

With their Pulstar[®] Branded Products fully Commercialized in the Automotive Aftermarket including “Big Box Retailers” and Enormous Strides being Made with Automotive OEMs, Enerpulse, Inc. is Well Positioned for Growth with their Revolutionary Pulse Power Spark Plug Ignition Technology

**Industrial/Green
Pulse Technology
(Private)**

Enerpulse, Inc.

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**Joseph E. Gonnella
Chief Executive Officer**

BIO:

Mr. Gonnella was appointed Chief Executive Officer of Enerpulse, Inc. on May 2, 2011 (automotive pulse power ignition). Prior to this assignment, Mr. Gonnella served as President and Chief Operating Officer of Drivesol, Inc. (automotive electro-mechanical systems), President & Chief Executive Officer of Wabash Technologies, Inc. (automotive electronic controls), Sr. Vice President of Engelhard Corporation (automotive

emission systems), and President-Automotive Products Group of Am-cast Industrial Corporation (automotive aluminum components). Mr. Gonnella started his career at General Motors Corporation and held progressively responsible positions in engineering, operations and M&A over a period of 11 years. He earned a BS degree in Industrial Management from Wright State University and an MBA (Finance) from the University of Dayton.

Company Profile:

Enerpulse, Inc. is the developer of the world’s most powerful IC engine ignition devices. Using Pulse Power technology, in cooperation with Sandia National Laboratory, Enerpulse develops and sells commercial high-power ignition products for the Vehicular and Stationary Internal Combustion Engine markets. They continue this work in their Albuquerque Enerpulse Lab to develop additional Pulse Power technology applications with future commercial potential.

Pulse Power is a proven technology used for many years in such things as Pulsed Beam Weapons (SDI), lasers, radar, electric motor starters, microwave ovens, camera flashes and X-ray. Enerpulse’s founder, Lou Camilli, has worked in close cooperation with the Sandia National Laboratories for over 20 years to develop unique applications for Pulse Power and has made significant advancements in the base and applied science. In fact, Mr. Camilli provided Sandia with highly accurate Pulse Power devices that fire multiple lasers on their experimental Nuclear Fusion Reactor.

Pulse Power Technology is at the core of a major breakthrough in automotive ignition systems. For 120 years, ignition technology has been limited by the relatively weak discharge power of conventional spark plugs. However, by incorporating Enerpulse’s Pulse Power technology into the envelope of a conventional spark plug, discharge power is increased from a maximum of 500 watts (Ultra-Premium spark plug) to over 5 million watts.

The integration of Pulse Power into the IC engine spark event creates a disruptive departure from the role of conventional spark plugs in the ignition process. The Pulse Power device currently adopts the same physical outline as a conventional spark plug because it must interface with existing engine geometry and ignition control systems. However, that’s where the similarity ends.

**Interview conducted by:
Lynn Fosse, Senior Editor
CEOCFO Magazine**

CEOCFO: Mr. Gonnella, what is the overall focus at Enerpulse?

Mr. Gonnella: Enerpulse is a Research & Development company focused on Pulse Power technologies. We started our research many years ago working with the Sandia National Laboratories to advance the science and application of Pulse Power technology. Starting in 2004 when we established Enerpulse Inc., we have focused mainly on applying Pulse Power technology to automotive ignition. Today we have developed a product, which incorporates a pat-

ented Pulse Power circuit into the envelope of a standard spark plug, which increases the energy input to ignition from around five hundred watts in a standard spark plug to five million watts in the Pulse Power plug.

CEOCFO: Where are you in the process of commercialization and total development?

Mr. Gonnella: Our base technology is already fully developed and we are fully commercialized in the automotive aftermarket. Our Pulstar® branded products are sold through all major aftermarket channels including the “big box retailers” such as Advanced Auto Parts, O’Reilly and Auto Zone. We also market through well known e-tailers such as Amazon.com, Sparkplugs.com, and others.

We are now addressing the OEM sector following the launch of our newest generation for Pulse Power ignition technology. At this point, have seven major OEMs worldwide who are testing our technology for possible adoption on new and existing engine platforms.

CEOCFO: What has been the response in the aftermarket?

Mr. Gonnella: Our aftermarket business grew thirty percent year-over-year between 2010 and 2011, and we continue at that pace going into 2012. Enerpulse has not aggressively promoted Pulstar® in the aftermarket principally because our primary focus is currently on the OEM sector. However, despite that, the product itself, because of its extraordinary fuel economy savings, has experienced organic revenue growth.

CEOCFO: What are the biggest hurdles for the OEMs to make the leap your technology?

Mr. Gonnella: Just the fact that, since September of 2011, seven OEMs have agreed to test Pulse Power ignition in their own laboratories is a testament to their strong interest in the technology. When you look at the challenge that OEMs are facing in meeting fuel economy standards all over the world, they don’t

have many good options. The ones that they do have are quite expensive and complex. We have done a great deal of testing at outside independent laboratories, such as Southwest Research Institute, to validate the fuel savings that Pulse Power offers OEMs for a relatively small incremental cost. This has definitely perked their interest. Now they are convincing themselves that they can duplicate our test results in their own laboratories. However, the good news about this is that their scientists seem to understand the base technology. They see why, from a purely scientific basis, Pulse Power should be able to improve fuel economy by consuming more of the fuel charge in each cycle of the engine, converting that fuel to

Our technology is already fully proven. We have not only proven it in our own laboratories but we’ve validated it with well known outside laboratories such as the Southwest Research Institute. We are also testing at BASF Procat in Wixom, Michigan, Roush Engineering in Detroit and AVL in Austria. These are all independent third-party validations of our technology. Therefore, there is very little technology risk in this at this point. We have an extensive patent portfolio protecting our technology. Enerpulse is fully commercialized in the automotive aftermarket and we have made enormous strides in a very short period with the automotive OEMs. - Joseph E. Gonnella

energy and then translating that additional energy into improved torque and/or reduce fuel consumption.

CEOCFO: Would you explain the technology and the science?

Mr. Gonnella: The Pulse Power circuit in our plug stores energy during the ignition cycle in an integrated capacitor. The stored and compressed energy is released in a matter of nanoseconds during ignition lighting the fuel charge very quickly and creating a larger flame front in the combustion cylinder. This reduces combustion variation and consumes more of the fuel charge, resulting in improved engine torque and/or reduced fuel consumption.

CEOCFO: Are many people looking at or working on something similar to

what you have been able to do, and how do you meet the competition?

Mr. Gonnella: There is nobody working in the field of Pulse Power ignition. Enerpulse holds sixteen issued patents and nineteen patents pending surrounding our core technology. Therefore, we are essentially alone in this particular field. That said, there are other people working on advanced ignition devices that might be viewed as competitive to Pulse Power. For example, there is work being done on laser ignition and other types of enhancements to conventional spark plugs. The problem is that none of them can deliver the kind of energy to ignition that we can through the process of energy storage and release. Conventional spark plugs are

simply design constrained. They haven’t fundamentally changed in the last one hundred and twenty years. Enerpulse is really stepping out of the crowd with its Pulse Power technology. We view that our real competition, if you want to look at competition, is not spark plugs. It is more accurately devices like turbo chargers or variable valve timing. However, in reality, they are not competition because the benefits of Pulse Power ignition are additive. When you consider that U.S. CAFE standards are going from

twenty-four miles per gallon in 2011 to fifty-four miles per gallon in 2025, that is a big leap. The car companies need all the help they can get.

CEOCFO: Are you working on other items, or is the focus solely on the pulse power today?

Mr. Gonnella: Our focus is on Pulse Power technology. We have two future generations of technology advancements on the drawing board that will improve the features and functionality of Pulse Power ignition. Furthermore, there are many other things that we can do. For example, we say, “this looks like a sparkplug because it has to”. Enerpulse designed our current product to look like a conventional spark plug, so that it would be very easy for car companies to adopt and to launch into the after-

market as a direct “Plug & Play” replacement part. With this approach, our Pulse Power technology can be easily installed on existing engine platforms. However, as car companies are developing new engines, we can change the configuration of our devices to optimize vehicle platform objectives in terms of fuel economy and engine performance.

CEO CFO: While the companies are testing, what are you doing everyday at Enerpulse?

Mr. Gonnella: Right now, we are building platform-specific plug designs for testing by OEMs. The products we sell into the aftermarket may not specifically duplicate the OEM plug used in production vehicles requiring us to build custom prototypes. We are also working on our new generations of Pulse Power technology and are busily manufacturing product for our growing aftermarket business.

CEO CFO: What can you do to make the product better; what kinds of things are you able to improve in it?

Mr. Gonnella: With our fourth generation of Pulse Power technology, we were able to increase the energy output over fifty percent by improving the efficiency of the Pulse Power circuit. Looking forward we can make even more dramatic changes, such as replacing ceramics with composite materials. We can also package the technology differently to give car companies more under-hood design freedom. For example, rather than the conventional spark plug configuration, we could make our device in different shapes. Spark plugs have to look like spark plugs - but Pulse Plugs do not. We already have some great ideas about how to reconfigure and repackage this technology.

CEO CFO: What is ahead for the next several months?

Mr. Gonnella: I see a much larger presence in the aftermarket as we begin to ramp up our efforts with increased advertising and promotion. I also see us as a major player in the OEM sector worldwide. We are working with car companies all over the US, Europe and South America right now. We will also be assisting car companies with engine calibration strategies to optimize the performance of Pulse Power technology in their engine systems. We will be globally engaged with all of the vehicular and stationary IC engine manufacturers. During 2012, Enerpulse expects to be nominated for its first OEM platform on new car production.

CEO CFO: For investors looking for opportunities; why pick Enerpulse?

Mr. Gonnella: There is a very important reason. First, our technology is already fully proven. We have not only proven it in our own laboratories but we've validated it with well known outside laboratories such as the Southwest Research Institute. We are also testing at BASF Procat in Wixom, Michigan, Roush Engineering in Detroit and AVL in Austria. These are all independent third-party validations of our technology. Therefore, there is very little technology risk in this at this point. We have an extensive patent portfolio protecting our technology. Enerpulse is fully commercialized in the automotive aftermarket and we have made enormous strides in a very short period with the automotive OEMs. The other part of this that I haven't mentioned is that we have a strong play in the Alternative Fuel IC engines which is a rapidly emerging sector. Our Pulse Power technology has very high functionality with fuels like natural gas and compressed natural gas (CNG). In fact, Enerpulse was recently spec'd on a CNG vehicle manufactured by “Vision

Automotive, a division of Noble Automotive. This was announced in a press release issued in late April of this year stating that Pulse Power technology enabled reduced tailpipe emissions, improved fuel economy (by nearly eight percent), and assisted with cold start and idle quality. The Vision SEER ngv vehicle will be launched into the retail market starting in August 2012. Similar results are achieved with all difficult to light fuels, such as LPG, Bio-Fuels and Land Fill Gas. These are very fast growing segments in both mobile and stationary IC engines.

CEO CFO: What is your take on the energy situation, alternative fuels, on the cars?

Mr. Gonnella: I think the reality is that, in the longer-term, vehicles like plug-in electric and hybrid electric will play a significant role in addressing energy and environmental issues. However, these solutions are going to be very slow in gaining any meaningful market volume. They make sense and some people like them. People like wind and solar power. However, I think the market has been disappointed in how fast these technologies have commercialized. As we sit here today, about a little over two percent of vehicles sold are electrically powered. That is not going to change a great deal in the foreseeable future. Our Pulse Power ignition technology, however, is dead center to existing IC engine designs and fuel delivery infrastructures. Nothing has to change for large-scale adoption of Pulse Power on spark ignited internal combustion engines. We just make them more efficient consume less fuel, emit lower emissions and perform better. To me, from an investor's perspective, that should be a big factor.



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