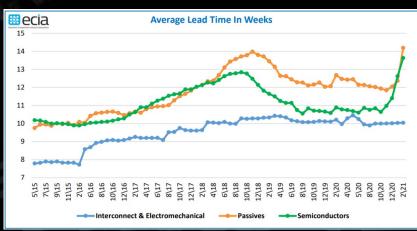
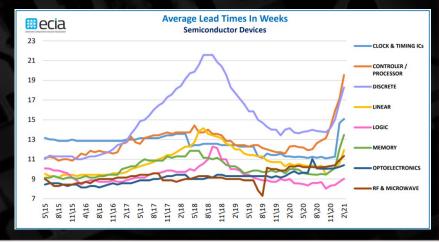


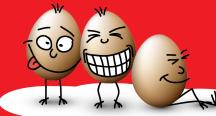
Electronics Industry Supply Chain Tightens Yet Again

As much as the word "unprecedented" has been used an unprecedented numbers of times in good ol' 2020, we need to use it yet again. The supply chain issues being faced at present are unprecedented and are at a level that we have not experienced in recent history. Solar panels, displays, power supplies, cable assemblies and components are all seeing extended leadtimes and increased pricing. Each Ivent purchase order placed is being met with the response of an increased unit price and uncertain delivery times. In the case of TFT LCD products, some delivery dates cannot even be confirmed after order placement. The sourcing of the driver IC's is extremely problematic for small size panels such as 2.8" and 3.5". Over the last few weeks we have also noted that driver IC's for simple black and white displays (TN, STN, FSTN etc...) are also becoming scarce. Xiamen Ocular advise of some chips now on 40-week leadtimes.

Ivent is increasing stock holdings in it's Auckland and offshore warehouses to try and mitigate the supply chain risk as much as possible. Operations and purchasing are staying in close contact with all suppliers, this is in an effort to maintain open communications, even if the news is not always good news! Our recommendation to all customers is that they order well ahead and as soon as possible. Even if demand is unknown, and forecasts may be inaccurate, get orders loaded on the factory so at least stock is secured and dates can then be moved around in terms actual delivery. As with any tight supply situation encountered over the years, there is always a risk of counterfeit parts entering the market, so be acutely aware of emails being received from buying houses claiming to have genuine stock on hand.





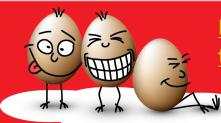






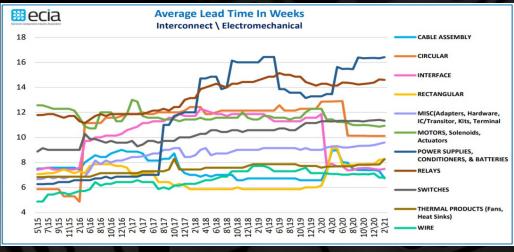
What is Causing the Supply Chain Issues?

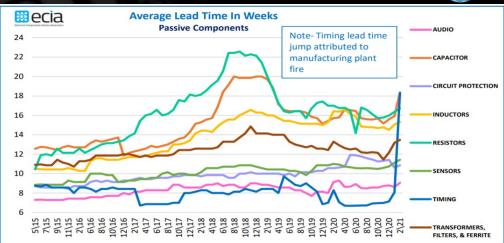
- On Tuesday, GM said that it would extend production cuts in the U.S, Canada, and Mexico until the middle of March. They join a long list of major automakers, including Ford, Honda and Fiat Chrysler, which have warned investors or slowed vehicle production because of the chip shortage. But it's not just the automotive industry that's struggling to get enough semiconductors to build their products. AMD and Qualcomm, which sell chips to most of the top electronics firms, have noted the shortage in recent weeks.
- Chips are likely to remain in short supply in coming months as demand remains higher than ever. The Semiconductor Industry Association said in December that global chip sales would grow 8.4% in 2021 from 2020's total of \$433 billion. That's up from 5.1% growth between 2019 and 2020 a notable jump, given how large the absolute numbers are.
- Last year, the U.S. placed restrictions on Semiconductor Manufacturing International (SMIC), the largest foundry in China, barring it from getting advanced chip manufacturing equipment, and making it much harder to sell its finished products to companies with U.S. ties. Customers needed to shift their orders to competitors like TSMC. SMIC executives appeared to acknowledge that the U.S. move has prevented it from using its full capacity when it said geopolitical factors would prevent it from seizing "this year's rare market opportunity," referring to the chip shortage.

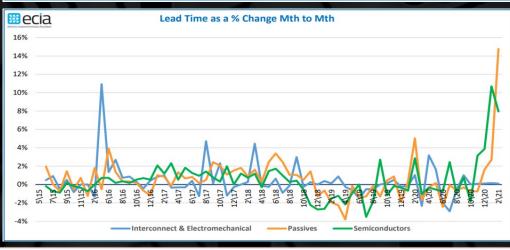


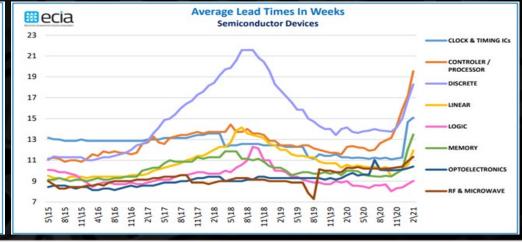


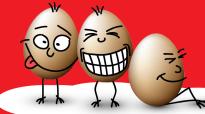






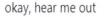


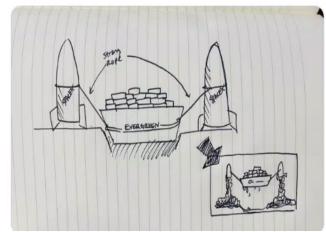
















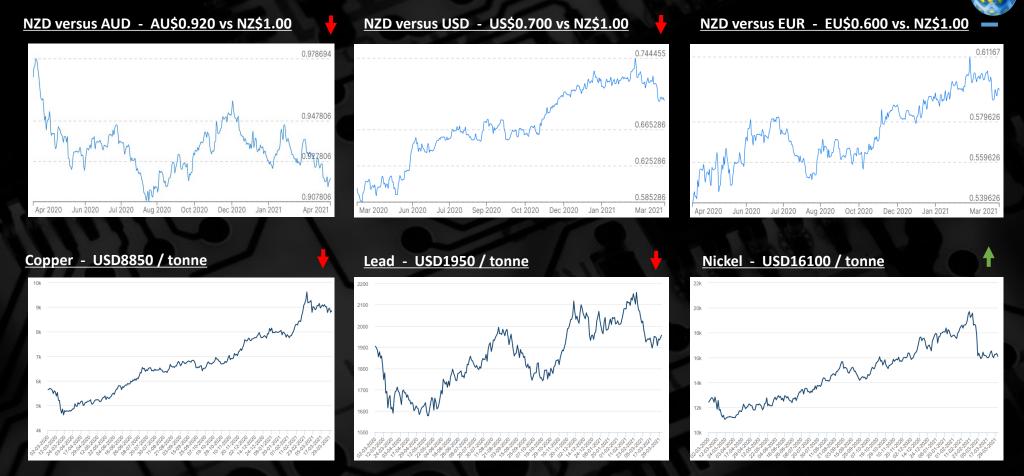


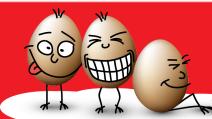














This Month in Tech History...

<u>April 11, 1936</u> – German civil engineer and early computer pioneer Konrad Zuse files for a patent on the automatic execution of calculations, a process that will become central to the Z-1, Germany's first computer.

<u>April 3, 1966</u> – The Soviet space probe Luna 10 becomes the first spacecraft to orbit around the Moon. It was launched by the USSR from an Earth orbiting platform on March 31, 1966. Luna 10's battery will operate for 460 lunar orbits before deactivating as planned on May 30, 1966.

<u>April 1, 1976</u> – If you are one of the millions of devout Apple users, this day in history is what made all or your favorite gadgets possible. On April 1, 1976, the Apple Computer Company was incorporated by Steve Jobs and Steve Wozniak.

March 15, 1985 - The first Internet domain symbolics.com is registered by Symbolics, a Massachusetts computer company.

<u>April 18, 1983</u> – Osborne Computer introduces the "Osborne Executive" portable computer, featuring 128KB RAM, a 7-inch amber monitor, a detachable keyboard, and two 204KB 5.25-inch disk drives at a price of USD2,495. Weight: 28lb (nearly 13KG!).

April 30, 1993 – At the urging of Tim Berners-Lee, the creator of the World Wide Web protocol, the directors of CERN release the source code of the World Wide Web into the public domain, making it freely available to anyone, without licensing fees. The decision to make the World Wide Web software and protocols freely available is considered by some as possibly the single most important moment in the history of the Internet. In fact, some historians mark this as the birth of the Web.

April 13, 2000 – The heavy metal group Metallica sues Napster, alleging copyright infringement and racketeering. This lawsuit, later joined by Dr. Dre, as well as other lawsuits from the RIAA, eventually caused the original Napster service to shut down and file bankruptcy. However, the Pandora's Box that Napster opened could not be closed and digital distribution changed the music industry forever.

April 1, 2004 – Google launches Gmail, as an invitation-only beta. The launch was initially met with wide-spread skepticism due to Google's long-standing tradition of April Fools' jokes. Google's press release said: "Google Gets the Message and Launches Gmail. A user complaint about existing email services lead Google to create search-based Webmail. Search is number two online activity and email is number one: 'Heck, Yeah,' said Google Founders." Gmail officially exited beta status on July 7, 2009 at which time it had 170 million users worldwide. On February 1, 2016, Google announced Gmail has more than 1 billion active monthly users.

