



Inside Texas Instruments: Last Quarter's Progress

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In the throes of a semiconductor cyclical downswing, Texas Instruments' revenue fell 3% this past quarter, with weakness in every end market except for the automotive sector. Profitability also came in lower, not only from the lower revenue, but also from higher spending as TI builds out its US-based manufacturing footprint. Two new factories started production this past year, and four more are scheduled for the 2025-2026 timeframe.

Supporting 10 to 15 years of growth

RFAB2 – Richardson, Texas Third 300-mm wafer fab	LFAB – Lehi, Utah Fourth 300-mm wafer fab	Sherman, Texas Fifth to eighth 300-mm wafer fabs
		
<ul style="list-style-type: none">• Will be >30% larger than RFAB1• Equipment installations in first half of 2022• Production output in second half of 2022	<ul style="list-style-type: none">• Clean room space equivalent of RFAB1• 65-nm/45-nm process technology nodes, smaller lithography as needed• Production output in early 2023	<ul style="list-style-type: none">• Size of four RFAB2s: provides fab capacity for a decade of growth (~2025-2035)• Construction of Fab 1 and Fab 2 starting in 2022• Production output in 2025
45-nm to 130-nm process technology nodes, optimized for analog and embedded products		

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At the end of each year, we always get an update on revenue by end market. In 2022, auto and industrial, the two end markets TI has focused on for many years now, made up 65% of its revenue, up 2% from 2021 and up from 42% in 2012 when it started this strategy. It is an almost unanimous opinion in the semiconductor industry that these markets are going to have the most opportunity in the next decade or two. The auto market expects a 14% compound annual growth through 2030. Since 2019, TI's auto revenue's have increased 70%. Cars are becoming increasingly "digitized" and this trend is not slowing down. Although still a small chunk of the overall auto market, electric vehicles carry 2.3x the amount of chips than internal combustion engine cars. It's nice to see TI succeeding in its plan to grow the auto and industrial segments.

While this quarter wasn't remarkable by the numbers, and the next quarter or two may also not be, the real story for Texas Instruments is longer term – the next 3 to 7 years. Today's higher spending and investments in expanding its manufacturing capacity allows TI to do what its competitors can't: have greater control over its business. Over 80% of TI's production is in-house, whereas its competitors rely on Asian foundries for the majority of their production. Because TI has no obligation to buy a certain volume of chips from a foreign factory, in turn TI can let its customers buy more or less as they please, reacting to the changes in their own business conditions. As new CEO Haviv Ilan recently put it, "customers want the

ability to have changes in the next five to ten years. It's better customer service to have the capacity ahead of demand so they can count on us as they grow their business. If we maintain control of our supply chain and costs, we are going to be better able to serve customers." Also having "geopolitically dependable" (i.e. US) manufacturing plants is getting positive customer feedback. This direct relationship with its customers is also helping TI's ability to see and respond to changes in demand.

In short, Texas Instruments is a giant company which is treating its customers with the care and consideration usually only seen in small companies. This is a very unusual strategy which has paid off tremendously for TI over the years. We think the payoffs will keep growing impressively in the years ahead.