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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

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

Internet of Things:
a look at future trendsby Rajoo Goel
Elcina

India is passing through a phase of rapid social, cultural and economic changes and is trying to keep pace with international developments in all spheres of life. Change as we all understand is accompanied with conflict, dissension and discord which must be accepted and managed. IoT is an emerging concept which is driven by electronics technology and promises to change the way we manage our day to day lives. It also promises to improve quality of life and enhance energy efficiency.

The Government of India has taken initiative and framed a draft policy to fulfill a vision of developing a connected, secure and a smart system based on India's needs. Government's is estimating that the IoT industry in India would be worth **USD 15 billion by 2020**.

Internet of Things (IoT) is one of the most talked about technology trends today. It has evolved from the convergence of wireless technologies, micro-electromechanical systems (MEMS), micro services and the internet.

This convergence is resulting in narrowing down the gap between operational technology (OT) and information technology (IT). IoT technology allows unstructured machine-generated data to be analyzed for insights that will drive improvements.

There is a broad consensus among technology vendors, analysts and other stakeholders that IoT would have a significant impact on the technology landscape and society in the coming years. According to technology research firm Gartner, IoT devices installed base (excluding PCs, tablets and smartphones), will grow to **26 billion units in 2020**, a huge multiple from just 0.9 billion in 2009.



"IoT is one of the most talked about technology trends today"

However, there are some voices that warn that IoT is overhyped, and it will take a few more years for the real use cases and benefits of IoT to become visible. Some of this skepticism is driven by the fact that we are yet to see real applications of IoT at the end consumer stage.

Use cases such as "refrigerators that order milk from the super market once the levels come down" - are still restricted to prototypes and academic discussions.

These may also be viewed as a bit redundant and superficial with limited "real value".

Apart from a few fitness related wearable devices, automobile telematics (which in many ways is less "visible" to consumers), and "smart home" systems, we are yet to see other major consumer IoT adoption stories.

Major changes facing India are:

• **Challenges to IoT Security concerns:**

With so many interconnected devices a security policy and infrastructure cannot be an afterthought.

If the IoT devices are poorly secured, cyber attackers will use them as entry points to cause harm to other devices in the network. This will lead to loss of personal data. Ensuring security,



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resilience and reliability of internet applications has to be ensured upfront. Security constraints for IOT are critical is further confirmed by Gartner who estimate w/w spend for the IoT security market at \$348 million in 2016, a rise of 23.7% from \$281.5 mln in 2015.

“Internet connectivity is a major challenge in India”

• **Internet availability / bandwidth / reliability:** Internet connectivity is a major challenge in India. For consumer IoT adoption – this would remain a challenge unless fast internet connectivity is ensured.

• **Cost of IoT enabled systems and devices:** Even products such as wearable fitness bands are yet to take off in India, and price and purchasing power are key reasons. Industry and gov need come up with strong manufacturing initiatives.

• **Lack of vendor activity:** Global vendors, often mistakenly, assume that Indian consumers are “not ready” for advanced products. This is very much evident in the IoT space, with hardly any kind of vendor activity today. This in turn has led to low awareness levels of IoT devices and systems among consumers.

• **Overall infrastructure challenges:** Apart from internet the supporting infrastructure such as smart grids, traffic systems, etc., are far from being ready for IoT. There are issues such as interconnectivity and robustness of the systems in place right now and these require huge investment of money and technology to come up to global standards.

Government is trying to beat these challenges and initiatives are being taken to make available IoT ready systems.

Government of India has come up with a draft of IoT policy for public consultation which has the following salient features:

- To create an IoT industry in India of USD 15 billion by 2020. It has been assumed that India would have a share of 5-6% of global IoT industry.
- To undertake capacity development for IoT specific skill-sets for domestic and international markets.
- To undertake Research & development for all the assisting technologies.
- To develop IoT products specific to Indian needs in all possible domains.

The policy also suggests engagement measures like incentivizing IoT hw and sw production, funding research studies on IoT, spreading knowledge through events, supporting development of Intellectual property.

The Policy framework of the IoT Policy has been proposed to be implemented via a multi-pillar approach.

The approach comprises of five vertical pillars including Demonstration Centres, Capacity Building & Incubation, R&D and Innovation, Incentives and Engagements, and Human Resource Development.

In addition two 2 horizontal support pillars have been identified viz, Standards & Governance structure. As mentioned in ELCINA's last article, government and industry are working together to establish smart cities in various states of the country which will also give a boost to an IoT enabled society. In spite of the challenges listed, IoT has a bright future in India and is complemented by the overall focus on Electronic Systems Design & Manufacturing Sector which is receiving support.

Q2 2016. A great quarter but book: bill starting to slip back

by Gary Kibblewhite
www.ideaelectronics.com



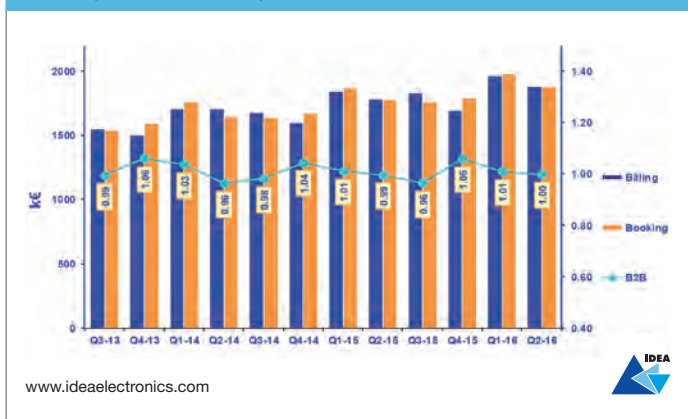
A good booking performance for Q2 with total European component bookings up 5.8% on the same quarter last year even though they were, as normally happens in Q2, they were down 5.2% on the previous quarter. The strong performance of both passives and emech helped

this growth. However, the book:bill ratio, even though still positive, has slipped marginally for the last two quarters. A concern for the future?

Just to remind readers. If you would like to have the original graphics used in this article just email to the IDEA secretary at segreteria@ideaelectronics.com

The IDEA statistics are taken from actual bookings and billings returns made by a substantial percentage of the electronic component distributors in Europe, including all the major distribution groups. Their sales represent over 66% of the total European electronic component distribution market so the trends shown are truly representative. These published statistics now include, from Q3 2015 onwards including historical adjustments, Switzerland and Austria.

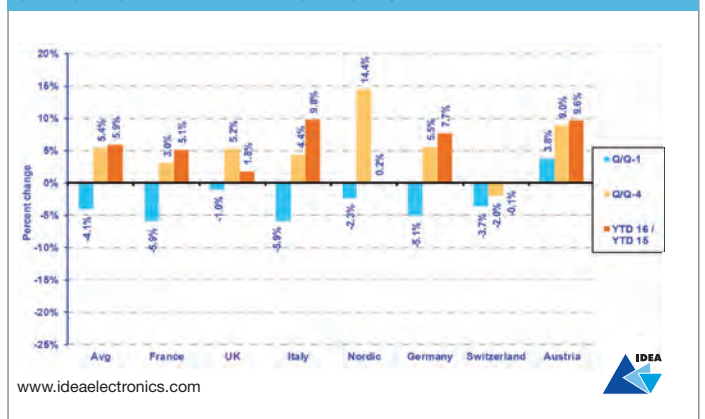
2ND QTR. 2016 TOTAL COMPONENTS Booking, Billing & Book: Bill Ratio Graphic T1
Total distribution electronic components booking, billing and Book:bill ratio for Germany, France, Italy, UK, Sweden, Norway, Denmark, Finland, Switzerland and Austria



Graphic T1 shows the weakening of the total components book:bill but a strong Q2 performance for both bookings and billings when compared with previous years. Overall still a very strong performance.

"The total European component book:bill ratio, even though still positive, has slipped marginally for the last two quarters"

2ND QTR. 2016 TOTAL COMPONENTS Billing Trend Graphic T3
Distribution sales for Electronic components by country comparing current qtr with prior quarter (Q/Q1) and same quarter prior year (Q/QY-4) and YTD 16 / 15



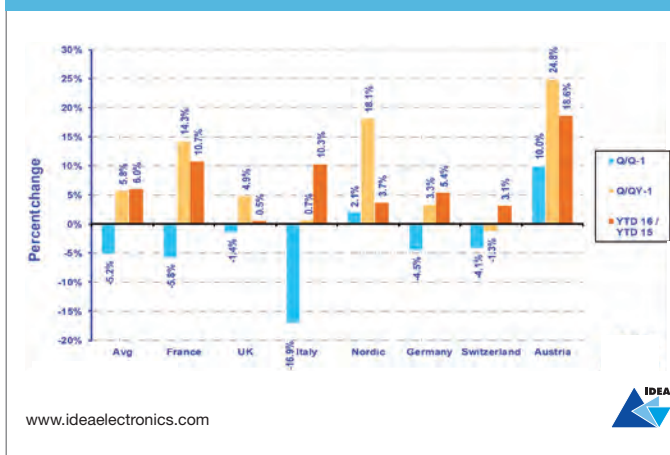
Graphic T3 above shows the billings trend by country. At last the UK is in a growth mode again but it is Germany, Austria and Italy that are showing the strongest % growths over the same quarter last year. All regions apart from Austria are showing varying degrees of decline in billings when compared with the same quarter last year.



2ND QTR. 2016 TOTAL COMPONENTS Booking Trend

Graphic T2

Distribution orders for Electronic components by country comparing current qtr with prior quarter (Q/Q-1) and same quarter prior year (Q/QY-4) and YTD 16/15



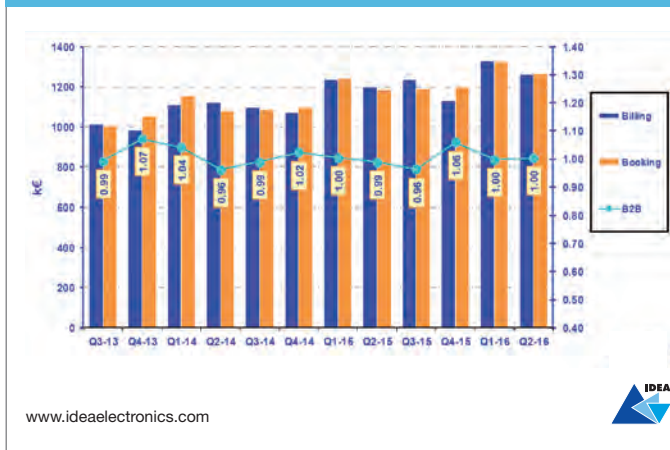
The bookings trend by country in Graphic T2 shows less volatility than the same graphic last quarter but with still a good bookings growth in virtually all regions.

The UK, for the first time for a few quarters, is showing a bookings growth over the same period last year.

2ND QTR. 2016 SEMICONDUCTOR Bookings, billings & book: bill ratio

Graphic S1

Semiconductor components bookings, billings & book:bill ratio for Germany, France, Italy, UK, Sweden, Norway, Denmark, Finland, Switzerland and Austria



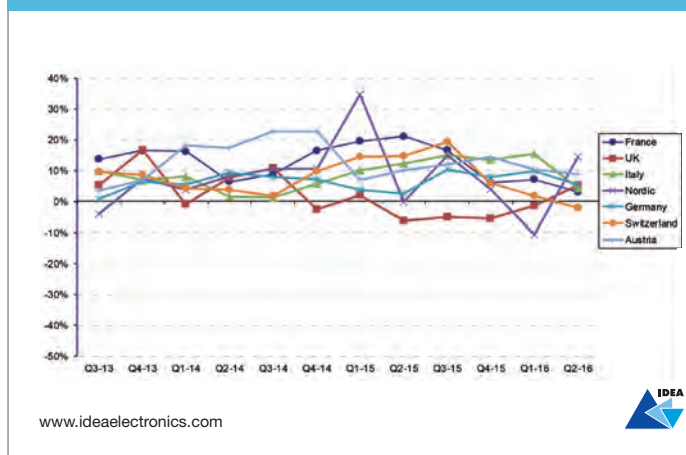
Graphic S1 covering semiconductors shows that book: bill has remained positive (just!) for the last 3 quarters but, judging by history, it is likely to slip negative in the next quarter. Total currency semi billings are still at their highest Q2 level since 2011.

“Germany leads the growth league in passive components with another strong performance”

2ND QTR. 2016 TOTAL COMPONENTS TENDENTIAL INDEX BY COUNTRY(Q/QY-1)

Graphic T6

Trend showing growth/decline % in quarterly sales of all components through distribution split by country compared with same quarter prior year

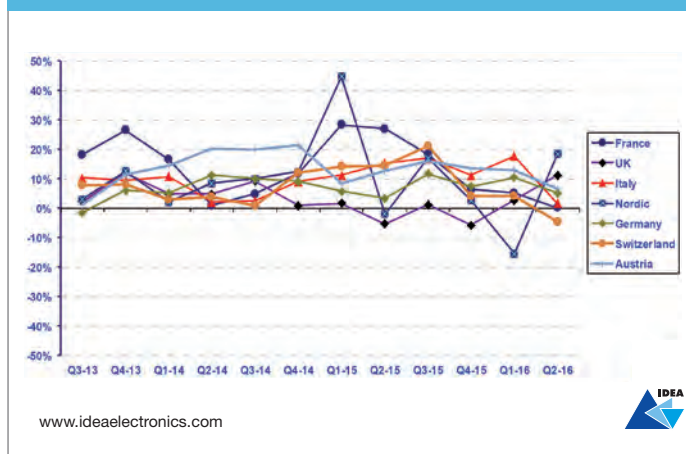


Graphic T6 shows the tendential growth/decline index by country. The turnaround in Nordic is marked! We now have only Switzerland slipping “below the line” into negative growth. The other regions have mostly had a lower sales growth for the last 2 quarters.

2ND QTR. 2016 SEMICONDUCTOR TENDENTIAL INDEX (Q/QY-1)

Graphic S6

Trend showing growth/decline % in quarterly sales of semiconductors through distribution by country compared with the same quarter prior year.



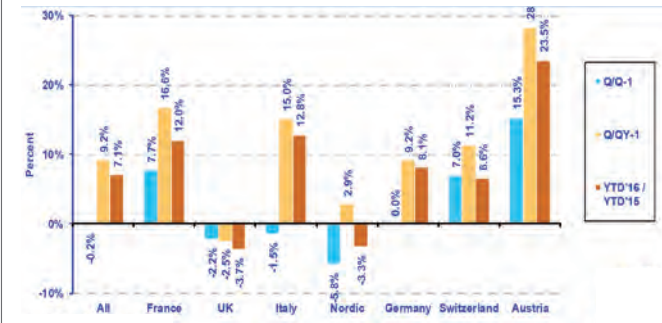
Graphic S6 shows that, in line with the total components trend, semis are still showing quarterly growth in all regions apart from Switzerland.

It does look, however, as though some regions will drop “below the line” next quarter.

2ND QTR. 2016 PASSIVE COMPONENTS Billings Trend

Graphic P3

Distribution sales for passive components by country comparing Q1 2015 with the prior quarter (Q/Q-1) and the same quarter prior year (Q/QY-1)



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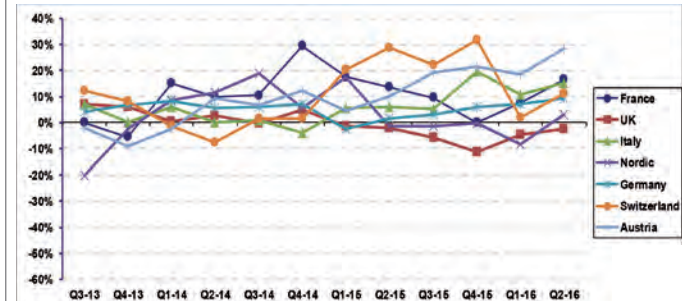


Graphic P3 above, which covers passive components billings. Shows strong performances trend in all regions apart from the UK and Nordic. Italy, France and Germany are all showing a strong growth when compared with the same quarter last year. Austria has a strong growth in all the measurement criteria.

2ND QTR. 2016 PASSIVES TENDENTIAL INDEX BY COUNTRY (Q/QY-1)

Graphic P6

Trend showing growth/decline % in quarterly sales of passives through distribution by country compared with the same quarter prior year.



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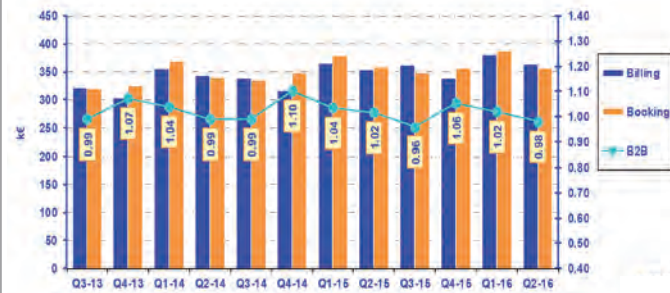


Unlike semiconductors, the regional graphic P6 above shows that all regions have billed well in the quarter. There are also signs that the UK, even though they are still in negative territory, might return to overall growth if they have a strong Q3. Germany leads the growth league with another strong performance.

2ND QTR. 2016 EMECH COMPONENTS BOOKING, BILLING & BOOK-BILL RATIO

Graphic E1

EMECH components Bookings, billings & book:bill ratio for Germany, France, Italy, UK, Sweden, Norway, Denmark, Finland, Switzerland and Austria



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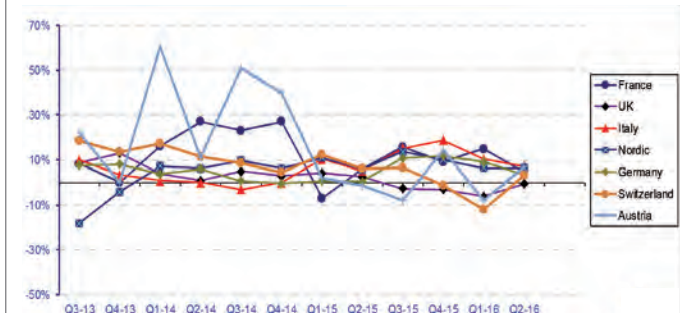


Graphic E1 covering electromechanical components shows that book:bill has dropped below 1:1 for the first time since Q3 2015. This is likely to signal a poor Emech billings performance next quarter. In currency terms however, the level remains high.

2ND QTR. 2016 EMECH TENDENTIAL INDEX BY COUNTRY (Q/QY-1)

Graphic E6

Trend showing growth/decline % in quarterly sales of semiconductors through distribution by country compared with the same quarter prior year.



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Graphic E6 above covering Emech components shows that all regions, even the UK, are now showing a positive billings trend with the band spread between zero and 10% growth.

“Total currency semi billings are at their highest Q2 level since 2011”



Conflict minerals - disclosure obligations throughout the supply chain

by Wolfram Ziehfuss

Executive Director FBDi e.V.

www.fbdj.de



Conflict minerals are putting the electronics industry and its suppliers under pressure. Since 2014, information has been demanded in varying degrees of detail under the United States Dodd-Frank Act on the use of "conflict minerals" from Central Africa – a task that on occasion appears to be outright impossible. What applies to whom? **Dr Enderle**, Legal Counsel for the Environmental Law Office, and **Wolfram Ziehfuss**, Executive Director of FBDi e.V., provide guidance.

What does the term "conflict minerals" mean under the Dodd-Frank Act?

W. Ziehfuss: Much like blood diamonds, it refers to the reasonable suspicion that these raw materials have been extracted in the Democratic Republic of Congo (DRC) and neighbouring countries (Angola, Burundi, Rwanda, Zambia, Sudan, Tanzania, Uganda...), in part under inhumane working conditions and human rights violations. The proceeds from their sale are also believed to flow directly into financing regional armed conflicts.

Dr Enderle: Specifically, it refers to tungsten, tantalum, tin and gold (the so-called "3TG" metals). According to the United States Dodd-Frank Act, listed companies of the SEC – the U.S. Securities & Exchange Commission – must disclose their trade in or use of conflict minerals. According to Section 1502 of the Dodd-Frank Act,



reporting obligations first took effect in 2014.

What is the effect of such a disclosure under the Dodd-Frank Act?

Dr Enderle: The Dodd-Frank Act operates on the "name and shame" principle, namely that enterprises will be reluctant to have their reputation sullied by the disclosure of business relationships with conflict regions, because if the materials are sourced from the DRC or its neighbouring countries, more extensive reporting obligations take effect.

"The Dodd-Frank Act operates on the "name and shame" principle"

Such enterprises must present the SEC with an audited report containing extensive information on the origin and use of conflict minerals. To back this up, they must conduct due diligence relating to the source and supplier in order to prove that the acquired conflict minerals are not used to finance armed conflict. The purpose of this is to encourage supply chains to use only legally-sourced raw materials and to 'starve' armed conflicts of the requisite



financing. This affects processing and delivery industries in the electronics, automotive, aerospace, medical markets.

What does such an audited report look like? What does it contain?

W. Ziehfuss: An audited report sent to the SEC effectively discloses the entire supply chain, and describes more specifically the action taken in relation to due diligence in the supply chain, disclosure of conflict-related products, a description of industrial processing enterprises (smelters) and information on the country of origin. Any action taken to identify the specific mine or at least the place of origin of the conflict raw materials must also be explained with the greatest precision.

This reporting process sounds very complex – do enterprises comply with it or do those affected put up a fight?

W. Ziehfuss: As far as the FBDi is concerned, we can confirm that businesses find it very difficult to comply with the standards. Consider how many suppliers are involved up until the end products – for instance with PCBs. Often it is not possible

to find out where a conflict material used in a PCB comes from. This added effort also costs money, which in given circumstances can also mean price increases for products.

Dr Enderle: A U.S. court of appeal has now suspended the obligation of manufacturers to publish a declaration that minerals in use are "not DRC conflict-free" due to its violation of the United States Constitution. Accordingly, businesses are no longer required to attach the labels "DRC Conflict-Free", "DRC Conflict Undeterminable" and "Not DRC Conflict-Free" to their products. But, all of the other SEC regulations remain in effect – the decision whether the Dodd-Frank Act applies, identification of the producer supplying the minerals or commodities, identification of the origin of the materials, and a description of action taken to determine the mine or origin of the materials.

German businesses are not directly bound by American law or the obligations inherent therein. To what extent are they really affected by the Dodd-Frank Act?

Dr Enderle: They are confronted with the extensive traceability and documentation obligations that arise through their delivery relationships and contractual obligations. If they refuse to provide information, this can have a negative impact on their business relationships. However, there is scope in the detail of this info and the effort expended to this end, so it can be advisable to discuss



the matter with American business partners.

W. Ziehfuss: The rule equally applies to any European company listed on the U.S. stock exchange. Because in many cases it is not known which smelter the commodity comes from, this also affects businesses in the production or supply chain that generate the product, even if they are not listed on the U.S. stock exchange. Our member companies have reported that in practice, companies simply pass the buck down the supply chain when it comes to these disclosure obligations, and that they are requested to submit a declaration by their buyers in the U.S.

How do other countries handle conflict materials?

Dr Enderle: The OECD too has issued recommended courses of action and guidelines for the development of responsible procurement regimes. The EU is committed to encouraging compliance with the OECD guidelines on a broad basis. So there is agreement that the supply chain needs to be better coordinated to ensure that there are no conflict minerals in use in the production of end devices.

What's the state of affairs in Europe? After all, Europe has had an approach in play for several months now?

W. Ziehfuss: The EU Commission

did indeed submit its own proposal for the handling of conflict minerals in March 2014, based on a voluntary self-certification system for importers of certain commodities. It is planned to become a regulation, which would make it binding for the EU member states. But there has been no specific outcome from the discussion since.

Dr Enderle: The draft refers to the import of ores and concentrates that contain 3TG metals into the EU. Because it does not impose restrictions relating to certain countries of origin, EU businesses must find out for themselves where conflict and high-risk regions are throughout the world. EU guidelines in this respect would relieve business of a considerable burden.

"Businesses find it very difficult to comply with the standards"

So what does that mean specifically? What's the difference to the United States regulations?

Dr Enderle: The Dodd-Frank Act places the reporting obligations at the end of the production chain – on its downstream members, meaning the producers or sellers of products containing 3TG metals (e.g. phones, semis, components). Thus, the information must be retraced through the entire supply chain in reverse order. The European draft on the other hand only imposes obligations

on the EU importers representing the route taken by the raw materials from the mine to the smelters, through the importers. Accordingly, only around 400 companies would be affected in the EU, while around 880,000 companies are downstream users of 3TG metals. Most notably, importers of products with 3TG metals are not be affected by the regulation. Whether the regulation would achieve its goals by these means is debatable.

What would a business have to do for its voluntary self-certification?

Dr Enderle: A 'responsible EU importer' undertakes to comply with several requirements: Firstly, to implement a management and risk control system based on OECD due diligence standards. Secondly, to define and publish their supply chain policies, and to incorporate these into the contracts and agreements with their suppliers. Thirdly, to have audits conducted by independent third parties to certify the performance of appropriate due diligence. Fourthly, to be certified with national authorities. Additionally, the info must be provided downstream in the supply chain and in reports via the internet. Based on received info, the Commission prepares a list of responsible smelters and refineries. Regulations on monitoring and sanctions and on the exchange of info between authorities are also planned.

Is this realistic with the enormous workload involved? Are there any incentives for enterprises to take this on?

W. Ziehfuss: Everyone is aware of this sensitive topic, and more and more businesses are taking on such tasks as part of their corporate responsibility efforts. However, there are black sheep everywhere, making incentives certainly useful. The FBDi would consider a conceivable example of this being public projects only accepting tenders from certified importers, or making the regulations binding after an observational period. But the negotiations are still ongoing, and the European Parliament has since introduced demands for a binding regulation.

So what's the bottom line for electronics distribution in Germany?

Dr Enderle: Given the broad and uncertain nature of the provisions in the draft regulation, numerous amendments are still to be expected, so both purchasers and users should continue to monitor the progress of this European legislative process.

W. Ziehfuss: Even though the number of companies embracing corporate responsibility may be rising, the OECD regulations have shown that the overwhelming majority will gladly ignore voluntary regulations. That's why it is possible that binding regulations will be passed that force the industry to collect data covering the entire supply chain.

When can we expect the new requirements/the new EU regulation to come into force?

W. Ziehfuss: Because there are still disputes on many points, we don't expect the EU regulation to come into force earlier than 2017.



China franchised distributors, what next?

by Amy Wang
Member of the CEDA Board
www.cedachina.org



China franchised distribution has been experiencing unexpected challenges and opportunities, caused by the fierce acquisition activities of semiconductor suppliers. Meanwhile, merging of franchised distributors has also started. To get a greater market share, acquisition seemed a "must" way.

Suppliers' acquisitions heavily influences distributors... One of the most influential acquisition events which has heavily impacted franchised distributors is the acquisition of **Avago** by **Broadcom** for USD37 bn and the formation of Broadcom Ltd. Before the acquisition, there were 12 franchised distributors in total for the two semiconductor suppliers. At present, only **Comtech**, **Sunray electronics**, **Serial** and **Alltek** are still franchised distributors for full product lines in China. Mouser is a franchised distributor for industrial products while Avnet is for storage products. Edom, Arrow, Avnet, Secom, Asiacom etc are no longer the new company's full franchised product line distributors in China. As a result, it's observed that previous franchised distributors not only suffer from the loss of

product line, but also revenue loss and staff layoff.

TOP 10 SUPPLIERS' ACQUISITIONS IN 2016:

- **Microchip** acquired **Atmel** by USD3.56bn
- **Sony** acquired **Air Semiconductor** by USD1.395bn
- **Qorvo** acquired **GreenPeak Technologies**
- **Beijing Navinfo** acquired **Authochips** for USD 582.8million
- **ARM** acquired **Apical** for USD350 million
- **Fujian Grand Chip Investment Fund** acquired **Aixtron** for USD738.5 million

"We will see more M&A and alliances by franchised disti"

- **Cypress** acquired Wireless IoT division of **Broadcom** for USD550 million
- **Infineon** acquired **Wolfspeed** Power&RF division from **Cree** for 850 million
- **Softbank** wanted to acquire **ARM** for USD31bn
- **ST Microelectronics** acquired NFC and **RFID** property from **AMS** for USD115 million

ACQUISITIONS OF CEDA MEMBERS

In July, there were three acquisition events from franchised distributors: Avnet acquired Farnell, WPG acquired 15% of CEAC Shenzhen; WPG and Nanjing Sunlord started a strategic partnership. All above companies are CEDA members.

"We will see more mergers and acquisitions and cooperative

alliances by franchised distributors," said Dr. Michael Liu, secretary general of CEDA. "CEDA will bridge our members and suppliers to enhance more strategic partnership in future." Liu note that CEDA is building a database of franchised distributors, which will effectively help OEM/EMS companies find reliable supply channel and also help semiconductor companies have reliable sales channel to avoid counterfeit problems.

TOP 100 FRANCHISED DISTRIBUTORS IN 2016

CEDA is to announce the catalogue of 2016 Top 100 Franchised Distributors in China Market on Dec.9, 2016 in Shenzhen, along with an executive distribution conference. John Denslinger, president of ECIA will attend the event and be a keynote speaker.

"CEDA releases the Catalogue to promote franchised electronics component service system, to regulate the supply channel and to help OEM/EMS companies get reliable partners into their purchase system," said Charles Tan, President of CEDA. "The Catalogue is published at www.cedachina.org to service the electronics supply chain and to make it simple to find reliable supply channels for semiconductor companies."

The mission of CEDA is to promote franchised service system while the Catalogue is an important factor, according to Tan, CEDA will release the Catalogue every year from now on. The total revenue of catalogue of 2015 Top 50 China Franchised Distributors in China market is **over USD50 bn**.

CEDA 中国电子分销商协会 CEDA Announced 50 Authorized Electronics Distributors	
Company Name	
1 WPG Holdings Limited	
2 Avnet Electronics Marketing	
3 Arrow Electronics	
4 Cogobuy Group	
5 Techntronics Technology	
6 CEACSZ	
7 Serial System	
8 Future Electronics	
9 EDOM Technology	
10 Honestar Technologies	
11 Xiamen Holding Electronics	
12 Zenitron	
13 Willas-Array Electronics	
14 Excelpoint Systems (H.K.)	
15 Shenzhen Sekorm Advanced Technologies	
16 TOMEN-ELE	
17 Powertek Electronics	
18 Sane Electronics	
19 Lierda	
20 Sunray Electronics	
21 Alltek Technology (Shenzhen)	
22 Fortune Techgroup	
23 Weikeng Industrial Group	
24 Asiacom Technology (HK)	
25 Burnon International	
26 TTI Asia	
27 BJ Jingchuan Electronics Tech	
28 Fengbao Electronics Info Tech (Shanghai)	
29 LETDO Electronics	
30 ZLG MCU	
31 Kei Kong Electronics	
32 Cytech	
33 EIL	
34 EDAL Electronics	
35 Promate	
36 Rutronik Electronics Asia	
37 Wuhan P&S Info Tech	
38 Mornsun Electronics	
39 Digi-Key	
40 Mouser Electronics	
41 BJ Yuanliu Hongyuan Electronics	
42 DXY Technology	
43 Upstar Technology (HK)	
44 Nanjing Sunlord Electronics	
45 RS Components	
46 Element 14	
47 CEPower	
48 Kingsky (China) limited	
49 Zetron Excellence Electronics	
50 Heiland Asia Pacific	

The mission of CEDA is to promote the value of franchised distributor service, to promote electronics design and supply chain service.

The procedure of the Catalogue development started from the submission data of franchised distributors, including franchised product lines, then, CEDA will check the info with semiconductor suppliers' website or channel managers to make sure accuracy of all the information submitted.

The lighting market in West Europe

by Franco Musiari
& Silvio Baronchelli

Technical Director, Assodel
www.assodel.it



The last edition 2016 – the 25th - of the report “The European market for lighting fixtures” published by Csil (Centro Studi Industria Leggera - Centre for Industrial Studies - www.lighting.csilmilano.com) gives an interesting insight into the European market. In 2015 the lighting market in Western Europe grew by **7.2%**, reaching a value of **14.2 billion euro**. Almost all of this increase can be attributed to increased imports (lighting equipment and components), which, with regard to equipment, grew by almost 12% compared to 2014, surpassing 13 billion euro.

“LEDs will become the most common source of light in Europe by 2019”

Europe imports more from the East Asia and Pacific region than any other region and imports are still growing: in 2015, imports from that area increased by 15% at the expense of intra-European imports, which continue to grow but always lower rate (+ 8% in 2015 over the previous year). Although exports have grown (+ 6% compared to 2014) due to the consolidation of the presence of European companies in North America and Eastern Asia, Western Europe remains a net importer of lighting fixtures. In 2015, the European trade deficit amounted to 3.4 billion euro. The only Asian imports exceeded exports by almost 6 billion euro.

This is the picture that emerges from the 25th Report of Csil on the lighting market in Western Europe. According to Csil experts these dynamics have favored a gradual concentration of production. By analyzing a sample of 35 of the main European firms operating on the market, Csil found that over the past five years their market share increased overall from 57% to 79%. Particularly noticeable was the increase for **Philips Lighting, Zumbtobel, Osram, Schröder, Trilux, Fagerhult, Eglo, Glamox, iGuzzini and Flos**. Many of these companies are the ones that, in 2015, recorded the highest growth rates, with Martin Professional, Waldmann, Performance in Lighting, RZB, Thorpe, and Xal.

In general, the European production of lamps and lighting fittings has reached a value of almost 11 billion euro, however, an increase only by 0.8%. While countries such as the **UK, Greece and Germany** have reported 7% growth rates, others such as **Switzerland, Norway** and **Spain** have seen a decline of their lighting production.

EU TRADE OF LIGHTING FIXTURES

Germany is the largest European exporter, but also the largest importer. **Italy** is the second exporter of lighting fixtures in Europe, but it is the largest net exporter (exports at the net of imports, about EUR 800 million). The United Kingdom has the largest net deficit (EUR one billion more for imports in comparison with exports), followed by France and Switzerland. Exports of lighting fixtures have been on the rise by

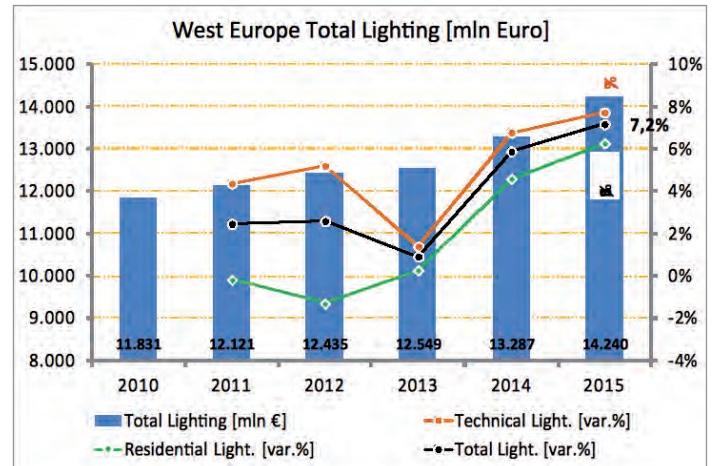


Figure 1 - Western Europe. total lighting consumption (million euro) and consumption of residential and technical lighting (annual percentage change) from 2010 to 2015

recording an average yearly growth of 6,4% for the 2010-2015 period. In 2015, the volume of exports reached EUR 9,920 million which represents an increase of 5,9% compared to the previous year.

“In 2015 the lighting market in Western EU grew by 7.2%”

IN THE MIDST OF A REVOLUTION

On the other hand, the lighting industry is in the midst of a

revolution. The technological component is increasingly important and whoever doesn't keep pace is lost.

According to projections of Csil (Figure 1) LEDs will become the most common source of light in Europe by 2019. Only in 2015, the share of LED devices has increased to 46%: specifically, + 25-30% with regard to the residential lighting and + 40% in commercial, industrial and outdoor lighting.

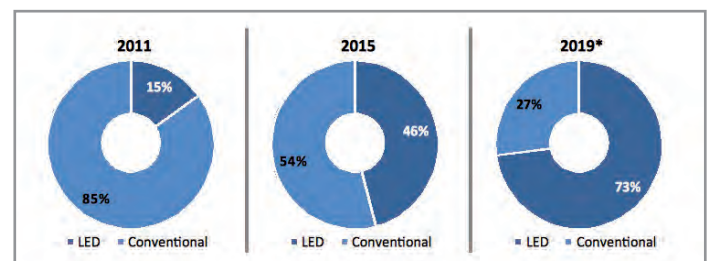


Figure 2 - Europe. Composition of light sources: LED vs traditional (percentage), 2011, 2015, 2019* forecast (Source: Csil)



Brexit: head's down, keep moving forward positively. Its just more of the same...

by Adam Fletcher

Chairman of IDEA and ECSN
www.ecsn-uk.org



Once again the pundits, politicians and commentators got the voting intentions of the British public wrong! Their considered conclusion was that the likely outcome of the **EU Referendum** was a marginal lead for the Remain camp. When in the early hours of Friday June 24th this was proved to be incorrect it wrong-footed equity and capital markets who had already effectively 'priced in' a remain vote. Their efforts to speedily revise their position contributed much to the uncertainty over breakfast that morning as markets adjusted to find a new level. Equity markets fell sharply but recovered within a few days to something reassuringly close to their pre-referendum levels. Conversely, on the currency market £sterling fell sharply against most currencies, particularly the € and US\$, and has not yet recovered.

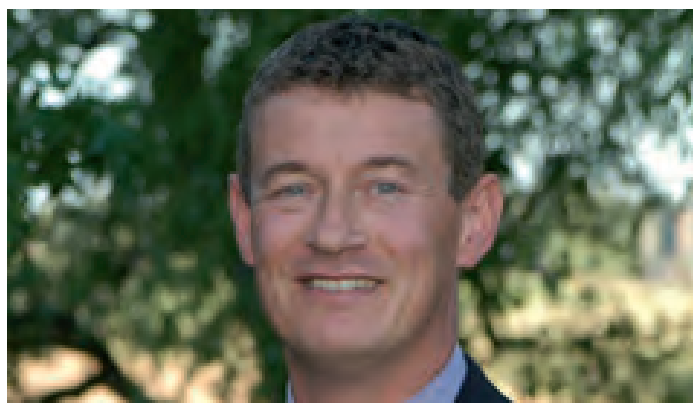
GOOD FOR SOME

The intervention of central banks with their large injection of public money played a critical role in stabilising the markets post-referendum. Don't expect them to admit it but I suspect some financial organisations made significant profits during this period of turbulence. Signalling by central banks that already historically low UK interest rates could possibly be cut further probably helped

boost equity markets as investors migrated to seek improved returns but at the same time has consigned £sterling exchange rates to remain low, at least until the UK economy strengthens. Electronic components are generally traded internationally in a base currency, historically US\$, which is then converted back into the appropriate local currency. In the short and probably medium term the UK electronic components supply network will have to embrace the likelihood that £sterling will remain weak against other major trading currencies and prices will adjust in-line with the prevailing exchange rate, both up or down.

RISING PRICES

Rises in the prices they are asked to pay for the electronic components they need are never welcome so most organisations have agreed an 'exchange rate window' with their trading partners, primarily to protect both parties from the vagaries of the currency market and ease the transactional cost. These agreements allow some exchange rate flexibility to occur without demanding a corresponding action, however when the rate passes the agreed threshold (as it almost certainly has recently) it also enables prices to be revised to a new agreed exchange rate level. The alternative is to purchase and pay for goods in the base currency.



POSITIVE BENEFITS

Viewed from a wider economic perspective an effective currency devaluation should give UK based organisations a significant price advantage in export markets, resulting in a sales boost, which will help drive recovery and growth. On the down side it also makes UK assets - whether property, goods, or the organisations that produce them - great value for prospective overseas purchasers.

On June 14th Swiss-based Datwyler Holdings AG announced that it had agreed terms to acquire UK-based **Premier Farnell**, a leading publically quoted manufacturer-authorised distributor, for an enterprise value of £615M in cash. The recent decline in the exchange rate against the Swiss Franc and the € of circa 10%, let's call it £60M for this transaction, is likely to provide a welcome if unplanned bonus for the acquirer. Then on 28th July Avnet Inc. made a counterbid for Premier Farnell at £691M, saving them \$66M after Brexit weakened

the exchange rate, although a deal of this scale and nature has to gain competition and markets regulatory approval before it can be completed, which is likely to take several months.

ECONOMIC UNCERTAINTY

There was already a concerning uncertainty of direction in the UK economy before the EU referendum, which following the result has significantly increased. It is however very hard to determine what, if any, impact this economic uncertainty is having on the UK electronic components market.

The consolidated opinion of ecsn's manufacturer authorised distributor members announced in December last year was that 2016 would be essentially a 'flat' year (i.e. no sales revenue growth) and although not yet fully compiled or released the outcome to May '16 will I predict turn out to be at the lower end of this forecast.

That said, ecsn members are reporting very positive feedback from their customer



organisations on the new design opportunities they are working on and their prospects for the full year outcome. I remain concerned however that this seemingly upbeat customer sentiment is only slowly feeding through to the hard statistical data the association collates and disseminates each month, although it's interesting to note that average payment terms in our market, which for the past 5 years were well beyond the industry norm of 55-60 days, have in the first 6 months of this year returned almost to this level, suggesting a welcome improvement in the financial health of our customers.

REASSURANCE

What is guaranteed (well almost) is that the higher level of economic uncertainty in the UK, the EU and in the wider international economy following the EU referendum will prevail in the medium term but it's impact on the electronic components supply network is, subject to some catastrophic event, likely to be muted. The UK's fundamental underlying economic position has not diminished and I'm confident that

after a short period of adjustment it will return to more stable and normal conditions but will be subject to prevailing macro-economic conditions just like all other economies.

Ecsn along with the other UK industry associations within the Electronic Systems Community (ESCO) and internationally within IDEA will continue to actively engage with government departments on critical areas like legislation and regulation to ensure the needs of our industry are not compromised.

Unfortunately the UK and international electronic components supply network have almost no influence on what will happen to equity, capital or currency markets in the short or medium term but are members remain well positioned to manage the period of turbulence that will inevitably follow the UK's implementation Article 50 of the Lisbon Treaty.

Organisations in our market have **long experience** and **good systems** to help manage large fluctuations in exchange rates and highly uncertain customer

demand, and today have good inventory availability to support their customer's needs. I recommend that we keep our heads down, keep working smartly, focus on our organisations and customer support and react to opportunities or threats in our market appropriately. In other words, it's just more of the 'same old, same old', let's just keep moving forward positively as per normal.... An effective currency devaluation should give UK based organisations a significant price advantage in export markets Ecsn members are reporting very positive feedback from their customer organisations on the new design opportunities they are working on and their prospects for the full year outcome. average payment terms in our market, which for the past 5 years were well beyond the industry norm of 55-60 days, have in the first 6 months of this year returned almost to this level.

ECIA Supply Chain related training

The US Supply Chain Council is developing training on topics related to both the work they are doing and the electronic component industry at large. New resources are continually being added. Documents are available only to members.

Examples of documentation are as follows:

- Product Part Approval Process (PPAP)
- Labeling – 2D Barcode Basics
- Authorized Distributor
- Certificates of Conformance and Manufacturer Certificates of Conformance
- Trade Compliance
- Point-Of-Sale explanation document FINAL
- RoHS (Restriction of the use of certain Hazardous Substances)
- Counterfeit Parts Training REACH (Registration, Evaluation, Authorization, and Restriction of Chemicals) Training
- Conflict Minerals Training
- Product Change Notifications

by **Robin Gray**
President ECIA (USA)



The South African electronics industry

by Warren Muir
AREI
adec@icon.co.za



With global economies in a state of uncertainty and first world reserve banks waving negative interest rates like magic wands to solve the problem, one has to wonder if business as we know it will survive this decade. Market sectors are jostling to catch people's attention for investment and products are being developed at such a rapid rate, that all the noise may be too much for humans to be able cope.

"South Africa is in a positive space to be able to grow its GDP"

The Global Electronics Industry per se is a large contributor to the noise with the mind boggling evolution in technology over the last 30 years.

Despite the doom and gloom, for the scientists, engineers, technicians and hobbyists times could not be better. The industry has opened up opportunity for millions being able to develop products using some assembly of electronic components just by watching a short YouTube clip. Add the capability of growing your own 3D Model and hey presto your making products that took companies years to develop in the 80's.

WHAT'S HAPPENING IN SOUTH AFRICA?

Speaking to Distributors, Designers and Contract Manufacturers the sentiment is positive. In Rand terms, the TAM numbers declared by the Distributors (DTAM) in the first half of 2016 are up **32%** on H1-2015, and **26%** higher than the 2nd half of 2015.

Comparing the numbers to the first half of 2012 when business sentiment was good in South Africa, the numbers declared

are up by approximately 63% with the biggest jumps in analogue, MCU/MPU and PLD's - PLD's growing a staggering **267%** over the five years. No wonder the rushed conclusion: "business is booming, look at the numbers".

To be really analytical, one has to normalise the numbers to a stable base, since the South African currency has been somewhat volatile. Thus making the assumption that the US Dollar has been stable over the period, and normalising to the annual average exchange reported by a South African bank, the picture is considerably different, as can be seen from the chart in *Figure 1*.

Although the numbers are a marginal 1.9% up from H1-2015, they are down by more than 16% from H1-2012, verifying the real contraction the Industry has seen. This contraction can be seen from the South African Chamber of Commerce (SACCI) **Business Confidence Index (BCI)**, which has manufacturing as a component, with a decline of 15.9% in confidence from 2012.

Although the June report was not available on publication of this article, indications were that the index would be 3.3 points higher for June 2016, thus the highest this year.

Numbers aside, as mentioned earlier in the article sentiment is positive and that is really what drives business.

South Africa is in a positive space to be able to grow its GDP, since:

- The Rand is hugely under-valued
- Commodities like Gold and Platinum are increasing in value
- South Africa is geographically segregated from "War on Terror" zones.

"Numbers aside, sentiment is positive and that is really what drives business"

These factors present opportunities for the electronics sector allowing businesses to be competitive in the Global Market specifically in Design, Development and Manufacturing. We have seen growth in the Military Sector, Mining and IoT and anticipate further growth in the second half of 2016.

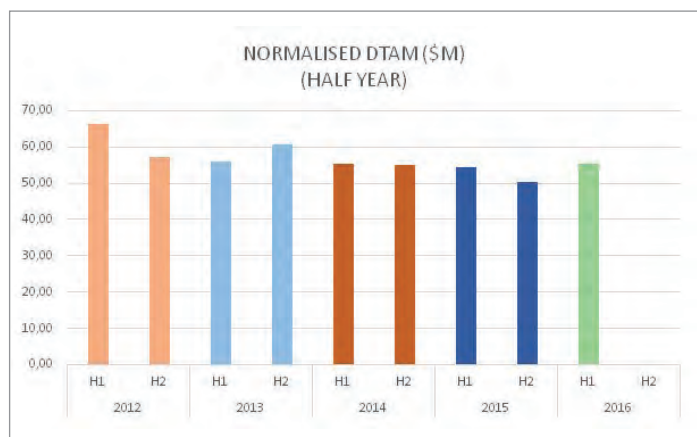


Figure 1 - 5-Year DTAM declared per half year - Source: AREI

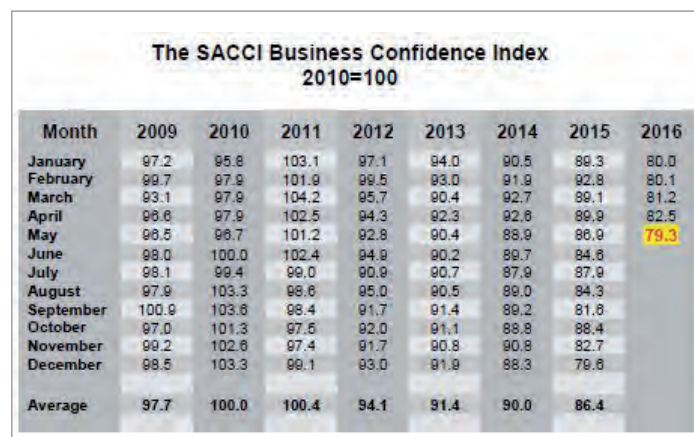


Figure 2 - BCI since 2009 - Source: SACCI.org.za

A solid performance for UK and Ireland electronics components markets

by Adam Fletcher
Chairman of ECSN
www.ecsn-uk.org



The dramatic political and economic events of recent weeks in the UK have been more reminiscent of an unfolding classical Opera by Wagner or Mozart than the normal mundane business-as-usual scenario we are all used to working within. However as the dust begins to settle organisations are able to start to review their performance in the first half of the year, compare their performance with other industry players and the market and refocus their operations for growth into the second half of the year...

OUVERTURE

In December '15 ecsn released its consolidated Authorised Distributor (afdec) members' Annual Forecast for the UK and Ireland Electronic Components Market. The forecast predicted a likely sales growth outcome in the range (2%)-to-2% for 2016, with a mid-point of 0% i.e. a 'flat' or very low growth year.

"ecsn' members have a good track record of forecasting their market"

Authorised distributors predicted that first half sales revenues would finish in the range (3%)-to-0% i.e. a flat or declining outcome for the first half of the year, but expressed some confidence that growth would return in the second half of the

year. In the event, the actual first half outcome of **1.8%** sales revenue growth was significantly better than expected. See graphic 1: DTAM by Quarter.

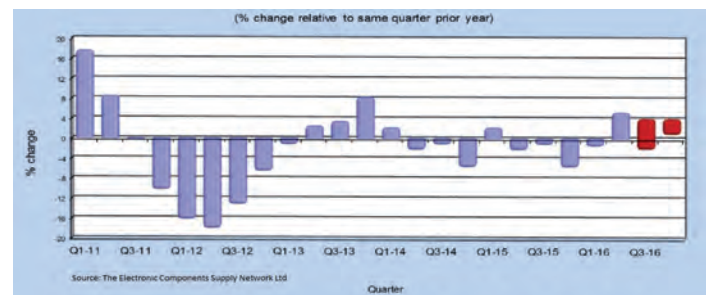
Admittedly this growth is fairly low for the electronic components market but it should be remembered that it is significantly better than many other sectors in the UK economy. This table shows the percentage change in value by quarter of the UK and Ireland Distributor Total Available Market (DTAM) relative to the same quarter in the prior year. It shows a period of growth in 2011, moving to decline in 2012, recovering slightly in 2013 followed by a decline in 2014 and 2015 with a recovery in Q216.

The red columns show ecsn's forecast for the second half of the current year in the range of 2%-to-4% in Q3. and 1%-to-4% in Q4.

ACT 1: FORECASTS

ecsn's afdec members have a good track record of accurately forecasting their market and have only once had to re-issued a forecast mid-year, and that only because of a truly exceptional event. They don't believe the turmoil surrounding the **Brexit** referendum outcome will disrupt the UK and Ireland electronic components market sufficiently to warrant a revision of the forecast for 2016 they delivered at the end of 2015.

However, that doesn't mean that ecsn members do not have some concerns about the



Graphic 1 - DTAM by quarter - Source: ECSN

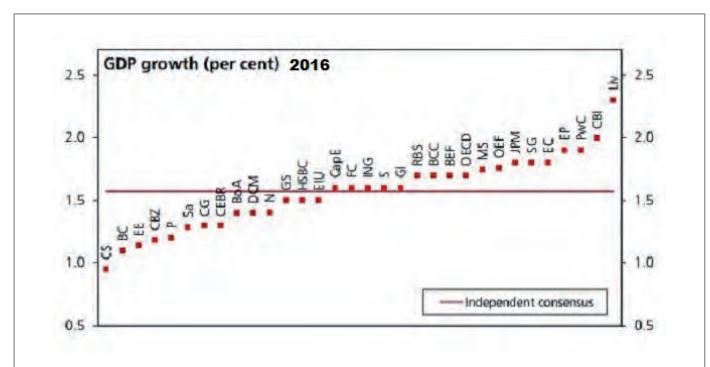
way the market will react in the second half of this year but on balance, they don't believe the outcome will significantly impact the full year result.

HM Treasury's Post-Brexit poll of 26 eminent independent forecasting organisations conducted in July '16 predicted UK GDP growth at an average of a little over 1.6%, a sad decline of (0.6%) from their January forecast. See graphic 2: GDP Growth (%) 2016

"Complexively, 2016 will be a flat year"

Contrast this information with the predictions the same forecasting organisations came up with for next year and published by HM Treasury at the same time. See graphic 3: GDP Growth (%) 2017.

The consensus GDP growth in 2017 is lower at 0.8% but it's interesting to note the wide spread or range of these



Graphic 2 - GDP growth (per cent) 2016 - Source: ECSN



News from Germany

by FBDi

www.fbd.de/fbdi.html



THE FBDI ASSOCIATION HAS LAUNCHED ITS NEW WEBPAGE

*New structure, new design –
faster and more interactive*

The completely revised website of the FBDi Association is now online with a new design and improved structure. At www.fbd.de/fbdi.html, we now provide considerably more comprehensive information about our work. Visitors will benefit from the clear structure and faster navigation through the networked information. Interactivity of the different modules allows fast and intuitive user guidance. In addition to the basic accessibility, new technology means that the pages are also optimised for mobile devices such as smartphones.



"Our new interactive website is an excellent showcase and an invitation for people to find out about the association and its services", says Wolfram Ziehfuss, Managing Director of FBDi Association. "We want to thank the team at design and advertising agency SMD. The creative house that provided support with our concept, development and implementation and has ensured that this technical implementation has gone smoothly."

independent forecaster opinions based on their individual modelling of the UK economy. That said, it's apparent that the majority of these forecasting organisations do believe that the UK economy will continue to grow into 2017.

ACT 2: UK

industrial output The latest Industrial Output data released by the Office For National Statistics in Q2 '16 gives a better sense of the underlying trend in what is often volatile monthly data. OFNS figures show that industrial output surged by 2.1% in the three months to June '16, in line with the estimate included in last month's preliminary gross domestic product data. This is the biggest gain for a calendar quarter since Q'3 1999.

This data suggests that ecsn Authorised Distributor members' 1H '16 results are very much in-line with UK GDP and manufacturing output, which has actually been performing reasonably well of late.

**"OFNS figures show
that industrial output
surged by 2.1%
in three months
to June 2016"**



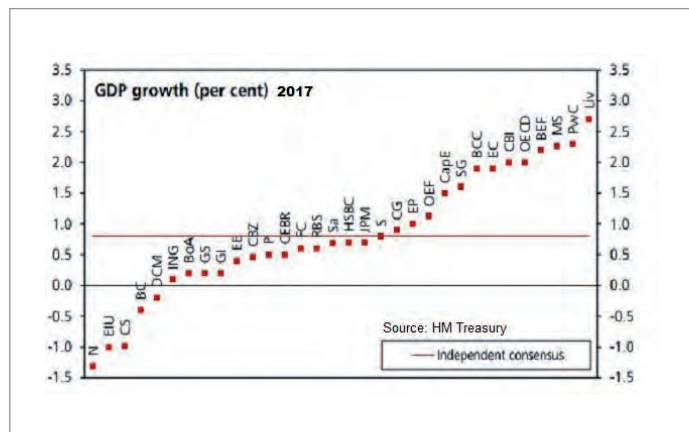
Whilst the current fluctuation in the exchange rate of £sterling to other important base currencies - particularly the US\$ and the € - remains a cause for concern, ecsn members and their customers recognise that there is very little they can do to offset this and will simply continue to intelligently work through the process.

FINALE

My best guesstimate based on my conversations across the

electronic components industry is that sales revenue growth for the UK and Ireland electronic components markets in the second half of 2016 will be in the range 1%-to-2%, driven predominantly by the performance in Q3 '16, as history shows that the market cools rapidly each year as we progress into the final quarter.

**"History shows
that the market
cools rapidly
each year
as we progress
into the final
quarter"**



Graphic 3 - GDP growth (per cent) 2017 - Source: HM Treasury

But like all good shows we mustn't close the curtain on our 2016 opera 'till the fat lady sings...We will not know the outcome for the full year until the close of business on the 30th December but can we at least prepare to deliver a standing ovation...

The hottest Connector Technology of 2016 (So Far!)

by Dave Brearley
Bishop & Associates



Writing about connector innovations is always fun; recent developments are no exception. Innovative connector solutions have been introduced that increase density, speed, flexibility, reliability, and power delivery. There are even several new solutions being promoted that promise to deliver power without any physical connection at all. First, in the category of increased density, two new front-panel pluggable form factors are being developed with the objective of increasing the bandwidth and number of ports that can be packed into a standard 1U enclosure.

MICROQSFP

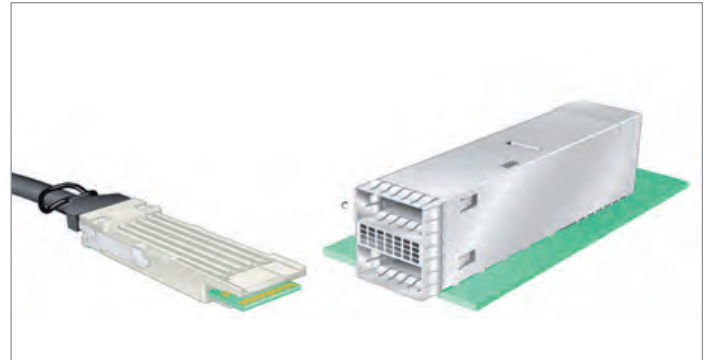
MicroQSFP squeezes all of the functionality of QSFP (four channels) into an SFP-sized port that allows up to 72 ports on the front of a 1U switch card. Each port can run signals at 25 or 50Gb/s, providing bandwidth up to 100Gb/s per port. Pluggable fibers can connect each port to the next-level upstream

or downstream element, making this a very efficient and convenient switch architecture. Special attention has been paid to improved thermal management with air channels between blocks of four ports. Promoting members of the MicroQSFP Multi Source Agreement include **Broadcom, Brocade, Cisco, Dell, Foxconn, Huawei, Intel, Lumentum, Juniper, Microsoft, Molex** and **TE Connectivity**.

QSFP-DD

QSFP-DD is a new standard for pluggable modules that promises high-speed, double-density connectors for optical fibers to system front panels. With eight lanes carrying 25Gb/s NRZ signal streams or 50Gb/s PAM4 streams, it is possible to have up to 14.4 Tb/s of aggregate bandwidth from one switch slot as well as to place up to 36 of these ports on one front panel, each carrying up to 400Gb/s.

This important new MSA (multisource agreement) is supported by chip suppliers like **Broadcom, Mellanox,** and **Intel;** system suppliers



QSFP-DD doubles the bandwidth per port and improves thermal performance

including **Brocade, Cisco,** and **Juniper;** optical device suppliers including **Finisar, Lumentum, Luxtera, Oclaro;** and connector suppliers including **Molex, Foxconn** and **TE Connectivity**.

ON-BOARD OPTICAL TRANSCEIVERS

On-board optical transceivers are making huge advances with increased capacity and reduced cost. In principle, the idea is to place an optical transceiver as close as possible to the host ASIC or CPU, thus minimizing the electrical signal length on the PCB to reduce attenuation and signal distortion.

"There are even several new solutions being promoted that promise to deliver power without any physical connection at all"

The optical transmitter is then connected to an optical cable that can "fly over" all of the objects on the board to a conventional optical front-panel connector.

Significant products include Amphenol-FCI's LEAP on-board transceiver, which delivers an aggregate 300Gb/s transmission over 12 fibers in an MT connector format, and Samtec's Firefly system, which provides a 28Gb/s receptacle connector on the board that can mate with fiber transceivers, multi-conductor coax, or high-speed twinax cables.

The Firefly system also offers active or passive equalization inside the cable, which permits longer cable lengths or higher data rates.

Samtec is aggressively tooling



1U chassis with 72 MicroQSFP ports available on the front panel



EID NEWS MARKET

• **Analog Devices buys a specialist in cybersecurity**
Analog Devices announced the acquisition of the Cyber Security Solutions (CSS) business of Sypris Electronics. This acquisition represents a significant leap forward in ADI's ability to deliver secure analog solutions demanded by current and future market needs.

• **Weidmüller acquires Bosch Rexroth Monitoring Systems**
The Weidmüller group is taking over Bosch Rexroth Monitoring Systems from Bosch Rexroth. Both companies signed the corresponding acquisition contracts on 1 August 2016. They agreed to maintain confidentiality about the purchase price.

Source: Europe Electronics



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variants of this family to expand the customer base for mid-board pluggable solutions.

I/O CONNECTORS

The OCTIS cable products are designed to address the need for a multitude of small boxes needed to facilitate deployment of 5G wireless infrastructure as well as many industrial, IoT, and medical applications. The front panel connector pitch of 26mm is well suited for many separate cables in a small space.

WIRELESS POWER FOR END USERS

Another area of fruitful innovation has been the effort to eliminate traditional connectors and cables, replacing them with wireless counterparts. We are all familiar with the power of Wi-Fi to connect many end users quickly and securely to the web, but now developments are underway to wirelessly deliver power to the end user as well, even in public spaces.

Currently there are four different technologies competing to be the wireless charging method for your devices.

Cota Real Wireless Power Platform, invented by Ossio, uses a base station that can deliver up to 1W of power to a device 30 feet away with objects and people

in the path. This system uses intelligence to sense any obstacles and to refocus the high-frequency beam to avoid them. This power level is about 1/3 of the level of a direct USB power connection but is fully sufficient to eliminate the need for users to ever plug in.

"On-board optical transceivers are making huge advances with increased capacity and reduced cost"

The receiver is small enough to fit in a phone or small tablet. Molex invested in this technology in January of this year. XE, a Ukrainian startup, is developing a wireless charging technology that uses frequencies below 100MHz to charge mobile-phone-like devices. It uses a special case or cradle for the phone, and the transmitter can support multiple devices simultaneously. Ivan Chuba, the founder of XE, likens the power transmission method to that of an old crystal radio. Transmission power is less than 5W, a value said to be safe for people and animals.

Energous has developed a wireless charging technology called **WattUp**, which received an award for "Best of CES" from Engadget. A transmitter sends energy via an RF signal, similar to WiFi, to a receiver or attached

to a device up to 15 feet from the transmitter.

According to Engadget, highly targeted pockets of energy are delivered via multiple miniature antenna arrays and custom control chips in the transmitter. An antenna and custom chip in the receiver captures the energy. This system transmits on demand, as the receiver first asks for power, then the transmitter locks on to deliver the energy to where it is needed. Up to 12 devices can share one transmitter. This system uses the 5.8GHz unlicensed RF spectrum.

uBeam is building a solution that uses ultrasound waves instead of electromagnetic waves to transmit the power because, it says, the ultrasound approach is safer. In principle, it uses many transmitters that configure themselves to focus power on the receiving device. This early-stage development technology does require line-of-sight connection between transmitter and receivers. The founder, Meredith Perry, expects the first product to be a consumer phone case and wall-mounted transmitter.

All of these technologies offer the promise of continuously charging all your devices without separate wall warts and cables for each device. It should be an interesting fight to see which wins.

Hopefully one will emerge as clearly superior so that it can be broadly deployed, allowing us to charge at home, in the office, in the car, at coffee shops, and airports. May the best technology win!



Cota wireless power receiver in an AA-battery form factor