

Week Ahead Economic Preview

Fed FOMC, Bank of Japan meetings in focus

The highly anticipated Federal Open Market Committee (FOMC) meeting will take place alongside central bank meetings in Japan, Taiwan and Indonesia in the coming week. At the same time, retail sales and industrial production data will be due from the US, eurozone and China, as well as employment and inflation data from the UK, the latter especially keenly awaited following the recent rise in price pressures seen in the US and China.

Without a doubt, the June 15-16 FOMC meeting will be the key focus in the coming week with the Fed having spent more time of late talking about their intention to start talking about tapering. Whether the Fed will let the market down easy will be scrutinised with the upcoming June meeting.

For fear of sounding like a broken record at this point, recent US data including PMIs have reflected <u>improving economic conditions and confidence</u>. At the same time, price pressures have built, pointing in the direction of tapering. In turn, markets have been caught in a bind between celebrating the positive economic surprises and the growing possibility of sooner than previously anticipated tapering. While guidance is awaited, one should not be surprised to find market watchers holding their breaths ahead of the meeting.

Separately, Asia central banks are expected to stay on hold, grappling with lingering COVID-19 implications. The further flow of data will, however, be of interest to assess economic conditions across the regions.

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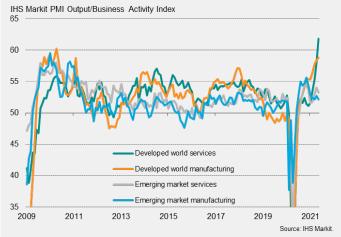
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Global output growth rates diverge

The worldwide PMI data for May highlighted the divergence between booming economies in the US and Europe, where vaccination progress has been high, and sluggish performances in Asia and many emerging markets where progress has been slow.

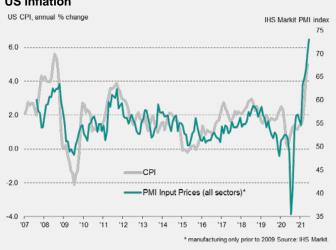
Developed vs emerging market PMI performance



Inflation spikes higher in the US

Varying economic growth rates potentially have big implications for monetary policy divergences around the world, especially as economic growth spurts are being accompanied by rising inflation, most notably in the US. US inflation followed the IHS Markit PMI data higher in May, climbing to 5.0%, its highest snice 2008.

US inflation





Key diary events

Monday 14 Jun

Australia, China, Hong Kong, Taiwan Market Holiday Singapore Unemployment Rate (Q2) Japan Industrial Output (Apr) India WPI, CPI Inflation (May) Eurozone Industrial Production (Apr) United Kingdom NatWest Regional PMI*

Tuesday 15 Jun

EU-US Summit

Australia RBA meeting minutes (Jun)

South Korea Trade Balance (May)

Australia Home Price Index (Q1)

Indonesia Trade Balance (May)

Germany CPI (May, final)

United Kingdom Labour Market Report, incl. Unemployment, Employment, Vacancies and Wages (May)

United States NY Fed Manufacturing (Jun)

United States PPI, Retail Sales, Industrial Production (May)

United States Business Inventories (Apr)

US NAHB Housing Market Index (Jun)

Wednesday 16 Jun

New Zealand Current Account (Q1)

Japan Machinery Orders (Apr)

Japan Trade Balance (May)

China (Mainland) Retail Sales, Industrial Output, Urban Investment (May)

United Kingdom inflation (May)

United States Building Permits, Housing Starts (May)

Canada CPI (May)

Canada Wholesale Trade MM (Apr)

United States Fed Funds Target Rate (16 Jun)

Thursday 17 Jun

New Zealand GDP (Q1)

Singapore Non-Oil Exports (May)

Australia Employment, Unemployment Rate (May)

Indonesia 7-Day Reverse Repo (Jun)

Taiwan Discount Rate (Q2)

Eurozone HICP (May, final)

United States Initial Jobless Claims

Friday 4 Jun

Japan BOJ Rate Decision (18 Jun)

Japan CPI (May)

Germany Producer Prices (May)

United Kingdom Retail Sales (May)

* Press releases of indices produced by IHS Markit and relevant sponsors can be found here.

What to watch

FOMC meeting

The Federal Open Market Committee (FOMC) meeting will be held June 15-16 with the statement and press conference to follow. The Fed has suggested they may begin discussing the tapering of asset purchases. Improvement in US economic conditions and increasing price pressures continue to propel the US central bank in the direction of removing accommodative policies, with consumers leading the upturn. IHS Markit continues to see the likelihood of tapering in 2022 and interest rates lift off only in mid-2024.

US May retail sales, industrial production

The US May retail sales and industrial production updates will also be due next week. Consensus estimates currently points to continued growth for industrial production, but retail sales growth may ease.

Bank of Japan meeting

The Bank of Japan (BOJ) meets June 17-18 with no change to monetary policy expected for an extended period amid the continued fight against COVID-19. Sluggish vaccine progress while the <u>Japanese economy remain weakened</u> by the latest virus wave places the focus on how the BOJ will balance its pandemic-era lending measures instead. The extended containment measures compel the likelihood for a short-term extension, one to watch.

China May retail sales, industrial production data

Retail sales, industrial production and urban fixed asset investment data will be out from China following the trade and inflation data which deviated from consensus. After the strongest factory gate inflation in almost 13 years, it will be interesting to see how production fared. The Caixin China General Manufacturing PMI, compiled by IHS Markit, showed output growth softened in May amid supply constraints and higher input costs. Refinitiv consensus currently points to a lower year-on-year reading for the release. Retail sales are similarly expected to soften, in line with the slower expansion seen in the Caixin China General Services PMI.

UK labour market, retail and inflation updates

With increasing number of analysts forecasting an earlier withdrawal of stimulus from the Bank of England amid signs of a post-lockdown record surge in the economy, the official labour market, retail sales and inflation numbers will be eagerly assessed for policy signals, and strong readings could further boost sterling.

Special report:

Global electronics | Rajiv Biswas | page 4



Recent PMI and economic analysis from IHS Markit

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Global	Global manufacturing PMI highlights sustained supply constraints and price pressures	2-Jun	Jingyi Pan
	Sustained recovery in global trade – Latest Observations in the Top Ten Economies	26-May	Tomasz Brodzicki, Ph.D.
	US and European growth surges as economies reopen, but Japan slides back into contraction	21-May	Chris Williamson
	Use-case illustrations for PMI by IHS Markit	17-May	IHS Markit
	New case studies in active PMI™ investment strategies in Japan and the US	17-May	Eliot Kerr, Paul Smith, Ph.D., Sian Jones
US	US Sector PMI shows improvement in consumer confidence	10-Jun	Jingyi Pan
	US PMI surveys signal record growth as economic recovery shifts up a gear	3-Jun	Chris Williamson
Europe	<u>Eurozone manufacturing PMI hits record high for third</u> <u>straight month</u>	1-Jun	Chris Williamson
	<u>Eurozone economy revives as demand surges at fastest</u> rate for 15 years	21-May	Chris Williamson
	Flash UK PMI hits record high in May as economy reopens	21-May	Chris Williamson
	Why the recent jump in eurozone inflation has not changed the monetary policy outlook	18-May	Ken Wattret
APAC	Philippines remains mired in recession due to latest Covid-19 wave	28-May	Rajiv Biswas
	Flash Japan Composite PMI signals economy back in contraction amid virus wave	21-May	Jingyi Pan
	Flash Australia PMI price gauges hit new highs as economy continues to revive	21-May	Jingyi Pan
Commodities	Weekly Pricing Pulse: Commodity prices continue retreat	2-Jun	Michael Dall

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Special Focus

Global electronics orders buoyant amid sharply rising input prices

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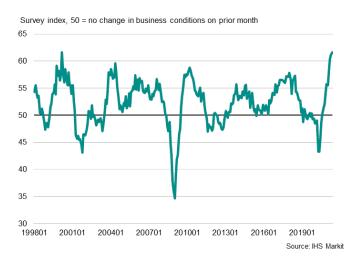
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The latest IHS Markit Global Electronics Purchasing Managers' Index (PMI) for May reached the highest level recorded in 23 years, boosted by buoyant demand in key markets. Rebounding consumer spending and industrial production in key economies, notably the US, China, EU and UK, is helping to drive demand for a wide range of electronics products.

However, the strength of global electronics demand is continuing to exacerbate semiconductors shortages for some manufacturing industries, notably the global automotive sector.

Supply chain disruptions to semiconductors production have also impacted on the situation. The new Covid-19 wave in Taiwan has increased risks of potential supply chain disruptions at semiconductors plants impacted by Covid clusters. Meanwhile the latest IHS Markit Global Electronics PMI survey shows evidence of sharp increases in electronics industry input prices as well as output prices, mainly due to shortages of essential raw materials.

IHS Markit Global Electronics PMI



Global electronics industry continues to strengthen

The headline IHS Markit Global Electronics PMI rose to 61.6 in May from 61.0 in April, signalling continued rapid expansion in the global electronics industry. The latest reading pointed to the strongest operating conditions in the global electronics sector for 23 years, driven by buoyant output and new orders.

Key factors supporting this positive momentum are the continuing rebound in world consumer markets, notably in the US, China and Western Europe. This is resulting in buoyant growth in household spending on electronics products as well as products that are intensive users of electronics, notably autos.

In the US, the Biden Administration's USD 1.9 trillion fiscal stimulus package has already resulted in stimulus checks for 160 million households, helping to sharply boost March personal incomes and driving a jump in private consumption spending. US consumer sentiment is also being boosted by the rapid vaccination rollout and declining new Covid-19 cases, as well as the recovery in the US labour market and rising wages. Retail sales in electronics and appliance stores leapt by 10.5% month-on-month in March 2021. In China, retail sales have also shown significant normalization, with improving momentum in the first quarter of 2021. Meanwhile the strong rebound in global manufacturing output is also helping to drive demand for industrial electronics products.

The IHS Markit Global Electronics PMI new orders index rose from a low of 35.0 in May 2020 to a level of 61.9 in April 2021, rising further to 63.3 in May 2021. New orders in May showed the fastest pace of expansion since May 2004, and were the fourth-fastest pace of expansion since the survey series began 23 years ago.

IHS Markit Global Electronics PMI, output and new order inflows

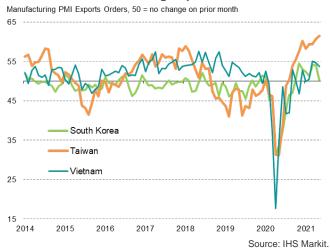




Due to the importance of electronics in the manufacturing industries of many East Asian economies, the rebound in global electronics demand has been reflected in the recent industrial production and exports data for many economies, including mainland China, South Korea, Vietnam and Taiwan.

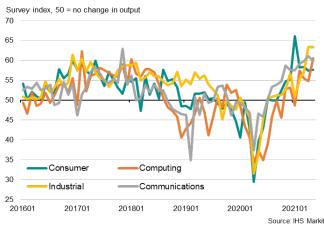
The electronics sector rebound is making an important contribution to the recovery of manufacturing exports and industrial production in many East Asian industrial economies. The electronics manufacturing industry is an important part of the manufacturing export sector for many Asian economies, including South Korea, China, Japan, Malaysia, Singapore, Philippines, Taiwan, Thailand and Vietnam. Furthermore, the electronics supply chain is highly integrated across different economies in East Asia.

East Asian manufacturing exports



All four monitored sub-sectors of the electronics industry showed continued robust expansion in May, according to the IHS Markit Global Electronics survey, with very strong growth in the industrial, communications and computing segments.

Global electronics PMI, output by sector

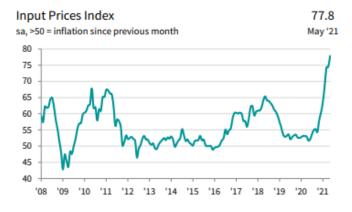


Sharply rising electronics input pricing pressures

The rapid rise in electronics production has also triggered a sharp upturn in raw materials input prices for electronics firms during the first five months of 2021. The IHS Markit Global Electronics PMI Input Prices Index has surged further in the latest survey, rising from 72.8 in April to 77.8 in May. Notably, the rate of input price inflation for electronics firms was the one of the fastest recorded since data collection began in January 1998. The rate of input price inflation is the quickest since the PMI series began in January 1998. Companies that were surveyed overwhelmingly linked raw material shortages to rising prices.

Reflecting the sharp increases in input prices, the IHS Markit Global Electronics PMI Output Price Index rose from 60.1 in April to 62.1 in May.

IHS Markit Global Electronics PMI Price Indices





The near-term pricing outlook for the remainder of 2021 according to IHS Markit Pricing & Purchasing analysis for semiconductors and components generally is that supply shortages are likely to continue to translate into price escalation. Printed circuit board assemblies are the most severely affected, but semiconductors, bare



printed circuit boards, resistors, capacitors, and connectors are all expected to see price pressures. (See "Prices: Pricing Analysis – Semiconductors", by IHS Markit Pricing & Purchasing, 1st April 2021.)

In 2022, according to IHS Markit Pricing & Purchasing, moderating demand for electronic components and improving semiconductors production is expected to bring supply and demand closer to balance and lead to some price relief. Specific categories will show some resilience in pricing given the changing demand landscape. For example, the expansion of electronics in light vehicles will keep pressure on certain commodity electronic components.

Global auto manufacturers as well as smartphone producers are among the industry segments that have been impacted by semiconductors shortages. According to IHS Markit Automotive research, vehicle manufacturers are finding increased disruption to the supply of systems using semiconductors in the first four months of 2021. Many automakers worldwide have reported disruptions to production due to shortages of semiconductors, including Ford, VW Group, GM, Honda and Mazda.

According to IHS Markit Automotive research, reports of disruption within the supply chain of semiconductors to the automotive sector began in late 2020 and have continued into the second quarter of 2021. (see IHS Markit Automotive, 7th June 2021, "Semiconductor Supply Issue: Light Vehicle Production Tracker").

The extent of the shortages of critical electronics components has become so severe that high level consultations have been held involving key industry bodies as well as government officials from major industrial economies including the US and Germany. Technology companies including semiconductors manufacturing firms participated in the White House Summit on 12th April on semiconductors shortages and supply chain vulnerabilities.

Global semiconductors shortages have also been impacted by temporary supply disruptions to semiconductors production in Texas due to power outages in February as a result of severe weather, as well as production disruptions in Japan due to a fire in a Renesas Electronics semiconductors plant in mid-March.

Chip stockpiling during 2020 due to US government sanctions on certain Chinese technology companies have also contributed to the shortages. Global auto manufacturers as well as smartphone producers are among the industry segments that have been impacted by these shortages. The US Department of Commerce added seven Chinese supercomputing firms to its entity list in early April 2021.

Mainland China's electronics exports surge

China's exports for May 2021 period continued to show rapid growth, rising by 27.9% y/y according to trade data from China's General Administration of Customs. This reflected continued robust global demand for electronics and PPE equipment.

China's electronics exports were up 31.9% y/y in the January-May 2021 period, as global electronics demand has risen strongly due to the global shift to remote working and online shopping. This has resulted in surging demand for consumer electronics products such as laptops, mobile phones and wearables.

China's exports of LCD panels in value terms were up 52.4% y/y in the first four months of 2021, while exports of integrated circuits were up 33.4% y/y. Exports of mobile phones rose by 45.9% y/y in the same period.

Buoyant South Korean electronics exports

The South Korean Ministry of Trade, Industry and Energy announced that South Korea's total exports rose at a very rapid pace of 45.6% y/y in May, following an increase of 41% y/y in April.

Exports of semiconductors rose by 24.5% y/y in May, the 11th consecutive month of expansion. Semiconductors exports have been helped by stronger global demand for memory chips for mobile phones and for data centers. Memory chip prices have been rising due to the prolonged global supply shortage.

South Korea's Ministry of Trade, Industry and Energy has projected that South Korean semiconductors exports in 2021 will rise by around 10% to USD 109 billion, due to buoyant global demand for electronics products.

With significant shortages of semiconductors having become evident globally during the first half of 2021, this is expected to further boost South Korean semiconductors exports during 2021.

Taiwan faces semiconductors shortages and Covid disruptions

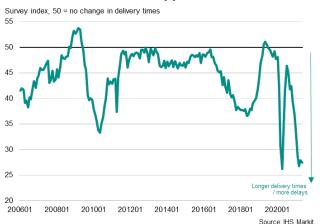
Taiwan's exports have risen at a very rapid pace during the first four months of 2021, helped by strong demand for electronics. In April, total exports rose by 38.7% y/y,



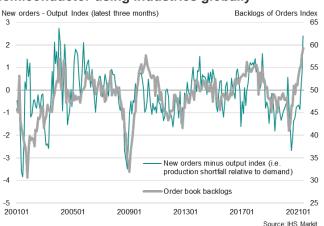
with semiconductors exports up 34.9% y/y. Total electronics components, which accounted for 38.6% of total exports, were up 34% y/y.

Due to the new Covid-19 outbreak that has occurred in Taiwan during May and June, electronics production has already faced some impact effects. The King Yuan Electronics Co (KYEC) chip-testing plant shut down temporarily in early June due to a Covid cluster among workers on its factory floor, although operations resumed within days, using other staff. Another chiptesting firm, Greatek Electronics, has also been impacted by a Covid cluster in its facility. With Taiwan currently continuing to be affected by a continuing Covid-19 wave, this poses a potential risk that other electronics plants could face disruptions until the Covid wave can be brought under control.

Global electronics PMI, supplier lead times



Shortages of inputs have constrained output in semiconductor using industries globally



The global shortage of semiconductors has driven up capital expenditure plans, with Taiwan's TSMC, the world's largest chipmaker, having announced plans to increase capital spending on production and development of advanced chips to a range of USD 25

billion to USD 28 billion in 2021, a 60% increase on 2020. Taiwan's USMC, which also manufactures chips, plans to lift spending on new capital equipment by around 50% in 2021.

However, a positive development has been the easing of drought conditions due to recent rainfall. In recent months, Taiwan had faced a risk to semiconductors production due to a severe drought impacting on the economy and resulted in water restrictions in some areas, including in a region that is a key hub for semiconductors manufacturing. With the onset of summer seasonal rains, this risk has now abated.

ASEAN electronics exports rebound

Due to importance of the electronics sector for the manufacturing sectors of many ASEAN nations, the global rebound in electronics demand has been reflected in large increases in electronics exports from a number of ASEAN nations.

Singapore's domestically manufactured electronics exports rose by 10.9% y/y in April, after expanding at a pace of 24.4% y/y in March 2021. In April, electronics exports to the EU were up 8.5% y/y, while electronics exports to South Korea were up by 13% y/y.

In Vietnam, exports of computers, electrical equipment and parts rose by 31% y/y in the first quarter of 2021, as global demand for computer equipment surged due to the pandemic and the shift towards remote working by workers worldwide. Exports of these products to the US were buoyant, rising by 46% y/y, while exports to the EU rose by 39% y/y. Exports of mobile phones and other telephone equipment soared by 12% y/y, with exports of mobile phones and components to China rising by 63% y/y.

In Malaysia, exports of electrical and electronic products, which accounted for 34.8% of total merchandise exports, have been extremely strong, up 47% y/y in March, followed by an increase of 42% y/y in April.

India: Covid-19 pandemic disruptions

In India, the severe escalation of the Covid-19 pandemic since March 2021 has impacted on industrial production in the electronics sector. Global electronics firms have significantly increased their manufacturing capacity in India in recent years, notably for mobile phones.

However, the high level of daily new cases across India is having some impact on electronics production. The Foxconn iPhone12 factory in Tamil Nadu was reported in May to have cut production temporarily by 50% for health safety reasons due to Covid-19 cases. Other



global electronics multinationals that have built up their presence in India in recent years include Samsung and Wistron. Wistron is reported to have also temporarily stopped production at an electronics Indian plant for Covid disinfection.

With the pandemic still raging in India, the near-term outlook remains uncertain with lockdowns having been put in place in many Indian states and cities.

Semiconductors: strategic response by US and EU

The extent of the shortages of semiconductors has become so severe during the first half of 2021 that high level consultations have been held involving key industry bodies as well as government officials from major industrial economies including the US and Germany. On 24th February, US President Biden signed an executive order for a US government review of US supply chain vulnerability for critical materials, including for semiconductors. In the US, President Biden's new executive order will trigger a review of US supply chain vulnerability to semiconductors.

On 12th April, President Biden also held a White House Summit on semiconductors shortages with 19 technology firms, including Taiwan's TSMC and South Korea's Samsung Electronics. The Biden Administration plans to increase domestic semiconductors capacity, with spending measures contained in the proposed USD 2 trillion infrastructure plan to boost domestic semiconductors manufacturing and R&D.

In 2020, Taiwan's TSMC announced plans to invest USD 12 billion in a large new semiconductors plant to be built in Arizona for making advanced 5-nanometer fab. Construction is expected to start in 2021 while production of semiconductors is expected by 2024. Intel also announced plans in March 2021 to spend USD 20 billion to build two new semiconductors plants in Arizona. These major announcements signal that US semiconductors output will rise significantly over the medium-term, helping to address supply chain vulnerabilities.

In the European Union (EU), the European Commission has set a goal to double semiconductors production within the EU from 10% of world production in 2020 to a projected 20% of world production by 2030, as part of the 2030 Digital Compass Plan. A key strategic priority identified by the European Commission is to reduce dependence on Asian sourcing for advanced chip fabrication, reflecting concerns about geopolitical risks and potential supply chain vulnerabilities for the EU

manufacturing industry. The EU plans to strengthen its manufacturing capabilities in advanced semiconductors technology through large-scale investment as part of the European Recovery and Resilience Facility under the Digital Transition program.

Meanwhile mainland China, whose manufacturing sector is still heavily reliant on imported semiconductors, is also trying to strengthen its own domestic semiconductors manufacturing capabilities. Mainland China imported USD 350 billion of semiconductors in 2020, up 14.6%y/y. Boosting domestic manufacturing capacity for semiconductors is an important policy priority for the Chinese Government's 14th Five-Year Plan that runs for the 2021-2025 period. An estimated USD 150 billion has already been invested by the Chinese government in developing its semiconductors industry, with further investment planned for the development of the domestic semiconductors industry as part of the USD 1.4 trillion to be invested in strategic industries, which includes designated semiconductors, under the 14th Five Year Plan.

APAC electronics sector outlook

During the first half of 2021, global electronics demand has shown a strong rebound from the lows of the first half of 2020, when lockdowns disrupted production and consumer spending. With improving economic recovery underway in the US and EU as Covid-19 vaccines are progressively rolled out, demand for electronics products is expected to be strong during 2021.

The impact of the pandemic has accelerated the pace of digital transformation due to the global shift to working remotely, which has boosted demand for electronic devices such as computers, printers and mobile phones. The easing of lockdowns in many countries has also triggered a rebound in consumer spending, helping to boost demand for a wide range of consumer electronics. Spending on consumer electronics has also been boosted by fiscal stimulus measures in many OECD countries that have provided significant pandemic relief payments to support households in many large economies, including the US, UK, Japan and Australia. Meanwhile auto demand has also shown a rebound after slumping during the first half of 2020, which is boosting demand for auto electronics, albeit contributing to intensifying supply-side problems related to semiconductors shortages.

The medium-term economic outlook is also supportive for the electronics industry, with sustained strong world economic growth forecast over 2022-2024.



With shortages of semiconductors disrupting manufacturing supply chains in early 2021, the importance of having domestic electronics production capacity for critical electronics components has become a national priority for major industrial nations, including the US, EU and China. For the US and EU, reducing reliance on Asian semiconductors production has become a key strategic priority over the next decade.

A key risk is excessive global vulnerability to semiconductors supply from South Korea and Taiwan, which are major electronics production hubs but also potential geopolitical flashpoints in the Asia-Pacific region. Military tensions in the Taiwan Strait and South China Sea have escalated during the first half of 2021, highlighting these vulnerabilities.

The outlook for electronics demand is also supported by major technological developments, including 5G rollout

over the next five years, which will drive demand for 5G mobile phones. Demand for industrial electronics is also expected to grow rapidly over the medium term, helped by Industry 4.0, as industrial automation and the Internet of Things boosts rapidly growth in demand for industrial electronics.

Competition amongst leading technology nations in strategic electronics production has also intensified. Consequently strategic global competition amongst the world's leading high-technology nations is also likely to play a greater role in reshaping the global electronics industry landscape over the next decade.