals. This work on the science and the technology has been ongoing for more than 15 years. More than 40 issued patents cover both the basic technology and many applications.

The steps forward to commercialization are not trivial and obviously high value products will be the first developed. Commercialization is now possible because of the tremendous advances in semiconductor technology in the last decade which made possible the building of the required Avto Metal structures in a major university laboratory. When the Avto Metals work began over 15 years ago, the world simply did not have the required nanoscale technology to either build or confirm the underlying Avto Metals science.

After scaling to larger dimensions, the technology should enable large cost and efficiency improvements in electrical power generation and refrigeration. The power generation technology, called Power Chips, should

revolutionize electrical power generation across virtually all applications. For example, adding Power Chips to extract heat that is now wasted in conventional power plants should be able to increase power generation by up to 20% with no change in fuel consumption or emissions. Power Chips should make possible safe, efficient distributed power, enabling buildings or factories to cogenerate their own electricity from waste heat or geothermal sources. In automobiles and other vehicles, for example, Power Chips may replace the alternator, reducing the mechanical load on the engine and thereby increasing the efficiency of internal combustion engines and hybrids.

The cooling technology derived from the Avto Effect, called Cool Chips, should similarly reduce the cost and increase the efficiency of most cooling or refrigeration systems. It requires no moving parts or motors, produces no chemical emissions, and can be miniaturized for use in micro-electronic applications.

The Avto Metals technology is being developed by Avto Metals plc, which has a stock symbol AMTPF but whose shares have never publicly traded, while Power Chips are being developed by Power Chips plc (OTC PINK:PWCHF), and Cool Chips are being developed by Cool Chips plc (OTC PINK:COLCF). All three companies are majority-owned and two are publicly-traded subsidiaries of Borealis Exploration Limited (PSE.cz:BOREY)(OTC PINK:BOREF).

We are in discussions at present to obtain the necessary funding to bring at least one Power Chip and one Cool Chip product to market. There can be no assurance that these discussions will be successful or that the ongoing work will produce any marketable products.

Forward-Looking Statement

The discussion of Power Chips plc and Cool Chip plc's business and operations in this release includes in several instances forward-looking statements, which are based upon management's good faith assumptions relating to the financial, market, operating and other relevant environments that will exist and affect the Power Chips plc and Cool Chip plc's business and operations in the future. All technical, scientific, and commercial statements regarding technologies and their impacts are based on the educated judgment of the technical and scientific staff of Power Chips plc and Cool Chips plc. No assurance can be made that the assumptions upon which management based its forward-looking statements will prove to be correct, or that the business and operations of Power Chips plc and Cool Chips plc will not be affected in any substantial manner by other factors not currently foreseeable by management or beyond Power Chips plc and Cool Chip plc's control.

All forward-looking statements involve risks and uncertainty. Neither Power Chips plc nor Cool Chips plc undertakes any obligation to publicly release the result of any revisions to these forward-looking statements that might be made to reflect the events or circumstances after the date hereof, or to reflect the occurrence of unanticipated events; including those described in this release, and such statements shall be deemed in the future to be modified in their entirety by the public pronouncements, including those contained in all future release, reports, and other documents filed by Power Chips plc and/or Cool Chips plc with relevant Securities Commissions.

Dr. Rodney T. Cox, CEO
+44 207 101 9592

Retrieved from "<http://globenewswire.com/news-release/2013/11/18/590425/10058363/en/Power-Chips-plc-and-Cool-Chips-plc-Confirm-the-Ability-to-Enhance-Electron-Emissions-Using-Avto-Metals-Technology.html>"