## **AXIe:** the Fastest Growing Modular Instrument Standard

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In a study entitled *VXI*, *PXI*, and *AXIe Test and Measurement Market Disrupts Automated Test, Sparking New Growth Opportunities*, Frost and Sullivan reported the markets size and growth rates of the various instrument standards, updated to include 2015. The study preview can be found here.

F&S reported the size of the open modular market (VXI, PXI, and AXIe) to be \$809.7M in 2015, now over 20% of the entire automated test market for the first time, excluding dedicated semiconductor test. Modular instruments grew at 7.5% last year, and a close examination of the figures showed that modular instruments were responsible for *all* the growth in ATE. Traditional instruments declined slightly last year.

Within the modular standards, AXIe demonstrated a whopping 61% growth rate, driven by high-end instrumentation. PXI, which includes PXI and PXIe (PXI Express) variants, delivered 8.7% growth, while VXI declined 15.6%. Much of the AXIe growth can be credited to having the smaller base, as the 2015 revenues for AXIe, PXI, and VXI were \$63M, \$702M, and \$105M respectively.

As a consultant who focuses on the modular instrument industry, I find the F&S results credible. I came to a similar growth rate for AXIe, largely driven by public statements by Keysight Technologies and others.

The question confronting the industry is, what are the growth rates going forward? F&S estimates AXIe to grow 20.8% through 2020, PXI at 17.2%, and VXI to decline at a 13.8% rate. As the physicist Niels Bohr once said, "Prediction is very difficult, especially if it is about the future." It is certain that PXI and AXIe will be driving modular growth going forward, but AXIe is still a wild card with considerable upside. Individual vendor decisions will determine its growth rate, not some pre-ordained market forces. I have explained how this occurs at many of my presentations. AXIe has achieved its growth by expanding the modular market at the high-end: Very high performance and high density digitizers, arbitrary signal generators, digital products, and RF. Indeed, many of the products are the highest performance in their class *regardless of form factor*.

I will be giving a presentation titled *Status and Outlook for Modular Instruments of Modular Instrumentation* this coming Wednesday at Autotestcon, followed by presentations from each of the modular standards and LXI. If you will be at Autotestcon, or you are near Anaheim, CA this Wednesday, it may be advantageous to attend.