

*The following industry outlook is offered by Quik-Pak to its customers and contacts. It is authored by Ron Leckie who is a member of the Board of Directors of Delphon Industries, LLC, which is the parent company of Quik-Pak. He is also a widely recognized industry consultant and analyst at Infrastructure Advisors ([www.infras-advisors.com](http://www.infras-advisors.com)) and at Ackrell Capital ([www.ackrell.com](http://www.ackrell.com)).*

### **Executive Outlook: A Perspective Look at 2012**

*Ron Leckie*

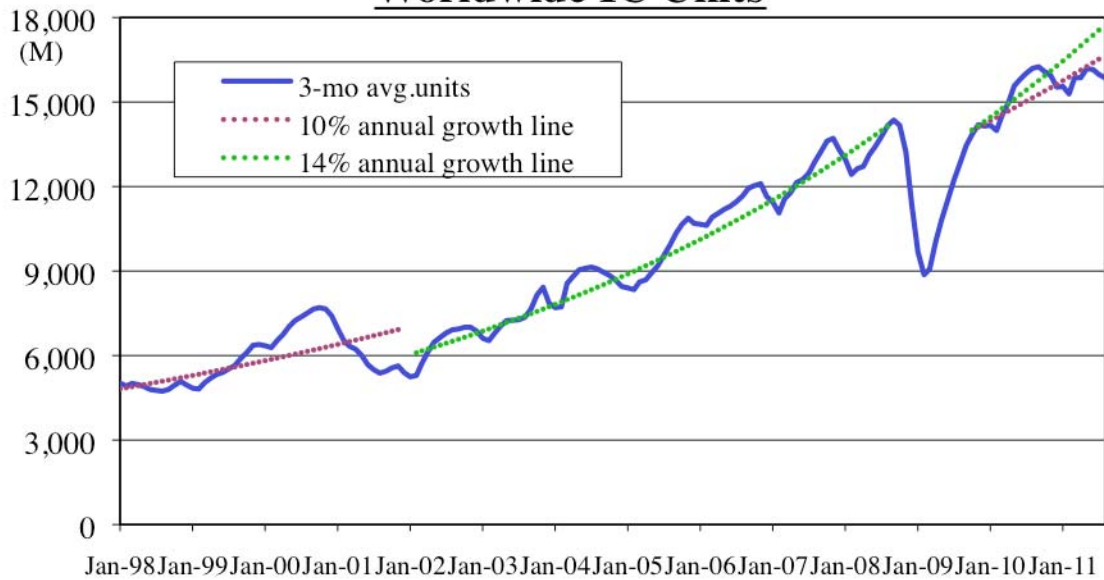
*January, 2012*

Over the last ten to fifteen years, we have witnessed the disintegration and globalization of the semiconductor supply chain with more manufacturing migrating to Asia. Integrated Device Manufacturers (IDMs) have outsourced their wafer fabrication to Foundries and assembly/test manufacturing to OSATs. The Fabless sector has emerged and flourished with total dependence on these Foundry and OSAT manufacturers.

What has also changed is the increasing pressure on time-to-market. As the lifeblood of the consumer electronics industry, new semiconductor products need to be introduced quickly and on-time. This is where onshore packaging and assembly companies like Quik-Pak can help shorten time-to-market by providing prototypes and small production quantities in short order, in some cases as fast as same-day delivery. The trends towards off-shoring and fast prototyping seem at odds with each other, but can actually co-exist in harmony and will continue to accelerate for the foreseeable future.

Looking ahead at 2012, we all know that the biggest driver of the electronics market is the consumer. Hence the semiconductor market has a high correlation to discretionary spending, employment and the economy. One of the best indicators to use in monitoring demand is IC unit volume. Admittedly, it is influenced by the building and depletion of inventory, however, a look at historical unit growth rates tells an interesting story.

## Worldwide IC Units

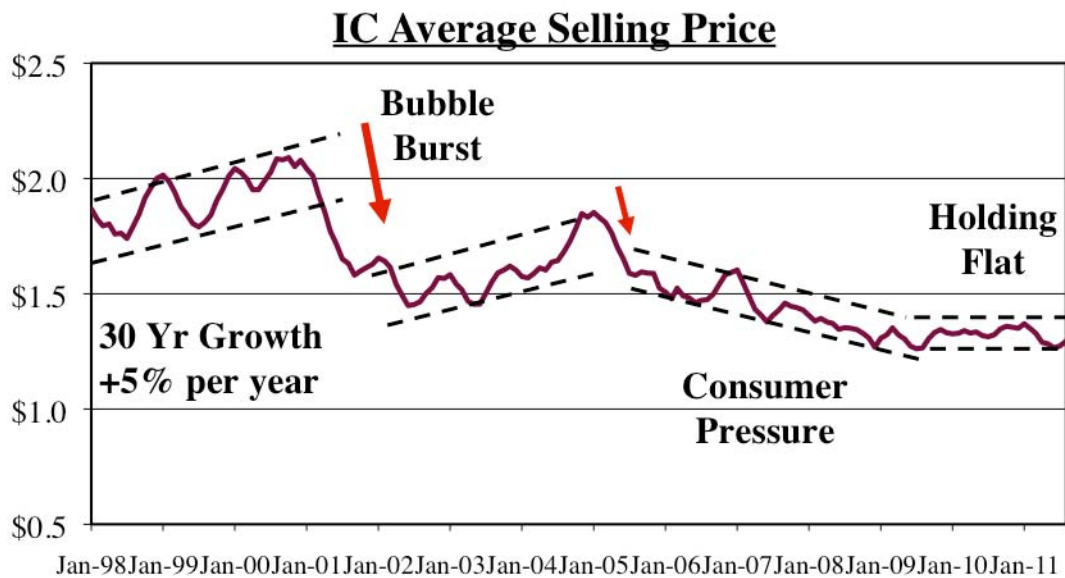


source: SIA

Prior to the year 2001, the long-term unit growth rate was around 10 percent per annum. After the recovery from the bursting of the Y2K bubble, consumer demand stepped up, due in large part to the emergence and proliferation of mobile electronics. From 2002 until the economic crash of 2008, chip units grew at an incredibly strong 14 percent annual rate. While it did reverberate strongly throughout the supply chain, the 2008 crash was sharp and relatively short-lived for the semiconductor industry. Unit chip volumes bounced back quickly from that major geopolitical event and, since 2010, instead of returning to the 14 percent growth trend, have been on a noticeably slower growth rate of just below 10 percent.

The thing to keep in mind is that despite today's weak economy, high unemployment and limited disposable income, we note that chip unit shipments are continuing to grow and are far from declining. The demand for more connectivity or simply even more "cool" products seems relentless. While most people now own a cell phone, it is the younger generation who clamor for the latest and greatest gadgets. Personally, I change my mobile phone on average every 3 years, but I note that the younger generation simply "has to" change theirs every one to two years. Whether this is because there is a new one out with more features or they have simply damaged and need to replace the old one, the result is the same. We can't live without them. The same appears to be happening with tablets. Personally, I have not found a use for a tablet to exist in my life between my smart phone and my laptop, but it is clearly a huge success and is one of the top products driving chip demand. This seemingly insatiable demand for portable electronics is not going to change, and, if anything, will intensify as even more new cool products are brought to market and the economy strengthens.

As long as the economy remains weak, I expect that annual unit growth will remain in the +5 percent to +10 percent range. Since 2008, and even throughout the recession, the consolidated average selling price (ASP) has remained flat at around \$1.35 across all IC types. This is the first recession where the supply-demand imbalance has not driven down pricing levels. I believe that overall ASP will, at a minimum, stabilize here for the foreseeable future and, as a result, chip revenue growth should track unit volume with a corresponding +5 percent to +10 percent growth rate through 2012.



source: SIA

The semiconductor industry is maturing, but we need to remember that it is still cyclical and what is being experienced once again is a classic cycle of supply-demand imbalance while the world recovers from the last economic crash. Excess inventories that had built up by the first half of 2011 are now being burned off as current build rates are running below demand. Factory utilization levels are down slightly, but not far enough for concern. There is optimism that chip supply will be stepped up again in early Spring.

The US unemployment statistics have recently been improving towards the close of 2011, so there is cause for optimism that semiconductor demand will pick up in the second quarter of 2012 when inventories are depleted to normal working levels. So, what we need is more new consumer and industrial electronics products with more new silicon chips inside to fuel the recovery.