Solar Turbines Changes Manufacturing, R&D

**3-D Metal Printers**

Additive manufacturing “changes the entire pace of how you do research and development,” Koziner said. Engineers can make changes to a part in a fraction of the time it took before.

“We’re still in a high-ramp era, [and] not only in Solar,” he said. “Every company that does something similar to what we do is looking at this stuff. We’re at all different stages of incorporation [and] adoption.”

For the moment at least, highly complex parts produced in small quantities seem to be the best candidates for additive manufacturing, the executive said. Solar Turbines has 3-D metal printers for production, and oth printers for experimentation.

San Diego is hardly the first place a person calls to mind when they think of the oil and gas industry, but a big oil and gas player is at Pacific Highway and Laurel Street. Solar Turbines manufactures midsize industrial gas turbines, used to power offshore oil facilities and keep product moving through gas pipelines. Its products also generate electric power and heat for universities and hospitals.

**3,200 Local Employees**

Solar Turbines is a heavy manufacturer in the same vein as the shipyards of Bar Harbor. The downtown plant is on 28 acres and a second campus in Kearny Mesa covers 2,400 acres. The operation reported 3,200 San Diego employees in 2017, up from 3,129 in 2016.

“We’re growing. We’re looking for people,” noted Koziner, adding that contemporary manufacturing is “about innovation, mathematics, robotics and computing power than most people realize.”

Solar Turbines is just getting to the point where it can make certain metal parts with the additive process, better known as 3-D printing. The San Diego-based unit of Caterpillar Inc. has “invested heavily” in additive manufacturing. It still makes parts the old way, with molding and casting.

But Solar has come to a point where certain 3-D printed parts are durable enough to go into turbine systems in the field, and cost-effective enough to produce.

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**PRODUCTION:**

3-D Printers Used in Work, Experimentation

By BRAD GRAVES

The old image of manufacturing — of wrenches and grubby factory floors — needs a reboot.

So said Pablo Koziner, president of Solar Turbines Inc., adding that contemporary manufacturing involves so much more engineering, mathematics, robotics and computing power than most people realize.

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