

REED
ELECTRONICS
RESEARCH

THE YEARBOOK OF WORLD ELECTRONICS DATA

Components
Computers
Consumer
Control and Instrumentation
Medical and Industrial
Office Equipment
Radio Communications
Telecommunications

Volume One
WEST EUROPE

2023

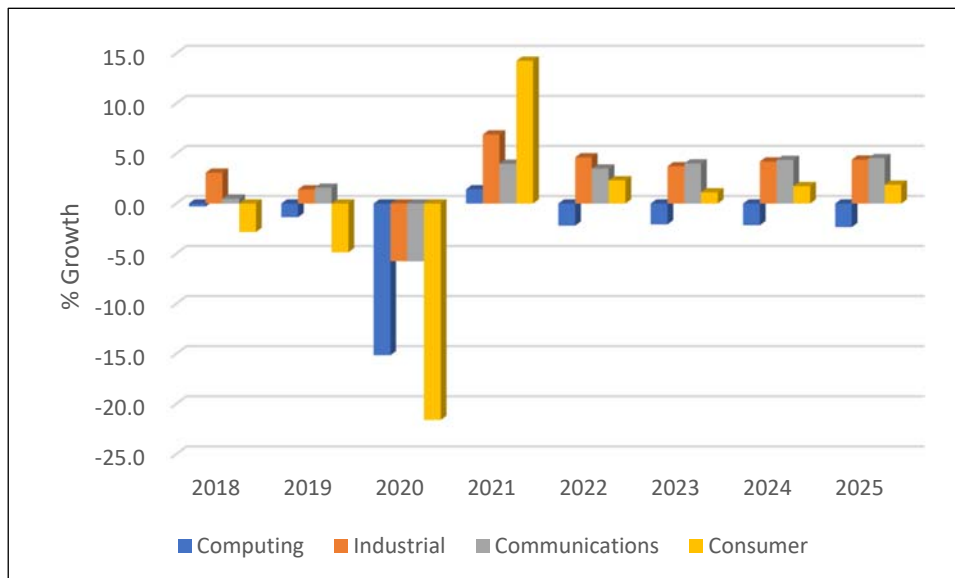
Yearbook of World Electronics Data Volume 1 2023 – An Overview of Electronics Production & Markets in Western Europe

Introduction

In providing the forecasts for the current study, which were made in June, we have considered developments in the European and global economy. However, significant downside risks remain which could lead to growth in 2023 and 2024 being lower than forecast. We currently expect growth to ease over the course of the second half of 2023 and into 2024 before gaining momentum in the latter half of the year and then accelerate over the remainder of the forecast period. Component shortages have continued to ease over the course of 2023 and are expected to normalise in 2024. The forecasts for 2023 through to 2026 are based on constant 2022 exchange rates and prices and therefore exclude the impact of inflation.

In Euro's the production of electronic equipment in Western Europe increased by an estimated 5.9% in 2022 to Euro 127.3 billion and compared to growth of 6.4% in the prior year as output rebounded from the pandemic.

Based on current indicators we are forecasting that growth in electronic equipment output in Western Europe will ease to 2.2% in 2023, edge-up to 2.9% in 2024 with growth gaining momentum in the second half of the year then accelerate to 3.9% and 4.1% in 2025 and 2026, respectively.



Electronics Equipment Production by Country/Region 2018-2025

The industrial segment, which accounted for an estimated 61.9% of electronics equipment output in 2022, has been a key driver of growth following the COVID-19 led-recession. Despite the expected slowdown in 2023/2024 growth is forecast to accelerate in the later part of the forecast. By the end of 2026 its share of the total will account for 62.7%.

Growth in the communications segment rebounded in 2021 with growth of 3.9% and increased by a further 4.7% in 2022. Defence spending, which was expected to be reduced as governments look to reduce the deficit arising from measures introduced to support the economy through the pandemic, will benefit from the escalation in geopolitical tensions including the war in Ukraine. The aerospace segment, which was hit hard by the collapse in the commercial aviation sector as a result of the pandemic, is gradually returning to pre-pandemic levels though in the short-term growth is forecast to be impacted by the slowdown in the global economy. Computer output will continue to decline over the forecast period as will the production of video and audio equipment.

In 2022, the production of electronic components in Western Europe amounted to Euro 50.0 billion, 28.2% of overall electronics production. The shortage of components in 2021, which fuelled higher prices and the move by companies to increase output, continued in 2022 leading to a second year of double-digit growth (2021: 14.9%/2022: 12.1%).

In 2022, active components accounted for 62.3%, passive 31.3% and other 6.4% while Germany accounted for the largest share of production at 34.5%, followed by France 14.9%, Ireland 14.7%, Italy 11.1% and the UK 5.6%.

With the EU and several countries, notably Germany, France and Italy, looking to secure the future supply of leading-edge semiconductors a number of advanced wafer fabs have been announced with construction planned to start in 2024/2025. In addition, investment has or is being made in existing fabs in the region which will boost output over the period to 2026. Western Europe is also home to a number of fabless semiconductor companies and remains a centre for research and design with a strong start-up culture.

At Euro 257.5 billion in 2022 the West European market for electronic equipment and components was 9.4% higher than the Euro 235.4 billion reported in the prior year and is forecast to reach Euro 262.4 billion in 2023, this despite the anticipated slowdown in the second half of the year.

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

With a history now extending over 50 years, the first edition of the Volume 1 of the Yearbook of World Electronics Data was first published in 1973, the Yearbook series has been extended to cover 53 countries globally to provide an invaluable and unique 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 three concise and clear demographic volumes, as a series of individual country reports, through customised solutions to meet specific client requirements and a series of Excel databases providing the combination of both historical and forecasted data.

Yearbook of World Electronics Data - Volume 1 West Europe

Published since 1973 the Volume 1 of the Yearbook of World Electronics Data provides:

- A single source solution allowing you to track the electronics industry in 16 countries in Western Europe.
- 13 major product groups.
- Market and production forecasts.
- Summaries provided in US dollars and Euros.
- CD-option allows you to manipulate the data quickly and easily: produce your own subsets or summaries of the data, create your own forecasts or cut and paste the data into your own in-house reports and presentations.

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.

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 three 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 a 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.

2023 Series

Volume 1 2023 West Europe

Synopsis: Economic Overview; Electronics Market Overview; Imports 2020-2021; Exports 2020-2021; Production Data 2020-2023; Market Data 2020-2026

16 country coverage

Austria; Belgium; Denmark; Finland; France; Germany; Greece; Ireland; Italy; Netherlands; Norway; Portugal; Spain; Sweden; Switzerland; UK

Publication Data: July 2023

Volume 2 2023 America, Japan, Asia Pacific

Synopsis: Economic Overview; Electronics Market Overview; Imports 2020-2021; Exports 2020-2021; Production Data 2020-2023; Market Data 2020-2026

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: August 2023

Volume 3 2023 East Europe & World Summary

Synopsis: Economic Overview; Electronics Market Overview; Imports 2020-2021; Exports 2020-2021; Production Data 2020-2023; Market Data 2020-2026

53 Country World Summary covering production data 2020-2023 and market data for 2020-2026

13 country coverage

Bulgaria; Croatia; Czech Republic; Estonia; Hungary; Lithuania; Poland; Romania; Russia; Slovakia; Slovenia; Turkey, Ukraine

Publication Data: September 2023

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

European Electronics Production 2000-2026

As part of its program 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 2000-2026 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.

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 2026 for markets and 1995-2023 for production. Through two Excel databases you can quickly analyze 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 new database will be available in September 2023.

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 40 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
- Electronic Manufacturing Services/PCB
- Production
- Semiconductors
- Renewable Energy/CleanTech

Asia Pacific Electronics: A monthly summary of key company developments within the region.

Industry Outlook – Monthly overview of developments in the broader European manufacturing sector focusing on the latest Purchasing Managers' Index (PMI) data. In addition, the section provides regular updates on the European and global economy and developments in the supply chain.

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

CONSOLIDATED SUMMARY OF PRODUCTION 2021

Table 2.6

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	188	9	1329	1059	393	365	5	2320	5667
Belgium	500	-	974	924	589	165	6	971	4128
Denmark	199	-	1199	1119	385	114	117	583	3715
Finland	39	-	994	520	387	361	-	428	2729
France	876	53	3964	2133	11388	1448	149	7925	27936
Germany	2527	78	26214	9353	3235	1588	1028	18033	62056
Greece	192	7	74	20	192	88	2	69	645
Ireland	1365	7	924	2339	246	138	13	7364	12394
Italy	575	19	4236	1886	2741	1079	26	5775	16338
Netherlands	859	-	3218	3419	455	285	32	1414	9681
Norway	105	-	651	193	387	91	-	109	1536
Portugal	82	-	212	100	400	124	725	546	2188
Spain	285	7	444	568	871	576	16	1132	3899
Sweden	66	-	1760	208	1903	1219	70	684	5910
Switzerland	429	4	5071	2515	399	363	3096	2158	14035
UK	1740	82	6121	3649	6051	340	234	3019	21236
TOTAL	10027	266	57384	30005	30022	8343	5519	52529	194095

Notes: 2020 and 2021 are current figures at current exchange rates.

* inc mobiles

CONSOLIDATED SUMMARY OF MARKETS 2021

Table 2.21

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	1920	27	1061	973	719	411	692	1901	7704
Belgium	3333	47	884	768	1394	545	488	1604	9062
Denmark	1746	31	530	281	453	348	277	1016	4682
Finland	1492	28	672	376	385	127	272	1149	4501
France	10265	306	3241	2372	7406	2420	3066	7040	36115
Germany	20666	373	11056	4456	5473	2722	5466	20434	70647
Greece	798	36	284	152	507	296	411	724	3207
Ireland	2499	16	389	349	567	239	246	2631	6936
Italy	6401	264	4168	2042	4707	1869	2235	5884	27571
Netherlands	7166	154	2132	1240	1699	1022	1015	2898	17326
Norway	1285	40	496	350	562	211	434	529	3908
Portugal	1336	16	309	345	795	394	461	1078	4735
Spain	4234	145	1524	1242	4155	1888	1700	4133	19021
Sweden	2268	41	1227	330	1645	543	585	1997	8636
Switzerland	5211	195	1968	827	2191	607	1225	2220	14444
UK	12247	422	3740	2078	8752	1893	3796	5766	38693
TOTAL	82866	2142	33681	18183	41410	15536	22369	61002	277189

Notes: 2020 and 2021 are current figures at current exchange rates

* inc mobiles.

3.6 Germany

3.6.1 Economic Outlook

GDP

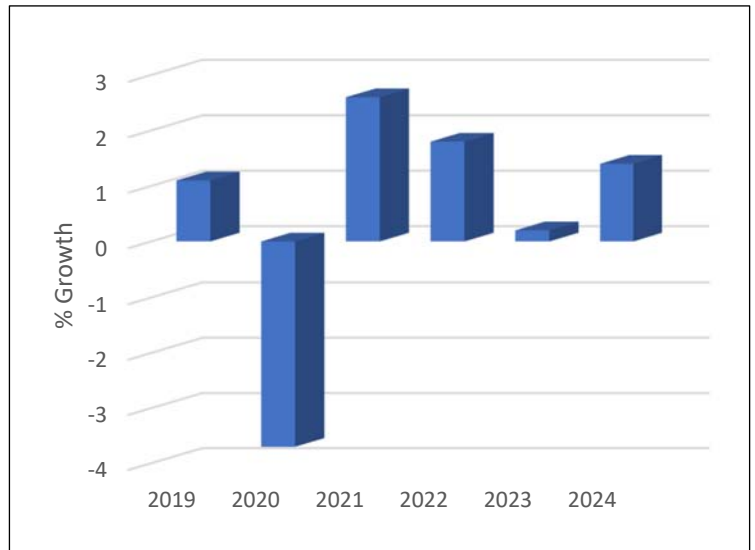
The economy avoided a technical recession in the first quarter of 2023, with GDP reported to have stagnated. Industrial production and construction rebounded, whereas the decline in private consumption is expected to have been contained. Nevertheless, the volumes of investment and private consumption are still below pre-pandemic levels. Overall, real GDP is expected to increase by just 0.2% in 2023. In 2024, growth is forecast to rebound to 1.4% driven by a recovery in consumption and investment.

Inflation

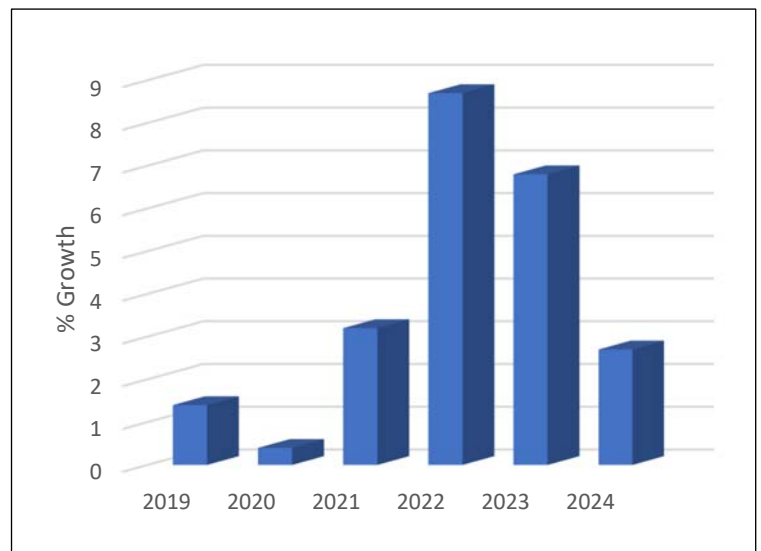
HICP inflation peaked at 11.6% in October 2022, driven by the surge in energy prices and rising input costs. In 2023, the pass-through of elevated wholesale energy price growth is expected to be mitigated by the price caps on gas and electricity. Nevertheless, prices to consumers are set to remain historically high. Still rising producer costs are set to keep HICP inflation high, at a projected 6.8% in 2023. In 2024, inflation is projected to ease to 2.7% on the back of a decrease in energy costs.

Employment

At 45.7 million, employment was at an all-time high in late 2022. The unemployment rate reached a historic low of 2.8% in March 2023. Reported labour shortages remained high at the beginning of 2023 although factory employment growth slowed to a crawl in June, with the reduction in demand and deteriorating outlook dampening firms' willingness to take on new staff.



German GDP Growth 2019-2024



German Consumer Prices 2019-2024

Germany Real GDP Growth 2019-2024

% Increase	Actual			Forecast		
	2019	2020	2021	2022	2023	2024
Growth of GDP	1.1	-3.7	2.6	1.8	0.2	1.4
Consumer Prices*	1.4	0.4	3.2	8.7	6.8	2.7

Note: Percentage change on previous year * Harmonised index of consumer prices. Source: EU Spring Economic Forecast May 2023

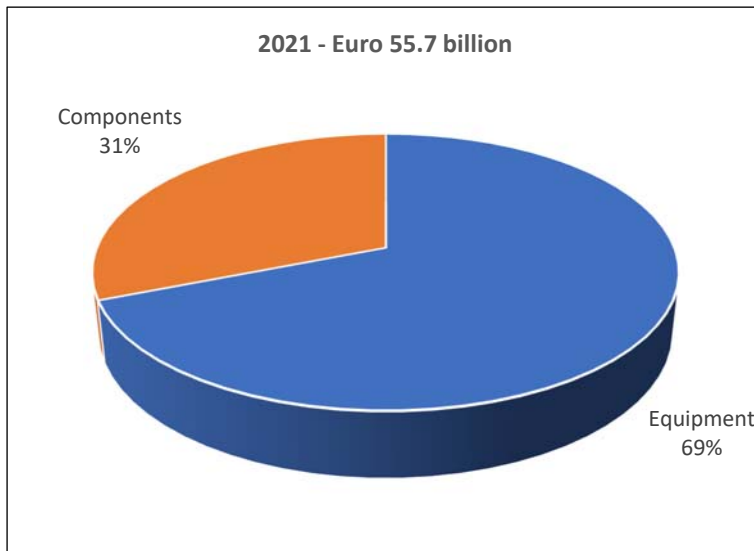
3.6.2 Electronics Industry Overview

Overview

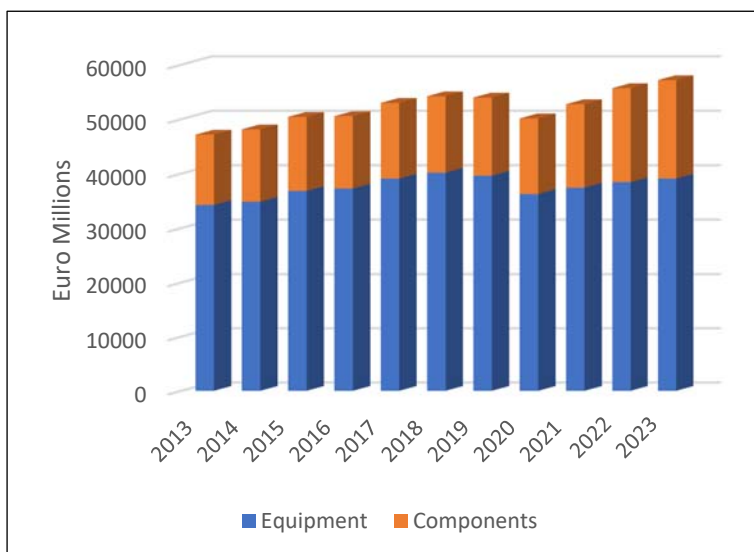
Summary of German Electronics Production 2018-2023

Euro Millions	2018	2019	2020	2021	2022	2023
Computing	3348	3304	2370	2214	2199	2121
Industrial	31348	30942	28825	30232	31192	31848
Communications	4510	4510	4255	4100	4155	4267
Consumer	956	845	794	874	883	843
Components	14048	14374	13892	15328	17263	18095
Total	54210	53975	50136	52748	55692	57174

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.



German Electronics Production 2022



German Electronics Production 2013-2023

Germany is the center of the European electronics industry with some of the largest electronic groups in Europe and globally headquartered in the country. There are also many small and medium-sized companies, primarily privately-owned, which also play an important role in the country's electronics industry. These companies are set to play a significant role in the future, as the larger OEMs and EMS providers look to take advantage of lower cost locations and manufacture in the market/region of consumption.

Germany is a key export market for the majority of European countries and as such events in Germany will play a pivotal role in the outlook for the European electronics industry.

The automotive industry is a major driver of the German economy and in turn will have a major influence on the broader electronics industry.

Despite the shortage of components and materials, which escalated in the second half of 2021 and continued into 2022 the German electronics industry has rebounded from the pandemic increasing by 5.2% and 5.6% in 2021 and 2022, respectively.

Electronics Equipment

Germany's electronics equipment industry is dominated by industrial electronics with control and instrumentation accounting for 58.8% of equipment output and 40.1% of overall electronics output in 2022. In 2021, output increased by 5.4% as the sector rebounded from the pandemic but eased to 1.4% in 2022 as demand weakened domestically and in key overseas markets. Growth of 1.9% is forecast in 2023 although downside risks surrounding the global economy in the second half of the year could lead to lower-than-expected growth for the year.

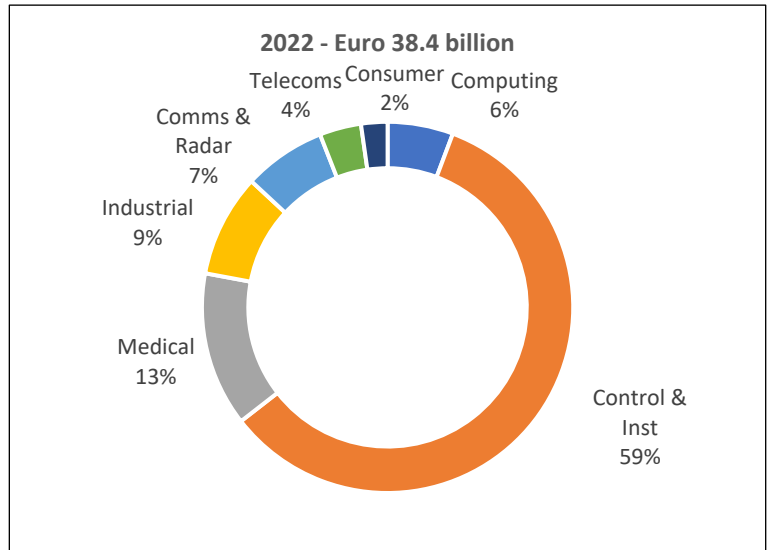
The medical sector posted robust growth of 8.2% in 2022, up from the prior year's increase of 3.4% but is forecast to ease to 3.2% in 2023.

The production of radio communications equipment (including defence) fell by 5.7% in 2021 with a sharp drop in the production of radar and navigation equipment. Following a modest increase of 0.5% in 2022 growth of 3.0% is forecast for 2023 aided in part by increased defence spending.

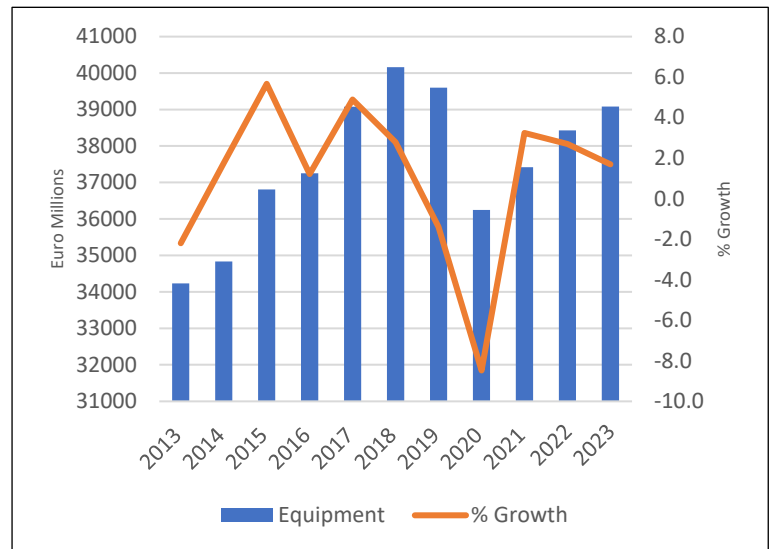
The production of telecommunications equipment, which declined by 6.3% in 2020, posted modest growth of 0.7% in 2021, 3.0% in 2022 before easing to 2.1% in 2023.

Production of computer related equipment in value terms declined by 6.9% in 2021 and by a further 0.8% in 2022. Lower consumer and enterprise spending is expected to see output fall by 3.5% in 2023.

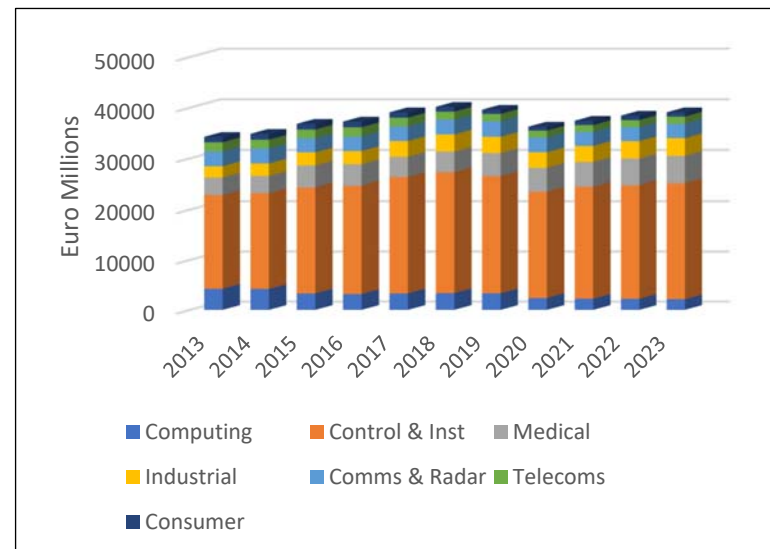
Production of consumer electronics equipment is minimal and accounted for 2.3% of electronics equipment output in 2022.



German Electronics Equipment Production by Sector 2022



German Electronics Equipment Production 2013-2023



German Electronics Equipment Production by Sector 2013-2023

Components

Components accounted for 31.1% of electronics output in 2022.

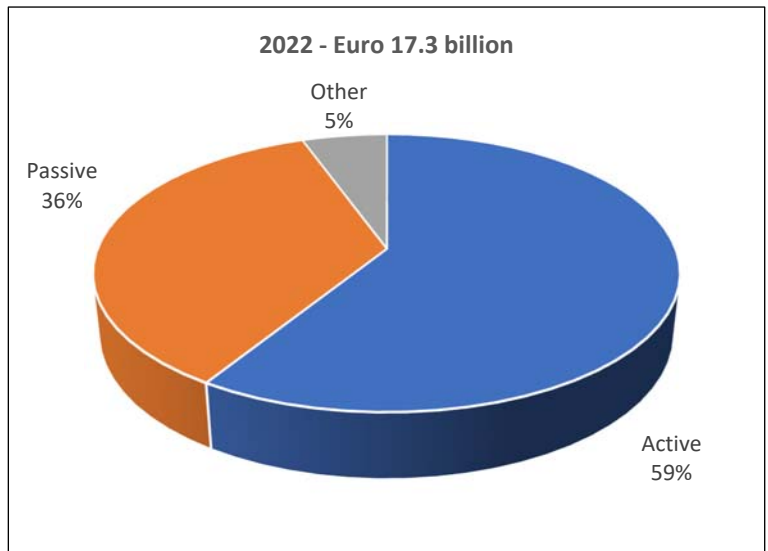
In 2021 and 2022, the production of passive components, in particular capacitors and resistors, and semiconductors benefited from higher average selling prices linked to the global shortage of components and increased domestic output to meet rising demand.

In 2022, the production of discrete semiconductors, excluding photocells increased by 10.7% in-line with the overall market. In contrast, the production of photocells increased by 18.8% on the back of strong growth for solar although it remains lower than 2016 when output topped Euro 1.0 billion. Once a major player globally the German photovoltaic industry has undergone a major restructuring in recent years in the face of increased competition from Chinese manufacturers, but over the period to 2026 will benefit from already strong demand which is expected to strengthen further as European countries look to reduce their dependency on Russian oil and gas.

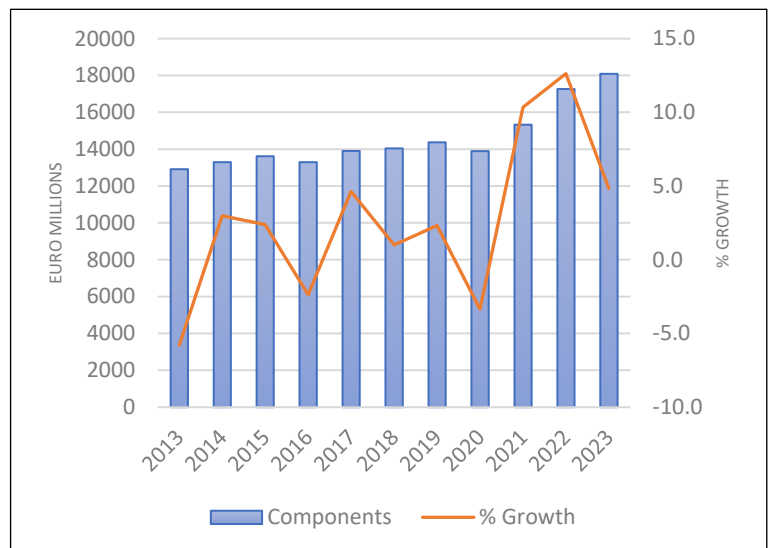
The production of ICs increased by 12.8% and 17.2% in 2021 and 2022, respectively as companies increased output to meet both rising demand and to offset the on-going global shortage. Growth is expected to ease to 4.9% in 2023 through a combination of lower prices and weaker demand.

Moving forward, significant investments in expanding existing and the construction of new wafer fabs have been announced by GlobalFoundries, Bosch, and Intel who announced in June 2023 a revised letter of intent for its planned leading-edge wafer fabrication site in Magdeburg. Under the new agreement Intel is now expected to invest more than Euro 30 billion for two first-of-a-kind semiconductor fabs in Europe.

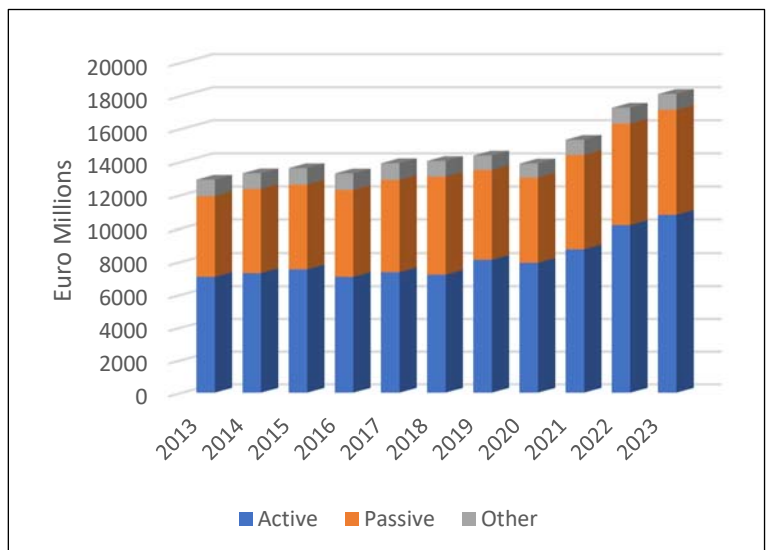
Although PCB production is now primarily undertaken in Asia there are still a number of small and medium-sized manufacturers in the country with the focus on serving the industrial and automotive markets.



German Electronics Component Production 2022



German Electronics Component Production 2013-2023



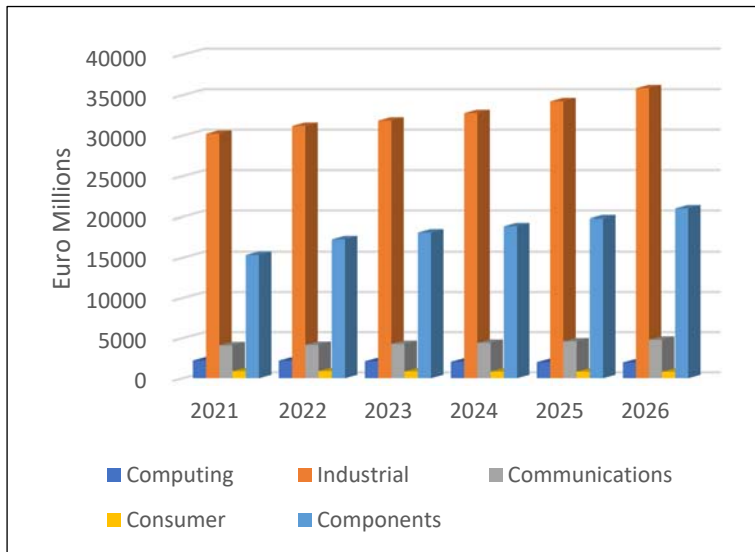
German Electronics Component Production by Sector 2013-2023

Outlook

Summary of German Electronics Production – Medium Term Forecast 2021-2026

Euro Millions	2021	2022	2023	2024	2025	2026
Computing	2214	2199	2121	2056	2006	1964
Industrial	30232	31192	31848	32774	34231	35841
Communications	4100	4155	4267	4395	4586	4794
Consumer	874	883	843	823	809	797
Components	15328	17263	18095	18876	19795	21004
Total	52748	55692	57174	58924	61427	64400

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.



German Electronics Production by Sector 2021-2026

Over the period to 2025 the German electronics industry will continue to be centred on industrial applications and automotive. Although growth is expected to ease in 2023/2024 in-line with a slowdown in the economy, it is forecast gradually pick-up during the second half of 2024 and then accelerate over the forecast period.

Germany’s focus on Industry 4.0 and growth in IoT applications is expected to support growth in both in both fixed and wireless communications with growth gaining momentum across the forecast period.

In contrast, output in the computing and consumer segments will continue to decline with increased competition from low-cost suppliers.

Despite facing increased competition, especially for commodity products, the passive components segment is expected to post low single-digit growth over the forecast period. Recent and planned investments in semiconductor manufacturing capacity in the country will support growth.

Although many companies will continue to build on the strategy of “Made in Germany” it is expected that over the period to 2026 an increasing number of OEMs and EMS companies will look at utilising low-cost sites or relocate production to be closer to key emerging markets.

3.9.3 ITALY PRODUCTION

COMPUTING		2020	2021	2022	2023
Complete Systems	€M	222	242	260	249
	\$M	252	285	274	262
Peripherals	€M	105	187	205	200
	\$M	119	220	216	211
Accessories & Parts	€M	63	60	70	64
	\$M	72	71	74	68
Computing Total	€M	390	489	535	514
	\$M	443	575	563	541

OFFICE EQUIPMENT		2020	2021	2022	2023
Office Equipment Total	€M	18	16	18	17
	\$M	20	19	19	18

CONTROL & INSTRUMENTATION		2020	2021	2022	2023
Total Industrial & Process Control	€M	1275	1425	1525	1605
	\$M	1449	1676	1605	1689
Instrumentation					
Analytical Instruments	€M	110	130	125	130
	\$M	125	153	132	137
Nucleonic Instruments	€M	11	12	12	11
	\$M	13	14	13	11
Signal Generators	€M	5	5	7	6
	\$M	6	6	7	7
Telecoms Instruments	€M	16	20	21	20
	\$M	18	24	22	22
Machine & Materials Test Instruments	€M	285	320	380	390
	\$M	324	376	400	410
Electrical Quantity Measuring Instruments	€M	77	79	84	82
	\$M	88	93	88	87
Other Test & Measuring Instruments	€M	1030	1150	1200	1210
	\$M	1170	1353	1263	1274
Total Instrumentation	€M	1534	1716	1829	1850
	\$M	1743	2019	1925	1948
Accessories & Parts	€M	450	460	500	511
	\$M	511	541	526	538
Control & Instrumentation Total	€M	3259	3601	3854	3966
	\$M	3703	4236	4057	4174

ITALY PRODUCTION (ctd)

MEDICAL & INDUSTRIAL		2020	2021	2022	2023
X-Ray & Medical Equipment					
X-Ray Equipment	€M	352	362	382	380
	\$M	400	426	402	400
Electromedical Equipment	€M	540	555	640	666
	\$M	614	653	674	701
Hearing Aids	€M	12	14	14	16
	\$M	14	16	15	17
X-Ray & Medical Equipment Total	€M	904	931	1036	1062
	\$M	1027	1095	1091	1118
Industrial Equipment					
Railway & Traffic Signalling Equipment	€M	206	243	250	256
	\$M	234	286	263	270
Other Signalling Equipment	€M	351	381	400	411
	\$M	399	448	421	433
Other Industrial Equipment	€M	42	48	58	61
	\$M	48	56	61	64
Total Industrial Equipment	€M	599	672	708	729
	\$M	681	791	745	767
Medical & Industrial Equipment Total	€M	1503	1603	1744	1790
	\$M	1708	1886	1836	1885

COMMUNICATIONS & RADAR		2020	2021	2022	2023
Radar & Navigational Aids	€M	1270	1300	1370	1399
	\$M	1443	1529	1442	1472
Radio Comms inc Mobile Phones	€M	1000	1030	1059	1122
Public Broadcasting & Parts	\$M	1136	1212	1115	1182
Communications & Radar Total	€M	2270	2330	2429	2521
	\$M	2580	2741	2557	2654

TELECOMMUNICATIONS		2020	2021	2022	2023
Telephone Sets	€M	30	27	25	25
	\$M	34	32	26	27
Other Telecoms Equipment	€M	860	890	920	946
	\$M	977	1047	968	996
Telecommunications Total	€M	890	917	945	971
	\$M	1011	1079	995	1023

ITALY PRODUCTION (ctd)

CONSUMER		2020	2021	2022	2023
Video Equipment					
Colour Television	€M	2	2	2	2
	\$M	2	2	2	2
Video Equipment Total	€M	2	2	2	2
	\$M	2	2	2	2
Audio Equipment					
Audio Equipment	€M	1	1	1	1
	\$M	1	1	1	1
Audio Equipment Total	€M	1	1	1	1
	\$M	1	1	1	1
Personal Consumer Equipment					
Electronic Musical Instruments	€M	13	14	15	15
	\$M	15	16	16	15
Electric/Electronic Watches	€M	2	2	2	2
	\$M	2	2	2	2
Electric/Electronic Clocks	€M	3	3	3	3
	\$M	3	4	3	3
Total Personal Equipment	€M	18	19	20	19
	\$M	20	22	21	20
Consumer Equipment Total	€M	21	22	23	22
	\$M	24	26	24	23

COMPONENTS		2020	2021	2022	2023
Active Components					
Valves & Tubes	€M	12	12	12	12
	\$M	14	14	13	13
Diodes	€M	36	43	55	57
	\$M	41	51	58	60
Transistors	€M	195	235	335	352
	\$M	222	276	353	371
Thyristors	€M	12	13	14	14
	\$M	14	15	15	15
Piezoelectric Crystals	€M	7	9	9	9
	\$M	8	11	9	9
Photocells	€M	131	312	350	392
	\$M	149	367	368	413

ITALY PRODUCTION (ctd)

COMPONENTS (ctd)		2020	2021	2022	2023
Active Components					
Other Discrete Semiconductors	€M	40	45	55	56
	\$M	45	53	58	59
ICs & Other Microcircuits	€M	2125	2525	2905	3021
	\$M	2415	2971	3058	3180
Active Components Total	€M	2558	3194	3735	3913
	\$M	2907	3758	3932	4119
Passive Components					
Fixed Capacitors	€M	95	105	95	95
	\$M	108	124	100	100
Variable Capacitors	€M	1	1	1	1
	\$M	1	1	1	1
Resistors	€M	20	24	27	28
	\$M	23	28	28	29
Connectors	€M	380	435	480	497
	\$M	432	512	505	523
Transformers & Inductors	€M	105	124	134	137
	\$M	119	146	141	144
Relays	€M	31	33	35	36
	\$M	35	39	37	38
Switches	€M	110	118	124	126
	\$M	125	139	131	133
Printed Circuit Boards	€M	293	288	300	310
	\$M	333	339	316	326
Total Passive Components	€M	1035	1128	1196	1230
	\$M	1176	1327	1259	1295
Other Components					
Microphones	€M	3	5	5	4
	\$M	3	6	5	5
Loudspeakers	€M	190	195	210	215
	\$M	216	229	221	226
Amplifiers	€M	42	42	44	45
	\$M	48	49	46	48
Aerials	€M	45	45	45	44
	\$M	51	53	47	46
Unrecorded Media	€M	6	4	4	4
	\$M	7	5	4	4

ITALY PRODUCTION (ctd)

COMPONENTS (ctd)		2020	2021	2022	2023
Other Components (ctd)					
Accessories & Parts for Consumer Equipment	€M	276	296	306	290
	\$M	314	348	322	305
Total Other Components	€M	562	587	614	602
	\$M	639	691	646	633
Total Components Production	€M	4155	4909	5545	5745
	\$M	4722	5775	5837	6047
TOTAL PRODUCTION - ITALY		2020	2021	2022	2023
Total	€M	12506	13887	15093	15546
	\$M	14211	16338	15887	16364

Notes: 2020 and 2021 are current figures at current exchange rates. 2022 is an estimate and 2023 a forecast at 2022 constant values and exchange rates (i.e. inflation is not included). Base year 2022

3.5.4 FRANCE MARKETS

COMPUTING		2020	2021	2022	2023	2024	2025	2026
Computers Total	€M	4363	4619	4848	4345	4438	4539	4650
	\$M	4958	5434	5103	4573	4672	4777	4895
Peripherals	€M	2121	2212	2295	2373	2419	2469	2524
	\$M	2410	2602	2416	2498	2547	2599	2657
Accessories & Parts	€M	1855	1894	1942	1967	1993	2020	2052
	\$M	2108	2228	2044	2071	2097	2126	2160
Computing Total	€M	8339	8725	9085	8685	8850	9027	9226
	\$M	9476	10265	9563	9142	9316	9502	9711

OFFICE EQUIPMENT		2020	2021	2022	2023	2024	2025	2026
Office Equipment	€M	277	260	254	241	229	220	211
	\$M	315	306	267	254	241	232	222
Office Equipment Total	€M	277	260	254	241	229	220	211
	\$M	315	306	267	254	241	232	222

CONTROL & INSTRUMENTATION		2020	2021	2022	2023	2024	2025	2026
Industrial & Process Control								
Total Industrial & Process Control	€M	818	890	963	1050	1089	1136	1188
	\$M	930	1047	1014	1106	1146	1196	1251
Instrumentation								
Analytical Instruments	€M	250	277	283	246	254	264	275
	\$M	284	326	298	258	267	278	289
Nucleonic Instruments	€M	100	102	109	89	93	98	103
	\$M	114	120	115	94	98	103	108
Signal Generators	€M	19	29	33	20	18	16	14
	\$M	22	34	35	21	19	17	15
Telecoms Instruments	€M	46	53	53	57	59	60	62
	\$M	52	62	56	60	62	63	65
Machine & Materials Test Instruments	€M	84	106	135	140	145	150	156
	\$M	95	125	142	148	152	158	164
Electrical Quantity Measuring Instruments	€M	73	79	84	87	90	94	98
	\$M	83	93	88	92	95	99	103
Other Test & Measuring Instruments	€M	667	707	743	781	806	837	871
	\$M	758	832	782	822	848	881	917
Total Instrumentation	€M	1239	1353	1440	1420	1463	1518	1579
	\$M	1408	1592	1516	1495	1540	1598	1662

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CONTROL & INSTRUMENTATION		2020	2021	2022	2023	2024	2025	2026
Control & Instrumentation (ctd)								
Accessories & Parts	€M	484	512	539	563	587	616	648
	\$M	550	602	567	593	618	649	683
Control & Instrumentation Total	€M	2541	2755	2942	3033	3139	3271	3415
	\$M	2888	3241	3097	3193	3305	3443	3595
MEDICAL & INDUSTRIAL		2020	2021	2022	2023	2024	2025	2026
X-Ray & Medical Equipment								
Medical X-Ray Equipment	€M	133	157	168	149	152	155	159
	\$M	151	185	177	157	160	164	168
Industrial X-Ray Equipment	€M	40	46	44	62	63	64	65
	\$M	45	54	46	65	66	67	69
Electrocardiographs	€M	48	48	50	50	51	52	52
	\$M	55	56	53	53	54	54	55
Other Electromedical Equipment	€M	730	750	788	814	852	895	942
	\$M	830	882	829	856	896	942	991
Hearing Aids	€M	147	153	155	169	173	177	181
	\$M	167	180	163	178	182	186	191
X-Ray & Medical Equipment Total	€M	1098	1154	1205	1244	1290	1342	1400
	\$M	1248	1358	1268	1309	1357	1413	1474
Industrial Equipment								
Traffic Signalling Equipment	€M	262	271	282	290	297	305	313
	\$M	298	319	297	305	313	321	329
Other Signalling Equipment	€M	507	539	568	576	596	617	639
	\$M	576	634	598	606	628	650	673
Other Industrial Equipment	€M	50	52	54	63	65	66	68
	\$M	57	61	57	66	68	70	72
Industrial Equipment Total	€M	819	862	904	928	958	989	1020
	\$M	931	1014	952	977	1009	1041	1074
Medical & Industrial Total	€M	1917	2016	2109	2172	2248	2331	2421
	\$M	2178	2372	2220	2286	2366	2454	2548
COMMUNICATIONS & RADAR		2020	2021	2022	2023	2024	2025	2026
Radar & Navigational Aids	€M	1136	1187	1271	1357	1401	1461	1526
	\$M	1291	1396	1338	1428	1475	1538	1607
Radio Comms inc Mobile Phones, Public Broadcasting & Parts	€M	4927	5108	5314	5406	5591	5839	6110
	\$M	5599	6009	5594	5690	5886	6147	6431
Communications & Radar Total	€M	6063	6295	6585	6763	6993	7300	7636
	\$M	6890	7406	6932	7119	7361	7685	8038

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TELECOMMUNICATIONS		2020	2021	2022	2023	2024	2025	2026
Telephone Sets	€M	278	282	289	280	273	268	263
	\$M	316	332	304	295	287	282	277
Other Telecommunications Equipment	€M	1701	1775	1852	1923	2003	2101	2210
	\$M	1933	2088	1949	2024	2108	2212	2326
Telecommunications Total	€M	1979	2057	2141	2203	2276	2369	2473
	\$M	2249	2420	2254	2319	2396	2494	2604
CONSUMER		2020	2021	2022	2023	2024	2025	2026
Video Equipment								
Colour Television	€M	1260	1310	1247	1210	1231	1241	1216
	\$M	1432	1541	1313	1274	1296	1306	1280
DVD Players & Recorders	€M	50	47	45	43	41	38	34
	\$M	57	55	47	45	43	40	36
Video & Digital Still Cameras	€M	300	315	324	318	311	300	285
	\$M	341	371	341	335	327	316	300
Video Tuners & Satellite Receivers	€M	122	119	114	109	104	99	92
	\$M	139	140	120	115	109	104	97
Video Equipment Total	€M	1732	1791	1730	1680	1687	1678	1627
	\$M	1968	2107	1821	1768	1776	1766	1713
Audio Equipment								
Audio Equipment	€M	398	375	367	353	339	329	319
	\$M	452	441	386	372	357	346	336
Audio Equipment Total	€M	398	375	367	353	339	329	319
	\$M	452	441	386	372	357	346	336
Personal Consumer Equipment								
Electronic Musical Instruments	€M	80	85	90	72	72	72	72
	\$M	91	100	95	76	76	76	75
Electric/Electronic Watches	€M	285	328	345	359	367	377	387
	\$M	324	386	363	378	386	397	407
Electric/Electronic Clocks	€M	22	24	28	25	24	24	24
	\$M	25	28	29	26	26	25	25
Electronic Flashlights	€M	3	3	5	3	2	2	2
	\$M	3	4	5	3	2	2	2
Personal Consumer Equipment Total	€M	390	440	468	459	466	475	484
	\$M	443	518	493	483	490	500	510
Consumer Equipment Total	€M	2520	2606	2565	2492	2492	2482	2430
	\$M	2864	3066	2700	2623	2623	2612	2558

FRANCE MARKETS (ctd)

COMPONENTS		2020	2021	2022	2023	2024	2025	2026
Active Components								
Valves & Tubes	€M	183	173	176	180	180	175	169
	\$M	208	204	185	189	189	184	178
Diodes	€M	147	172	188	192	197	205	213
	\$M	167	202	198	202	207	216	224
Transistors	€M	160	197	235	240	248	257	268
	\$M	182	232	247	253	261	271	282
Other Discrete Semiconductors	€M	964	1164	1633	1950	2303	2664	2965
	\$M	1095	1369	1719	2053	2424	2804	3121
ICs & Other Microcircuits	€M	1325	1612	1953	2035	2125	2231	2347
	\$M	1506	1896	2056	2142	2237	2348	2471
Active Components Total	€M	2779	3318	4185	4597	5053	5532	5962
	\$M	3158	3904	4405	4839	5319	5823	6276
Passive Components								
Electrolytic Capacitors	€M	58	71	90	92	95	99	103
	\$M	66	84	95	97	100	104	108
Other Fixed Capacitors	€M	103	126	135	138	143	149	155
	\$M	117	148	142	145	151	157	163
Variable Capacitors	€M	1	2	2	2	2	2	2
	\$M	1	2	2	2	2	2	2
Resistors	€M	71	85	101	103	106	110	115
	\$M	81	100	106	108	112	116	121
Variable Resistors	€M	24	26	28	27	26	25	24
	\$M	27	31	29	28	27	26	25
Connectors	€M	592	702	819	841	868	904	944
	\$M	673	826	862	885	914	952	994
Small Transformers	€M	136	149	162	165	170	176	183
	\$M	155	175	171	174	179	185	193
Relays	€M	44	47	54	55	57	59	61
	\$M	50	55	57	58	60	62	64
Switches	€M	86	91	96	98	101	104	108
	\$M	98	107	101	103	106	109	114
Printed Circuit Boards	€M	421	443	498	511	529	551	575
	\$M	478	521	524	538	557	580	605
Passive Components Total	€M	1536	1742	1985	2032	2097	2179	2270
	\$M	1745	2049	2089	2139	2207	2294	2389

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COMPONENTS		2020	2021	2022	2023	2024	2025	2026
Other Components								
Microphones	€M	35	37	39	40	41	42	43
	\$M	40	44	41	42	43	44	45
Loudspeakers	€M	377	397	419	428	438	451	464
	\$M	428	467	441	451	461	475	488
Amplifiers	€M	13	13	13	13	12	12	11
	\$M	15	15	14	14	13	13	12
Aerials	€M	63	63	66	66	65	63	62
	\$M	72	74	69	69	68	66	65
Unrecorded Media	€M	123	118	116	113	109	108	103
	\$M	140	139	122	119	115	114	108
Accessories & Parts for Consumer Equipment	€M	285	296	307	313	321	329	338
	\$M	324	348	323	329	338	346	356
Other Components Total	€M	896	924	960	973	986	1005	1021
	\$M	1018	1087	1011	1024	1038	1058	1075
Components Total	€M	5211	5984	7130	7602	8136	8716	9253
	\$M	5922	7040	7505	8002	8564	9175	9740

TOTAL MARKET - FRANCE		2020	2021	2022	2023	2024	2025	2026
TOTAL MARKET	€M	28847	30698	32811	33191	34363	35717	37066
	\$M	32781	36115	34538	34938	36171	37597	39017

Notes: 2020 and 2021 are current figures at current exchange rates
2022 is an estimate and 2023 to 2026 are forecasts at 2022 constant values & exchange rates (i.e. Inflation is not included)
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