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ASSOCIATIONS

AREI - South Africa

Association of Representatives
for Electronics Industry

ASPEC - Russia

Association of Suppliers of
Electronic Components

ASSODEL - Italy

Associazione Nazionale Fornitori Elettronica

CEDA - China

China Electronics Distributor Alliance

ECAANZ - Australia

Electronic Components Association
Australia and New Zealand

ECIA - United States

Electronic Components Industry Association

ECSN - United Kingdom

Electronic Components Supply Network

ELCINA - India

Electronic Industries Association of India

ELKOMIT - Finland

Suppliers of Electronic Instruments and Compo-
nents Association

FBDI - Germany

Fachverband der Bauelemente Distribution

FEDELEC - Tunisia

Tunisian Federation of Electric
and Electronic Industries

SE - Sweden

Svensk Elektronik Trade Associations

SPDEI - France

Syndicat Professionnel de la Distribution
en Electronique Industrielle

Supply interrupted, bright future ahead

In 2017 German distributors reported record sales of 3.6 billion euros – and business continued to perform well in the first quarter of 2018.

On the other hand, there is cost pressure, a risk of shortages and a global political situation that is becoming increasingly complicated.

*How are distribution specialists experiencing this? **Georg Steinberger**, Chairman of the Board of Directors of the FBDi (German Components Distribution Association) speaks up.*

by FBDI



1. The disagreements regarding trade policy at the G7 summit were very apparent. How heavily is the unpredictability of foreign policy felt in the distribution business?

The effect of foreign policy on the distribution business is somewhat overstated at the moment.

For instance, we thought that the **Brexit debate** would significantly affect our market, but to date there has been no such turn.

The trade and customs dispute with the USA is also unlikely to have much of an immediate impact on our business.

While the automotive industry may potentially be affected by the threat of punitive tariffs, other industries are not likely to be.

Ultimately, many products that Germany exports are of such high quality that they cannot be replaced on a whim.

If there does happen to be an impact on the automotive industry, this could filter down to the general component market, but it is hard to make a direct link between the political aspect and the distribution business.

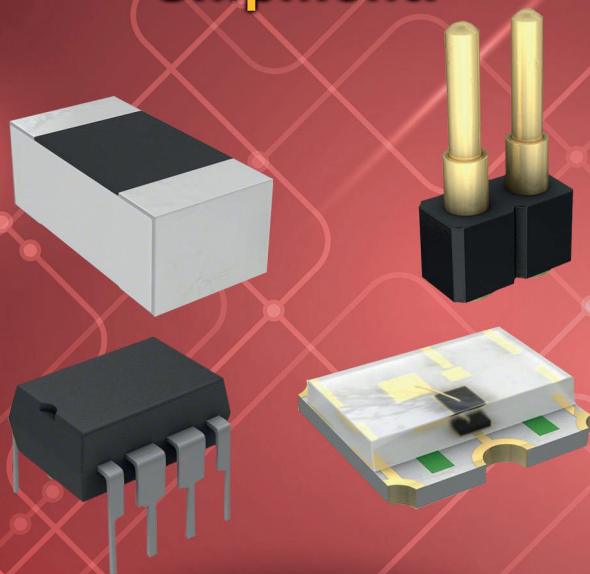


Steinberger Georg, Chairman of the Board of Directors of the FBDi

What could certainly contribute to unpredictability in the semiconductor market is the fact that more than half of the associated business is nowadays conducted in China.

Consumer-driven companies such as Apple and major contract manufacturers such as **Foxconn** have considerable sway over the market. If demand for components among customers of this calibre rises enormously,

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this could certainly adversely impact availability in Europe or America.

2. The supply situation of late has been very tense. What has caused this?

There are several factors responsible. Firstly, there is strong demand among customers in all segments, something which is noticeable worldwide. A huge impact comes from the consumer business – PC, smartphones or tablets for example. The sector is currently undergoing a generation change, which has a massive impact on component demand, whether for semiconductors or passive components. Market researchers studying the business for passive components and semiconductors also expect demand to remain constant for the coming years.

They believe that too little has been invested in new capacities in recent years. In light of the enormous capital expenditure required to construct new production facilities, this is somewhat understandable. A new 300mm wafer fab plant can cost between **5 and 6 billion dollars** – an enormous risk when it is impossible to tell whether demand will continue to rise in the long term. That said, the current shortage is certainly partly by design of the manufacturers. Additionally, the numerous acquisitions over recent years have resulted in many components no longer being available as a result of the

ensuing portfolio streamlining. The general view is that the effects of new investments are only likely to be felt next year at the earliest.

3. 2017 was, in terms of revenue, a good year for German distributors. What do you anticipate for 2018?

Revenue rose by around 7% in the first quarter of 2018.

The general expectation is the growth to be in that ballpark for the rest of the year. We have observed manufacturers increasing prices, which has accounted for part of the growth. However, we must also expect availability to limit growth somewhat. Growth in the mid-single digit sounds realistic against this backdrop.

“The distribution model will change forever”

4. Which topics will be important for distribution in the near future?

The same topics we know from recent years. The **Internet of Things** has since become part of the mainstream; internet connectivity and data analysis is demanded in practically all applications. This will surely remain a key topic that we will continuously need to address. And it is happening everywhere, in all vertical segments, whether in medical engineering, industrial automation or the automotive industry.



The topics of **energy** and **energy efficiency** continue to be of interest. Wherever we look, the share of electronics (and the associated software) continues to rise. The same applies to everything that is related to convenience, health, safety and security. **Electric cars** with their substantial semiconductor presence would be easy prey for us distributors, but the topic is lacking something in momentum right now. The problems surrounding **intellectual property** will also shape the market, and in this connection, so will availability. If a customer develops a design with a certain product today, in two thirds of cases it will be an exclusive product of a certain manufacturer. There are barely any second sources to fall back on. So once you have your design, it is basically a case of in for a penny, in for a

pound, with real alternatives – unless you undergo a complex redesign. That is the technology side.

“Our politics should focus more on the virtues of European unity”

On the process side, we will see and feel an increased dynamics in further **digitization of business processes**.

The distribution model will change forever, with a lot of new opportunities in terms of services and interaction.

5. What would you hope from the political arena? What tweaks do you believe are necessary?

The fundamental problem is that European unity, which the European Union is meant to symbolise, is being generally called into question.

From an economic perspective, the EU is a blessing. It has achieved much in financial policy

and international trade. I consider the legislative processes in Brussels to be positive, because they harmonise the many individual processes. It is better to have a single body of international legislation as opposed to 28 law-making institutions all addressing the same topics. Instead of yielding every time populists questioning the existence of the EU, European politics should be focusing more on the virtues of European unity and not simply constantly saying “*we’re Europeans, but...*”. The basic rule of communication is that anything before a “but” is a lie. These politicians should stop “playing around” and stand up for Europe.

News

by SPDEI



The electronic supply chain finalises its projects!

The unions of the electronic branch of the **FIEEC - SPDEI, ACSIEL and Snese** - continue their work in connection with the Ministry of Economy in order to obtain a **strategic Sector Committee (CSF)** dedicated to the electronic industry. This CSF would intend to carry out a wide range of structuring projects on all the key topics of the sector: industrialisation, training, internationalization... The goal is to obtain the CSF label by this summer. Then there would be the time to draft the roadmap which will set the different timeframes and deliverables expected. The formation of this CSF, beyond the strong recognition it would give to the sector, would represent an important opportunity to strengthen the dynamism of the electronic companies and to enable France to retain its Technological leadership and its know-how. The SPDEI is more involved than ever in this project. This CSF would be a historic moment for the profession!



CEDA Update: Suppliers & Distributors Executive workshop

by Amy Wang
CEDA



To enhance cooperation between semiconductor suppliers and authorized distributors, **CEDA** recently conducted two executive workshop in **Shanghai** and **Nanjing**. Attendees for these two workshop were executives from semiconductor suppliers, authorized distributors, OEM/EMS and design houses.



June 28, CEDA Quarterly Executive Workshop (Nanjing)

2018人工智能与物联网嵌入式安全方案论坛暨集成电路和授权渠道高层交流会在南京成功召开！

2018集成电路&核心元件创新应用及授权渠道高层交流会近日在南京江北新区创智大厦成功召开。活动是由中国信息产业商会电子分销商分会（CEDA），与南京集成电路产业服务中心，南京市集成电路行业协会共同举办，中电网络技术有限公司（我爱方案网）承办，感谢支持单位无锡“感知中国”物联网商会，快包-AI&物联网开发外包平台，电子元件技术网！通过整合高层资源，加强战略合作，共建创新生态，深入探讨中国集成电路创新发展之路！

June 26, CEDA Executive Workshop (Shanghai) CEDA上海0626新闻稿

2018集成电路&核心元件创新应用及授权渠道高层交流会在上海成功召开！

2018集成电路&核心元件创新应用及授权渠道高层交流会近日在上海浦东东长荣桂冠酒店成功召开。活动是由中国信息产业商会电子分销商分会（CEDA），与上海集成电路行业协会，上海集成电路产业与技术促进中心共同举办，中电网络技术有限公司（我爱方案网）承办，感谢支持单位上海vpi张江孵化器，快包-AI与物联网外包服务平台和电子元件技术网！通过整合高层资源，加强战略合作，共建创新生态，深入探讨中国集成电路创新发展之路！

上海集成电路行业协会原秘书长，高级顾问蒋守雷，CEDA秘书处负责人，中电网络技术有限公司副总王勤，华登国际的合伙人张聿，中电港副总方为民，上海移芯通信CEO熊海峰，苏州纳芯微的创始人王升杨，以及来自华硕中国，新蕾科技，科通，亚讯，好上好，新蕾科技，上海丰宝，芯智科技，信和达，吉利通，梦想电子，韦尔半导体，物格微电子，南京微盟，上海芯荣，联芯科技，步略科技，矽芯科技等高层参与了本次活动，分享成功案例，总结经验教训，共同努力，推动中国集成电路与核心元件的健康发展。

Fortronic: a full immersion in technology innovation

by Silvio Baronchelli
Assodel



Technological innovation, e-mobility and power electronics were the ingredients of the success of **Fortronic** (June 27-28 in Modena), which has been for over 20 years the premier meeting place for new technologies promoted by **Assodel** (the Italian Association of Electronics Clusters). The results of the first **Strategic Innovation Summit**, which took place on June 27th, were particularly good. With over 180 participants, the event accomplished its goal to be a point of reference for Italian managers, creating

Great success for the 15th edition of the Fortronic Power with more than 800 participants and Assodel Award assignment to the best manufacturers

a moment of inspiration with a special focus on the automotive sector, always a forerunner in the adoption of new technologies. Fortronic has been for over 20 years the Assodel meeting place for new technologies. Very positive results also for the 15th edition of the **Power Fortronic**, the Italian event of reference for those operating in power electronics (and not only).

“Fortronic has been for over 20 years Assodel meeting place for new technologies”

The event hosted 73 exhibitors in an area of 3,500 square meters with over 30 speeches including workshops, conferences and demo areas on the latest technologies and solutions available on the market.

ASSODEL AWARD 2018

During the Gala Dinner of June 27th, in the wonderful setting of Villa Cesi in Modena and at the presence of 300 managers of the electronic sector, the **Assodel Award** 2018 ceremony took place. The Assodel Award is the recognition that the association assigns to the best manufacturers of the Italian market. The votes from the electronic supply chain are assigned by using specific performance indicators such as technical and logistical support, effectiveness of communication and distribution policies.

Category Semiconductors

Winner: **Microsemi**

A long list of acquisitions – as PMC Sierra and Vitesse Semiconductors – bring Microsemi's product portfolio to cover a very broad spectrum of applications, from aerospace & defense to communication and industrial. Microsemi stands out in the FPGA (Field Programmable Gate Array) and the “power management” sector, especially with its SiC products.

Category IP&E

Winner: **Littelfuse**

Since 1927 the company quickly won the No. 1 position in the world of circuit protection. Today Littelfuse offers a wide and diversified portfolio of products such as fuses, varistors, temperature and magnetic sensors. Lately it has expanded its capacity by adding power semiconductors - with the acquisition of IXYS - and moving on to advanced technologies such as SiC.

Category Power

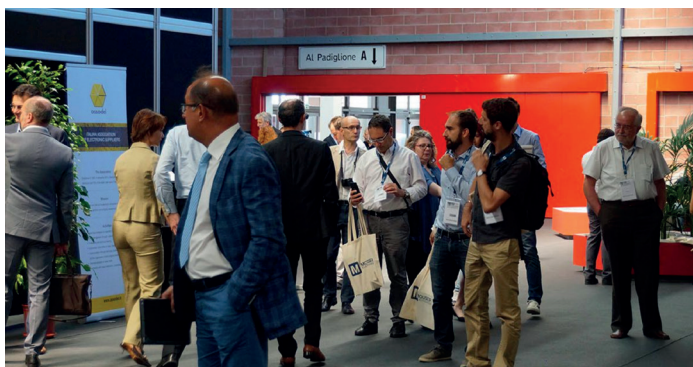
Winner: **StarPower**

StarPower is the leading Chinese manufacturer of semiconductor power modules which has always focused strongly on collaboration with the distribution channel. This to offer high quality products in an increasingly competitive market.

Category IoT

Winner: **AAEON**

A focus in the design and production of embedded and IoT solutions. An example of success is UP: a computer board (compatible with Raspberry Pi) for professional makers and industrial applications. The wide spectrum of its products and the extensive features allow it to cover all applications: from robotics to machine vision, from smart cars to digital signage.



Restricted MLCC supply focuses re-design activity...

by Adam Fletcher
ECSN



Passive components (capacitors, resistors, ferrites, coils and inductors) are essential for almost all electronic circuitry, but the machinations of this sector of the electronic components market are rarely discussed in the media, probably because the passive component market is considered to be boringly established and ultra-stable. Engineers, buyers and the wider electronics industry tend to focus their interest primarily on 'exciting' developments in microcontrollers and associated firmware and other technology that they can employ to differentiate their end equipment in their market. Passive components represent only a small proportion of the value in most **bills of material (BOM)** and in Europe and US only represent approximately 12% of total electronic components sales by revenue.

The case sizes of Multi-Layered Ceramic Capacitors (MLCC) available today are seemingly ever shrinking, which coupled with a long-term reduction in manufacturing capacity for legacy commodity products and manufacturer lead-times increasing dramatically is creating a supply headache for customers globally but particularly in the Europe and the US. In this update Adam Fletcher, chairman of the International Distribution of Electronics Association (IDEA) examines the current issues and suggests how they may be overcome...

Capacitor sales account for only 4% of sales by revenue of which approximately half are sales of ceramic capacitors.

"Passives manufacturing are facing new challenges in the market"

These figures are slightly higher than the global average of 3%, reflecting the lower manufacturing volumes and the greater use of legacy, larger case-sized more expensive MLCC's. The quantity of **Multi-Layered Ceramic Capacitors (MLCCs)** manufactured is staggering, easily into trillion's of devices per year but potential threats to their availability of are nothing new. Industry analysts, trade associations, manufacturers and their authorised distributors have been warning about shortages for years. The average quoted manufacturing lead-time for all MLCCs has been over 12 weeks since 2013 but leapt up to **18 weeks in 2017** and this year (2018) MLCC lead-times have further

extended in leaps and bounds.

I fear that **this situation will get worse**, especially for older legacy/commodity larger case size MLCCs and will probably reach a peak in mid-2019 before returning to more normal market conditions.

WHY IS THIS HAPPENING?

No passives manufacturing organisation has *"ownership"* of legacy commodity MLCCs in the merchant market, they merely add their available product onto the market and accept the market price. This has led to fierce price competition for many years, which has precipitated several **"boom and bust" cycles**. No surprise therefore that manufacturers have been reluctant to add new manufacturing capacity for legacy parts in the current growth cycle.

Instead passives manufacturers have invested heavily in research into improving the ceramic dielectric materials, electrolyte powders and pastes over the last twenty years which has dramatically

reduced the physical size of the devices, whilst increasing their performance and at the same time making many small sequential improvements to their manufacturing processes to increase yields.

The industry leaders are today offering MLCCs with over 1,000 interposing layers, substantially increasing the capacitance of the devices and at the same time boosting stability and reliability. The improved **price/performance ratio** has enabled engineers to replace many tantalum and electrolytic capacitors with better performing lower priced MLCC devices, enabling the sector to grow at a rate significantly faster than other types of capacitors.

DEMAND DRIVERS

Demand for MLCCs has been primarily driven by cellular mobile phones, Automotive, tablet PCs and LED/LCD TVs. Early generations of mobile phones used a mere 50 or so MLCCs but that has dramatically increased over the last 20 years. The iPhone X design employs more than 1000 MLCCs while more modest modern smartphones have more than 600. We've also seen huge growth in the integration of electronics within the automotive sector. Many internal combustion engine vehicles today use



more than 300 MLCCs in both “under the hood” (engine management) applications and in ‘passenger compartment’ applications spanning essential instrumentation, infotainment systems and even seat controls. However, this is probably the very tip of the iceberg, the latest Tesla models of electric cars have over **10,000 MLCCs per vehicle...!**

SMALLER CASE SIZES

The drive to smaller physical MLCC sizes is a compelling economic argument: It takes the same volume of processed dielectric material to produce a single “1206” case size MLCC as it does to produce 128 off “0402” case size MLCCs.

It is therefore obvious where manufacturers are concentrating their manufacturing capacity investment. In 2018 there has been an intersection in the quantities the two most commonly used MLCC case sizes. The almost 50% market share that has been enjoyed by the ‘0402’ for many years is today declining and the

device is being usurped by ‘0201’, with a growing >40% market share. But over the next 5 years the predominance of the ‘0201’ is likely to decline in favour of the ‘01005’, which already has 10% market share and is growing fast.

“Authorized distributors can support companies on how to proceed and avoid these problems”

Further, forward thinking designers should already be considering the ‘008004’, a device that is taking off rapidly and is already outselling ‘1206’, albeit that global demand for the 1206 is now small.

A BIGGER PROBLEM IN THE WEST?

Mobile phone companies are leading the drive to smaller MLCC case sizes. In addition to the relentless demand for ever thinner phones smaller devices are more suited to the highly automated PCB assembly lines today offered by their manufacturing partners who are primarily located in Asia-Pacific.

Lower manufacturing volumes in the US and Europe reflect a different mix of end products, which primarily target the industrial, medical, aerospace and automotive markets. Mobile phones are produced in extremely high volume but have a surprisingly short life-cycle. Conversely, the products primarily manufactured in US and Europe are produced in low or moderate volumes so end products often enjoy a **10-15-year lifecycle**. In addition, the formal process to approve changes is slow and arduous, which is why the demand for commodity legacy MLCCs in Western markets has remained fairly constant. But over the next few months it will unfortunately be necessary for design engineers to redesign and possibly requalify the equipment their company produces. This won’t be too much of a problem if the equipment manufactured is approaching the end of its lifecycle but could present

something of a headache if the equipment is scheduled to remain in production for several more years. At a minimum the largest MLCC case size they should specify for the redesign should be a ‘0201’ and to really guarantee availability in the longer term, a ‘01005’. Engineers could opt to migrate away from their ‘1206’ case MLCC to other capacitor technologies but this might only be a short-term solution as capacity constraints are looming in Tantalum capacitors too.

CONCLUSION

Not keeping an eye on what’s happening to availability in the passive components market means that organisations may be missing some important intelligence on what are considered “jelly bean” parts. Unfortunately a similar problem is now looming with **chip resistors** too... It is almost certain that doing nothing will inevitably result in some very expensive line stops at Western customers in 2019. The best quality information on how to proceed and avoid this looming problem is invariably available from **authorised distributors ‘applications’ teams** and I encourage all organisation to actively engage with their partners throughout their electronic components supply network to find the optimum solution.



Growing potential for strategic electronics sector in India

by Rajoo Goel
Elcina
www.elcina.com



India is the largest importer of defence equipment and buys three times as much as China and Pakistan. Large scale modernisation of defence forces of the country is on the anvil. The next decade is likely to see an exponential growth in combat systems as well as non-platform based defence strategic electronics programs. The value of these systems had been pegged at Rs **100,000 Crores** (approximately **US\$ 15.4 Billion**) for the 12th Plan (2012-2017).

These defence systems include, among others:

- Tactical Communication System (TCS)
- Battlefield Management Systems
- Network Centric Warfare System (NCW)
- Future Infantry Soldier as System (F-INSAS)
- Tank electronics (Upgrade

- programs included)
- Air Defence systems
 - Avionics, Navigation Equipment, Radars, Sonars
 - Night Vision Devices
 - Host of associated and embedded electronics

A STRATEGIC ELECTRONICS SECTOR

The **Strategic Electronics (SE)** sector in **Aerospace & Defence** presents an unprecedented opportunity as well as challenge for India. India's defence expenditure is among the world's top ten and thus is a big opportunity for Defence companies.

"India is the largest importer of defence equipment"

The Defence Capital Equipment Acquisition Budget of India is likely to grow to US\$ 14.1 Bn by 2021 with an indigenization content targeted @ 70% - US\$ 9.9 Bn. This indicates a **10% YoY growth** in the acquisition budget. The production of Strategic Electronics has been growing steadily from Rs. 18055 Crore (US\$ 2.75 Bn) in 2015-16 to Rs. 20,760 Crore (US\$ 3.20 Bn) during 2016-17, posting a YoY growth of 13.8%. The production figure for 2017-18 was forecasted at about Rs. 23,000 Cr (US\$ 3.50 Bn), with a CAGR of 13-13.5 %.

India's defence, aerospace and nuclear sectors are poised for substantial growth on the back of economic growth and the need to maintain national and energy security. The role of IT in defence is expanding with the new focus on **cyber security**. The Indian government is encouraging domestic manufacturing of defence items to reduce over-dependence on imports. Recently, the country has taken a number of important policy initiatives in this direction.

DEFENCE PROCUREMENT POLICY 2016

The production of Indian defence equipment prior to 2011 was largely in the hands of Government owned Public Sector Units and Ordinance Factories with limited private participation.

The **key government organisations** are Bharat Electronics, Hindustan Aeronautics, Bharat Dynamics, DRDO Labs, Mazagon Docks Shipbuilders and more. DPP 2016 opened up the foreign direct investment (FDI) up to 49% under automatic route from the then existing 26%.

Further up to 100% FDI was allowed after necessary approvals. DPP 2016 focused on achieving the **"Make in India" vision** by according

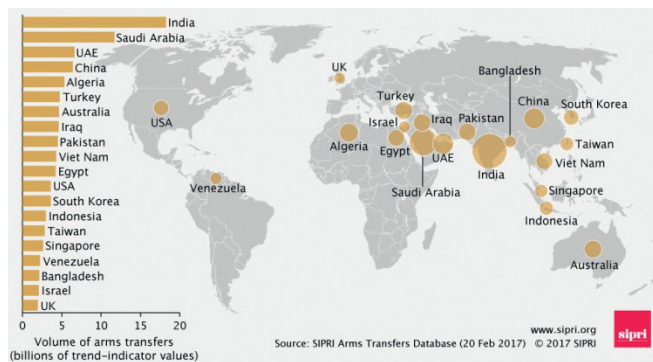
topmost priority to "Buy the Indian – IDDM (*Indian Designed, Developed and Manufactured*)" and "Buy (*Indian*)" categories and simplified defence procurement procedure.

Defence procurement in India is undertaken by the Ministry of Defence. Procurement is under two heads, Capital procurement and Revenue procurement. Capital Procurement deals with the purchase of new equipment in defence and aerospace, while Revenue procurement is for repair, maintenance and up-gradation/ modernisation of equipment in use.

TPCR 2018: The "Technology Perspective and Capability Roadmap – 2018" (TPCR-2018) is intended to be a guide for industry looking to invest in developing technologies to meet Indian military requirements in line with New Delhi's "Make in India" initiative.

India is looking to induct **futuristic weapon systems** such as submarine-launched drones, combat UAVs, and laser weapons by acquiring new technology. The TPCR-2018 is meant to give the defence industry a heads-up for developing technology sharing partnerships and production arrangements for the future. **The roadmap** also shows how the Indian

THE 20 LARGEST ARMS IMPORTERS 2012-16



Source: Sipri

military will be structured in the future, with a list of 221 products that it would acquire in the 2020s.

These range from the standard bullets and shells for the Army to high-energy weapons for the three forces and next generation communication equipment.

DProP 2018: With a view to furthering R&D and manufacturing for Defence Sector a draft Defence Production Policy 2018 has been released recently and is under discussion. Unlike the 2011 policy, the draft of the 2018 policy sets a clear vision, a set of objectives and strategies. Its vision is to put India *“among the top five countries of the world in aerospace and defence industries,”* though the timeframe within which this is to be achieved has not been articulated. The key objectives of the policy include the development of a strong defence industry leading to higher self-reliance. To reduce the current high import dependency, the policy identifies 13 sets of weapon systems/platforms (including fighters, helicopters,

warships, missile systems, ammunition and explosives, land systems, and electronics) whose development and manufacture would commence latest by 2025. Other objectives include an increase in domestic arms sales to Rs 170,000 crore (\$26 Bn) by 2025, with one-fifths of it –Rs 35,000 crore (\$5.3 Bn) – being realised through exports. The policy also intends to make India a *“global leader in cyberspace and AI [artificial intelligence] technologies.”*

“India will be among the top 5 countries in aerospace and defence industries”

Ease of Doing Business

Initiative: This has been a challenge for the government with rules and procedures being roadblocks to export and import of defence equipment and even spares. Lately in May 2018, the **Directorate General of Foreign Trade** has delegated the powers to the Joint Secretary - Defence Production to

allow import and export of items critical to defence manufacturing.

This has been a long term hurdle and will minimize the procedural hassles to obtain import and export permissions from DGFT and save time and energy of defence manufacturers in the country.

There have been many other strategic initiatives for boosting the Defence Manufacturing sector.

Aiming to create home grown private sector giants to take on global competition, a **“Strategic Partners” initiative** has been launched under which 5-6 big business houses have been made Strategic Partners for the defence sector and would take up key projects typically worth over US\$ 1.5 Bn each for the defence sector.

Other recent policy initiatives include the launch of **iDEX (Innovations for Defence Excellence)** for promoting innovation and start ups for defence sector and the announcement of two large **Defence Corridors**.

These corridors are vast areas which will have a strong infrastructure and eco-system to enable successfully establishing Defence manufacturing units and Test & Certification facilities as well as R&D and Innovation Centres.

A NEW INDIAN ECO-SYSTEM

As a result of the above initiatives a number of private companies have emerged as key players in the sector including Tata Group, L&T, Bharat Forge, Reliance Defence and Adani Group as Strategic Partners and Cyient, Centum Electronics, Alpha Design, Kaynes Technology, Data Patterns, Sasmos HET as other key private players.

The focus of the government is to develop indigenous capabilities, technology and manufacturing eco-system for defence requirements and simultaneous steps have also been taken to develop AI and Cyber Security capabilities.

It has an ambitious vision to put the country among the top-five aerospace and defence manufacturing countries such as USA, Russia, France, UK and China, which are presently the global leaders in arms production.

To join such a coveted club would also mean some of the established Indian defence manufactures breaking into the club of top global arms producers.

Can this happen in a realistic timeframe is to be seen.



Counterfeiting

by Don Elario
ECIA



The counterfeiting of electronic components

continues to evolve as the industry implements anti-counterfeiting measures. The industry, customers and government have made strides in combating counterfeit electronic components, but the counterfeiters keep changing their methods. Counterfeiting is likely to increase significantly as lead times grow for many parts and provide new opportunities for a wide range of components which may not have been counterfeited before. This article will examine recent industry's responses, the latest trends, and the ongoing risks of buying from unauthorized sources.

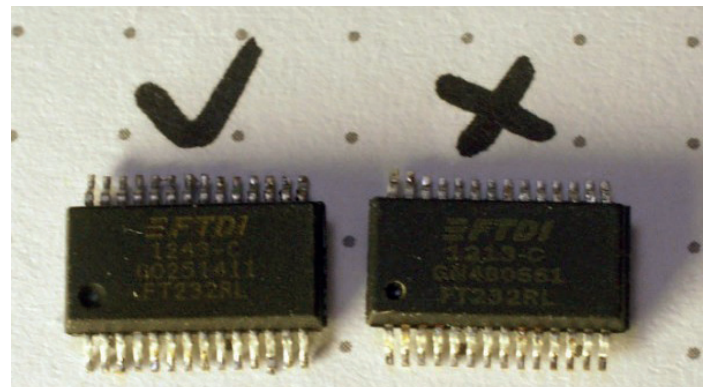
ANTI-COUNTERFEITING MEASURES

Several years ago, distributors worked with aerospace and government to develop an anti-counterfeiting standard for authorized distribution. While this standard, **AS6496**, (available from SAE at <https://www.sae.org/standards/content/as6496/>), was adopted four years ago, it was only this month that a compliance audit was adopted. Successful completion of the audit will certify that a distributor is in compliance with AS6496. For more information about the audit criteria, **AC7403**, visit www.eAuditNet.com. The standard for

independents/brokers not performing authorized distribution is AS6081. Unauthorized sellers seeking to comply with AS6081 must, test components to reduce the risk of introducing counterfeit electronics into the supply chain. The Federal government, specifically the **Department of Defense (DoD) and NASA**, have also issued several regulations seeking to reduce the risk of counterfeit electronic components entering the supply chain. The key regulation requires the DoD to buy parts that are in production or currently available in stock from the original manufacturer, their authorized suppliers or from suppliers that obtain such parts exclusively from the original manufacturer of the parts or their authorized suppliers. **Authorized supplier** is defined as a supplier, distributor, or an aftermarket manufacturer with a contractual arrangement with the original manufacturer. The regulation also sets forth when the DoD can buy from unauthorized sources and what criteria the seller must meet.

THE NEW TRENDS OF COUNTERFEITERS

While the industry and government have developed standards for the detection and avoidance of counterfeit components, counterfeiters have developed new techniques and a growing sophistication in manufacturing. The latest



counterfeiting trends include the introduction of **"blanks," re-manufacturing, and aftermarket manufacturing**. Counterfeiters avoid customs scrutiny and seizures by shipping parts that are devoid of trademarks/logos. Once in this country, the counterfeit adds the name brand and trademark to the part and sells the counterfeit as genuine. Re-manufacturing involves replacing the brand/trademark from a genuine part and replacing it with the re-manufacturer's name.

The counterfeiter then sells the part as new or as a substitute for the original component. Aftermarket manufacturing attempts to make substitute part that is claimed to meet the specifications of original part. In most cases, this aftermarket manufacturer does not have access to the original manufacturer's specifications and is, therefore, unable to exactly match the specifications. Customers should be aware that many semiconductor manufacturers have authorized aftermarket manufacturers that produce authorized components that fully meet the correct specifications. Customers should also be aware when buying from

unauthorized sellers of claims about inspections, lab testing and traceability. None of these methods for detecting counterfeit components is fool-proof and each contain risks. **Visual inspection** only detects the most blatant counterfeiting. **Lab testing** may reduce the risk, but only if done by certified testing facilities. Even then, these labs are unlikely to have the original manufacturer's specifications to use as basis for comparison. **Traceability techniques** and processes may be able to provide accurate traceability, they cannot account for quality and performance. While customers may find genuine parts from unauthorized sellers, there are still risks.

These **risks** include product reliability (was the part properly packaged, stored, and handled); repeat buys (is this a one-and-done source or is it a reliable, on-going source for that component); and support (manufacturers rarely provide support and warranty coverage for parts bought from unauthorized sources). Buying electronic components from authorized sources is the best way for a customer to reduce the risk of obtaining counterfeit parts.

The Electronics World Cup

by Ivan Pokrovsky
Executive Director ASPEC



I am writing this article when the Football World Cup reaches the quarter finals. So, I don't know the winner. But I see the great show goes ahead in Russia. Every day I see many happy people from all over the world in Moscow. I hope they are glad to visit Russia and share their positive impressions. The Football Cup makes me think about **international cooperation** and market regulation.

Football becomes so interesting because many countries take part in the show.

They work together to develop it. High level of competition does not exclude but enhance the international cooperation. It is clear for sport, unfortunately it is not clear for economics and industry development.

We see two general approaches for the economy:



1. **open market** without differentiation for local and global players;
2. **closed market.** The first one leads to monopolization. Therefore, local players can't access the market.

"Simple approaches don't work for the electronics market"

They can't train and grow due to all their fields are busy. The second approach can't close the market just for competition. It immediately closes opportunities of international cooperation and slows down the development. So, simple approaches don't work for the electronics market and industry development. Industry needs

different means for different segments.

COOPERATION AND REGULATION

I think regulation of the electronics equipment market is necessary.

International trading should be limited if it leads to the death of local industries. Local people in different countries need the work of system integration.

They have to improve their life by their hand and mind.

It allows them to develop design and manufacturing skills.

In sport terms electronics equipment design and manufacturing it is the local league that gives talent development. Electronic components industry requires **an open global approach.**

Any barriers and limits of access to global microelectronics market cut opportunities for local system integrators.

The main reason for microelectronics market



News

Chips Boom as Trade War Looms

The semiconductor industry is poised for as much as **15% growth** this year and a shot at its first **\$500-billion** year in 2019, driven largely by rising memory prices. The big dark spot on the horizon is a growing trade war between the U.S. and China.

That was the outlook from a handful of analysts at a industry meeting on July.

"We are at or just beyond the peak in the economic growth cycle...but the potential for political uncertainty is greater"

said Duncan Meldrum, of **Hilltop Economics**,

forecasting a downturn will hit the capital equipment market next year and spread to the chip sector in 2020. It's the

second year rising DRAM prices amid tight supply have boosted the overall chip industry. The trend is

expected to continue until 2020. *"When prices went up, demand did not decline. That was exactly what the big three*

needed to build their 3D NAND fabs," said Bob Johnson of

Gartner, referring to Samsung, SK Hynix and Micron. A shift from smartphones to industrial and automotive markets as

growth drivers is expected. Meanwhile, the memory "super-cycle" and China's chip ambitions are fueling

unprecedented fab growth. Fab spending in China is expected to surpass **\$10 billion** this year and reach

near **\$18 billion** in 2019.

Source: EETimes

Russian market figures

Market volume	Growth 2017/2016, %USD	2017, mln. USD.	Share in the total market volume, %
Volume of the Russian electronic components market (TAM)	19%	2855	100%
Distribution total available market (DTAM)	21,0%	2000	70%
Market volume for components produced in Russia	19,0%	810	28%
Market volume for imported components	18,9%	2045	72%
Market volume for Russian distributors	19%	1710	60%
Volume of direct sales of foreign distributors	34%	290	10%
Volume of direct sales of foreign manufacturers	9%	330	12%
Volume of direct sales of Russian manufacturers	19%	525	18%

Forecast for 2018 market growth: +10%.

Full report is ready and available in English. Please send requests to pokrov@sovel.org

Quarterly monitoring of Russian distributors sales:

Q1_2018/Q1_2017: +10%

Q2_2018/Q2_2017: +8% (preliminary estimation)

regulation is the risk of technology dependence on the leading vendor and leading country.

This risk can be reduced by joint investments in development of alternatives and in international cooperation for its promotion.

Customs duties and other barriers for electronic components trading

can't reduce technology dependence risks, because local market can't provide enough demand for

microelectronics development. Nowadays we see the

challenging of open market ideas. Russia and many other countries don't meet

the expectations of globalization results. Governments suppose

it is possible to improve local

economies by protection from global competition. But governments can't define the best balance between international trading development and protection of local companies.

"We see the challenging of open market ideas"

Often they act very rough.

We can face a new medieval period when each one will act against all others.

This year the Russian government is developing an electronics industry and market regulation strategy. Our

association is taking part in this work. In the working group we promote opportunities of

global cooperation and inform about isolation risks.

Unfortunately, we don't know about the same processes in other countries.

Which strategies are prepared? May be all are going to close their market and our beliefs in international

cooperation opportunities are illusions.

We'd like to make some meetings to share information and discuss local and global strategies with colleagues

from different countries. The most convenient event for that is **Electronica**

in Munich. We will be glad to see you in the round tables of **Moscow Export Center**.

For further information please contact with **Eugenie Suvorov**, head of international committee of our association,

international@arpe.ru.

The South African electronics industry

by Warren Muir
AREI
adec@icon.co.za



The focus on Industrialisation in South Africa is growing, with the government using this as a lifeline to resolve the increasing unemployment rates and try rebound from the recently published poor GDP numbers. The **Manufacturing Indaba** which was held at the Sandton Convention Centre on **19-20**

June 2018 strongly supported this sentiment with a large proportion of Government Institutions represented at the Exhibition.

arei represented its members over the two days by exhibiting their marketing material and engaging with attendees on the members profiles and the industry in general.

Exhibitors and attendees characterized a broad spectrum of the manufacturing sector in South Africa with an increase in the number of exhibitors over 2017.

General sentiment was positive with many buoyant about the economy anticipating growth in the near future despite a weakening of the ZAR in May and June. There appears to be particular interest from Government in the Electronics

THE SACCI BUSINESS CONFIDENCE INDEX 2015=100

Mont	2011	2012	2013	2014	2015	2016	2017	2018
January	119.4	112.4	108.8	104.5	103.4	92.6	97.7	99.7
February	118.0	115.2	107.7	106.4	107.4	92.7	95.5	98.9
March	120.6	110.8	104.7	107.3	103.2	94.0	93.8	97.6
April	118.7	109.2	106.9	107.2	104.1	95.5	94.9	96.0
May	117.2	107.4	104.7	102.9	100.6	91.8	93.2	
June	118.5	109.9	104.4	103.8	97.9	95.1	94.9	
July	114.6	105.2	105.0	101.8	101.8	96.0	95.3	
August	114.2	110.0	104.8	103.0	97.6	92.9	89.6	
September	113.9	106.2	105.8	103.3	94.5	90.3	93.0	
October	112.9	106.5	105.5	102.8	102.3	93.0	92.0	
November	114.7	106.2	105.1	105.1	95.1	93.9	95.1	
December	114.7	107.7	106.4	102.2	92.2	93.8	96.4	
Average	116.3	108.9	105.8	104.	100.0	93.5		

Sector with various initiatives to engage with the Industry Stakeholders.

arei will be representing the members at various upcoming events in order to facilitate growth wherever possible. This positive sentiment

is supported by the South African Chamber of Commerce (SACCI) **Business Confidence Index (BCI)**, having manufacturing as a component of the statistics, which is up from an average of **95.48%** in the first four months of 2017 to over **98%** for 2018.

by Lena Norder
SE Swedish Electronics
Trade Association



You are invited to the
"Embedded Conference
Scandinavia"
(Stockholm November 6 -7, 2018)

The Swedish Electronics Trade Association, **Svensk Elektronik**, have initiated two major events. One is the **Scandinavian Electronics Event** which is held on alternate years in Stockholm. This year's event was held on **24-26 April** with more than 150 exhibitors and 50 seminars and focusing on Automotive, Medtech and Innovation. The event attracted more than 3,000 visitors and was a broad arena for business and inspiration. **Svensk Elektronik** are now gearing up for another top event in 2018:

Embedded Conference Scandinavia (ECS).

Whether you come as a speaker, exhibitor or delegate, put the dates

of **November 6-7** in your diary. You are welcome to participate at Europe's largest embedded annual conference. The conference is held in English.

AN INTERNATIONAL EVENT

ECS was initiated in 2006 and now it has established its position as Europe's largest Embedded conference with an adjoining exhibition.

In 2017 there were 2,000 visitors some 90 exhibitors and 80 qualitative conference

presentations, tutorials and workshops which contributed to the success. ECS is a truly international event with participants from 25 countries and many of the exhibitors and speakers come from abroad. Please visit www.embeddedconference.se for more information.

Attending ECS as a delegate is free of charge and the registration will open in September. You will be very welcome!



2018 World cable assembly market

by Ron Bishop
Bishop & Associates



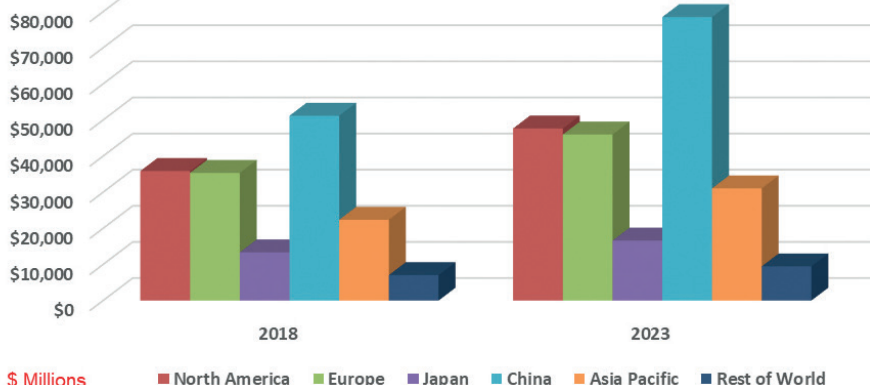
Worldwide revenue for cable assemblies totaled **\$155 billion** in 2017.

Last year, the cable assembly market finally broke through its latest mold, achieving the highest growth since the 2010 recession recovery. The previous six years were boring by comparison.

The market would grow 3% or 4% percent one year and then contract in equal measure the next year. GDP growth across the world's mature economies was low or negative, and did not change much from year to year. Financial markets did not grow much either.

Now, everything seems to be moving again. Worldwide, GDP growth is expected to be 3.5% in 2017. The financial markets grew substantially in 2017, helping the major economies rally from their ruts, and the global cable assembly market grew 11.0% as these economies regrew.

SALES BY REGION OF THE WORLD



Source: Bishop & Ass.

However, 2018 may be a different story. Most major Western economies are projected to grow between 1.5% and 2.5%.

"In 2017 the cable assembly market achieved the highest growth since 2010"

The greatest threats to achieving substantial growth in 2018 and beyond include sociopolitical unrest - particularly in the Middle East, Eastern Europe, and Asia, changes to the trading relationships between the major economies of the world, such as tariffs, Brexit, and NAFTA, and financial market turmoil as global economies adjust to these new realities.

Growth of 6.6% is projected for the worldwide cable assembly market in 2018.

China is anticipated to lead the market growth at 9.2%, and Asia Pacific to follow at 6.4%.

The other regions are forecast to be in the 5% to 6% range. The five-year compound annual growth rates (CAGRs) are projected to be 8.9% for China, 6.8% for Asia Pacific, and 4% to 6% for the remaining regions.

The worldwide cable assembly market is anticipated to grow at a CAGR of 6.8% from 2018 to 2023, achieving a market value of **\$229.4 billion**.

"China will lead the market together with Asia Pacific"

No worldwide recessions are projected during this timeframe, so regional GDP growth and regional market sector performance were the primary drivers for these industry projections.

Over the next five years (2018 to 2023), market sector growth is projected to range from 8.7% for the **telecom**

and **datacom market** to 4.7% for the **business and office equipment market**.

The **automotive market** is forecast to grow 7.3% during this time.

GLOBAL CABLE ASSEMBLY INDUSTRY ECONOMIC TRENDS IN SUMMARY:

- **The current economic trends in each region, both good and the bad, are likely to remain relatively stable over the next five years.**

The reasoning here is that these trends are rooted in long-term issues and situations that will not change in a five-year time span.

For example, China is well into an industrial expansion that has brought a great deal of business to its shores, significantly improved its standard of living, and awoken its home market for modern goods and services.

These developments are real and will not go away. Another example is Europe's sovereign debt crisis, which was years in the making and will take years to undo. In addition, the Conference Board has stated, *"As China, India, Brazil, and others mature from rapid, investment-intensive 'catch-up' growth to a more balanced model, the structural 'speed limits' of their economies are likely to decline, bringing down global growth despite the recovery we expect in advanced economies."*

• **Given the stable economic trends, growth in the worldwide cable assembly industry will be in the mid to high single digits over the next five years.**

Industry growth is closely tied to worldwide GDP growth, which is expected to be modest over the next five years.

Although many of the emerging/developing economies are growing, their growth is slowing, and they represent a smaller percentage of the worldwide consumption than the advanced economies. Growth in the advanced economies is projected to be in the mid-single digits over the next five years.

• **The shift of industrial output from advanced economies to emerging/developing economies is slowing.**

For the most part, this trend seems to have run its course. Certain industries will always remain local, and their subcontracting business, like cable assemblies, will remain with them. Other industries have completed whatever business transfers they were going to make between regions.

China's increasing share of the cable assembly market is expected to result from servicing its own home market. The US and Europe/NATO are ramping up military spending to keep up with Russian and Chinese advances in hardware and numbers. Conflicts in the Middle East, Eastern Europe, and Asia are agitating the world order. With Russia and China behind many of these issues, there are concerns about maintaining the necessary deterrent capabilities.

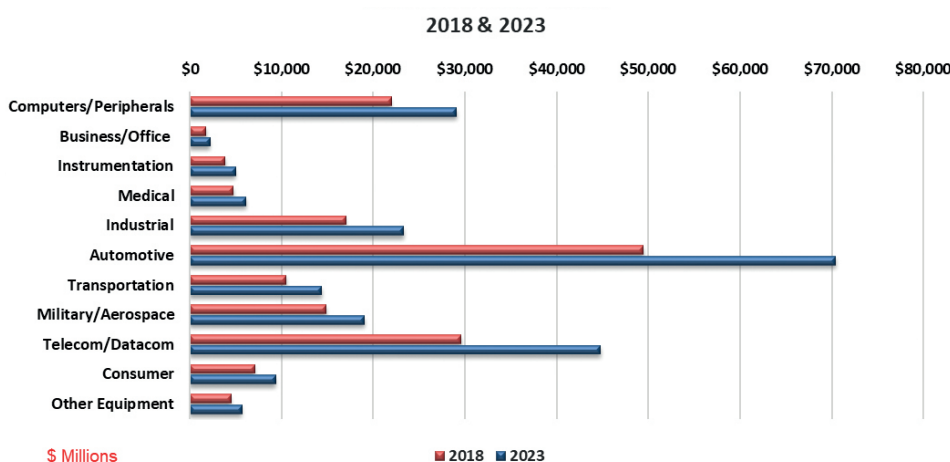
China has recently become more aggressive in overseeing and controlling their domestic and international companies. Companies have been increasingly brought under control by the centralized Chinese government. With Xi Jinping, who was recently appointed to the position

of Head of the Government and Communist Party for life, these pressures may well continue to increase on both domestic and international companies alike. Huawei, for example, is already experiencing business difficulties in some Western countries because their governments fear that the telecommunications giant may be designing elements into these systems that will allow the Chinese government to spy on them. This could potentially thwart many international companies from doing business in China.

• **Changing trade practices could positively or negatively impact the cable assembly market.**

If you are interested in further detail, the [2018 World Cable Assembly Market Report](#) is available in the Bishop store.

MARKET SECTOR SALES



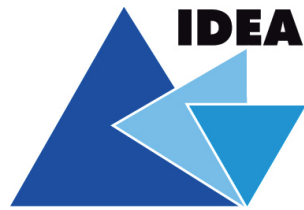

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