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# Additive Manufacturing in Western Pennsylvania

MANUFACTURING

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With Alcoa's September announcement that it will be spending \$60 million to expand its Western Pennsylvania R&D center to accelerate the development of advanced 3D-printing materials and process technologies, it is clear that these technologies are here to stay.

Processes such as 3D printing, some of which are commonly referred to as additive manufacturing, have been hailed over the past few years as one of the "next big things in manufacturing," and Western Pennsylvania is poised to be at the forefront of this activity.

In addition to the private sector activity, universities including Carnegie Mellon and the University of Pittsburgh are continuing to lead research efforts on various applications, and are even tailoring curricula to develop the next great minds in this field, right here in our area.

Additive manufacturing is a process in which three-dimensional products are designed on a computer and then printed out of layered materials, usually metals or plastics. This process has the promise to use fewer materials, provide faster cycle times and address complex shapes that can be a challenge to manufacture with traditional methods. Companies can utilize this potential for rapid prototyping of complex products, integration of various alloys and materials, reduction of scrap and customized manufacturing with less reliance on specific machinery and tooling.

While additive manufacturing shows a lot of promise, it is still in its early stages. It is currently more costly than traditional methods for a wide range of products and suitability for certain applications is still unproven. As technology improves, the entry level capital costs should come down, and this application will become available to a wider range of manufacturers in the area. With the current development of a pool of talent in the area, additive manufacturing has the power to be transformative technology in our region, keeping us as a manufacturing center for years to come.

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After all, a dialogue is an exchange of ideas, and we'd like to hear from you. Email us at [contactSD@schneiderdowns.com](mailto:contactSD@schneiderdowns.com).

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