Yearbook of World Electronics Data 2016

Computers
Communications
Consumer
Control & Instrumentation
Medical
Industrial
Office Equipment
Semiconductors
Passive Components
Other Components

REED ELECTRONICS RESEARCH

The Yearbook of World Electronics Data 2016 – An Overview of Global Electronics Production & Markets

Output for the global electronics industry is forecast to reach US$1,861 billion in 2015 and compares to US$1,047 billion thirty years earlier. Over the period the dynamics of the industry has changed. Production has migrated from high cost to low cost locations and China has emerged as the focal point for electronics equipment production for high volume products in the computing, consumer and communications, or the 3C segment of the market.

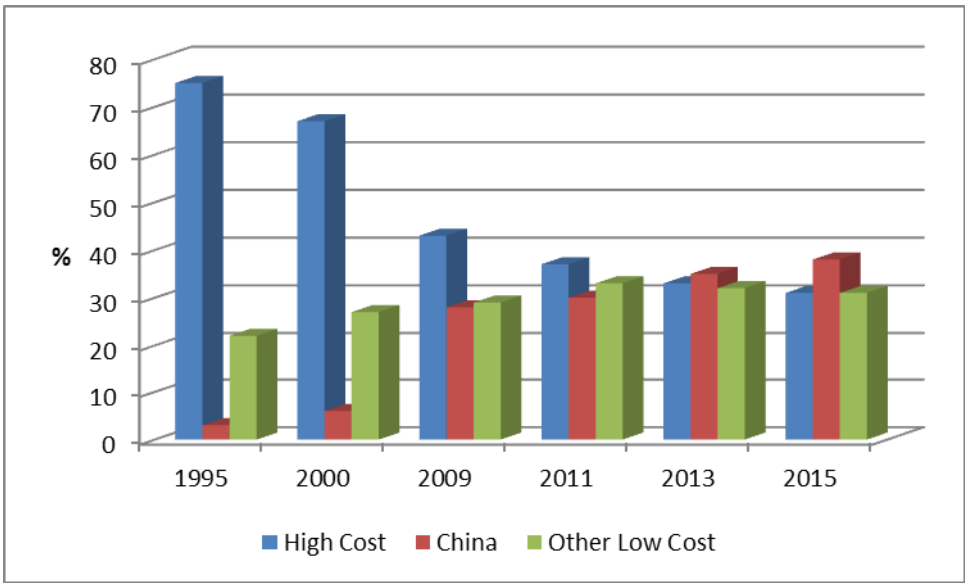
In 2015, China is forecast to account for 38% of electronics equipment production up from 2.6% in 1995 while low-cost geographies overall accounted for 69% of the total in 2015 (1995: 25%). In the same period production in the mature markets has fallen to 31% from 75% in 1995.

Despite the migration of production to lower cost facilities a significant proportion of equipment production, where the focus is on lower volume higher mix products, has remained in Western Europe and the US. These sectors, primarily in the industrial, medical and communications (including defence) sectors of the market will continue to offer significant opportunities for a wide range of companies. Both regions will also benefit from their leading position in research, design and development.

The requirement for lower cost manufacturing within closer proximity of the end market has benefited both Mexico and Central and Eastern Europe. Initially, the focus for higher volume manufacturing the pressure to reduce costs has seen an increase in the production of more complex products, a trend which will accelerate over the next five years.

In Asia, China itself is coming under increasing pressure as the major global OEMs and Electronics Manufacturing Services (EMS) providers look to relocate production to offset higher costs. India and Indonesia, with large domestic markets and the recent move by their respective governments to introduce requirements for “local” manufacture, and the benefits of lower costs in Vietnam, will be attractive alternatives to manufacturing in China.

The benefits from producing within or close to the market will also see the transfer of production currently undertaken in Europe and North America to the emerging markets.



Percentage of Electronics output by Region 1995-2015

The Yearbook of World Electronics Data – tracking developments in the global electronics industry

With a history spanning over 40 years Reed Electronics Research (RER) has provided an invaluable insight into the global trends, regional variations and the underlying state of the global electronics market for all stages of the supply chain - OEM, contract manufacturing and design, components and materials suppliers to financial /industry analysts and government and academia.

Although encompassing a range of published and bespoke products the core of RER's research programme is one of the most comprehensive statistical databases covering the global electronics industry, with the resulting analysis being published through four concise and clear demographic volumes, as a series of individual country reports, through customised solutions to meet specific client requirements and, from 2012, as a series of Excel databases providing the combination of both historical and forecasted data.

In 2016, the Yearbook of World Electronics Production will be published in three volumes which will enable us to update all the countries on an annual basis. The Volume 1 will continue to cover Western Europe will be published in February. This will be followed in the spring of 2015 by the next edition of the America, Japan & Asia Pacific volume which will include data on China, Mexico and Vietnam in addition to the present 16 country coverage. The final volume will include the countries covered in the current volume plus the addition of Turkey. The World Summary, which will continue to track the minor countries currently published in the Volume 3, will also be published in this edition and will be published in August 2016.

The Yearbook of World Electronics Data

The Yearbook of World Electronics Data series presents market and production statistics for the GLOBAL electronics industry. Available in thee published volumes covering 53 countries and 13 major product groups, the yearbook is used in the formulation of business and market planning, in tracking trends based on an clear understanding on how the industry has developed historically and to provide a basis for medium and long-term forecasting.

53 country coverage, 13 major product groups
… comparable **country by country** and **product by product.**

Methodology

The Yearbooks highlight market trends and opportunities and offer corroborative evidence for individual research. Each new edition is fully revised and updated. Trade statistics are analyzed in detail, with over 500 separate categories being employed. Production statistics are collected from Government and Manufacturer's Association sources where these are available. Extensive use is also made of research reports, company reports, news items and work by other consultants to supplement and cross check the official and semi-official sources.

Markets are forecast in real terms for the next five years, with production forecast for the next two years, using constant exchange rates and excluding inflation. These are based on our extensive knowledge of the historical performance of each product, the general economic outlook and the major growth influencing factors.

Who will benefit

The Yearbook is essential research providing key data for all areas of the electronics industry including:

- Distributors and manufacturers of electronic components and materials.
- Suppliers of electronic production equipment.
- OEMs.
- EMS Providers.
- Government, including investment organizations.
- Financial and industry analysts.
- Academic institutes & universities tracking developments in the electronics industry.

2016 Series

Volume 1 201 6 West Europe
Synopsis: Economic Overview; Electronics Market Overview; Imports 2013-2014; Exports 2013-2014; Production Data 2013-2016; Market Data 2013-2019
16 country coverage
Austria; Belgium; Denmark; Finland; France; Germany; Greece; Ireland; Italy; Netherlands; Norway; Portugal; Spain; Sweden; Switzerland; UK
Publication Data: March 2015

Volume 2 2016 America, Japan, Asia Pacific
Synopsis: Economic Overview; Electronics Market Overview; Imports 2013-2014; Exports 2013-2014; Production Data 2013-2016; Market Data 2013-2019
19 country coverage
Australia; Brazil; Canada; China, Hong Kong; India; Indonesia; Israel; Japan; Malaysia; Mexico, Philippines; Singapore; South Africa; South Korea; Taiwan Thailand; Vietnam, USA
Publication Data: June 2016

Volume 3 2016 East Europe & World Summary
Synopsis: Economic Overview; Structure of the Industry; Imports 2013-2014; Exports 2013-2014; Production Data 2013-2016; Market Data 2013-2019
53 Country World Summary covering production data 2013-2016 and market data for 2013-2019
13 country coverage
Bulgaria; Croatia; Czech Republic; Estonia; Hungary; Lithuania; Poland; Romania; Russia; Slovakia; Slovenia; Turkey, Ukraine
Publication Data: August 2016

For each country production and market data is supplied for the following product groups:

- Computers
- Consumer – Video; Audio; Personal
- Control & Instrumentation
- Medical & Industrial
- Office Equipment
- Radio Communications
- Telecommunications
- Components – Passive Components; Semiconductors; Other Components

Related Products & Services

With a history spanning over 40 years Reed Electronics Research (RER) has provided an invaluable insight into the global trends, regional variations and the underlying state of the global electronics industry for all stages of the supply chain - OEM, contract manufacturing and design, components and materials suppliers to financial /industry analysts and government and academia.

Although encompassing a range of published and bespoke products the core of RER's research programme is one of the most comprehensive statistical databases covering the global electronics industry. In addition to the Yearbook, the data can be supplied as a series of individual country reports, through customised solutions to

meet specific client requirements and as a series of Excel databases providing the combination of both historical and forecasted data.

European Electronics Production 2000-2019

As part of its programme of research covering developments in the European electronics industry RER has released a new statistical database providing a medium term outlook for electronics production in Europe. Covering the period 2000-2019 the research allows you to track developments both geographically and by major product group.

The database is provided as an Excel spreadsheet providing production data for 13 product groups and 29 countries split by Western Europe and Central and Eastern Europe. In addition, a PDF document provides a European overview as well as allowing the user to quickly reference data for individual countries.

Global Electronics Production & Markets

Launched in 2012, Global Electronics Production & Markets provides top line analysis on the global electronics industry for the period 1995 to 2019 for markets and 1995-2016 for production. Through two Excel databases (Pivot Tables) you can quickly analyse the structure of the global industry and how it has changed both geographically, through RER's unique coverage of 53 countries, and by thirteen major product groups. The database will be fully updated in August 2016.

Country Reports

Drawing on data from its core statistical database RER provides a quick, reliable and cost-effective assessment of the electronics industry for an individual country. For a full listing please visit www.rer.co.uk

Custom Research

Building on the flexibility of the two databases and the Yearbook series we can quickly search data by product or country/region to provide solutions tailored to your specific needs or budgets. Ideal for input into internal presentations/ documents the data is supplied via email.

European Electronic Markets Forecast

Market data is only one part of the equation when analyzing the European electronics industry. Updated monthly, *European Electronic Markets Forecast* (EEMF) enables you to track with minimum time and cost, the key issues and opportunities impacting the European electronics industry. From originally researched articles to the latest company developments and market analysis EEMF is your virtual "Research Analyst" utilizing over 30 years of industry and market research experience to provide you both in hardcopy and electronic formats not only reliable but objective analysis and news on the European and global electronics industry.

Summary of Contents

Market Analysis: Up-to-the-minute analysis of the key sectors of the European and Global electronics industry

Industry News: The latest industry and company news split by:

- Finance
- Mergers & Acquisitions
- Automotive
- Distribution
- Electronic Manufacturing Services/PCB
- Production
- Semiconductors
- Renewable Energy/CleanTech

Asia Pacific Electronics: Highlighting the growing importance of Asia on the global electronics industry, EEMF provides a monthly summary of key developments within the region.

For additional information on the above publications or Reed Electronics Research's complete range of research products please contact or visit www.rer.co.uk

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SAMPLE DATA

Over the following pages we provide sample data from the **2015** Yearbook series. This includes data from all three reports.

SUMMARY OF WORLD PRODUCTION 2012

Country	$M Computing	$M Office Equip	$M Control & Instr	$M Medical & Industrial	$M Radio Comms & Radar*	$M Telecomm-unications	$M Consumer	$M Compo-nents	$M TOTAL
Australia	1186	36	1082	392	1289	876	53	472	**5386**
Austria	397	1	1032	926	269	386	10	1868	**4890**
Belgium	891	-	774	441	335	179	11	1053	**3684**
Brazil	22282	255	1761	364	6415	1160	2990	2397	**37624**
Bulgaria	110	20	145	56	80	20	118	199	**748**
Canada	2200	51	2320	1235	4050	225	37	563	**10681**
China	279000	4270	9500	7350	115000	35500	51715	101150	**603485**
Croatia	38	3	67	50	50	55	-	73	**336**
Czech	6900	20	560	190	900	280	2965	1750	**13565**
Denmark	147	0	1036	928	150	126	125	629	**3141**
Egypt	33	2	9	12	72	31	144	42	**346**
Estonia	80	1	160	47	1120	622	-	89	**2119**
Finland	195	-	808	677	819	609	-	592	**3700**
France	1701	55	3768	2024	11103	1714	329	7462	**28157**
Germany	6192	195	23213	7258	4033	2571	1372	17512	**62345**
Greece	141	6	54	18	222	96	3	42	**581**
Hong Kong	187	29	50	168	174	129	421	560	**1717**
Hungary	3195	90	2260	271	3710	700	2997	1745	**14968**
India	2082	97	1827	581	8271	1617	3086	1663	**19224**
Indonesia	1850	65	170	250	700	310	4051	3870	**11266**
Ireland	2109	15	731	1700	256	224	106	3010	**8153**
Israel	1670	13	1470	1620	1475	1450	31	2518	**10247**
Italy	724	12	3695	1753	3205	1301	122	5182	**15994**
Japan	26763	1004	12597	8080	22773	6775	11029	81255	**170276**
Lithuania	25	7	110	49	70	20	33	74	**388**
Malaysia	13161	184	3526	531	1806	1742	6427	31627	**59004**
Mexico	18150	65	2000	987	6500	2100	17567	4607	**51976**
Netherlands	1455	128	2551	2812	532	295	73	1421	**9267**
N Zealand	270	6	208	67	173	81	7	163	**975**
Norway	139	-	825	160	514	184	-	143	**1964**
Philippines	4250	21	250	73	630	65	264	6626	**12179**
Poland	2370	50	550	235	790	775	5087	562	**10419**
Portugal	410	-	115	121	167	90	1077	653	**2632**
Puerto Rico	680	3	200	295	100	70	11	324	**1683**
Romania	535	9	330	165	400	460	207	200	**2306**
Russia	1200	90	550	410	375	300	1921	690	**5536**
Saudi Arabia	200	3	208	144	112	104	6	79	**855**
Singapore	12760	180	3520	716	4400	586	400	35611	**58173**
Slovakia	670	6	110	150	190	145	4614	1050	**6935**
Slovenia	50	2	180	52	165	110	19	222	**800**
South Africa	365	7	146	102	243	328	198	146	**1536**
South Korea	14025	235	600	2250	21570	950	3635	58869	**102134**
Spain	462	6	333	558	667	564	132	963	**3685**
Sweden	119	-	1757	353	3097	2935	44	1040	**9346**
Switzerland	457	16	4330	2172	463	323	5606	2036	**15404**
Taiwan	4040	12	402	4498	8182	808	2012	44800	**64756**
Thailand	13168	54	481	228	897	1346	4492	8178	**28844**
Turkey	1882	20	120	360	500	220	2299	268	**5669**
UK	1497	95	5537	2952	7992	616	124	4525	**23338**
Ukraine	170	9	150	78	280	170	24	160	**1041**
USA	31900	2250	40320	29012	71380	6041	731	55878	**237512**
Venezuela	280	12	70	54	250	60	19	98	**843**
Vietnam	3600	30	110	250	9900	600	948	2456	**17894**
TOTAL	**488365**	**9742**	**138679**	**86223**	**328817**	**79045**	**139692**	**499163**	**1769726**

SUMMARY OF EAST EUROPE PRODUCTION 2012

Table 3.4.1

Country	$M EDP	$M Office Equip	$M Control & Instr	$M Medical & Industrial	$M Radio Comms & Radar*	$M Telecomm-unications	$M Consumer	$M Compo-nents	$M TOTAL
Bulgaria	110	20	145	56	80	20	118	199	**748**
Croatia	38	3	67	50	50	55	-	73	**336**
Czech	6900	20	560	190	900	280	2965	1750	**13565**
Estonia	80	1	160	47	1120	622	-	89	**2119**
Hungary	3195	90	2260	271	3710	700	2997	1745	**14968**
Lithuania	25	7	110	49	70	20	33	74	**388**
Poland	2370	50	550	235	790	775	5087	562	**10419**
Romania	535	9	330	165	400	460	207	200	**2306**
Russia	1200	90	550	410	375	300	1921	690	**5536**
Slovakia	670	6	110	150	190	145	4614	1050	**6935**
Slovenia	50	2	180	52	165	110	19	222	**800**
Ukraine	170	9	150	78	280	170	24	160	**1041**
TOTAL	**15343**	**307**	**5172**	**1753**	**8130**	**3657**	**17985**	**6814**	**59161**

SUMMARY OF EAST EUROPE MARKETS 2012

Table 3.5.1

Country	$M EDP	$M Office Equip	$M Control & Instr	$M Medical & Industrial	$M Radio Comms & Radar*	$M Telecomm-unications	$M Consumer	$M Compo-nents	$M TOTAL
Bulgaria	366	9	125	96	312	142	288	1033	**2371**
Croatia	328	15	96	82	251	129	163	119	**1183**
Czech	2027	73	1028	315	847	251	781	4837	**10159**
Estonia	197	3	103	68	105	45	72	835	**1428**
Hungary	2401	43	407	354	670	328	669	5591	**10463**
Lithuania	186	14	88	50	180	77	152	184	**931**
Poland	3875	134	1228	479	2164	1292	1617	3453	**14242**
Romania	1116	34	465	246	1138	636	419	1768	**5822**
Russia	8797	184	2552	2811	5919	2090	2973	2351	**27677**
Slovakia	934	17	491	227	552	241	349	2545	**5356**
Slovenia	333	13	166	57	317	119	135	283	**1423**
Ukraine	482	31	335	346	837	324	260	1369	**3984**
TOTAL	**21042**	**570**	**7084**	**5131**	**13292**	**5674**	**7878**	**24368**	**85039**

4.3 Czech Republic

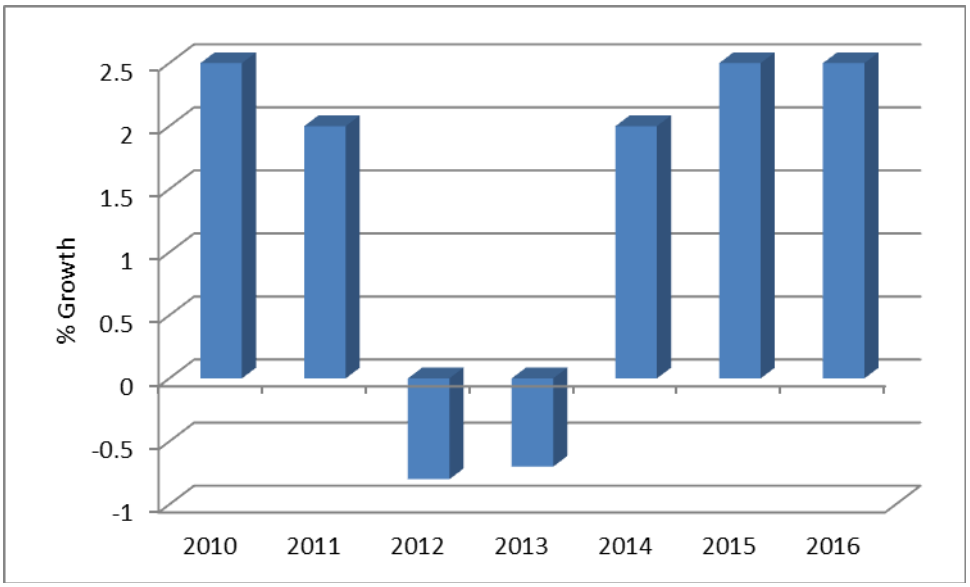
4.3.1 Economic Outlook

- GDP posted a strong recovery in 2014 with growth of 2.0%, a marked improvement on the contraction of 0.7% in the previous year. The rebound in investment was particularly strong, although falling inventories weighed slightly on growth. Although export growth was buoyant, import growth was even greater and net exports had a slightly negative impact on real GDP growth. Confidence indicators have remained robust in the opening months of 2015, suggesting continued strength in domestic demand. Real GDP is expected to grow by 2.5% and 2.6% in 2015 and 2016, respectively.

- Investment has played a major role in the rebound in the Czech economy. Investment rose by 4.5% in 2014 and compared to a contraction of 4.4% in 2013. There was a particularly strong pick up in public investment, as the government made a renewed effort to co-finance projects before the expiry of EU funds. Investment is expected to continue fuelling growth in 2015 but is forecast to ease in 2016.

- HCIP inflation averaged 0.4% in 2014, less than the 2013 rate despite the intervention by the Czech National Bank in November 2013 to further ease the monetary policy stance via a weakening of the CZK exchange rate. The substantial decline in oil and other commodity prices since mid-2014 is forecast to weigh on inflation in 2015 which is expected to ease to 0.2% in 2015 before rising again to 1.4% in 2016.

- The renewed strength of the Czech economy has led to improved labour market conditions, with unemployment falling to 5.8% in the final quarter of 2014. A projected further decline in the unemployment rate is expected to contribute to tighter labour market conditions over the forecast period.



GDP Growth 2010-2016

Czech Republic's Leading Economic Indicators

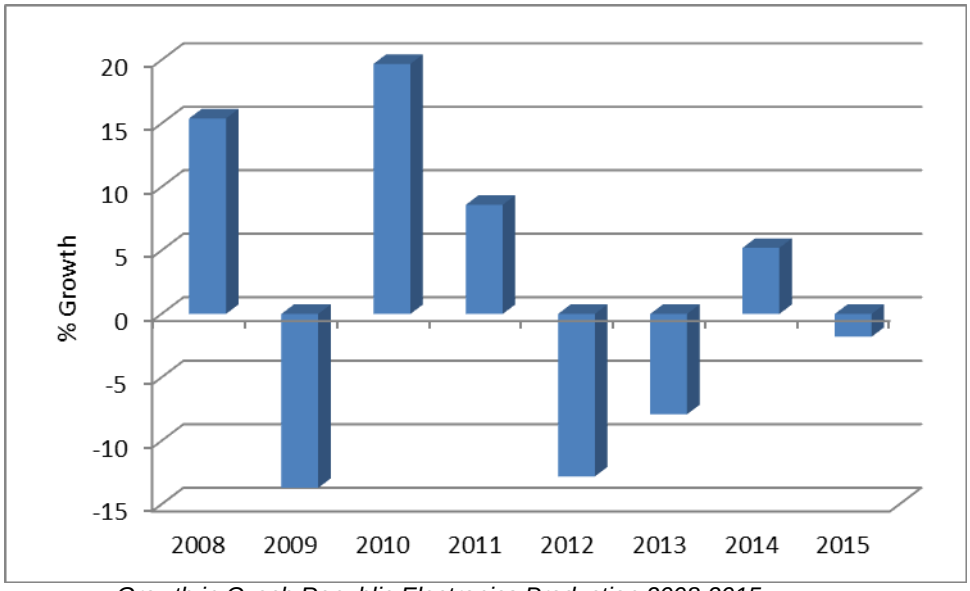
	Actual				Forecast		
% Increase	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Growth of GDP	2.5	2.0	-0.8	-0.7	2.0	2.5	2.5

Source: EU Economic Forecast, Spring 2015

4.3.2 Electronics Industry Overview

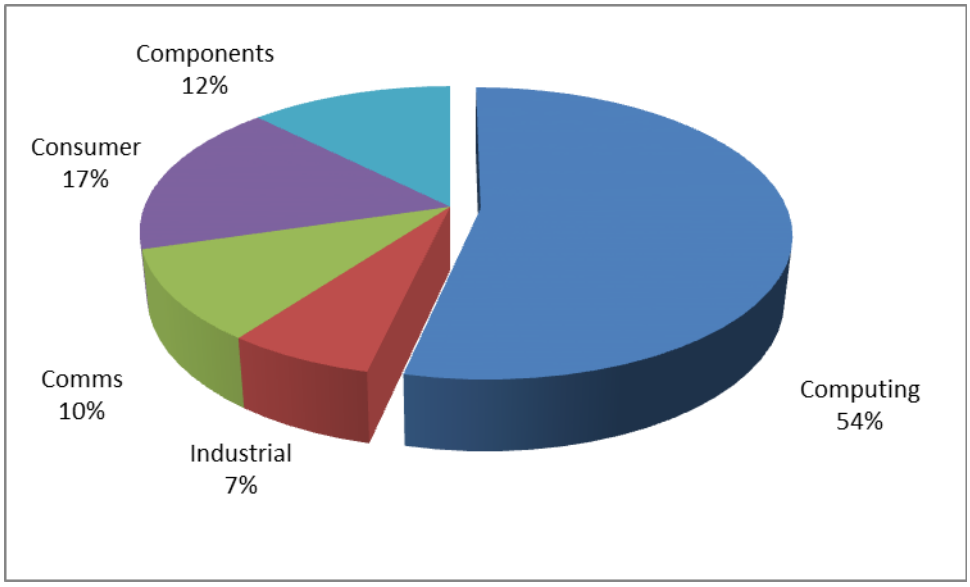
Overview

Foreign direct investment (FDI) has been a major factor in the growth in the Czech electronics industry. Between 2000 and 2011 electronics output increased from an estimated US$1.9 billion to US$15.6 billion, but has since shown a period of volatility as output is adjusted to meet fluctuations in demand from the key computer, communications and consumer video segments. In 2014, overall electronics output increased by 5.2% with growth driven by the computer and wireless communication sectors. Output, however reflecting weaker demand for PCs is forecast to decline by 1.8% to US$12.9 billion in 2015.



Growth in Czech Republic Electronics Production 2008-2015

Sector Analysis

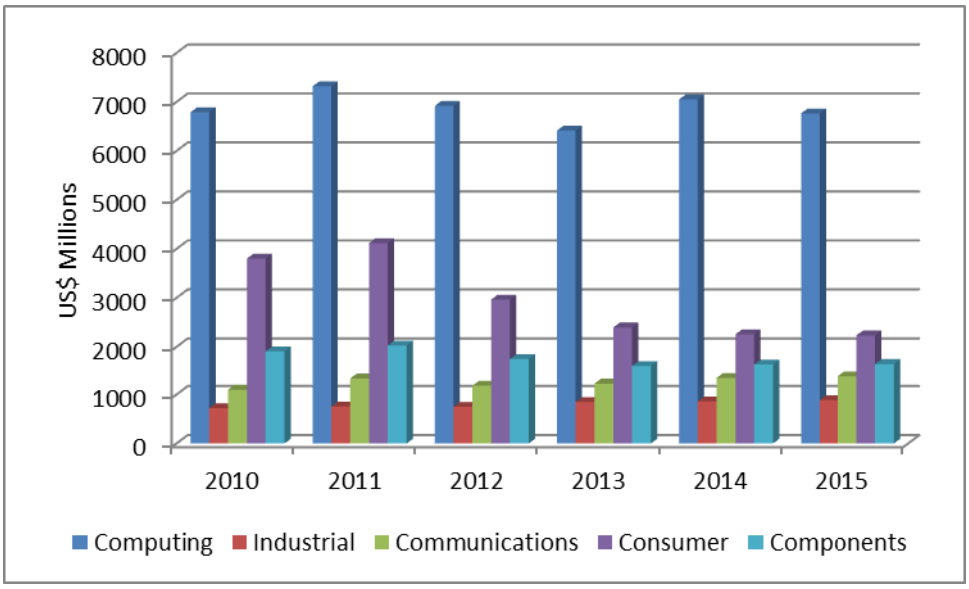


Czech Republic Electronics Production by Sector 2014

The computer segment has been the major beneficiary in the recent surge in FDI. In 2000 computing accounted for 10% of electronics output. In 2014, this had risen to 53.5%. Taiwan-based Foxconn, Europe's and the world's largest electronic manufacturing services (EMS) provider started assembly of computers in 2000 and completed construction of a facility in Pardubice in 2002 and opened a second plant in Kutna Hora in 2008. Foxconn reported sales of CKr 120 billion

in 2014 and ranked the country's sixth largest company and one of the largest exporters. In July 2015, Foxconn signed a Memorandum of Cooperation with the government which will see the company invest CSK 6.2 billion in the country which could lead to the creation of 2,000 jobs.

The Taiwanese ODM Wistron also has a manufacturing site in the country located in Brno.



Czech Republic Electronics Production by Sector 2010-2015

Summary of Czech Electronics Production

US$ Millions	2010	2011	2012	2013	2014	2015
Computing	6790	7320	6920	6417	7050	6767
Industrial	725	755	750	847	860	889
Communications	1100	1330	1180	1225	1340	1372
Consumer	3801	4115	2965	2397	2256	2234
Components	1907	2028	1750	1610	1639	1650
Total	14323	15548	13565	12496	13145	12912

Notes: Computing includes office equipment; Industrial combines control and instrumentation and medical and industrial; and communications combines fixed and wireless communications (inc. defence). Due to computer rounding the summary figures above may differ slightly from the figures presented in the main tables.

Lower demand for PCs globally is expected to result in computer output declining by a forecasted 4% in 2015 and followed strong growth of 9.9% in 2014.

Communications equipment accounted for 10.2% of total electronics output in 2014, with wireless accounting for 78% of the total.

In 2014, an estimated 4.0 million colour TVs were produced in the Czech Republic, down from 4.2 million in the prior year and a peak of 7.4 million in 2011. The Czech Republic is home to a number of leading TV manufacturers including the Japanese company Panasonic, the Taiwanese companies Wistron and Foxconn and the Chinese company Changhong. In addition the Taiwanese company AU Optronics has a plant in Brno which manufactures LCD modules with production starting in 2008.

In 2012, the Taiwanese company Pegatron announced it would end LCD TV production at its site in the country the facility being converted to a repair and service center.

In 2014, Panasonic transferred the production of high-end BD players, BD recorders as well as the production of PCBs for TV sets from a plant in Slovakia to the Panasonic AVC Networks site in Plzeň, the Czech Republic.

Production of digital audio equipment has also increased. Panasonic, through its subsidiary Panasonic Automotive Systems Europe in Pardubice is a major producer of car audio equipment the company transferring production from Germany to the site. The Danish company Bang & Olufsen opened a new production facility in the industrial zone of Kopřivnice in 2005.

There are a number of indigenous and foreign manufacturers of electronic components in the Czech Republic. In 2014, electronics components accounted to 12.5% of output.

Leading foreign manufacturers include:

AVX Czech Republic, a subsidiary of the US company AVX, started production of tantalum capacitors in Lanškroun in 1993. Fellow US group Vishay Intertechnology has also moved production of capacitors and resistors to the Czech Republic and operates multiple plants in the country.

US-based ON Semiconductor has a production facility in Roznov the plant benefiting from the company's decision to relocate production to the site from France and the US. ON Semiconductor also operates a design center in Brno. In 2012, ON Semiconductor announced it had expanded its operations in Roznov, Czech Republic with the opening of a new 4,000 sq m state-of-the-art R&D facility.

In March 2010, the Swiss industrial group ABB acquired the semiconductor business of the Czech company Polovodiče a.s. The additional production capacity for high-power semiconductors will help ABB to cope with the expected rising demand fueled by growth in renewable energy and efforts to improve energy efficiency.

The Japanese company Kyocera has a major solar plant in Kadan with the company completing construction of a new production hall in 2011.

In addition to Foxconn other leading EMS providers with manufacturing facilities in the Czech Republic include Connect Systems (Belgium), Integrated Microelectronics Inc (IMI) (Philippines), and the world's number two Flextronics. IMI entered the Czech Republic in 2011 following the acquisition of the Belgian EMS provider EPIQ's plant in Tresmona.

Outlook

The Czech electronics industry is focused on the 3C markets of computing, communications and consumer electronics with a small number of foreign multinationals holding a significant share of electronics output. With production export orientated it will be strongly influenced by developments both in Europe and globally which will lead to marked fluctuations in output.

Over the medium-term manufacturers will face increased pressure to lower costs which could result in a further reduction in output as manufactures look to lower cost locations in Asia.

On the positive side, the country is expected to benefit from inward investment by companies in the industrial sector as they look to move production from higher cost West European locations or in the case of non-European companies look to establish a low-cost manufacturing base to serve the European market.

3.5.3 FRANCE PRODUCTION

COMPUTING		2012	2013	2014	2015
Complete Systems	Euro	150	100	94	88
	$M	**192**	**133**	**125**	**117**
Peripherals	Euro	1005	960	921	885
	$M	**1288**	**1280**	**1228**	**1180**
Accessories & Parts	Euro	172	212	207	202
	$M	**221**	**283**	**276**	**269**
Total EDP Production	Euro	1327	1272	1221	1175
	$M	**1701**	**1696**	**1628**	**1566**

OFFICE EQUIPMENT		2012	2013	2014	2015
Photocopiers	Euro	-	-	-	-
	$M	**-**	**-**	**-**	**-**
Other Office Equipment	Euro	43	41	41	40
	$M	**55**	**55**	**55**	**53**
Total Office Equipment Production	Euro	43	41	41	40
	$M	**55**	**55**	**55**	**53**

CONTROL & INSTRUMENTATION		2012	2013	2014	2015
Total Industrial & Process Control	Euro	1005	1070	1110	1167
	$M	**1288**	**1427**	**1480**	**1555**
Instrumentation					
Analytical Instruments	Euro	275	275	300	331
	$M	**353**	**367**	**400**	**441**
Nucleonic Instruments	Euro	66	72	84	100
	$M	**85**	**96**	**112**	**133**
Signal Generators	Euro	21	23	21	19
	$M	**27**	**31**	**28**	**26**
Telecommunications Instruments	Euro	40	35	33	32
	$M	**51**	**47**	**45**	**43**

FRANCE PRODUCTION (cont)

CONTROL & INST (cont)		2012	2013	2014	2015
Machine & Materials Test Instruments	Euro	37	40	37	36
	$M	**47**	**53**	**50**	**47**
Electrical Quantity Measuring Instruments	Euro	150	150	150	151
	$M	**192**	**200**	**199**	**202**
Other Test & Measuring Instruments	Euro	855	859	866	885
	$M	**1096**	**1145**	**1155**	**1180**
Total Instrumentation	Euro	1444	1454	1491	1554
	$M	**1851**	**1939**	**1989**	**2072**
Accessories & Parts	Euro	490	485	498	518
	$M	**628**	**647**	**664**	**691**
Total Control & Instrumentation	Euro	2939	3009	3099	3239
	$M	**3768**	**4012**	**4132**	**4318**

MEDICAL & INDUSTRIAL		2012	2013	2014	2015
X-Ray & Medical Equipment					
Medical X-Ray Equipment	Euro	400	330	305	303
	$M	**513**	**440**	**407**	**404**
Industrial X-Ray Equipment	Euro	50	47	42	39
	$M	**64**	**63**	**55**	**53**
Electrocardiographs	Euro	17	17	14	13
	$M	**22**	**23**	**19**	**17**
Other Electromedical Equipment	Euro	390	390	378	393
	$M	**500**	**520**	**504**	**524**
Hearing Aids	Euro	20	17	22	32
	$M	**26**	**23**	**30**	**42**
Total X-Ray & Medical Equipment	Euro	877	801	761	780
	$M	**1124**	**1068**	**1015**	**1040**
Industrial Equipment					
Traffic Signalling Equipment	Euro	383	361	367	374
	$M	**491**	**481**	**489**	**499**
Other Signalling Equipment	Euro	273	313	329	347
	$M	**350**	**417**	**439**	**463**
Other Industrial Equipment	Euro	46	46	42	39
	$M	**59**	**61**	**56**	**52**
Total Industrial Equipment	Euro	702	720	738	760
	$M	**900**	**960**	**984**	**1014**
Total Medical & Industrial Production	Euro	1579	1521	1499	1540
	$M	**2024**	**2028**	**1999**	**2053**

FRANCE PRODUCTION (cont)

COMMUNICATIONS & RADAR		2012	2013	2014	2015
Radar, Nav Aids & Other	Euro	4775	4950	5100	5508
Equipment incl military	**$M**	**6122**	**6600**	**6800**	**7344**
Radio Comms incl Mobile Phones,	Euro	3885	3740	3329	3107
Public Broadcasting & Parts	**$M**	**4981**	**4987**	**4439**	**4142**
Total Communications &	Euro	8660	8690	8429	8615
Radar Production	**$M**	**11103**	**11587**	**11239**	**11486**

TELECOMMUNICATIONS		2012	2013	2014	2015
Facsimile Machines	Euro	2	1	1	1
	$M	**3**	**1**	**1**	**1**
Telephone Sets	Euro	185	170	163	159
	$M	**237**	**227**	**218**	**212**
Other Telecoms Equipment	Euro	1150	1200	1179	1171
	$M	**1474**	**1600**	**1573**	**1561**
Total Telecommunications	Euro	1337	1371	1344	1330
Production	**$M**	**1714**	**1828**	**1791**	**1774**

CONSUMER		2012	2013	2014	2015
Video Equipment					
Colour Television	Euro	-	-	-	-
	$M	**-**	**-**	**-**	**-**
	No.th	-	-	-	-
Video Cameras	Euro	3	3	3	3
	$M	**4**	**4**	**4**	**4**
	No.th	*25*	*25*	*25*	*26*
Video Tuners & Satellite	Euro	15	10	7	5
Receivers	**$M**	**19**	**13**	**9**	**7**
Total Video Equipment	Euro	18	13	10	8
	$M	**23**	**17**	**13**	**11**

FRANCE PRODUCTION (cont)

CONSUMER (cont)		2012	2013	2014	2015
Audio Equipment					
Mains Audio Equipment	Euro	-	-	-	-
	$M	**-**	**-**	**-**	**-**
Car Audio	Euro	135	110	106	99
	$M	**173**	**147**	**141**	**132**
Total Audio Equipment	Euro	135	110	106	99
	$M	**173**	**147**	**141**	**132**
Personal Consumer Equipment					
Electronic Musical Instruments	Euro	4	4	5	5
	$M	**5**	**5**	**6**	**7**
Electric/Electronic Watches	Euro	90	85	86	86
	$M	**115**	**113**	**114**	**115**
Electric/Electronic Clocks	Euro	9	9	9	10
	$M	**12**	**12**	**12**	**13**
Electronic Flashlights	Euro	1	1	1	1
	$M	**1**	**1**	**1**	**2**
Total Personal Consumer Equipment	Euro	104	99	100	102
	$M	**133**	**132**	**134**	**136**
Total Consumer Production	Euro	257	222	216	210
	$M	**329**	**296**	**288**	**279**

COMPONENTS		2012	2013	2014	2015
Active Components					
Valves & Tubes	Euro	375	375	350	358
	$M	**481**	**500**	**467**	**477**
Diodes	Euro	245	213	170	172
	$M	**314**	**284**	**227**	**229**
Transistors	Euro	120	100	100	98
	$M	**154**	**133**	**133**	**131**
Other Discrete Semiconductors	Euro	630	481	480	494
	$M	**808**	**641**	**640**	**659**
ICs & Other Microcircuits	Euro	2350	2165	2100	2163
	$M	**3013**	**2887**	**2800**	**2884**
Total Active Components	Euro	3720	3334	3200	3285
	$M	**4769**	**4445**	**4267**	**4380**

FRANCE PRODUCTION (cont)

COMPONENTS (cont)		2012	2013	2014	2015
Passive Components					
Electrolytic Capacitors	Euro	50	33	29	25
	$M	**64**	**44**	**39**	**33**
Other Fixed Capacitors	Euro	90	85	83	85
	$M	**115**	**113**	**111**	**113**
Variable Capacitors	Euro	2	2	2	2
	$M	**3**	**3**	**3**	**3**
Fixed Resistors	Euro	57	62	64	66
	$M	**73**	**83**	**85**	**88**
Variable Resistors	Euro	3	3	3	3
	$M	**4**	**4**	**4**	**4**
Connectors	Euro	1080	1010	990	1019
	$M	**1385**	**1347**	**1320**	**1359**
Transformers & inductors	Euro	95	95	95	95
	$M	**122**	**127**	**127**	**127**
Relays	Euro	70	65	63	62
	$M	**90**	**87**	**84**	**83**
Switches	Euro	63	55	54	53
	$M	**81**	**73**	**72**	**71**
Printed Circuit Boards	Euro	242	239	234	239
	$M	**310**	**319**	**312**	**319**
Total Passive Components	Euro	1752	1649	1617	1649
	$M	**2246**	**2199**	**2156**	**2199**
Other Components					
Microphones	Euro	2	2	2	2
	$M	**3**	**3**	**2**	**2**
Loudspeakers	Euro	28	24	24	25
	$M	**36**	**32**	**32**	**34**
Amplifiers	Euro	9	8	7	6
	$M	**12**	**11**	**9**	**9**
Aerials	Euro	44	40	39	39
	$M	**56**	**53**	**52**	**52**
Unrecorded Media	Euro	100	60	56	54
	$M	**128**	**80**	**74**	**72**
Accessories & Parts	Euro	165	155	136	124
inc Cabinets	**$M**	**212**	**207**	**181**	**165**
Total Other Components	Euro	348	289	263	250
	$M	**446**	**385**	**351**	**333**
Total Components Production	Euro	5820	5272	5080	5184
	$M	**7462**	**7029**	**6773**	**6912**

FRANCE PRODUCTION (cont)

TOTAL PRODUCTION - FRANCE		2012	2013	2014	2015
TOTAL PRODUCTION	Euro	21962	21398	20930	21332
	$M	**28157**	**28531**	**27906**	**28442**

Notes: 2012 and 2013 are current figures at current exchange rates. 2014 and 2015 are forecasts at 2014 constant values and exchange rates (i.e. inflation is not included). Base year 2013

3.9.4 MALAYSIA MARKETS

COMPUTING		2012	2013	2014	2015	2016	2017	2018	CAAGR %
Computer & Peripherals	RtM	8415	8635	8833	9023	9379	9766	10147	4
	$M	**2715**	**2733**	**2701**	**2759**	**2868**	**2987**	**3103**	
Parts & Accessories	RtM	1934	1991	1953	1913	1907	1904	1897	-1
	$M	**624**	**630**	**597**	**585**	**583**	**582**	**580**	
Computing Total	RtM	10349	10626	10785	10936	11286	11670	12044	3
	$M	**3338**	**3363**	**3298**	**3344**	**3451**	**3569**	**3683**	

OFFICE EQUIPMENT		2012	2013	2014	2015	2016	2017	2018	CAAGR %
Photocopiers	RtM	123	118	116	112	105	99	93	-5
	$M	**40**	**37**	**35**	**34**	**32**	**30**	**29**	
Other Office Equipment	RtM	121	126	123	118	111	104	97	-6
	$M	**39**	**40**	**38**	**36**	**34**	**32**	**30**	
Office Equipment Total	RtM	244	244	239	230	216	203	191	-6
	$M	**79**	**77**	**73**	**70**	**66**	**62**	**58**	

CONTROL & INSTRUMENTAION		2012	2013	2014	2015	2016	2017	2018	CAAGR %
Control & Instrumentation Total	RtM	5008	5170	5403	5640	5894	6177	6443	4
	$M	**1615**	**1636**	**1652**	**1725**	**1803**	**1889**	**1970**	

MEDICAL & INDUSTRIAL		2012	2013	2014	2015	2016	2017	2018	CAAGR %
X-Ray & Medical Equip Total	RtM	753	774	805	838	871	909	945	4
	$M	**243**	**245**	**246**	**256**	**266**	**278**	**289**	
Industrial Equipment Total	RtM	617	667	714	750	785	825	861	5
	$M	**199**	**211**	**218**	**229**	**240**	**252**	**263**	
Medical & Industrial Total	RtM	1370	1441	1519	1588	1656	1734	1806	4
	$M	**442**	**456**	**464**	**486**	**506**	**530**	**552**	

COMMUNICATIONS & RADAR		2012	2013	2014	2015	2016	2017	2018	CAAGR %
Communications & Radar Total	RtM	7025	8126	9101	9647	10033	10384	10748	4
	$M	**2266**	**2572**	**2783**	**2950**	**3068**	**3176**	**3287**	

TELECOMMUNICATIONS		2012	2013	2014	2015	2016	2017	2018	CAAGR %
Telecommunications Total	RtM	1225	1251	1276	1299	1328	1365	1400	2
	$M	**395**	**396**	**390**	**397**	**406**	**417**	**428**	

MALAYSIA MARKETS (cont)

CONSUMER		2012	2013	2014	2015	2016	2017	2018	CAAGR %
Video Equipment									
Colour Television	RtM	855	889	908	930	951	970	989	2
	$M	**276**	**281**	**278**	**284**	**291**	**297**	**302**	
	No.th	*1520*	*1590*	*1603*	*1619*	*1648*	*1682*	*1718*	
DVD Players & Recorders	RtM	134	125	113	99	85	73	64	-13
	$M	**43**	**40**	**35**	**30**	**26**	**22**	**20**	
	No.th	*1200*	*1130*	*1040*	*936*	*823*	*725*	*645*	
Video & Digital Still Cameras	RtM	363	346	322	290	261	229	202	-11
	$M	**117**	**109**	**98**	**89**	**80**	**70**	**62**	
	No.th	*550*	*535*	*498*	*453*	*417*	*375*	*337*	
Video Equipment Total	RtM	1352	1360	1343	1319	1297	1272	1255	-2
	$M	**436**	**430**	**411**	**403**	**397**	**389**	**384**	
Audio Equipment									
Radio & Radio Combinations	RtM	613	608	602	595	585	575	566	-2
	$M	**198**	**192**	**184**	**182**	**179**	**176**	**173**	
Compact Disc Players	RtM	4	3	3	3	2	2	2	-7
	$M	**1**	**1**	**1**	**1**	**1**	**1**	**1**	
Other Audio Equipment	RtM	122	114	110	107	103	99	96	-4
	$M	**39**	**36**	**34**	**33**	**32**	**30**	**29**	
Audio Equipment Total	RtM	739	725	715	704	690	676	664	-2
	$M	**238**	**229**	**219**	**215**	**211**	**207**	**203**	
Personal Consumer Equipment									
Electronic Musical Instruments	RtM	47	49	50	51	51	52	53	2
	$M	**15**	**16**	**15**	**15**	**16**	**16**	**16**	
Electric/Electronic Watches	RtM	648	665	686	705	723	746	766	3
	$M	**209**	**210**	**210**	**215**	**221**	**228**	**234**	
Electric/Electronic Clocks	RtM	39	45	46	46	47	47	48	1
	$M	**13**	**14**	**14**	**14**	**14**	**14**	**15**	
Personal Consumer Total	RtM	734	759	782	801	821	845	867	3
	$M	**237**	**240**	**239**	**245**	**251**	**258**	**265**	
Consumer Total	RtM	2825	2844	2840	2824	2808	2793	2786	0
	$M	**911**	**900**	**868**	**864**	**859**	**854**	**852**	

MALAYSIA MARKETS (cont)

COMPONENTS		2012	2013	2014	2015	2016	2017	2018	CAAGR %
Active Components									
Colour Television Tubes	RtM	49	45	38	29	22	15	11	-27
	$M	**16**	**14**	**12**	**9**	**7**	**5**	**3**	
Valves & Tubes Other	RtM	258	261	256	251	241	231	217	-4
	$M	**83**	**83**	**78**	**77**	**74**	**71**	**66**	
Discrete Semiconductors	RtM	4476	5640	6768	8122	8934	9738	10517	12
	$M	**1444**	**1785**	**2070**	**2484**	**2732**	**2978**	**3216**	
ICs & Other Microcircuits	RtM	40174	41247	42278	43293	44375	45440	46803	3
	$M	**12959**	**13053**	**12929**	**13239**	**13570**	**13896**	**14313**	
Active Components Total	RtM	44957	47193	49340	51695	53572	55424	57548	4
	$M	**14502**	**14934**	**15089**	**15809**	**16383**	**16949**	**17599**	
Passive Components									
Capacitors	RtM	2283	2227	2253	2282	2313	2340	2373	1
	$M	**736**	**705**	**689**	**698**	**707**	**716**	**726**	
Resistors	RtM	711	707	715	724	734	743	753	1
	$M	**229**	**224**	**219**	**222**	**225**	**227**	**230**	
Connectors	RtM	1553	1692	1861	2049	2259	2485	2739	10
	$M	**501**	**535**	**569**	**627**	**691**	**760**	**838**	
Transformers Small & other Inductors	RtM	497	466	462	459	456	452	450	-1
	$M	**160**	**147**	**141**	**140**	**139**	**138**	**138**	
Relays	RtM	179	173	170	166	163	160	157	-2
	$M	**58**	**55**	**52**	**51**	**50**	**49**	**48**	
Switches	RtM	165	158	160	162	164	166	168	1
	$M	**53**	**50**	**49**	**50**	**50**	**51**	**51**	
Printed Circuit Boards	RtM	6184	6117	6265	6424	6594	6756	6934	3
	$M	**1995**	**1936**	**1916**	**1965**	**2017**	**2066**	**2121**	
Passive Components Total	RtM	11572	11540	11886	12267	12684	13102	13574	3
	$M	**3733**	**3652**	**3635**	**3751**	**3879**	**4007**	**4151**	
Other Components									
Microphones	RtM	34	34	34	34	33	31	30	-3
	$M	**11**	**11**	**10**	**10**	**10**	**10**	**9**	
Loudspeakers	RtM	424	422	426	429	416	399	382	-3
	$M	**137**	**134**	**130**	**131**	**127**	**122**	**117**	
Amplifiers	RtM	101	93	91	90	85	79	74	-5
	$M	**33**	**29**	**28**	**27**	**26**	**24**	**23**	
Aerials	RtM	258	249	251	253	245	235	226	-3
	$M	**83**	**79**	**77**	**77**	**75**	**72**	**69**	
Unrecorded Media	RtM	1001	912	908	904	864	818	774	-4
	$M	**323**	**289**	**278**	**276**	**264**	**250**	**237**	
Accessories & Parts for Consumer Equipment	RtM	4370	4056	4171	4289	4236	4140	4046	-1
	$M	**1410**	**1284**	**1276**	**1311**	**1295**	**1266**	**1237**	
Other Components Total	RtM	6188	5766	5881	5999	5879	5703	5532	-2
	$M	**1996**	**1825**	**1799**	**1835**	**1798**	**1744**	**1692**	
Components Total	RtM	62717	64499	67108	69961	72135	74229	76653	3
	$M	**20231**	**20411**	**20522**	**21395**	**22060**	**22700**	**23441**	

		2012	2013	2014	2015	2016	2017	2018	CAAGR %
MARKET - MALAYSIA TOTAL	RtM	90763	94201	98270	102125	105355	108555	112071	3
	$M	**29278**	**29810**	**30052**	**31231**	**32219**	**33197**	**34272**	

Notes: 2012 and 2013 are current figures at current exchange rates
2014 to 2018 are forecasts at 2014 constant values & exchange rates (i.e. Inflation is not included)
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