

SAMPLE DATA

Over the following pages we provide sample data from the **current** edition of the report. This includes summary data for both production and markets, and sample data from several countries.

CONSOLIDATED SUMMARY OF PRODUCTION 2016

Table 4.2

| 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 |
|--------------|-----------------|-----------------------|--------------------------|-------------------------------|----------------------------------|-------------------------------|----------------|-----------------------|---------------|
| Austria | 225 | 1 | 985 | 818 | 245 | 260 | 5 | 1487 | 4026 |
| Belgium | 525 | - | 728 | 381 | 350 | 124 | 6 | 713 | 2828 |
| Denmark | 154 | - | 1031 | 857 | 185 | 94 | 23 | 520 | 2863 |
| Finland | 29 | - | 646 | 525 | 380 | 280 | - | 417 | 2277 |
| France | 835 | 80 | 3147 | 1643 | 8830 | 1161 | 213 | 5613 | 21522 |
| Germany | 3045 | 108 | 21511 | 6728 | 2805 | 1840 | 1124 | 13282 | 50443 |
| Greece | 162 | 5 | 52 | 13 | 144 | 64 | 2 | 41 | 483 |
| Ireland | 1450 | 18 | 760 | 1338 | 202 | 106 | 19 | 4369 | 8262 |
| Italy | 585 | 29 | 3148 | 1516 | 2280 | 870 | 29 | 3847 | 12304 |
| Netherlands | 865 | - | 2256 | 2294 | 355 | 220 | 30 | 1093 | 7113 |
| Norway | 86 | - | 600 | 129 | 305 | 75 | - | 97 | 1292 |
| Portugal | 160 | - | 95 | 89 | 325 | 75 | 596 | 428 | 1768 |
| Spain | 250 | 6 | 310 | 430 | 750 | 450 | 18 | 853 | 3067 |
| Sweden | 73 | - | 1451 | 169 | 1692 | 1251 | 24 | 590 | 5250 |
| Switzerland | 326 | 5 | 3491 | 2026 | 376 | 273 | 3873 | 1606 | 11975 |
| UK | 1067 | 53 | 4773 | 2556 | 5390 | 317 | 76 | 3123 | 17355 |
| TOTAL | 9837 | 305 | 44984 | 21511 | 24614 | 7460 | 6039 | 38079 | 152828 |

CONSOLIDATED SUMMARY OF MARKETS 2016

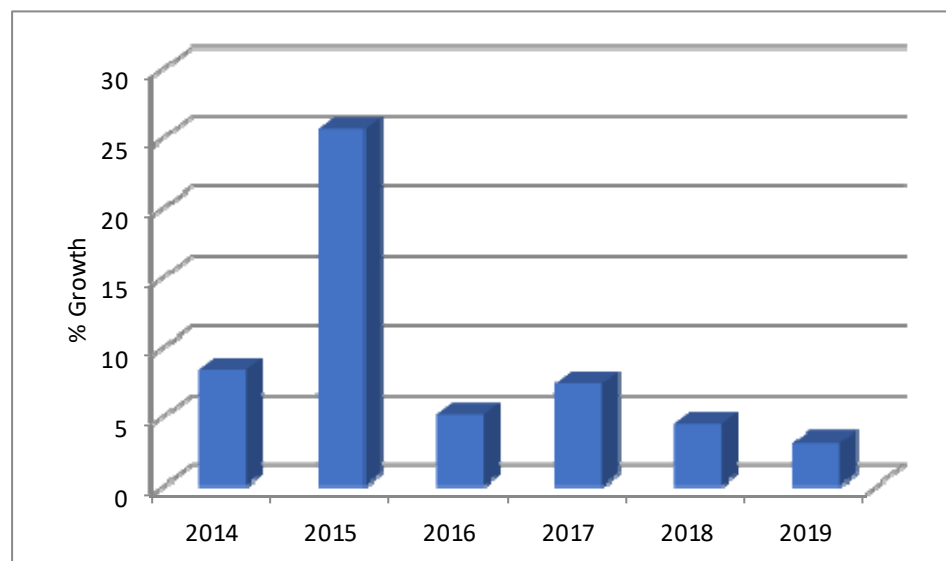
Table 4.6

| 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 |
|-------------|-----------------|-----------------------|--------------------------|-------------------------------|----------------------------------|-------------------------------|----------------|-----------------------|-------------|
| Austria | 1501 | 45 | 734 | 667 | 572 | 318 | 624 | 997 | 5458 |
| Belgium | 2551 | 54 | 684 | 556 | 1108 | 438 | 469 | 1143 | 7003 |
| Denmark | 1375 | 37 | 406 | 218 | 380 | 275 | 254 | 674 | 3617 |
| Finland | 1140 | 48 | 448 | 190 | 359 | 97 | 239 | 833 | 3354 |
| France | 8285 | 314 | 2525 | 1806 | 6125 | 1931 | 2823 | 5037 | 28846 |
| Germany | 16770 | 437 | 9521 | 3459 | 4521 | 2294 | 5327 | 14909 | 57238 |
| Greece | 605 | 55 | 165 | 92 | 380 | 231 | 356 | 202 | 2086 |
| Ireland | 2100 | 23 | 234 | 260 | 444 | 188 | 218 | 1868 | 5335 |
| Italy | 5417 | 244 | 3343 | 1455 | 3952 | 1507 | 2156 | 3990 | 22064 |
| Netherlands | 5496 | 169 | 1646 | 921 | 1411 | 808 | 903 | 1885 | 13239 |
| Norway | 1048 | 45 | 438 | 272 | 480 | 181 | 382 | 367 | 3211 |
| Portugal | 1015 | 17 | 201 | 223 | 636 | 314 | 409 | 632 | 3447 |
| Spain | 3313 | 171 | 1472 | 846 | 3547 | 1497 | 1588 | 1785 | 14219 |
| Sweden | 1831 | 49 | 955 | 252 | 1254 | 463 | 563 | 1634 | 7001 |
| Switzerland | 3906 | 216 | 1490 | 584 | 1748 | 473 | 1097 | 1499 | 11014 |
| UK | 9856 | 393 | 3098 | 1754 | 7699 | 1639 | 3466 | 5029 | 32933 |

3.8 IRELAND

3.8.1 Economic Outlook

- Supported mainly by domestic activity Ireland's economy is expected to grow at a solid pace. GDP growth performed better than expected in the third quarter of 2017 as headline figures were driven up by the activities of multinational companies in the country. Underlying domestic activity, which excludes some of the impact of multinationals, grew robustly by 4.9% in the first three quarters of 2017. GDP is estimated to have grown by 7.3% in 2017 and growth is expected to moderate to 4.4% in 2018 and 3.1% in 2019.
- Trade figures remain heavily influenced by the activities of multinationals and are subject to high uncertainty. In 2018 and 2019, discounting for further volatility in contract manufacturing and imports of intellectual property services, exports are expected to increase in line with global trade and imports in line with strong consumer demand.
- Inflation remains subdued and is forecast to pick-up only gradually. In 2017, HICP inflation increased by just 0.3%, mainly due to the fall in the pound, which lowered the prices of goods imported from the UK. This offset the strong growth in the price of services and energy. HCIP inflation is forecast to rise by 0.9% in 2018, mainly driven by higher services and energy prices, and to 1.1% in 2019 with higher prices for services the prime driver.
- Risks to the economic outlook are still mainly linked to the outcome of the negotiations between the UK and the EU, and potential changes to the international taxation environment.



Irish GDP Growth

Irland's Leading Economic Indicators

| % Increase | Actual | | Forecast | | | |
|-----------------------|--------|------|----------|------|------|------|
| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| Growth of GDP+ | 8.3 | 25.6 | 5.1 | 7.3 | 4.4 | 3.1 |
| Consumer Price Index* | 0.3 | 0.0 | -0.2 | 0.3 | 0.9 | 1.1 |

* Harmonised index of consumer prices, + % change on previous year includes intangible assets and transport equipment

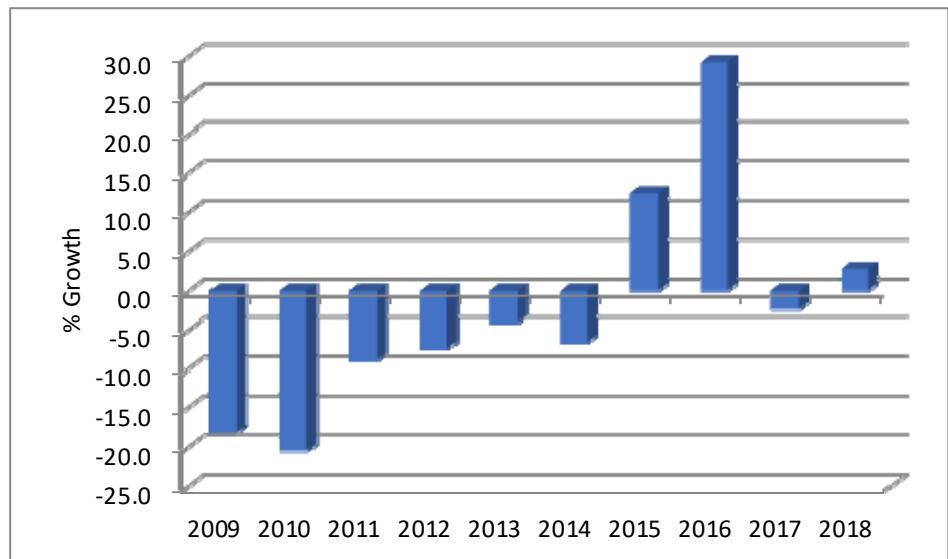
Source: EU 2018 Winter Economic Forecast

3.8.2 Electronics Industry Structure

Overview

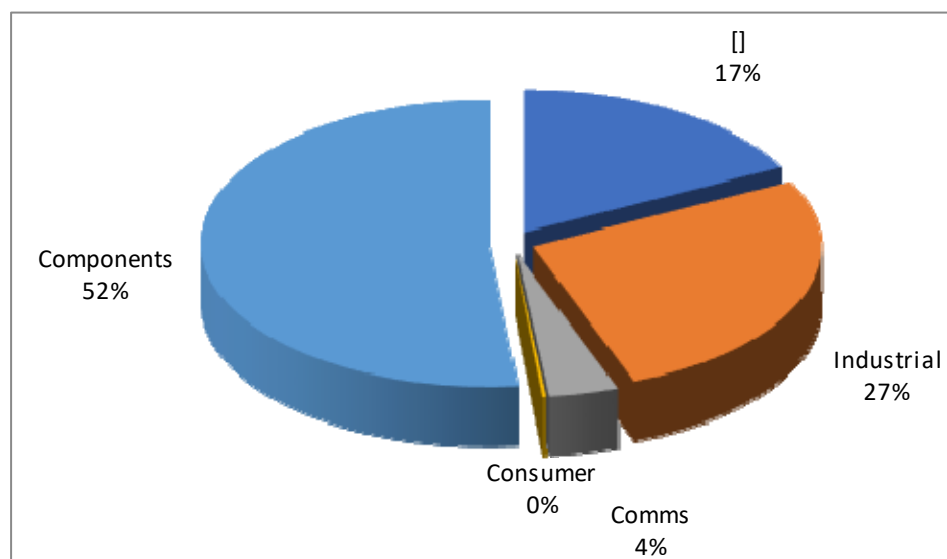
The success of the Irish Development Agency (IDA) in attracting investment has played a major role in the development of the electronics industry in Ireland. In 2016, the IDA reported 244 new investments of which 91 were expansions to existing facilities and 99 were Greenfield projects. In addition, 54 new research, development and innovation projects were approved by IDA clients.

In 2016, the number of IDA supported jobs in the computer, electronics and optical equipment sector amounted to 20,213, and compared to 20,454 a year earlier. In addition, a further 28,911 people (2015: 26,903) were employed in the medical/dental instruments & supplies sector and 11,482 in metals and engineering (2015: 11,441).



Irish Electronics Production Growth 2009-2018

Sector Analysis



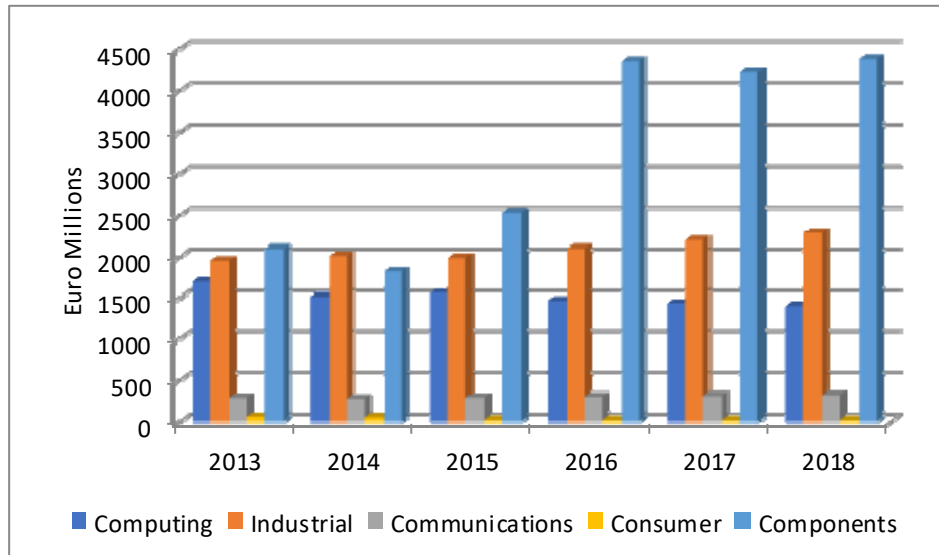
Irish Electronics Production by Sector 2017

Although output for the computer segment increased by 2.7% in 2015 output declined by an estimated 5.8% in 2016 and is forecast to decline by low single-digits throughout the period to 2021. This assumes that foreign multinationals will continue to support their Irish manufacturing operations. In 2016, computing, excluding office equipment accounted for an estimated 17.6% of overall electronics output down from 56% in 2005. In revenue terms computer related output has fallen by around 83% since the peak in 2000 when it was valued at Euro 10.5 billion.

Summary of Irish Electronics Production

| Euro Millions | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|----------------|------|------|------|------|------|------|
| Computing | 1696 | 1516 | 1560 | 1468 | 1439 | 1405 |
| Industrial | 1951 | 2011 | 1986 | 2098 | 2198 | 2283 |
| Communications | 297 | 285 | 298 | 308 | 318 | 327 |
| Consumer | 61 | 51 | 21 | 19 | 18 | 18 |
| Components | 2093 | 1824 | 2531 | 4369 | 4233 | 4396 |
| Total | 6098 | 5687 | 6396 | 8262 | 8207 | 8429 |

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.



Irish Electronics Output by Major Product Group 2013-2018

Despite the uncertainties surrounding existing operations the Irish computer segment and the broader electronics industry will continue to benefit from on-going investment in both manufacturing and increasingly R&D.

Components represented the largest product group accounting for 51.6% of total output in 2017. Although output for the Irish semiconductor industry has declined since the peak in 2000, with a number of plant closures, several global players still have operations in the country, most notably Intel, Analog Devices and Microsemi. The investment in 14nm technology at Intel’s fab in Leixlip and the subsequent ramp-up in production has given a boost to the semiconductor sector with very strong growth in both 2015 and 2016 although output has since stabilised.

The long-term future of the Irish semiconductor industry, certainly as a center of production, is dependent on a few companies. Assuming that the facilities continue to receive the necessary investment in the latest technologies we are expecting that the sector will continue to grow throughout the period to 2021.

Passive component production declined by 14.0% in 2015 with a more modest fall of 2.9% in 2016. In 2017 and 2018 output will benefit as companies increase production to meet the shortage of components impacting the industry. However, over the longer-term we expect only modest growth in the later part of the forecast as conditions return to normal.

In 2016, communications accounted for 3.7% of total output and although opportunities will continue for manufacturing in niche markets it is not expected that the sector will see a significant increase in medium to volume manufacturing over the period to 2021. However, the communications sector, as with other areas of the Irish electronics industry, will benefit from inward investment in R&D.

Ireland's control and instrumentation sector, although comparatively small, offers a range of products produced by major corporations. The sector showed strong growth of 20.1% in 2014, following two years of declining output, and posted a second year of double-digit growth in 2015. Growth eased to 3.3% in 2016 before posting estimated growth of 8% in 2017 on the back of rising exports.

The medical electronics sector has increased from just under 1% of total electronics output in 1996 to 20.7% in 2013 but fell back to 13.8% in 2017. Production increased by 5.7% in 2016 and is forecast to show low-single digit growth over the period to 2021.

Irish Electronics Production – Medium Term Forecast 2016-2021

| Euro Millions | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Computing | 1468 | 1439 | 1405 | 1362 | 1321 | 1269 |
| Industrial | 2098 | 2198 | 2283 | 2345 | 2430 | 2523 |
| Communications | 308 | 318 | 327 | 333 | 341 | 349 |
| Consumer | 19 | 18 | 18 | 18 | 17 | 17 |
| Components | 4369 | 4233 | 4396 | 4325 | 4447 | 4593 |
| Total | 8262 | 8207 | 8429 | 8383 | 8556 | 8750 |

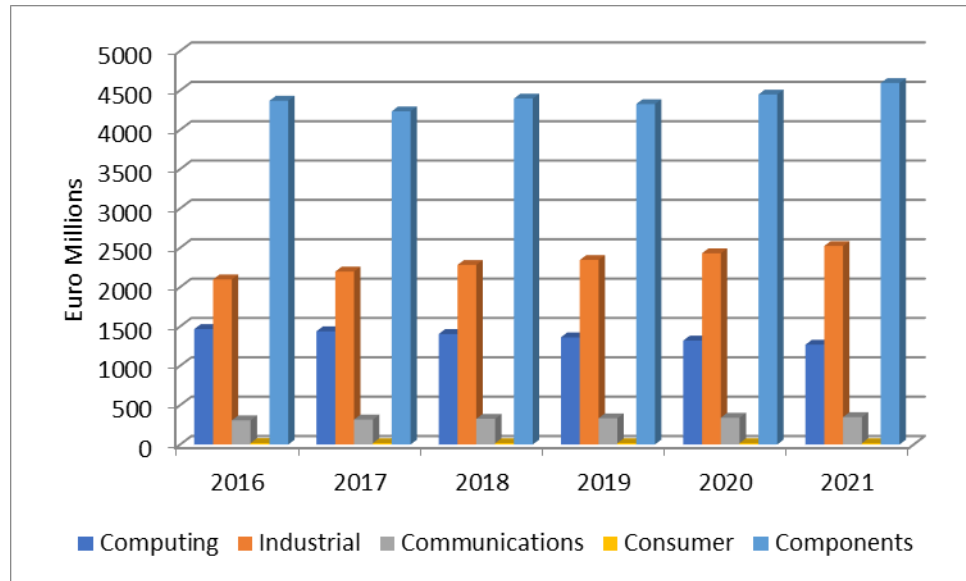
Notes: Computing includes office equipment; Industrial combines control and instrumentation and medical and industrial; and communications combines fixed and wireless communications (inc. defence). Due to computer rounding the summary figures above may differ slightly from the figures presented in the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

Contract manufacturers have also established a significant presence in the country. Major global EMS providers with a manufacturing base in Ireland include Benchmark Electronics, Celestica, Flex, Jabil and Sanmina. There are also a number of medium sized companies offering electronic manufacturing services. However, there has seen some consolidation within the sector with companies either merging or closing facilities.

Between 2017 and 2021 computer production in Ireland is expected to decline by 11.8% as companies look to reduce costs by moving manufacturing to lower cost locations. This will be offset by growth in the industrial and communications segments.

The production of semiconductors, which has been boosted by the recent investments by Intel and assuming other manufacturers remain committed to their Irish operations will show growth throughout in the later part of the forecast period, this following an anticipated decline in 2019 in line with the projected slowdown in the global semiconductor market.

Further investment across the electronics industry in expanding or establishing R&D capabilities is expected to continue throughout the period to 2021.



Irish Electronics Production 2016-2021