"3D Printing" – What's in a Name?
by
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Part 1 of a 2-part article

I devoted a section of the first chapter of my book, *3D Printing Will Rock the World*, to what I call "The Name Game." My premise: "3D printing" is the best name for layered manufacturing. As I explained, the other contender, "additive manufacturing", is inaccurate and overly broad, and just plain dull. A point I did not make in my book is that 3D printing and additive manufacturing are activities, like working or welding. So the question remains: what to call the machines that perform these activities? This may seem like an academic exercise, but The Name Game is not really a game. Finding the right name for this category of machines will not only help to drive their adoption, but can also help to shape what they will become.

Consider "telephone", the name for a category of devices to send sound. Or "television", the name for devices to send moving images. It's hard to imagine that these devices could have any other names, especially not better ones. Shakespeare rightly said that a rose by any other name would still smell good, but would a rose by another name sell as well on Valentine's Day?

And consider "record player", "cassette player", and "CD player". It's pretty clear what those devices do, and each generation helped to drive the evolution of the category. And the market preferred these simple names to "gramophone" and "phonograph".

How about "computer"? Not such a great name, really, for a category of devices that do so much more than compute. But no one has ever been able to think of a better one.

And then there is "smartphone", the name for a category of increasingly ubiquitous and can't-do-without-it devices that enable communication and provide information to enrich and simplify daily life. Apple would prefer that we think of these devices only as iPhones. But whether we call them smartphones or iPhones, Steve Jobs saw, rightly, that the name for this category of devices helps to drive their adoption and affects what they can become.

This brings me to the name of the machines that do 3D printing, additive manufacturing, or layered manufacturing. "3D printer" is the obvious contender. But is "3D printer" the best name for this category of machine? "3D printing" and "3D printer" are adequate to describe today's technology, which make mostly parts, not products, and do it mostly by

layering. But as "products," 3D printed parts are still only hunks of metal or plastic. Today's 3D printers cannot make fully assembled complex products like electronic devices. But someday a single machine will do so using a variety of processes and it will be inadequate to call the machine a "3D printer" or the process of doing so "3D printing".

When that day comes, "3D printer" and "3D printing" just won't cut it. Making complex, fully formed, and potentially highly customized products in a single machine is more robust than printing and therefore "3D printing" seems inadequate to describe all that these machines will become. "Printing" also connotes layers (as does "additive"). "Printing" may work for describing the process of making a part or even circuitry, but seems inadequate for electronic devices.

Today, some machines are moving beyond layered manufacturing, such as nScrypt's Factory in a Tool. That's the subject of part 2 of this article.

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