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<b>8.Title</b>	Digital Manufacturing (DM): A new wave for exploiting productivity potential
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<b>Abstract</b>	<p>Digital manufacturing is an emerging software technology that has become a key component of Product Lifecycle Management or PLM. It is an initiative to define and optimize manufacturing processes, manage manufacturing process information, and support effective collaboration among engineering disciplines by using full digital product and plant definition. It facilitates a holistic view of product and process design as integral components of the overall product lifecycle, and enables product design to be sensitive to process constraints and capabilities. Digital manufacturing is becoming a revolutionary trend for all manufactured goods. Quickly expanding within the OEMs and migrating to the suppliers, digital factory tools are clearly the future in manufacturing. The software is now viewed as a business opportunity that enhances competitiveness. Cutting excess planning time and being first to market is particularly important for companies to be competitive. Organizations using digital manufacturing are achieving substantial benefits and return on investment. It is a mature and innovative core technology for companies seeking to establish a leadership position in the highly competitive worldwide manufacturing marketplace. Digital manufacturing supports process planning, factory modeling, visualization and collaboration, simulation of operations, ergonomic and human factor analysis, and provides other tools necessary to develop and optimize the manufacturing process design. It includes software support for several functional areas.</p> <p>Digital manufacturing is a new and innovative technology that can help you bring products to market faster while increasing capacity, improving quality, and reducing the costs of your operation. Digital manufacturing software tools allow you to meet the increasing demands of consumers and shareholders while improving your return on investment. Digital manufacturing or "Digital Factory" tools enable you to "virtually" see your entire factory from the convenience of your desktop. Using a 3D vision of the complete manufacturing lifecycle, companies can more efficiently create products, define manufacturing process, simulate the factory, and test results before real-world capital expenditure and manufacturing begins. Armed with this information, your organization can significantly reduce time-to-market and increase time-to-volume, resulting in maximum return on investment. Digital manufacturing solutions allow you to capture, share, and reuse best practices throughout your enterprise - from product design all the way to your shop floor.</p> <p>Digital manufacturing is the ability to "virtually" design, optimize, simulate and then execute a manufacturing process with a high degree of predictability. Digital manufacturing is also the ability to closely couple the product design function (CAD/PDM) to the process design function.</p> <p>When companies implement digital manufacturing, they will realize profit improvement, process acceleration, and continuous product improvement and scrap reduction from the newfound ability to freely redesign a product at any stage in its life cycle. Although these benefits are difficult to quantify, the positive impact on a company and its products is obvious. Digital manufacturing can be justified solely on the freedom to redesign. However, there are many other advantages that the process offers. Throughout the</p>

paper, the advantage of digital manufacturing is discussed. It will discuss the opportunities created when parts and assemblies are no longer constrained by design for manufacturability rules. Digital manufacturing will be the next industrial revolution. With it, as with any revolution, there will be a total upheaval, a radical change and an overthrow of existing practices. Digital manufacturing will infiltrate all processes and every discipline within a company. It will change how manufacturing is done.