The Scewo company's BRO power wheelchair is operated via smartphone and provides new levels of freedom to individuals with limited mobility

Swiss Medical Technology Industry

Sector Study 2022

SWISS MEDTECH

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Introduction

In the past two years, medical technology has been the focus of public interest as never before – globally, in Europe, and in Switzerland. This situation was influenced by the following three events:

Covid-19: The pandemic once again demonstrated that public health worldwide is of paramount importance to society. At great effort and expense, countries around the globe initiated emergency measures to protect their citizens. Medical technology plays a key role in the management of Covid-19 in the form of prevention, diagnostics, and therapies.

MDR and IVDR: Implementation of European medical device regulations (MDR and IVDR) has been seriously flawed, both qualitatively and quantitatively. There is a significant mismatch between the availability of required notified bodies in Europe and the number of medical devices needing certification. The main objective of the regulations – namely to improve patient safety – is being undermined. The industry is ready, but the system is not.

Swiss policies concerning Europe: On 26 May 2021, the Federal Council officially broke off negotiations on the institutional agreement between Switzerland and the EU. Since then, the Swiss medtech sector has been relegated to third-country status with the EU, which comes with corresponding negative consequences.

All three events are reflected in this sector study. In the medium to long term, Switzerland's policies regarding Europe are expected to have the greatest impact. The current state of limbo lowers the attractiveness of Switzerland as a business location and threatens the supply of medical devices to the Swiss population.

Most important study findings

The economic importance of Swiss medical technology has continued to grow. In the last two years, the sector has created 4,500 new jobs and increased its revenues to CHF 20.8 billion, despite the fact that 2020 saw the onset of the pandemic, officially ordered lockdowns, and the postponement of electoral interventions which were difficult for many medical fields. During this period, however, companies with solutions in diagnostics, consumables or critical care experienced a surge in growth. In 2021, all segments returned to growth, in some cases with very significant increases in revenue. During 2020 and 2021, industry sales grew by an average of 7.6% per year.

As a consequence of the regulatory changes, two thirds of all manufacturers plan to streamline their product range. Around 13% of all products will disappear from the market. The industry also indicates that product costs will increase by 6% as a result of the higher expenses.

Difficulties are also reported by Swiss importers: Many of their existing suppliers have decided to abandon the Swiss market because of the new regulations. Importers and distributors report losing 15% of their product portfolio as a result of the third-country status.

This sector study is the eighth report on the Swiss medical technology industry. It is produced in close collaboration between Swiss Medtech and the Helbling Group, with the support of an expert advisory board. The SMTI study has been conducted every two years since 2008 and is based on the results of a broad-based survey involving manufacturers, suppliers, specialised service providers and distributors from all regions of Switzerland.

Bern and Zurich, September 2022

Emanuel Wettstein[1], Christian Huber[2], Anna Germann[1], and Peter Biedermann[2], authors and editors of the SMTI 2022 Sector Study

[1] Helbling; [2] Swiss Medtech

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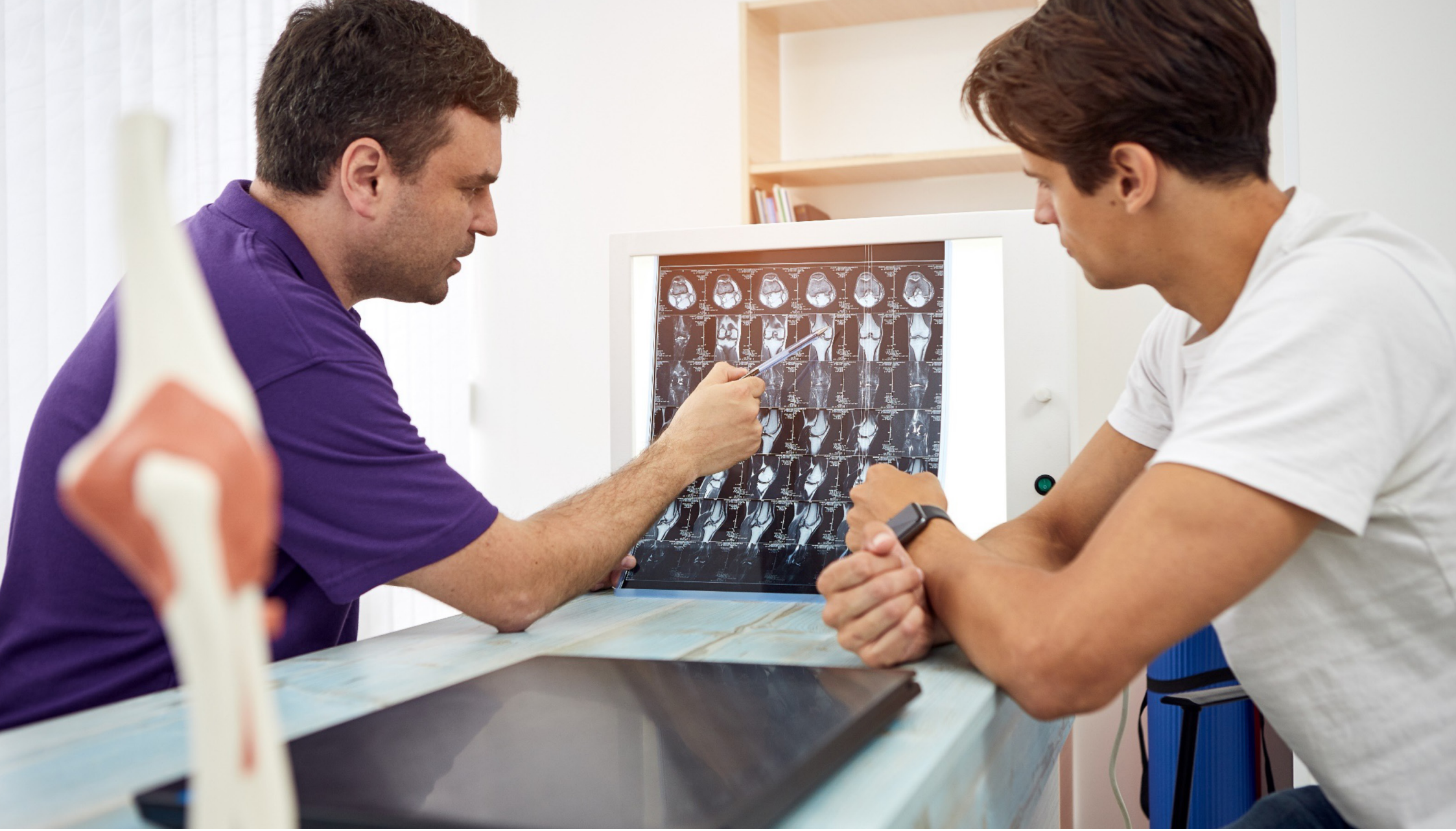
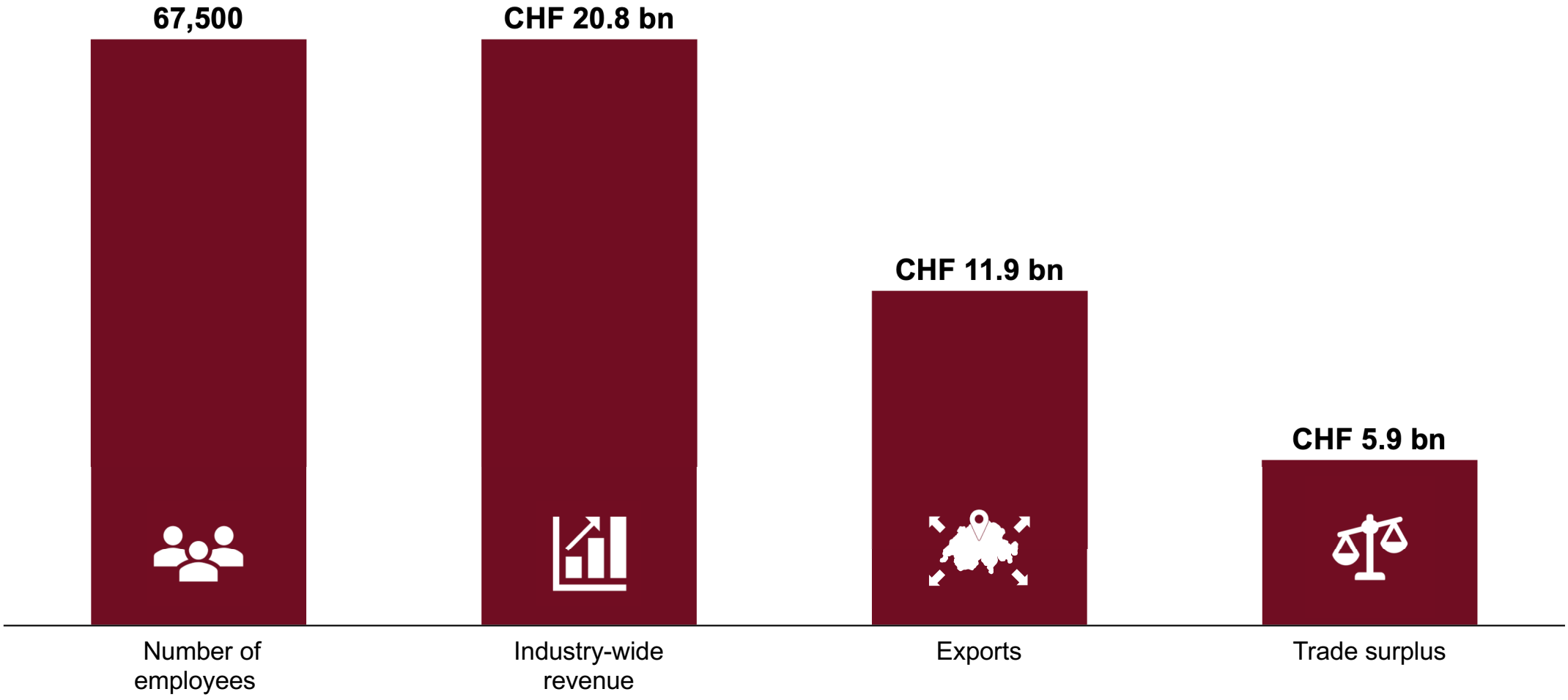


Management summary

Management summary (I/IV)
67,500 employees generated CHF 20.8 billion in revenue in 2021



Source: Swiss Medtech database; SMTI survey responses 2022; Federal Office for Customs and Border Security (BAZG)

Management summary (II/IV)
Overview of the Swiss medical technology industry

Segmentation of the market

- The Swiss medtech sector is divided into manufacturers, distributors, specialised service providers, and the supplier industry
- The sector operates within the regulatory framework of the European MDR and IVDR, which are incorporated into national legislation with the Medical Devices Ordinance (MedDO) and the Ordinance on In Vitro Diagnostic Medical Devices (IvDO)
- Swiss manufacturers produce devices used in about 29 specialist medical fields worldwide

Largest employers

- The ten largest companies employ almost a quarter of all employees working in the Swiss medtech sector
- Important sectors include orthopaedics and traumatology, diagnostics, cardiology, dentistry, injection systems, and hearing system technology
- Half of the ten largest employers are companies with headquarters in Switzerland

Employees and revenue

- The sector was able to increase its revenues to CHF 20.8 billion. The number of employees grew to a record 67,500
- The industry also managed to grow slightly in the pandemic year of 2020. While implant manufacturers suffered through the postponement of elective surgeries, companies involved in diagnostics and intensive care recorded growth in sales due to their central role in the management of the pandemic
- In 2021, companies in all medical segments recorded positive growth figures

Export and import

- Switzerland imported medical devices worth CHF 6.0 billion in 2021
- In the same period, Swiss medtech companies exported goods worth CHF 11.9 billion
- The resulting trade surplus of CHF 5.9 billion represents 11.5% of Switzerland’s entire trade surplus
- Swiss medical technology maintains a positive trade balance with the majority of foreign countries

Management summary (III/IV)
Factors influencing the Swiss medical technology industry

Impact of MDR/IVDR

- Companies recruited additional staff and made internal adjustments to cope with the introduction of new regulations and the considerable associated workload
- For Swiss medtech firms the introduction of MDR/IVDR comes with an initial rise of product costs by around 6%
- In view of the increased requirements, companies are examining the cost-effectiveness of their products. 63% say they are reducing their product portfolio

Switzerland-EU relations

- The European MDR and the Swiss MedDO have been in force since 26 May 2021. On the very same day, the Swiss Federal Council announced that it was breaking off negotiations on the institutional agreement
- Since then, the Swiss medtech industry has operated as a third-country member with the EU. The revised MedDO imposes increased requirements for placing products on the market in Switzerland
- 82% of dealers and importers report that products from abroad are missing due to the third-country status

Shortage of qualified specialists

- In particular, the search for individuals with expertise in regulatory affairs and quality management, as well as R&D presents problems for medtech manufacturers
- The supplier industry is also affected by the shortage of skilled workers. Companies have difficulty finding suitable production personnel
- Voices from industry report that the time needed to fill a position has increased significantly

Sustainability and diversity

- Efforts aimed at improving the ecological footprint, such as the European Green Deal, have a major impact on the economy
- For Swiss medtech companies, ecological sustainability will also become relevant regarding market access and competition in the near future. To date, approximately two thirds of companies have addressed the topic – and the trend is rising
- Small companies in particular still have some ways to go in the areas of sustainability and diversity

Management summary (IV/IV)
Shaping the future of the Swiss medtech industry

Strategies to achieve growth

- According to survey results, above-average sales growth of 8.5% is expected for the next two years
- Companies are prioritising organic growth with existing products in existing markets (market penetration)
- Growth through acquisitions has also gained in importance. Compared to previous reporting periods, acquisitions in Switzerland and abroad increased significantly in 2021

Investments

- Manufacturers and suppliers continue to rely on Switzerland as a production location. 65% of companies surveyed plan new investments within Switzerland
- The stable economic environment and existing medtech know-how are among the strongest reasons for investing in Switzerland
- Motivations for investing abroad include geographical proximity to important markets, comparatively low personnel costs, and rapid construction permit procedures

Top trends as drivers of innovation

- For manufacturers, innovation in manufacturing processes such as Industry 4.0 have the highest priority, followed by product innovation such as smart devices and material innovation
- Patent applications confirm the Swiss lead in material innovations and smart devices. However, Switzerland is lagging behind in patient data processing or sensors to measure biometric data
- The response and management of digitalisation, especially smart devices, is seen as the biggest challenge

Research and development

- Medical technology is traditionally one of the most research-intensive industries. Requirements for proving clinical efficacy and safety have increased, and consequently require more resources
- The survey results reflect this trend. The weighted share of manufacturer expenditure for R&D in 2021 is 10.4%
- This value lies 0.5 percentage points higher than in 2019

Overview of the Swiss medical technology industry

1. Segmentation of the market
2. Largest employers
3. Employees and revenue
4. Export and import

Overview of the Swiss medical technology industry

The Swiss medical technology sector includes a large number of well-established companies. Approximately 1,400 companies are involved predominantly (>50%) with medtech. With a turnover of over CHF 20 billion and a steadily increasing workforce, the medtech industry plays an important role in health care and the Swiss economy as a whole. It also demonstrated its relevance during the Covid-19 pandemic by contributing significantly to combat the virus.

Segmentation of the market

Swiss medtech manufacturers provide products spanning 29 medical subspecialities. Swiss medtech manufacturers and suppliers are active throughout Switzerland. Clusters are located in areas near technical universities – which provide the industry with new business ideas and talent – and in cantons with favourable taxation rates. Furthermore, a higher concentration of medtech companies can be found in regions traditionally home to the well-established precision machinery and the watch industries.

Largest employers

Each of the ten largest Swiss medtech companies employs over 1,000 individuals. The top 10 list also includes global leaders with market shares ranging from 15% to 30%. Many of the largest companies reported an exceptionally successful year 2021, with average sales growth of around 23%. At the same time, levels of R&D spending averaged 8.1%.

Employees and revenue

The medical technology sector – with its workforce of 67,500 – generated sales of CHF 20.8 billion in 2021. Sector turnover has grown by CHF 2.9 billion in the last two years and was accompanied by the creation of 4,500 new jobs. This significant expansion is partly due to the sector's central role in the management of the Covid-19 pandemic.

Export and import

Both exports and imports of medtech products have demonstrated a high degree of stability over the years. The industry has been generating a positive trade surplus for years. Trade in goods with the most important global markets, such as Europe, the USA and Asia, is – for the most part – developing positively. The USA and Germany continue to rank as the most important trading partners for Swiss medical technology.

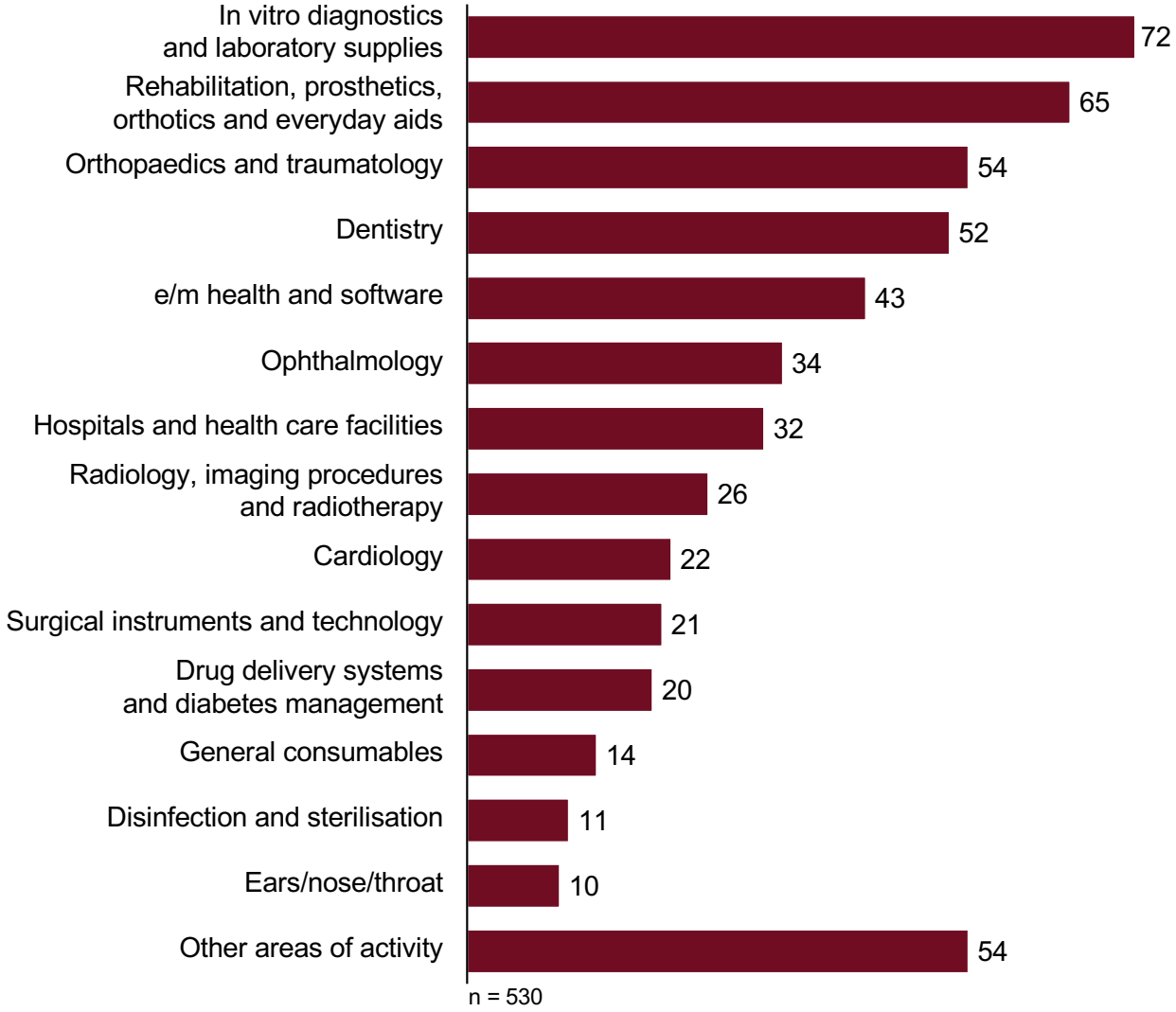
Study methodology

The growth in sector revenues and workforce has been extrapolated from information provided by survey respondents. Industry turnover corresponds to the sum of sales per Swiss employee. To determine an absolute comparison of industry turnover with total market volume in Switzerland, the vertical integration of all suppliers, manufacturers, and service providers would have to be considered. Market volume, adjusted for imports and exports, then determines the share of Swiss health care costs attributable to medical technology.

Trade figures for imports and exports are based on customs declaration data sourced from the Federal Customs Administration's (BAZG) foreign trade statistics. It registers the quantity and declared value of goods for finished products only; semi-finished products and services are not included. As no customs tariff numbers are assigned uniquely for medical technology, an overview of the applicable entries (see p. 73 ff.) has been specially defined for the study at hand. The two customs tariff numbers 9018 and 9021 cover over 80% of all exports. As Swiss manufacturers are increasingly producing abroad and also distribute their products from those countries, export figures are unlikely to grow significantly in the future. This, together with fluctuations in exchange rates, may explain the discrepancy between revenues and trade figures in the medtech sector. Given the underlying methodology, the trade figures are subject to a certain degree of imprecision.

The Swiss medical technology industry is highly diverse

Number of manufacturers according to medical subspecialities



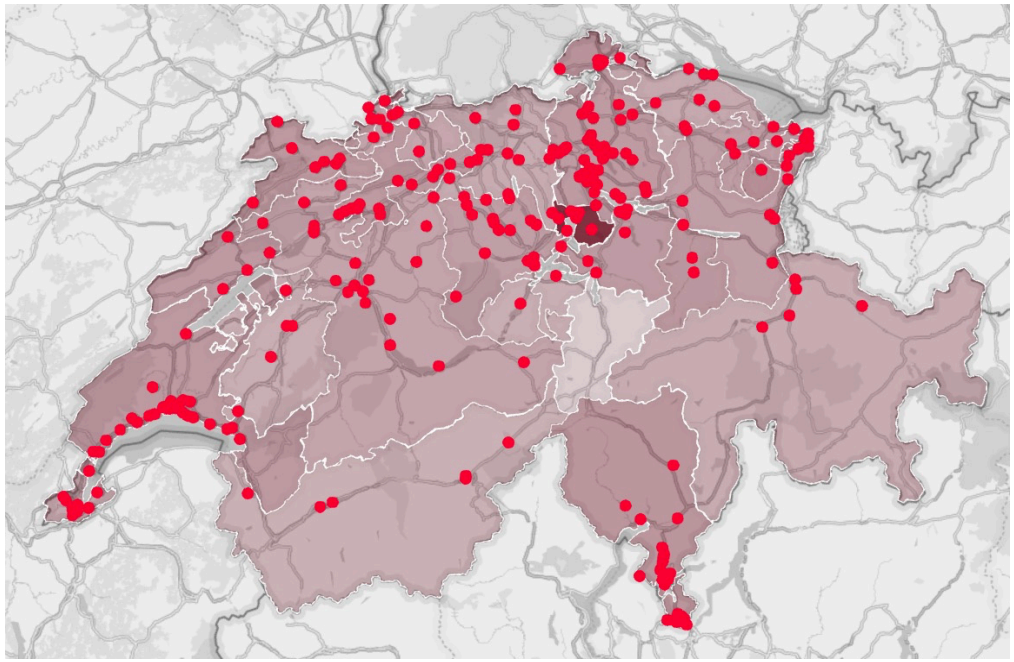
Source: Swiss Medtech database

Comments

- The 530 manufacturers registered in the Swiss Medtech database are actively involved in 29 diverse medical specialties
- The largest employers in the Swiss medtech industry specialise in orthopaedics and traumatology, diagnostics, and dentistry
- Other notable companies operate in the fields of ophthalmology, cardiology, drug delivery, intensive care, and hearing aid technology
- Many start-ups are emerging in the e/m health and software sectors

The cantons located along the Jura foothills and Zug boast the highest density of medtech companies

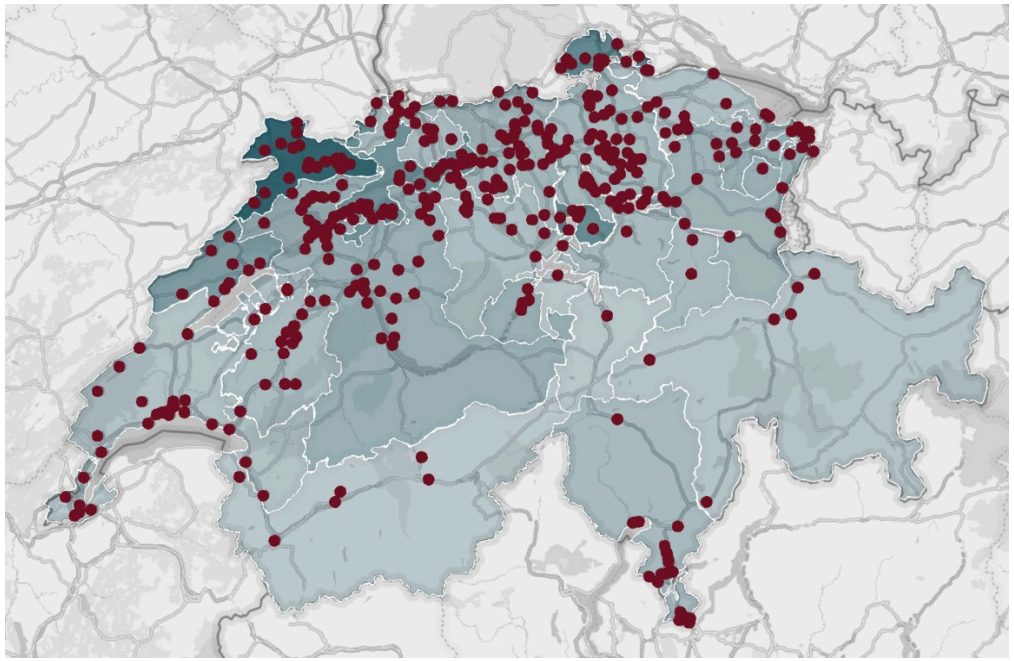
Manufacturer locations



● Manufacturers

# of manufacturers per 1,000 inhabitants:
high numbers — low numbers

Supplier locations



● Suppliers

# of suppliers per 1,000 inhabitants:
high numbers — low numbers

Comments

- A relatively large number of manufacturers are based in the canton of Zug. However, companies in high-precision industries which are active suppliers to the medtech sector, are concentrated along the Jura foothills
- The geographical proximity to the Federal Institutes of Technology in Lausanne (EPFL) and Zurich (ETHZ) seems to stimulate the clustering of medtech companies in the Zurich and Lake Geneva regions

Note: the colour intensity of the cantons is based on the number of companies per thousand inhabitants per canton; each dot corresponds to an individual postcode; one dot may represent more than one company.
Source: Swiss Medtech database

In addition to domestic firms, companies headquartered in the USA are particularly well-represented among the largest medtech employers in Switzerland

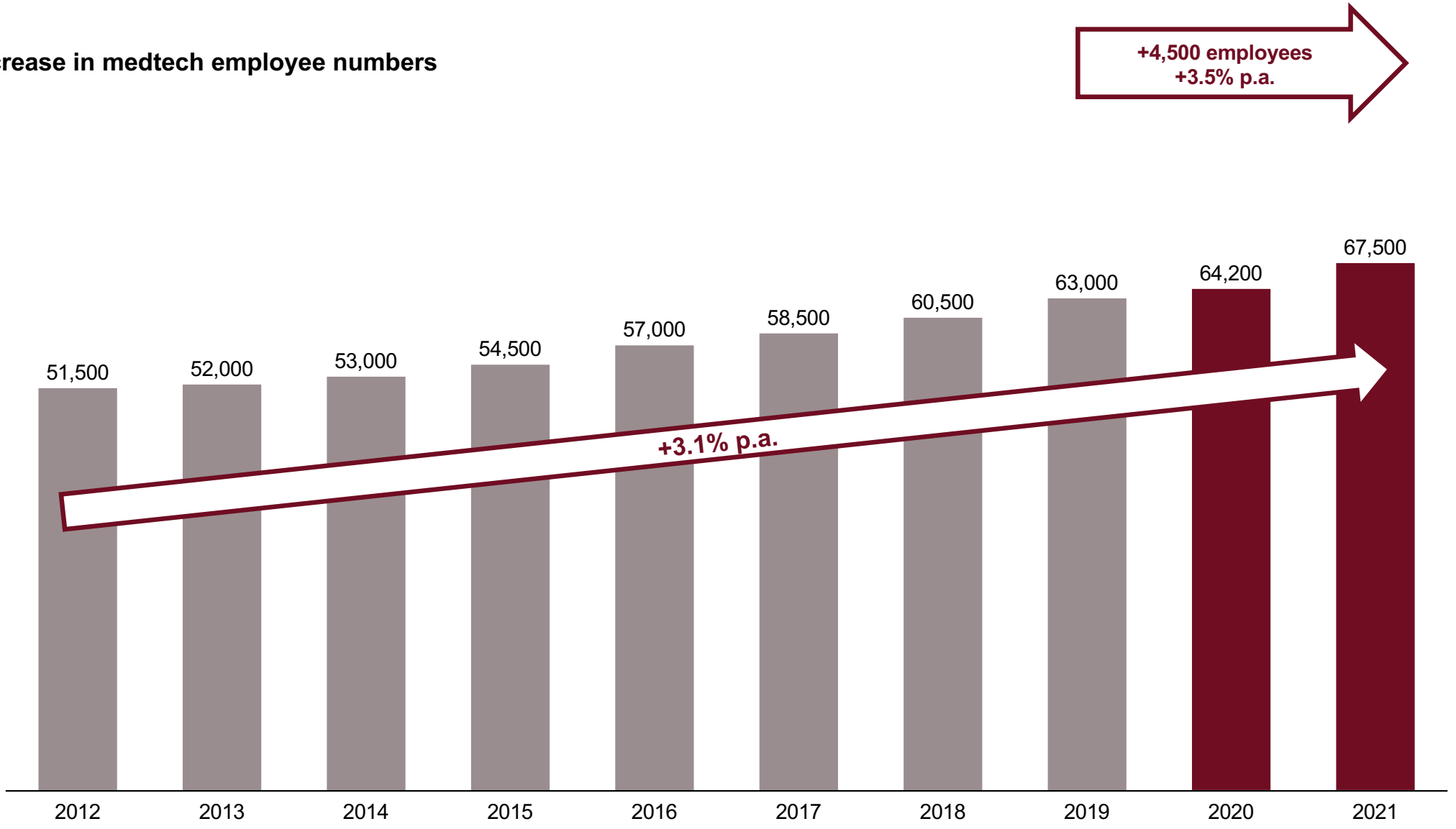
Top 10 Swiss medtech employers ranked by number of employees (data 2021)

No.	Company	Core activities in Switzerland	Headquarters	Number of employees in Switzerland	Global sales growth (2021, in %)	R&D / global sales (in %)
1	Jabil	Orthopaedics	USA	2,865	N/A	N/A
2	Roche Diagnostics	In vitro diagnostics	CH	2,800	29.0%	9.9%
3	J&J Medical	Orthopaedics, traumatology, wound treatment	USA	1,600	17.9%	8.8%
4	Hamilton[1]	Ventilators, in vitro diagnostics, laboratory automation	CH	1,540	N/A	N/A
5	Straumann	Dentistry	CH	1,460	41.7%	4.7%
6	Sonova[2]	Hearing aid technology	CH	1,445	29.3%	6.8%
7	Ypsomed[2]	Injection systems (drug delivery) and diabetes management	CH	1,356	15.1%	12.5%
8	Biotronik	Cardiology	GER	1,350	N/A	N/A
9	Zimmer Biomet	Orthopaedics, traumatology	USA	1,100	12.0%	6.3%
10	B. Braun	Wound treatment, hospital equipment and disposables	GER	1,100	5.8%	5.3%
				Σ 16,616	**Ø 23.3%**	**Ø 8.1%**

[1] Two companies of the same group: Hamilton Medical AG and Hamilton Bonaduz AG; [2] Financial year per 31 March 2022
Source: annual reports and information provided by the companies

4,500 new jobs in the medtech sector in the past two years

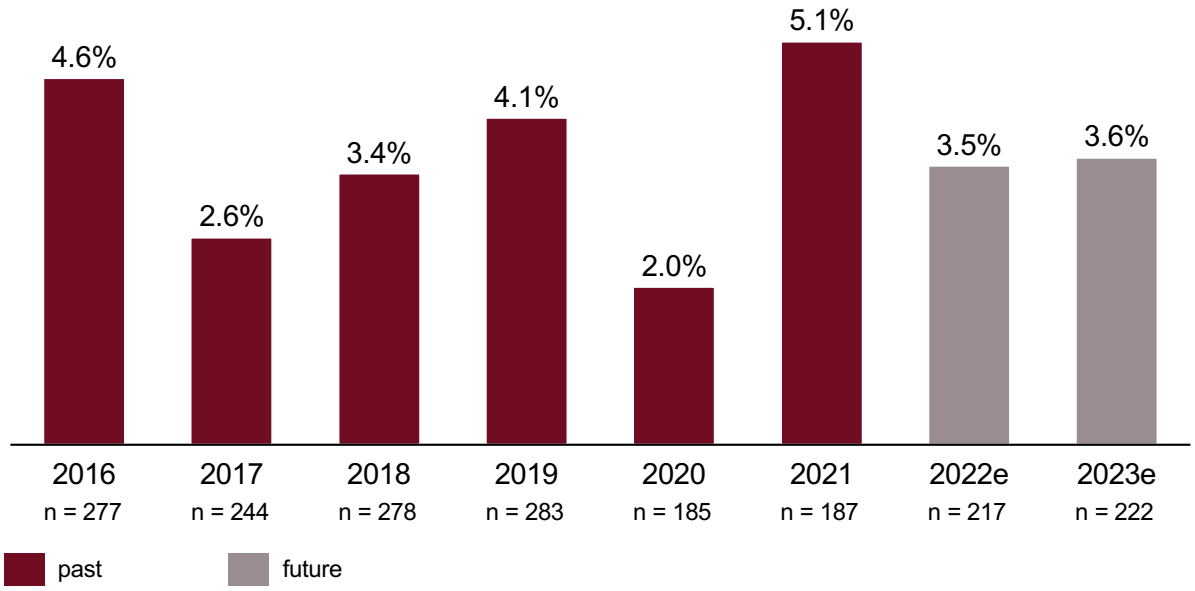
Increase in medtech employee numbers



Source: SMTI survey results 2022; SMTI industry reports

On average, the high growth of people employed in the Swiss medtech sector has been sustained over the last two years

Ø growth in employment
(% weighted by # of employees in Switzerland; all categories)



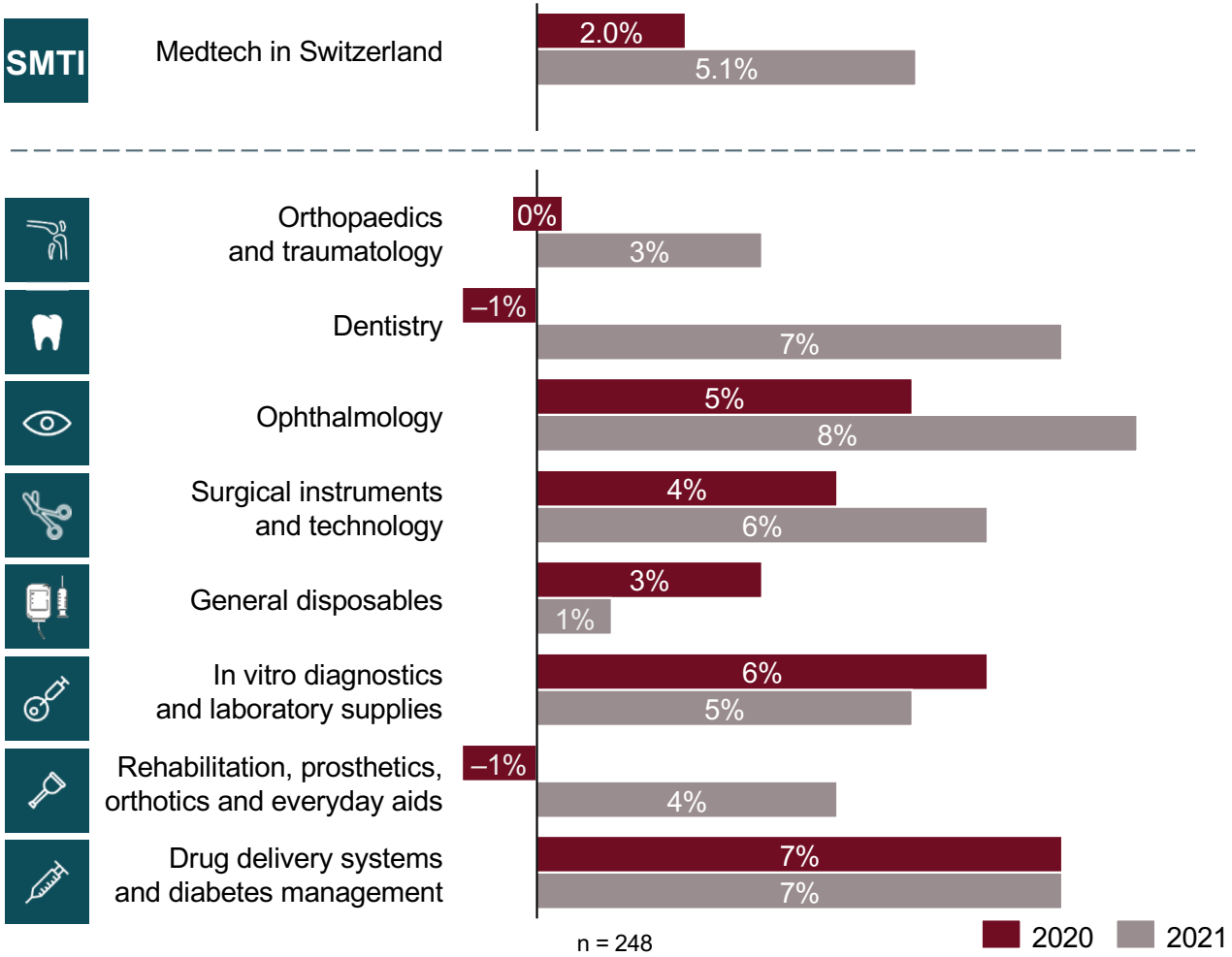
Comments

- Growth in employment
  - Analysis of survey results shows 2021 had the largest increase in workforce since the start of the study series in 2007
  - In 2020, the number of occupied positions did not increase as much as in previous years. Some industry segments reacted to the pandemic by downsizing, others by increasing their workforce
  - To ease the implementation of MDR, companies hired additional staff and/or shifted resources internally
  - Approx. 67,500 people work in the Swiss medtech industry. This corresponds to approx. 1.3% of the total domestic workforce
- Other growth rates for comparison:
  - Total number of jobs in Switzerland: +1.4% (2021)
  - Number of jobs in the Swiss pharmaceutical industry: +2.2% (2021)

Source: SMTI survey results 2020, 2022; SMTI industry reports; Federal Statistical Office (BFS); scienceindustries

The Covid-19 pandemic had widely varying effects on employment numbers in the different Swiss medtech segments

Growth in employment 2020, 2021 according to medical subspecialities (in %)



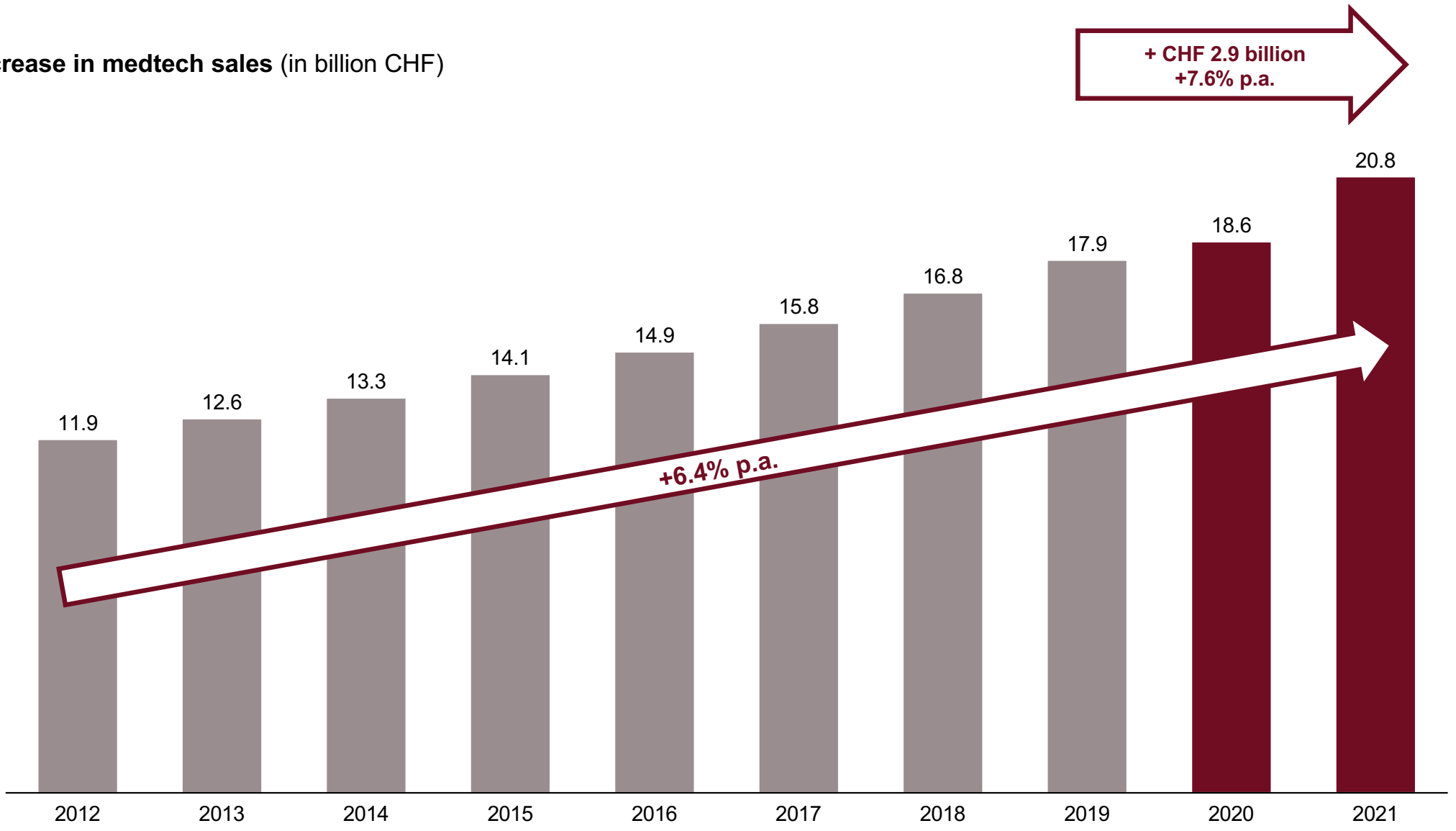
Note: companies in the SMTI survey may include multiple areas of expertise; growth weighted by number of employees
Source: SMTI survey results 2022

Comments

- Segments such as orthopaedics and traumatology, and dentistry reported a decline in the number of employees as many elective procedures planned for 2020 had to be postponed. This effect was largely compensated for in 2021
- For in vitro diagnostics companies, the additional need for personnel since the beginning of the pandemic is evident
- Short-term employment needs in segments with high demand were partially filled by temporary employees
- Companies active in chronic disease management (ex. diabetes) have seen a consistently high growth in employment

Swiss medtech industry sales grew over 7% in the past two years

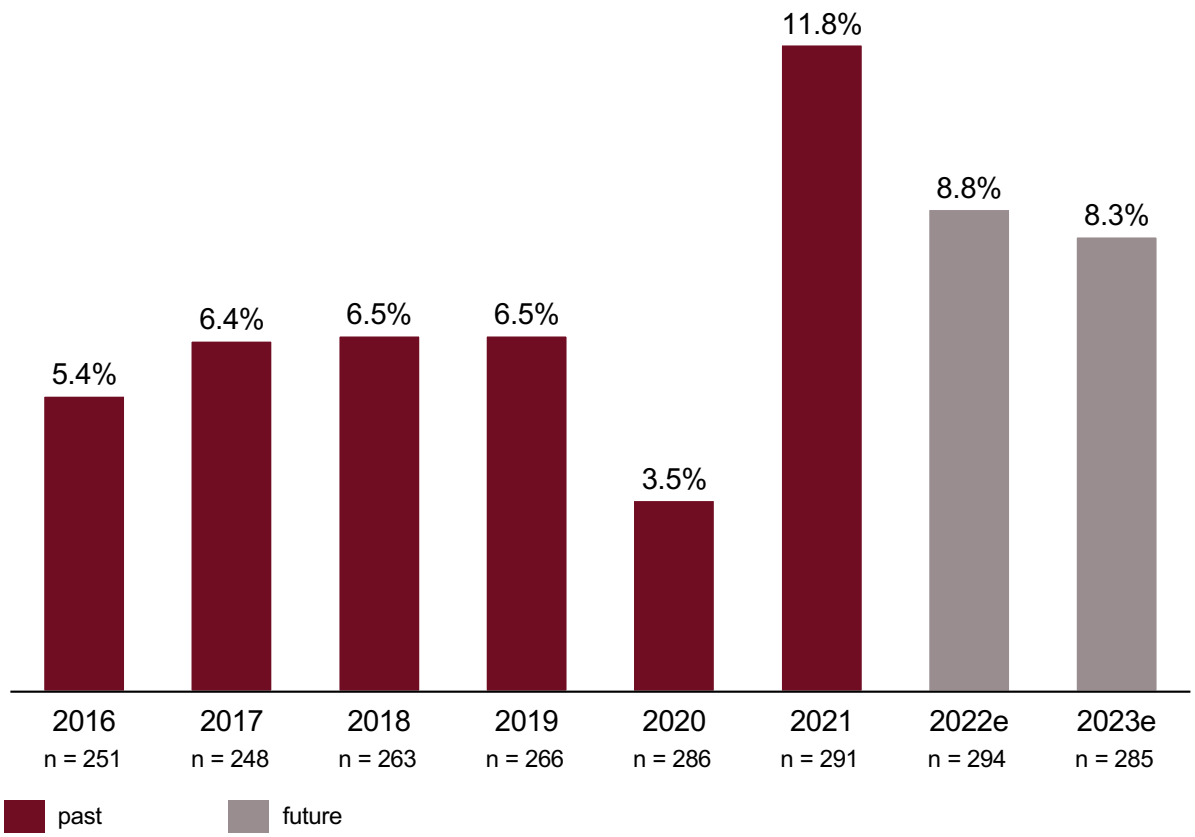
Increase in medtech sales (in billion CHF)



Source: SMTI survey results 2022

The pandemic strongly impacted industry revenues – the downturn in growth in 2020 was compensated for in 2021

Ø sales performance
(% weighted by # of employees in Switzerland; all categories)



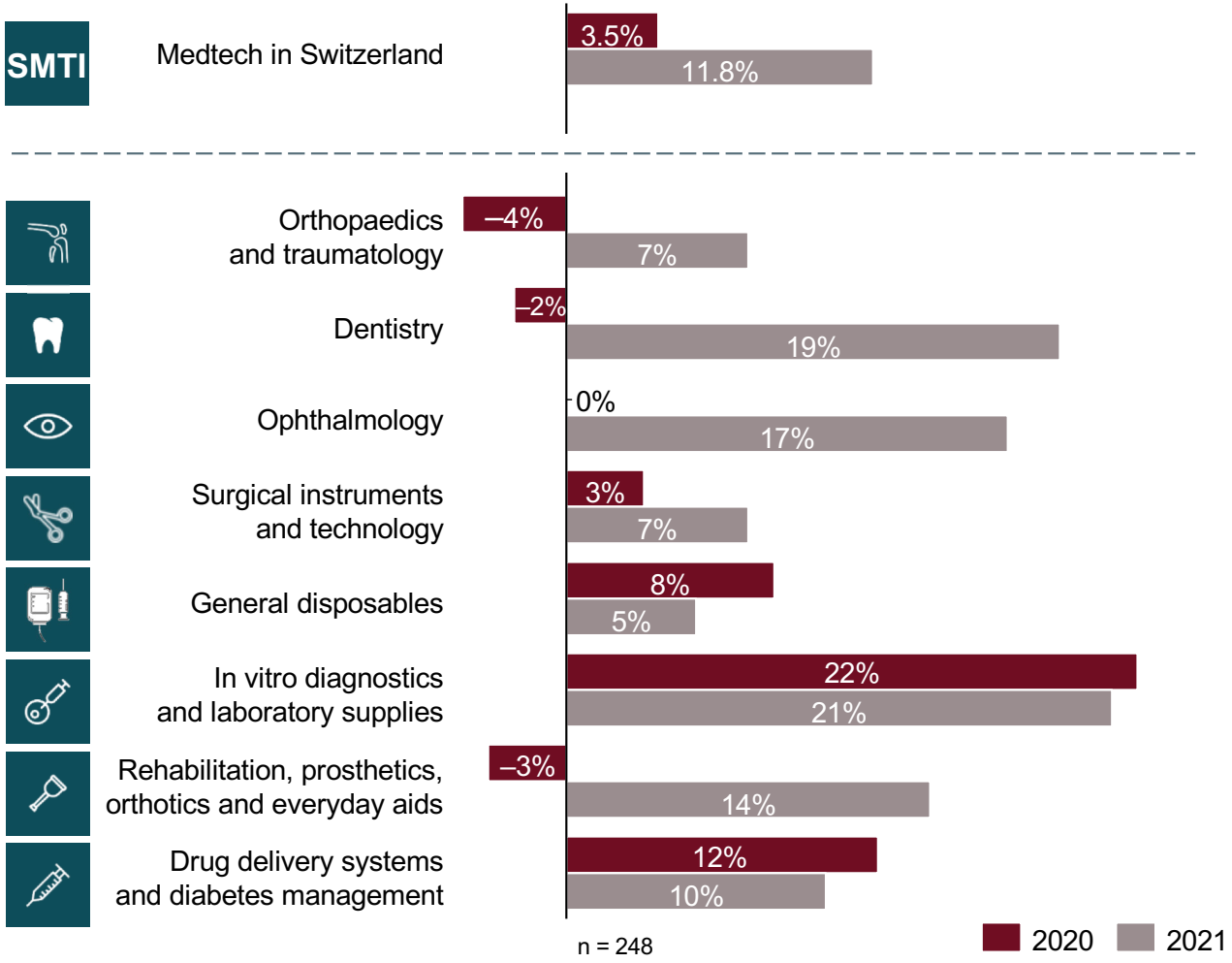
Comments

- Sales performance
  - The Covid-19 crisis significantly impeded growth in 2020. In the following year, a surge in growth including a “catch-up” effect is evident
  - The catch-up will continue into the coming years, but at a somewhat slower pace
  - Delayed market approvals due to MDR are limiting growth potential
- Other growth rates for comparison:
  - Swiss GDP: –2.5% (2020), 3.7% (2021)
  - Total health care costs CH: 2.9% (2020), 7.3% (2021)
  - Medtech growth globally: –2.1% (2020), 14.1% (2021)
  - Medtech growth in Germany: 3.0% (2020), 6.1% (2021)
  - Swiss watch industry: –21.7% (2020), 31.2% (2021)

Source: SMTI survey results 2020, 2022; Federal Statistical Office (BFS); Federation of the Swiss watch industry (FH); Statista (2022); BVMed: German Medical Technology Association (2022); KOF Swiss Economic Institute (health costs forecast)

Sales performance in the Covid-19-dominated years highlights varying effects on individual medtech segments

Sales performance 2020, 2021 according to medical subspecialities (in %)



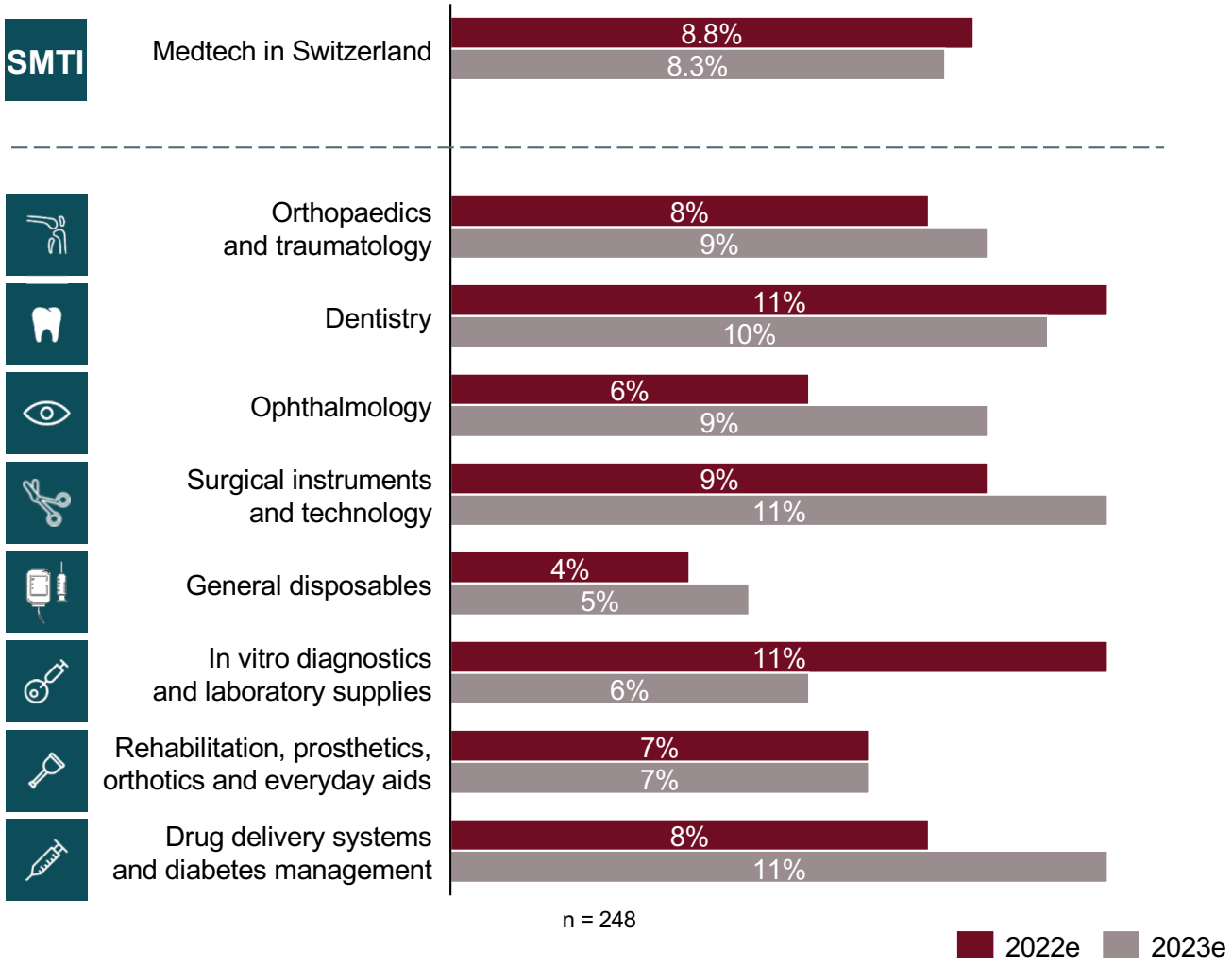
Note: companies in the SMTI survey may include multiple areas of expertise; growth weighted by number of employees
Source: SMTI survey results 2022

Comments

- Orthopaedics and traumatology suffered during the Covid-19 crisis as elective procedures were postponed
- Dentistry and ophthalmology also failed to grow in 2020; but a significant recovery effect was experienced in 2021
- Surgical instruments and technology are recovering to industry averages following moderate growth
- Drug delivery systems and diabetes management had two very strong years; unaffected by the Covid-19 pandemic
- Companies from the in vitro diagnostics and laboratory supplies segment have achieved very high growth in the last two years due to their central role in pandemic response: making them key drivers of the positive performance of the Swiss medtech sector

After a record year in 2021, expected market growth is returning to lower pre-pandemic levels

Sales performance 2022e, 2023e according to medical subspecialities (in %)



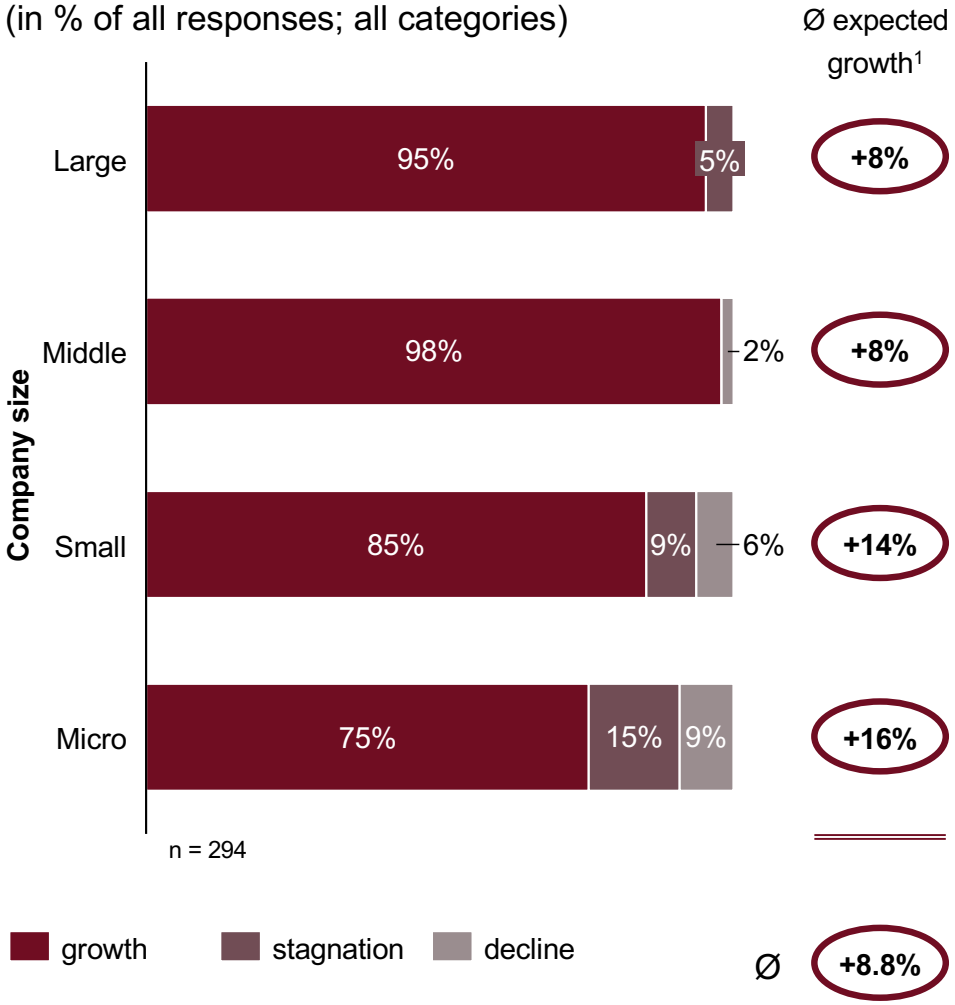
Note: companies in the SMTI survey may include multiple areas of expertise; growth weighted by number of employees
Source: SMTI survey results 2022

Comments

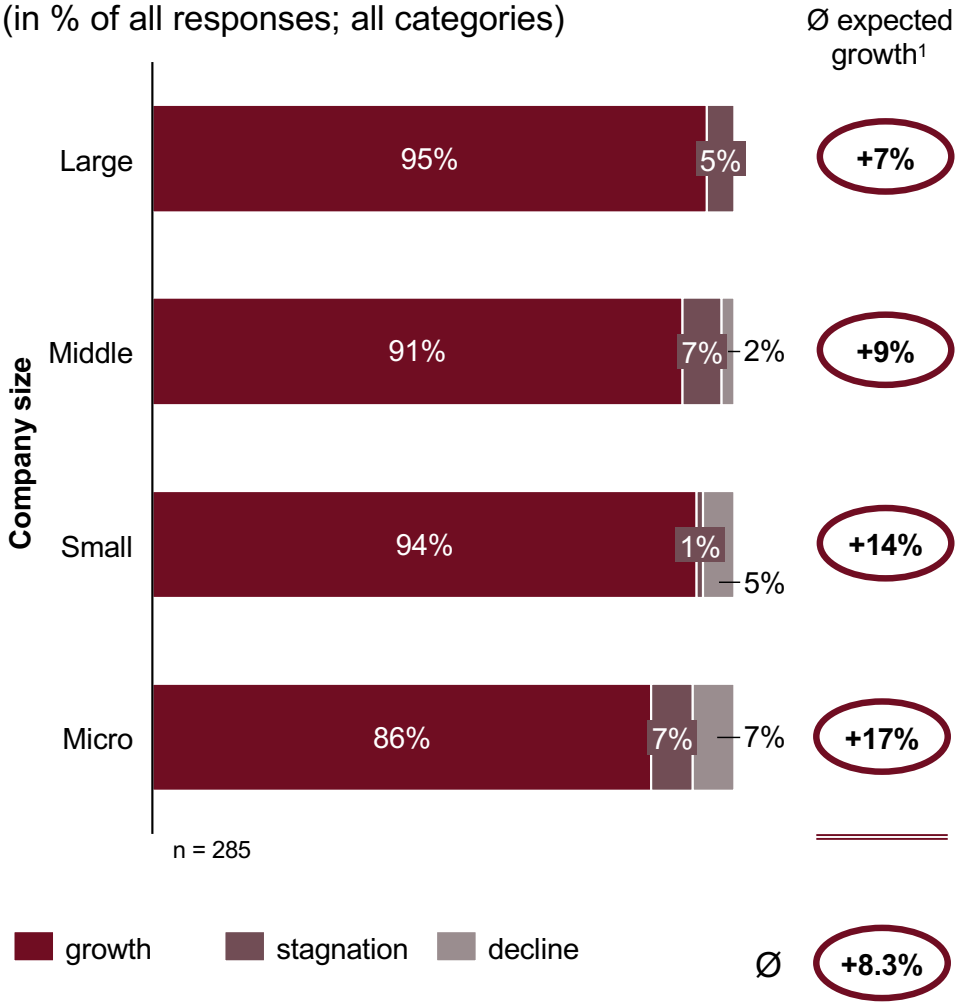
- Survey results suggest that the high growth rates seen in 2021 will gradually return to normal
- The catch-up effect observed in dentistry in 2021 is expected to slowly subside again
- The waiting lists that developed in the fields of orthopaedics and traumatology will be reduced in the coming years
- The in vitro diagnostics and laboratory supplies growth forecast is expected to reach pre-pandemic levels again by 2023
- Drug delivery systems and diabetes management are considered growth segments also by global market analysts

An overwhelming majority of companies expect strong growth in 2022 and 2023

Expected sales 2022
(in % of all responses; all categories)



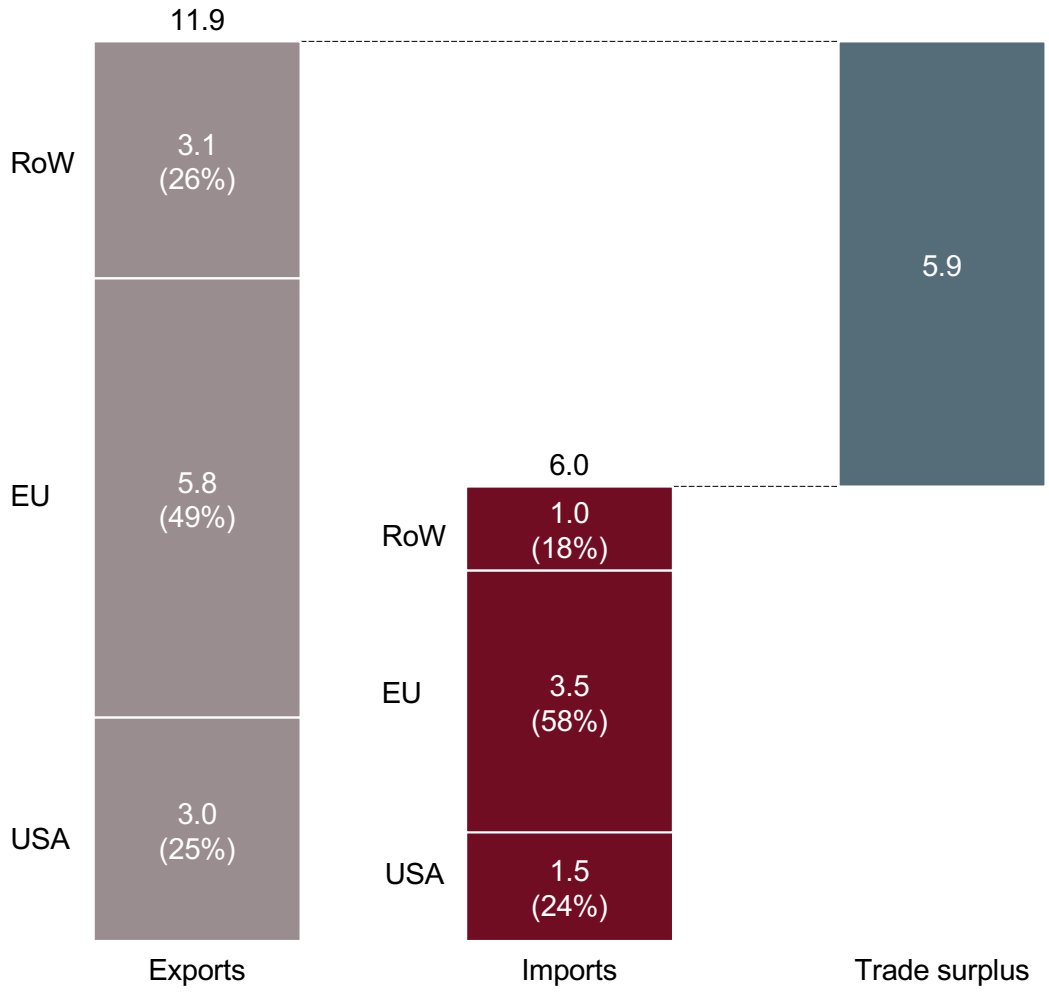
Expected sales 2023
(in % of all responses; all categories)



[1] Weighted by number of employees
Source: SMTI survey results 2022

The Swiss medtech industry generated a trade surplus of CHF 5.9 billion in 2021

Trade figures for the Swiss medtech industry in 2021 (in billion CHF)



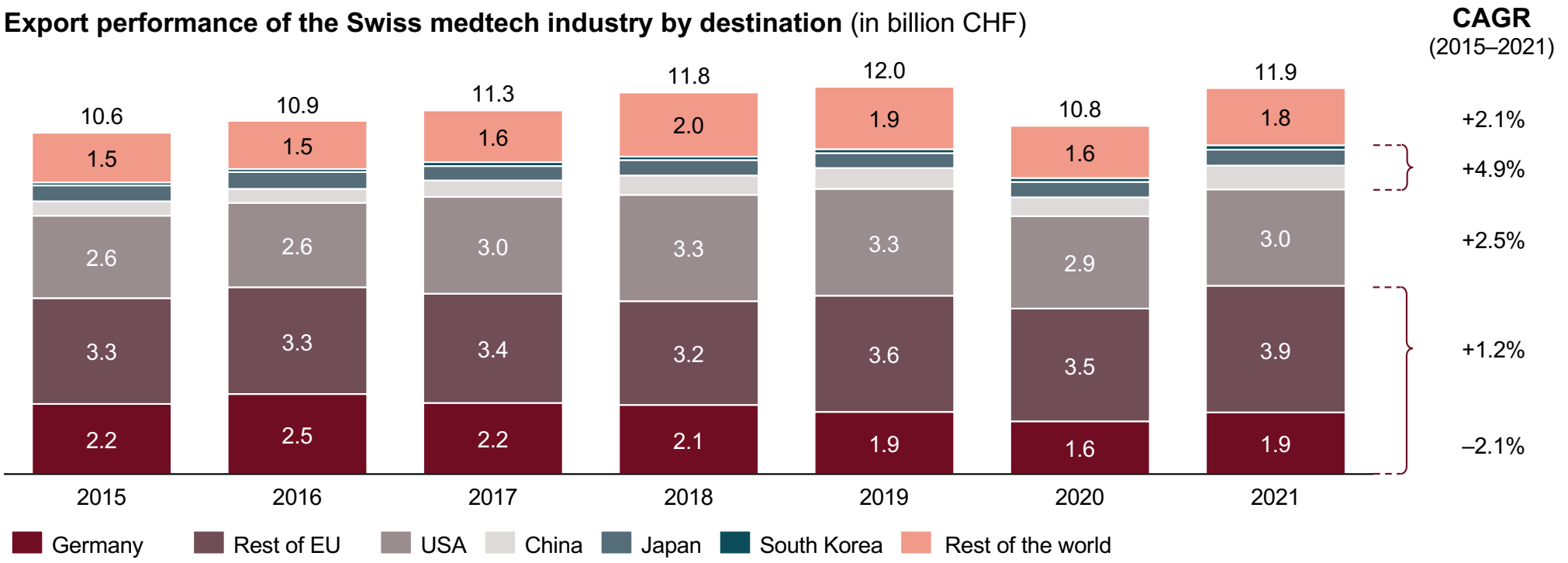
Comments

- In 2021, medtech exports amounted to CHF 11.9 bn (3.4% of total Swiss exports) and imports to CHF 6.0 bn (2.0% of total Swiss imports)
- Exports to the EU have increased by over CHF 300 million since 2019. As the destination for approximately 50% of all Swiss medtech exports, the EU even without the UK remains by far the most important trading partner for the Swiss medtech industry
- The trade surplus of the medtech sector amounted to CHF 5.9 bn in 2021. This corresponds to 11.5% of the total Swiss trade surplus (CHF 51.5 bn, 2021)
- The sector has consistently generated a high trade surplus over the last ten years (+0.6% p.a.)

Note: Trade figures (exports and imports) only reflect finished products; the trade/sale of semi-finished products is not included in these figures.
Customs tariff numbers used (p. 73 ff.) have been adjusted compared to previous years. Further analyses p. 53 ff.
Source: Federal Office for Customs and Border Security (BAZG)

Following the decline in 2020, export volumes have already recovered

Export performance of the Swiss medtech industry by destination (in billion CHF)



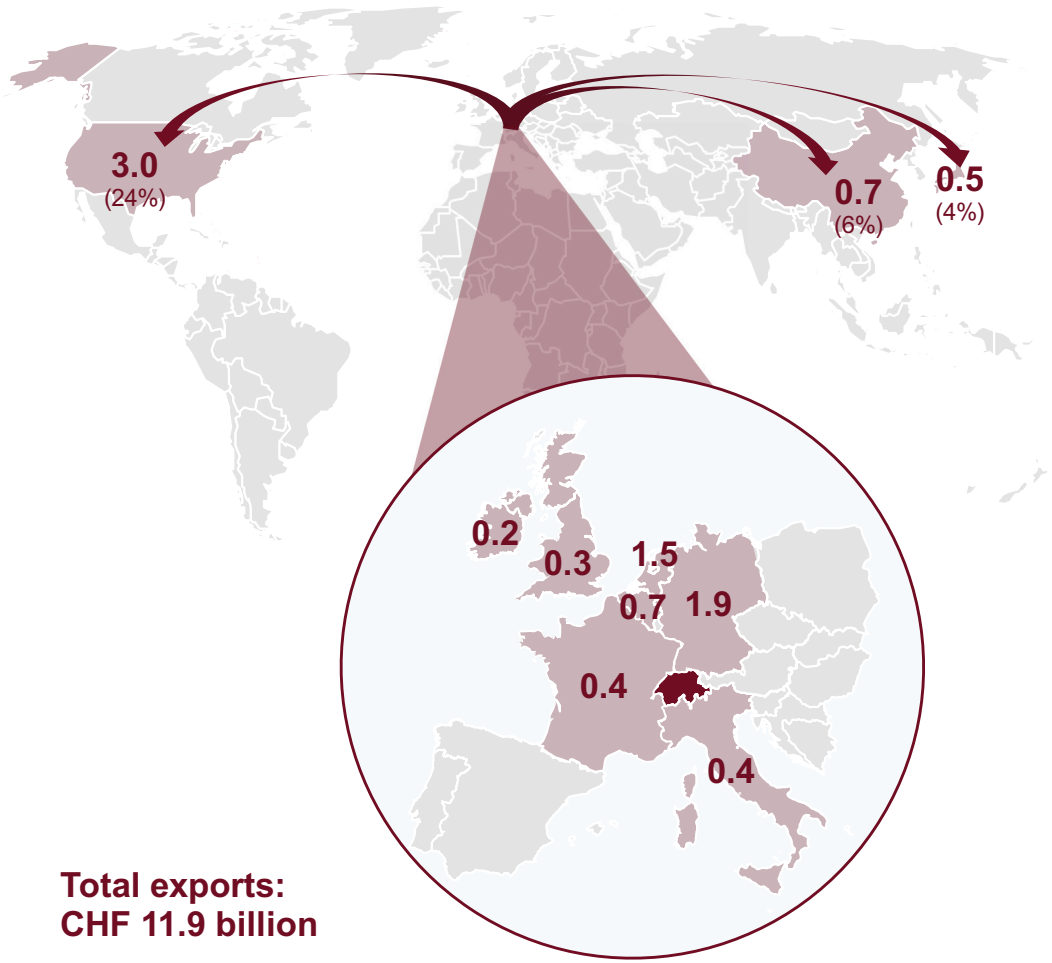
Comments

- After lower figures in 2020 (CHF 10.8 billion), Swiss medtech exports in 2021 returned to the same level as before the Covid-19 pandemic. This translates to a decline of 10.0% from 2019 to 2020 and an increase of 10.8% in 2021
- Exports to Asia show the highest growth rate since 2015 (4.9%). Also exports to the USA (2.5%) and the EU continue to rise. Exports to Germany are declining
- Similar to the medical technology sector, the MEM industry also saw a 10–11% decline in exports from 2019 to 2020

Note: Trade figures (exports and imports) only reflect finished products; the trade/sale of semi-finished products is not included in these figures.
Customs tariff numbers used (p. 73 ff.) have been adjusted compared to previous years. Further analyses p. 53 ff.
Source: Federal Office for Customs and Border Security (BAZG)

The USA and Germany remain the most important export destinations for Swiss medical technology

Swiss medtech exports in 2021 (in billion CHF)



Total exports: CHF 11.9 billion

Top 10 countries for export

Rank	Country	Volume CHF billion
1	USA	3.0
2	Germany	1.9
3	Netherlands	1.5
4 ▲1	China	0.7
5 ▼1	Belgium	0.7
6	Japan	0.5
7	France	0.4
8	Italy	0.4
9.	UK	0.3
10 ▲1	Ireland	0.2
Top 10 total		**9.6 (80%)**

Comments

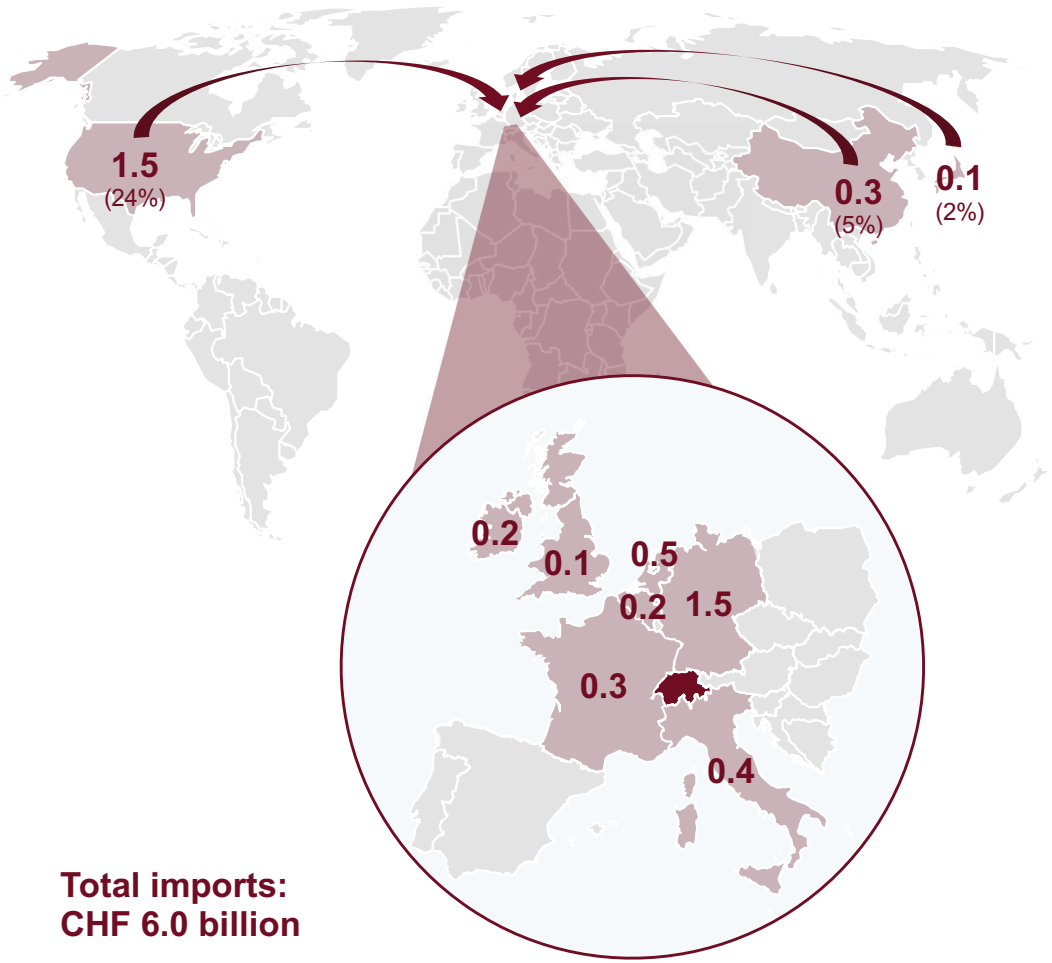
- The growth market of China has continued to gain importance (rank 6 SMTI 2018), but this development may be slowed in the future by the “Made in China 2025” policy
- There is a tendency to build new production sites abroad rather than in Switzerland. Export figures are therefore projected to stabilise at the current level in the future

△ ▽ Change in ranking compared to the SMTI study 2020

Note: The Netherlands and Belgium are home to the European central warehouses of some global players – the respective exports do not reflect the domestic consumption of the countries. Trade figures (exports and imports) only reflect finished products; the trade/sale of semi-finished products is not included in these figures.
Customs tariff numbers used (p. 73 ff.) have been adjusted compared to previous years. Further analyses p. 53 ff.
Source: Federal Office for Customs and Border Security (BAZG)

50% of imports into Switzerland come from the USA and Germany

Swiss medtech imports in 2021 (in billion CHF)



Total imports: CHF 6.0 billion

Top 10 countries for import

Rank	Country	Volume CHF billion
1 ▲1	Germany	1.5
2 ▼1	USA	1.5
3	Netherlands	0.5
4 ▲1	Italy	0.4
5 ▼1	France	0.3
6	China	0.3
7 ▲1	Ireland	0.2
8 ▲1	Belgium	0.2
9 ▼2	UK	0.1
10	Japan	0.1
Top 10 total		**5.1 (85%)**

Comments

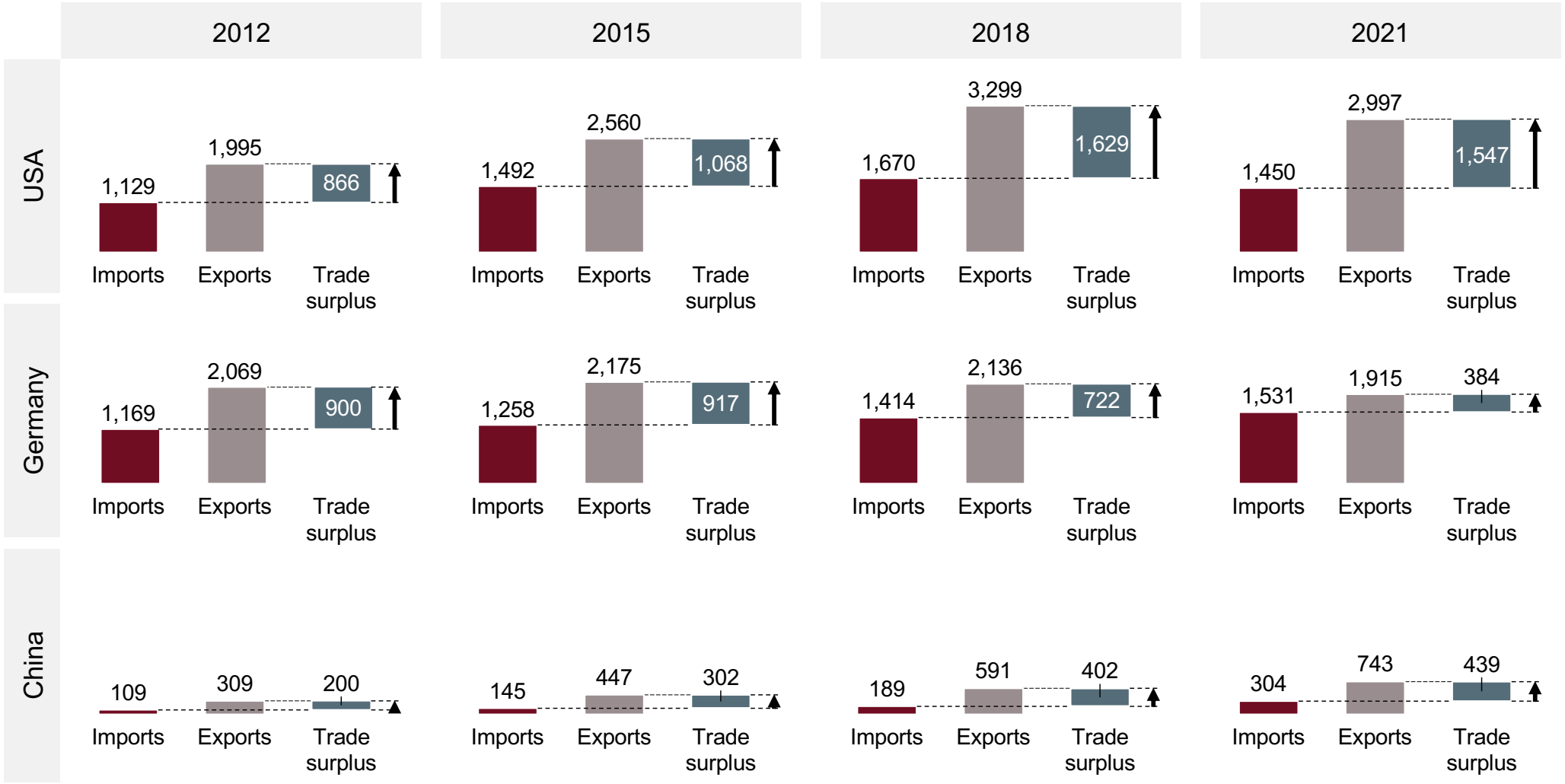
- Despite a strong domestic industry, Switzerland also relies heavily on imports from abroad to ensure the supply of medical products
- Medtech imports into Switzerland have increased by around CHF 1 billion since 2015
- As with exports, the USA and Germany are the most important trading partners for imports
- 85% of all Swiss medtech imports come from the top 10 countries

△ ▽ Change in ranking compared to the 2020 SMTI study

Note: The Netherlands and Belgium are home to the European central warehouses of some global players.
Trade figures (exports and imports) only reflect finished products; the trade/sale of semi-finished products is not included in these figures.
Customs tariff numbers used (p. 73 ff.) have been adjusted compared to previous years. Further analyses p. 53 ff.
Source: Federal Office for Customs and Border Security (BAZG)

The volume of trade – and trade surplus – generated with the USA is by far the largest

Key figures for the USA, Germany, and China, viewed from a Swiss perspective (in million CHF)



Note: Trade figures (exports and imports) only reflect finished products; the trade/sale of semi-finished products is not included in these figures.
Customs tariff numbers used (p. 73 ff.) have been adjusted compared to previous years. Further analyses p. 53 ff.
Source: Federal Office for Customs and Border Security (BAZG)

Factors influencing the Swiss medical technology industry

1. Impact of MDR/IVDR
2. Switzerland-EU relations
3. Shortage of qualified specialists
4. Sustainability and diversity

Factors influencing the Swiss medical technology industry

The major crises of our time continue to pose considerable challenges to both society and the economy. The Swiss medical technology sector coped well with the Covid-19 pandemic. Through the provision of protective masks, respirators and various forms of testing, the industry is contributing decisively to overcome its effects. Medtech companies are also demonstrating their resilience in the face of other challenges. At the same time, however, the sector is heavily dependent on forward-looking policy decisions by the stakeholders in politics and administration.

Impact of MDR/IVDR

The objective of the new European Medical Device Regulation (MDR) is to improve levels of health protection – and therefore imposes significantly higher requirements on clinical safety and product performance. This, however, leads primarily to higher costs and uncertainty regarding legal interpretation. Regulatory requirements increase the cost of medical device development by an average of 12%, and product costs by 6%. Two thirds of Swiss manufacturers plan to downsize their portfolio as the regulatory burden for some products is no longer in balance with sales revenues. The average product portfolio reduction due to MDR/IVDR is approximately 13%.

Switzerland-EU relations

Since May 2021, Switzerland has been relegated to third-country status for the trade of medical devices with the EU. This means that the mutual privileged market access is no longer in effect. New export and import hurdles include, in particular, the need for an authorised representative and the corresponding additional labelling.

Swiss manufacturers will therefore reduce their EU market portfolios by a further 7% on average. For Swiss distributors, third-country status means that they will lose access to around 15% of their existing product range. Foreign manufacturers are evaluating if they want to continue to supply the Swiss market with their full range, and it is becoming increasingly apparent that they are no longer willing to do so. Health care facilities are under considerable pressure to replace missing devices with alternatives as quickly as possible to ensure patients receive uninterrupted and appropriate care.

Shortage of qualified specialists

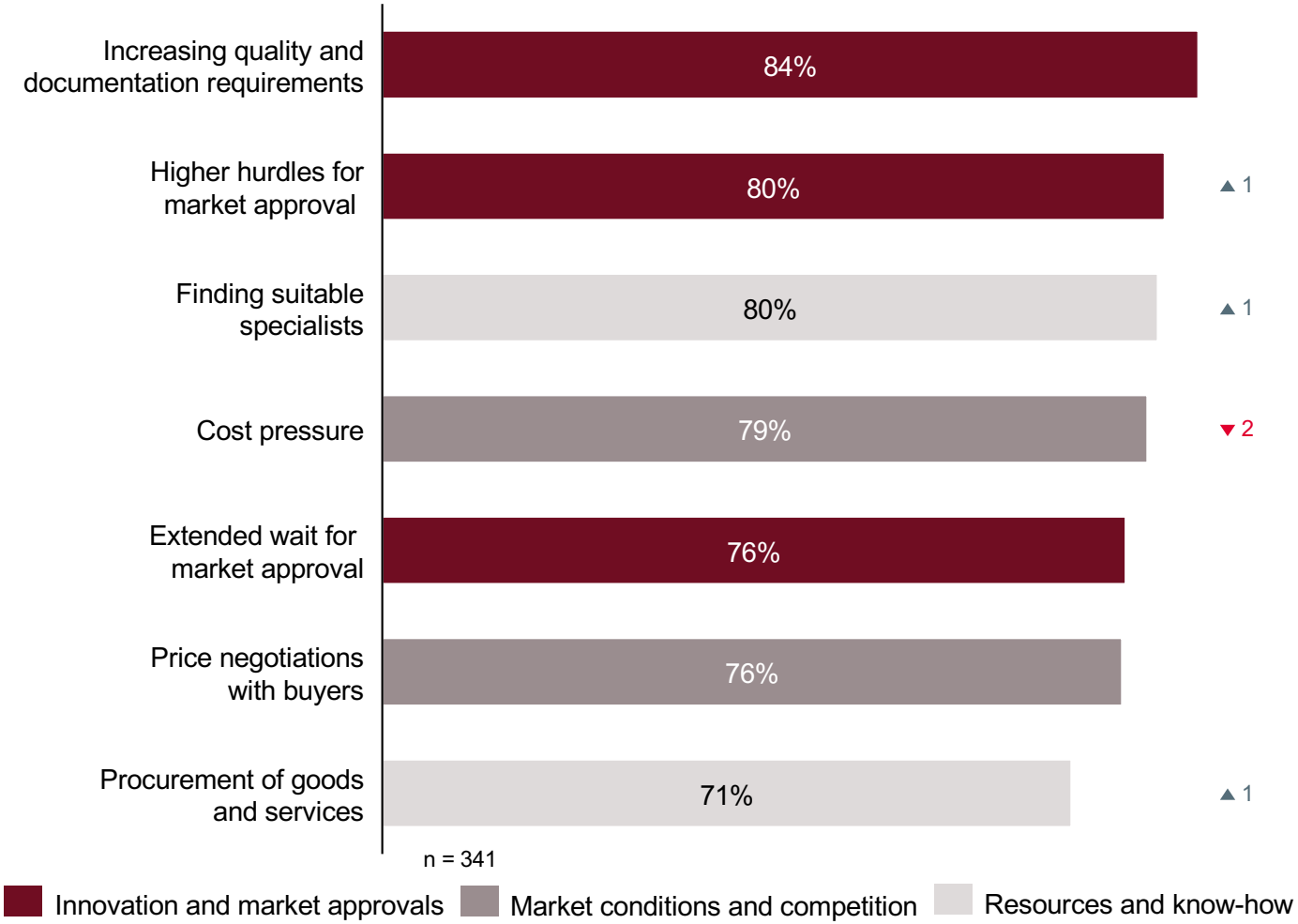
As in other sectors of the economy, access to qualified personnel with specialised know-how remains one of the biggest challenges for the medtech industry. Swiss manufacturers are in need to increase staff in the areas of regulations and approvals and quality management. These areas are among the most difficult to find experienced specialists.

Sustainability and diversity

In contrast to five years ago, around two thirds of firms have already started to address the issues of ecological sustainability and diversity management. Small companies in particular still lag behind in both areas. In view of climate change and the corresponding regulatory efforts at European and Swiss levels, the increased ecological orientation of their own economic activities is becoming particularly relevant for Swiss medtech firms. Companies also report increased efforts in the area of diversity management.

Increasing requirements regarding quality and documentation along with higher hurdles for market approval pose the greatest challenges for companies

Top 7 challenges for medtech companies
(% of all responses; all categories)



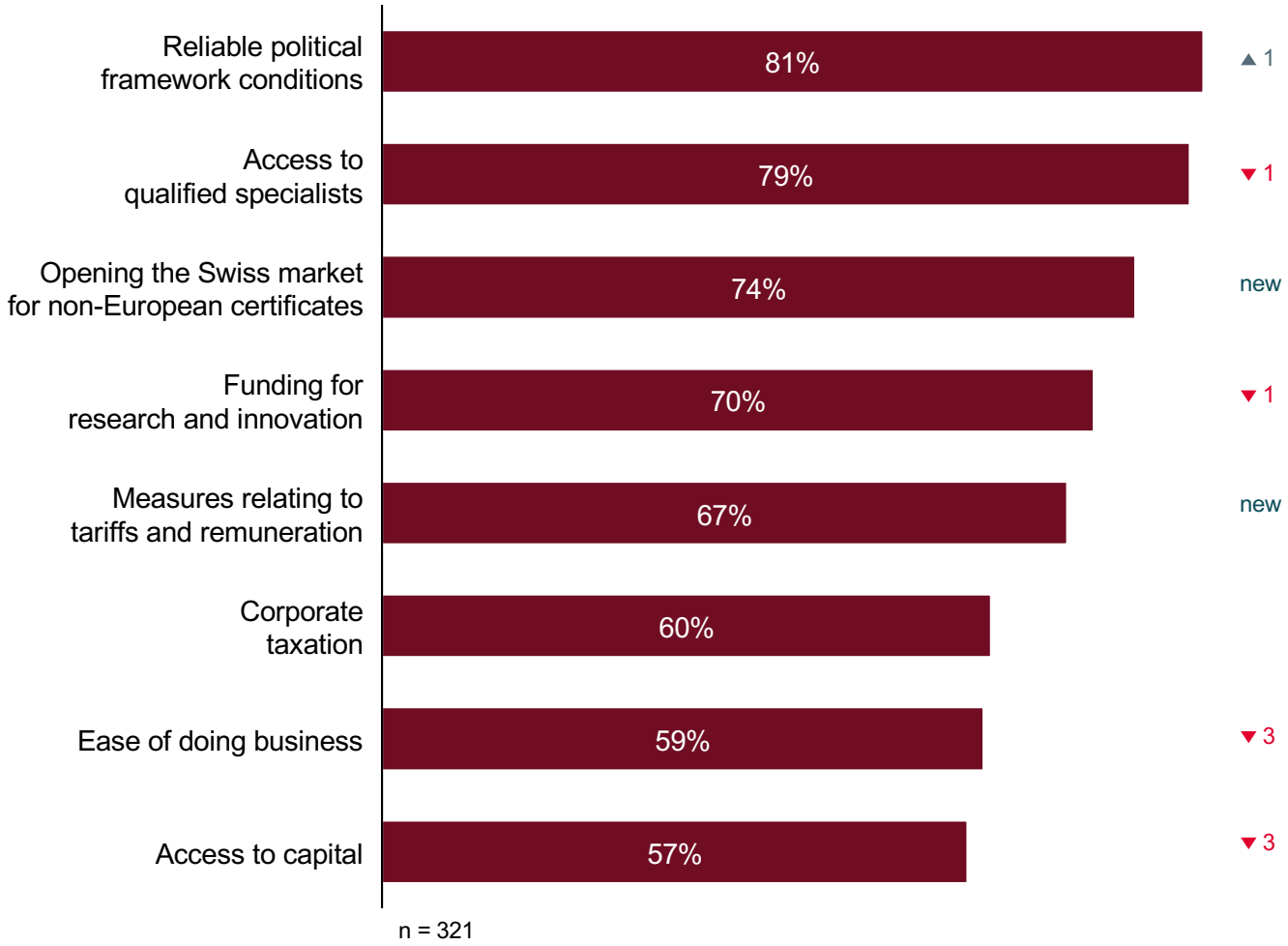
Note: ▲ ▼ Change in ranking compared to the SMTI study 2020
Further analyses p. 59 ff.
Source: SMTI survey results 2022

Comments

- Increased requirements for quality management (QM) and documentation following introduction of the MDR/MepV and the higher hurdles for market approval pose the greatest challenges for the sector
- Half of the participating companies also stated that the difficulties in the area of innovation and market authorisation have intensified due to the pending update of the MRA between Switzerland and the EU (third-country status)
- The shortage of qualified specialists continues to be one of the biggest challenges for the Swiss medtech sector

Swiss medtech companies demand a reliable political framework and improved access to qualified specialists

Company requirements for Switzerland as a medtech business location
(% of all responses; all categories)



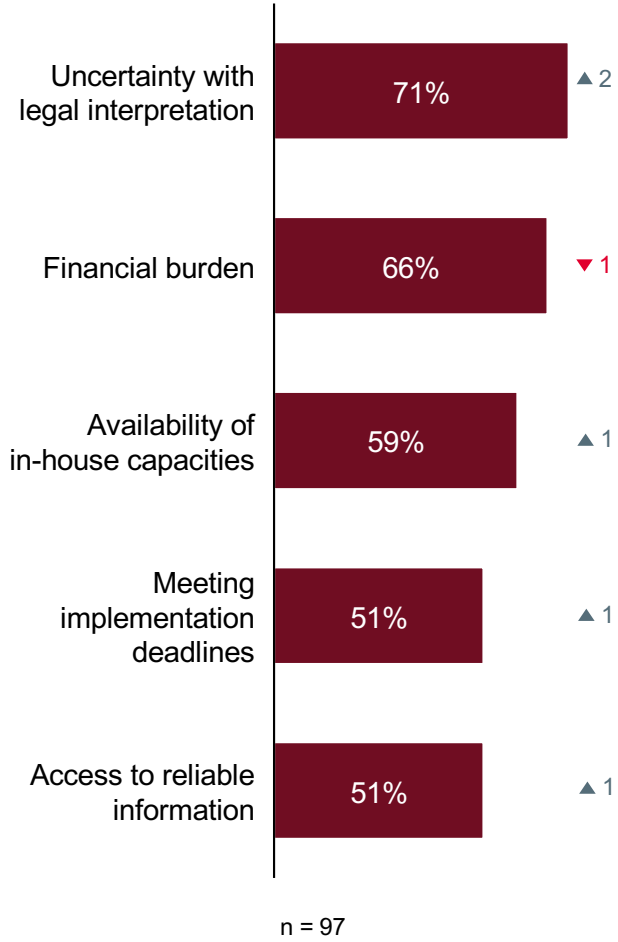
Note: ▲ ▼ Change in ranking compared to the SMTI study 2020
Ease of doing business includes, among other things, business start-up, building permits, electricity supply and infrastructure.
Source: SMTI survey results 2022

Comments

- Reliable political framework conditions have the highest priority. In particular, regulated and stable relations with the EU – the most important trading partner of the Swiss medical technology sector – are essential
- The companies surveyed still require more action regarding the access to qualified personnel – which is absolutely necessary for the sector to achieve its potential
- 75% of companies demand an opening of the Swiss market for non-European certificates. This would help to ensure the supply of medical devices in Switzerland

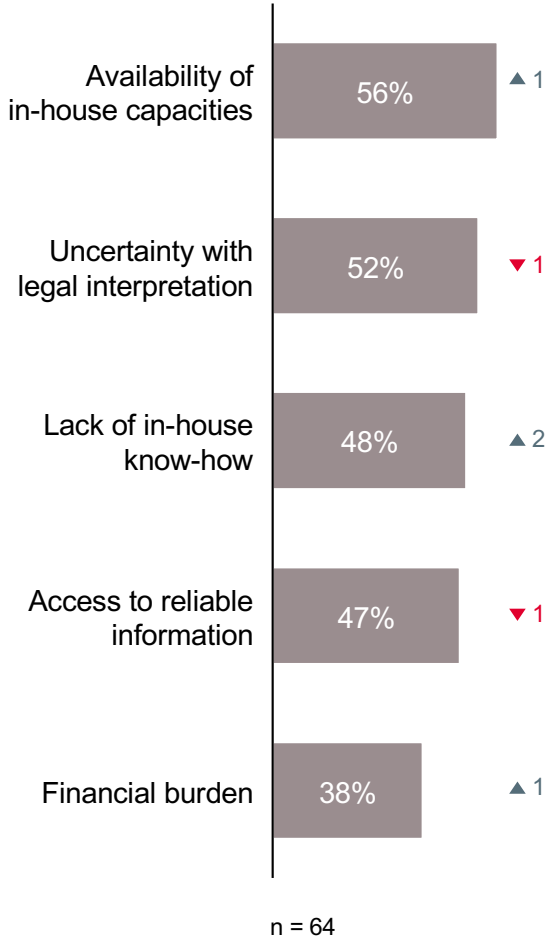
Introduction of MDR/IVDR creates legal uncertainty and additional financial burden

Top 5 difficulties for manufacturers
(% of all responses)



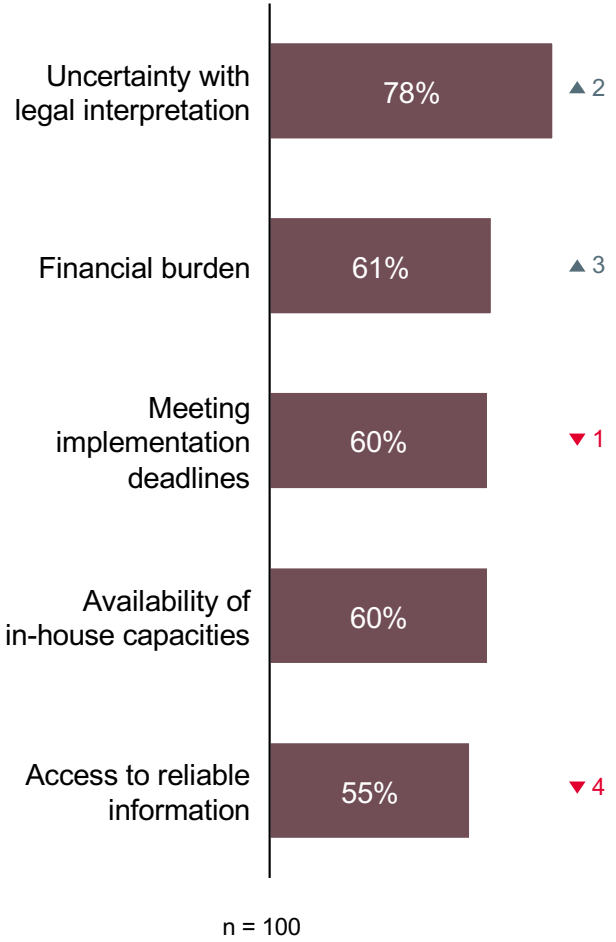
n = 97

Top 5 difficulties for suppliers
(% of all responses)



n = 64

Top 5 difficulties for trade and distribution
(% of all responses)

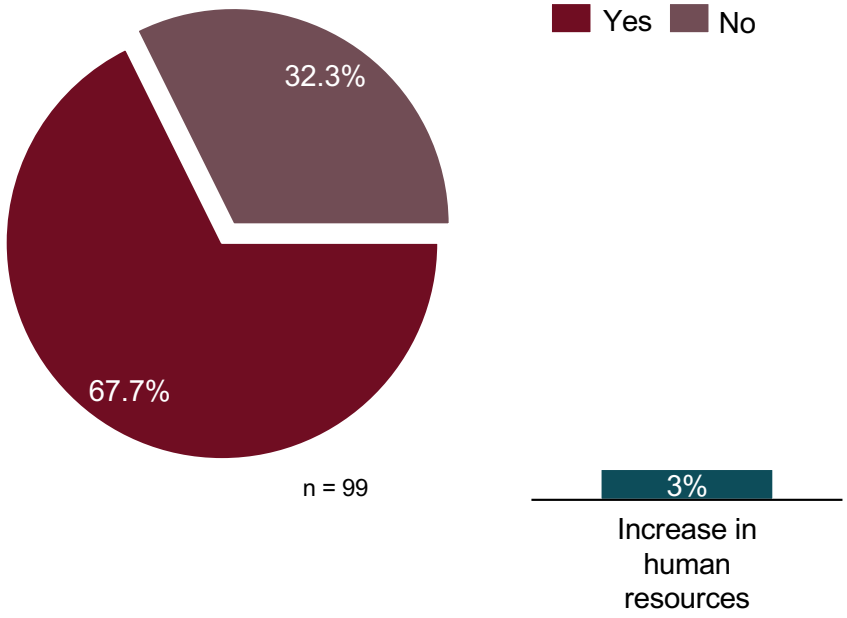


n = 100

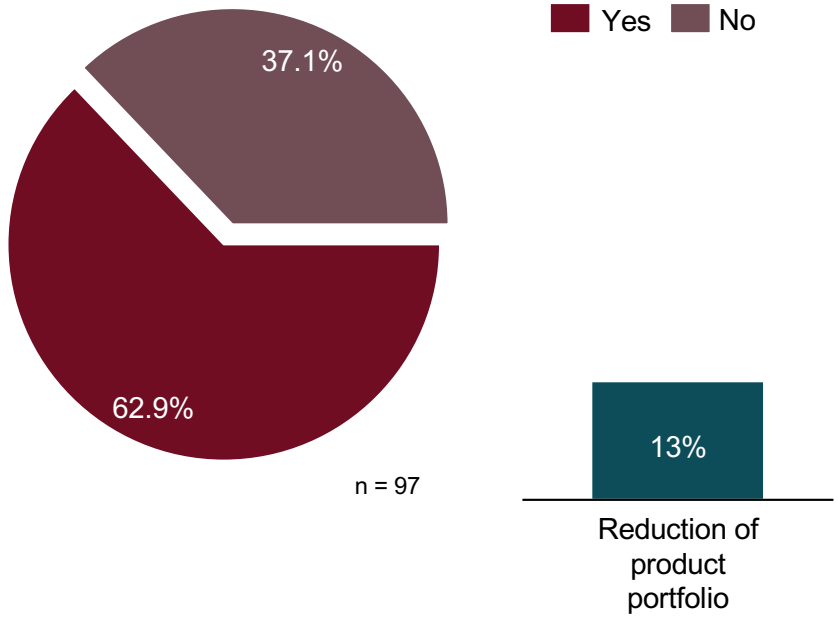
Note: ▲ ▼ Change in ranking compared to the SMTI study 2020
Source: SMTI survey results 2022

Manufacturers require more human resources due to MDR/IVDR; at the same time, they are reducing their product portfolio

Increase in human resources
(# of responses in %; manufacturers)



Reduction of product portfolio
(# of responses in %; manufacturers)



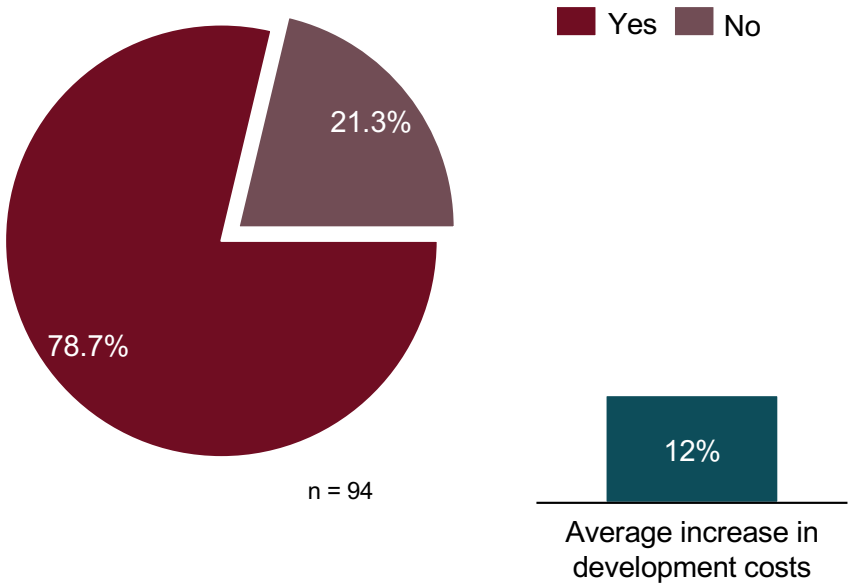
Comments

- The increase in human resources due to the introduction of MDR/IVDR was estimated by manufacturers to be 3% (weighted by number of employees). R&D resources are being diverted from ongoing innovation projects to cope with the new regulations. Resulting delays in development projects will weaken innovation in the long term
- Almost two thirds of Swiss medtech manufacturers state they are reducing their product portfolio due to additional expenses associated with the new regulations. This effect is already noticeable, for example, in disposables and orthopaedics. The introduction of MDR/IVDR has accelerated the scheduled streamlining of product portfolios

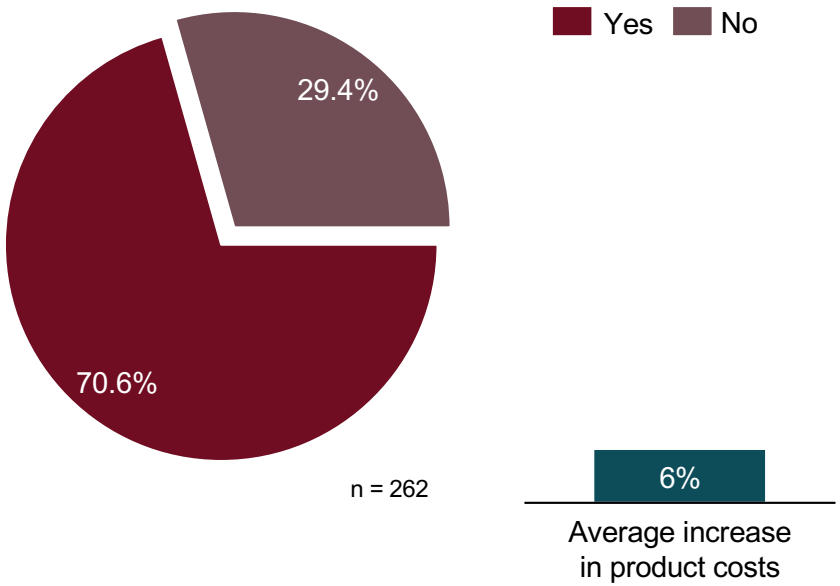
Note: average portfolio reduction not weighted by number of products
Source: SMTI survey results 2022

New regulations lead to higher development and product costs for medical devices

Increase in development costs
(# of responses in %; manufacturers)



Increase in product costs
(# of responses in %; manufacturers, suppliers, trade and distribution)



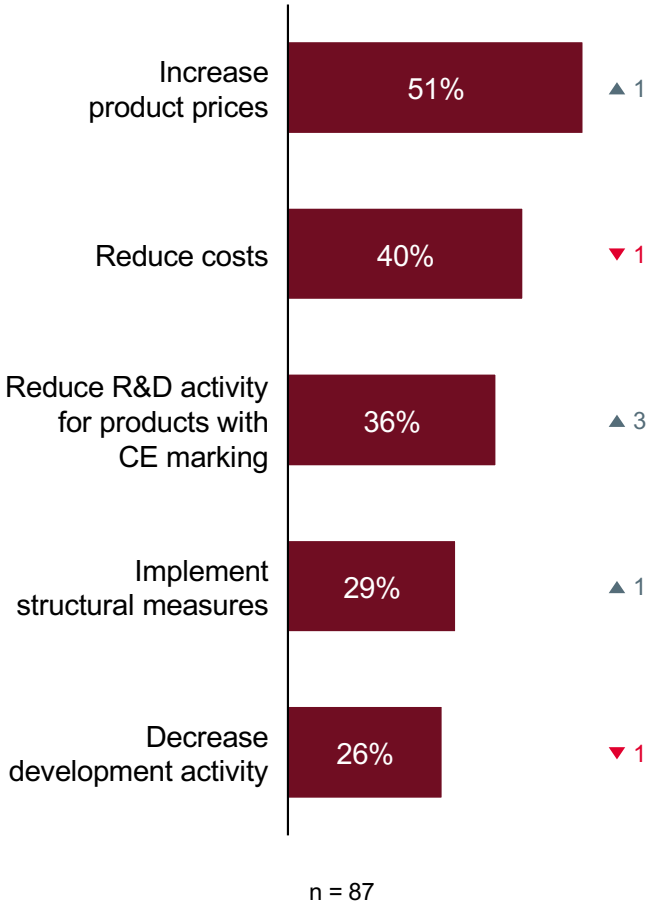
Comments

- The introduction of MDR/IVDR has increased costs for Swiss manufacturers, ex. added expenditure for the provision of clinical data, which has led to a rise in development costs of around 12%. This means development costs rose by CHF 120 to 150 million
- Companies estimate initial increase in product costs, comprising ex. R&D, quality and product management expenses, to be around 6%. In the longer term, delayed product approvals will place further burdens on the firms
- In addition, the necessary reallocation of R&D specialists to other tasks related to regulation means innovative medical devices stay the pipeline longer, delaying or denying availability completely to Swiss patients in the long term

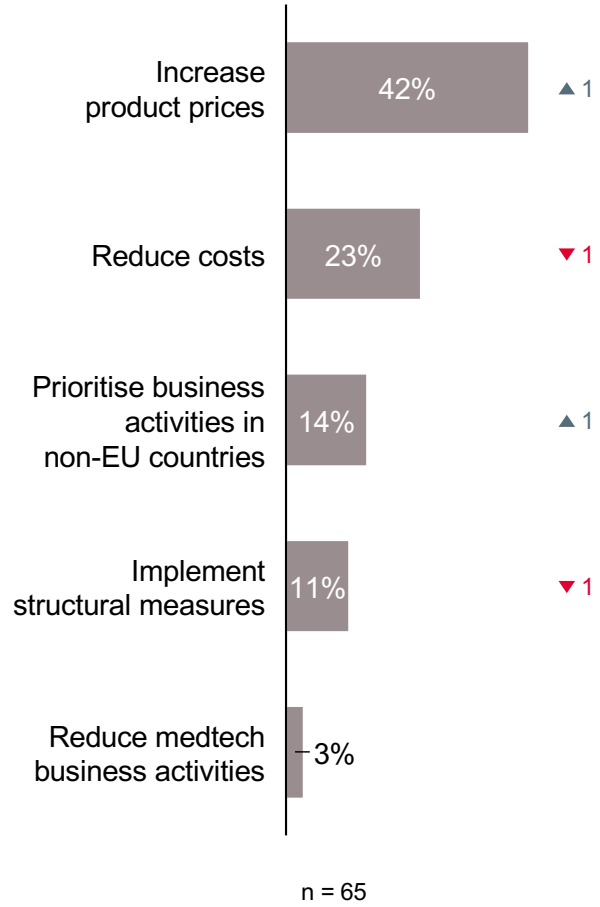
Note: to calculate the average increase, the weighted average was calculated using the yes share (% of increase) and no share (0%).
Source: SMTI survey results 2022

Manufacturers, distributors, and suppliers state that medical devices are becoming more expensive due to the introduction of MDR/IVDR

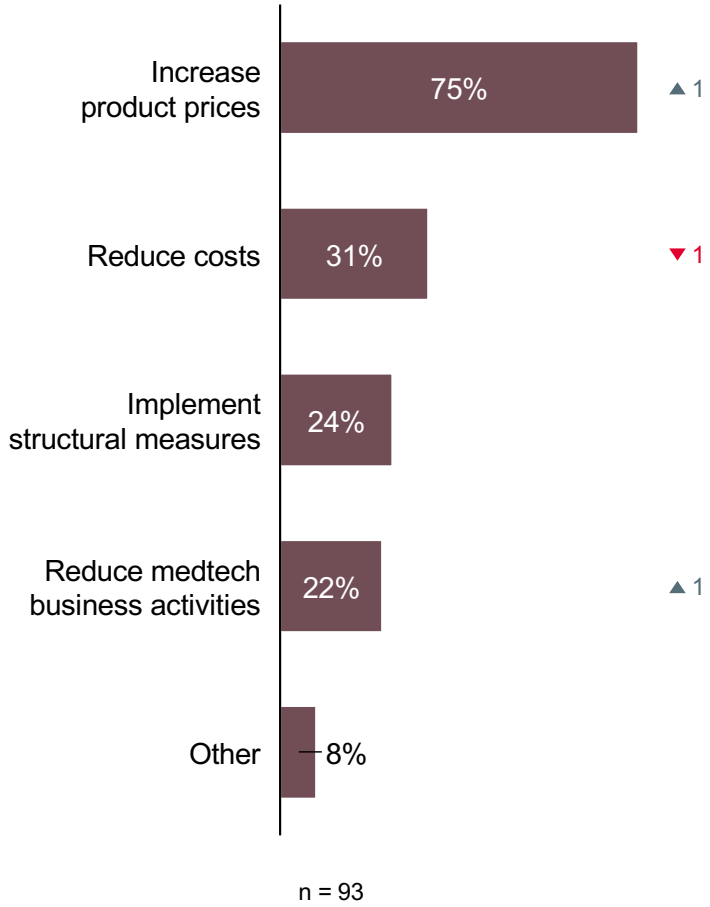
Top 5 priorities for action
Manufacturers
(% of all responses)



Top 5 priorities for action
Suppliers
(% of all responses)



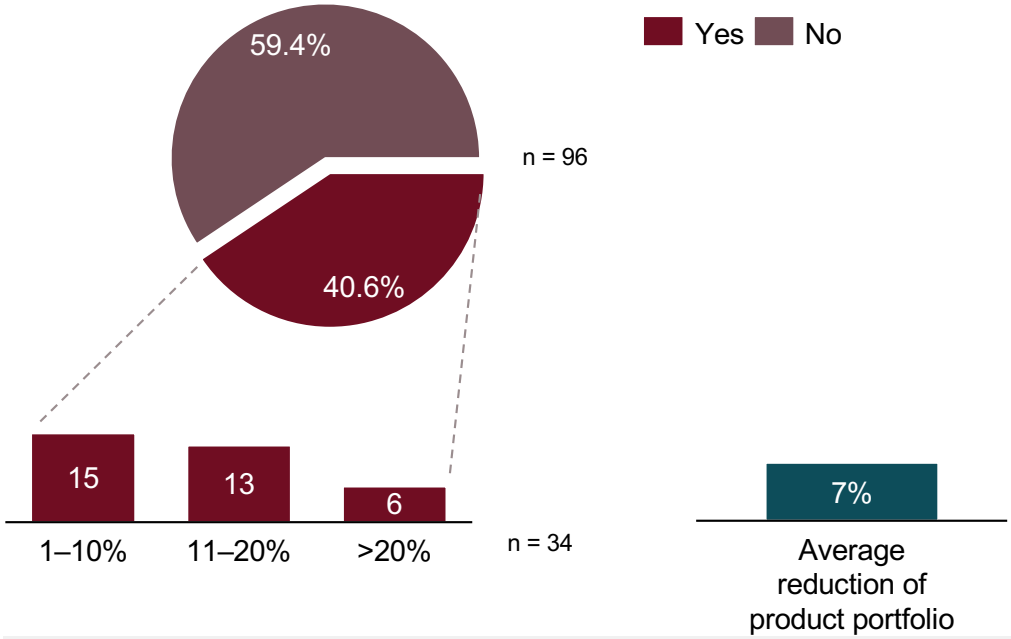
Top 5 priorities for action
Trade and distribution
(% of all responses)



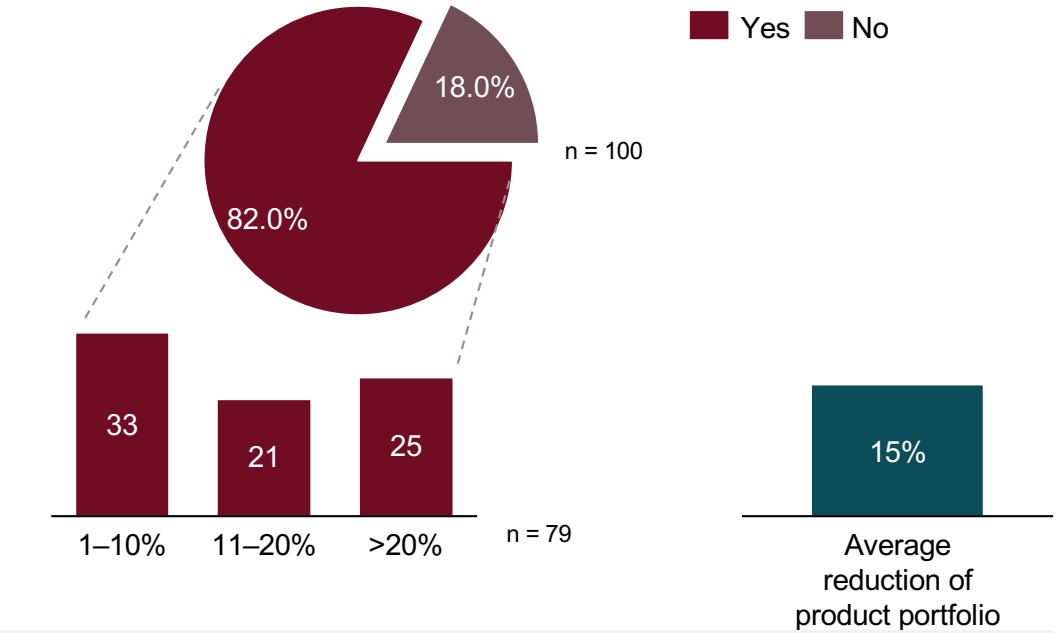
Note: ▲ ▼ Change in ranking compared to the SMTI study 2020
Source: SMTI survey results 2022

Switzerland's third-country status with the EU has caused further reductions of both manufacturers' and distributors' product portfolios

Reduction of product portfolio due to third-country status
(# of responses in %; manufacturers)



Reduction of product portfolio due to third-country status
(# of responses in %; distributors)



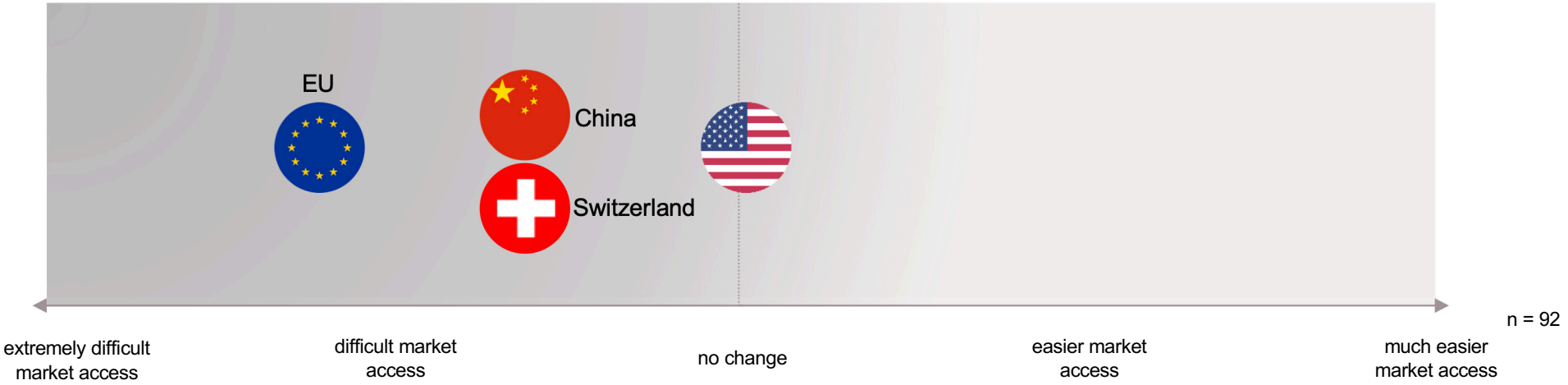
Comments

- The differing assessment between manufacturers and distributors can be explained by the size of the respective sales markets. While Swiss manufacturers undertake the additional effort in view of the large EU market, dealers are dependent on products from foreign manufacturers. The latter are often unwilling to continue serving the relatively small Swiss market due to the increased requirements (appointing a CH Rep.). As a result, distributors are reporting higher portfolio reductions of 15%
- Hospitals confirm that devices from foreign manufacturers are in short supply, and report difficulties in procuring substitute products

Note: average portfolio reduction not weighted by number of products
Source: SMTI survey results 2022

Compared to other markets, access to the EU has become more difficult for Swiss medtech manufacturers

Change in market access
(average change; scale: –2 to 2; manufacturers)



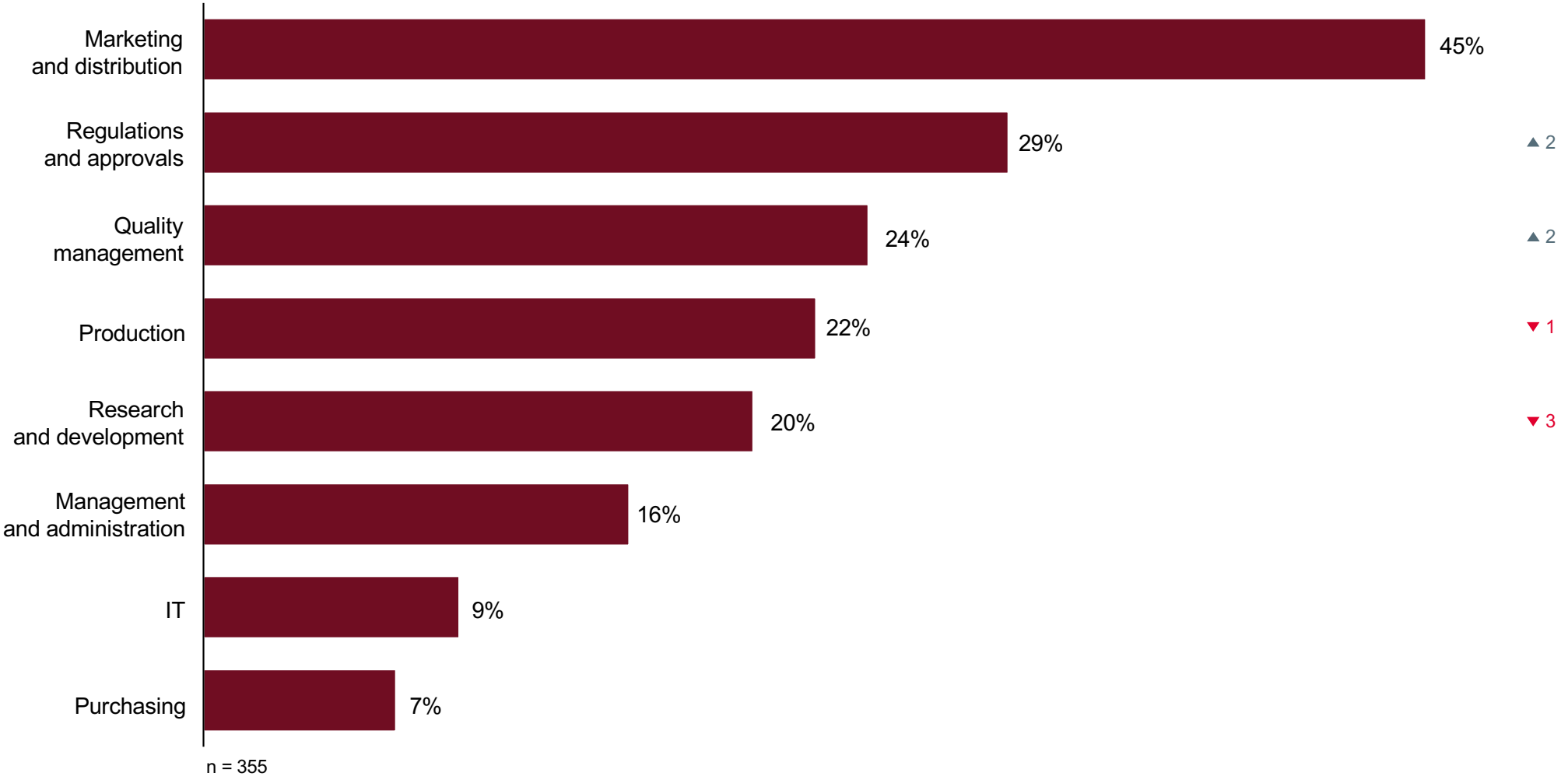
Comments

- Medtech manufacturers report that market access has become more difficult in the EU, as well as in Switzerland and China
- Access to the EU market has become more difficult for manufacturers than access to the Swiss market. As the regulations (MepV and MDR) are equivalent, the additional hurdles due to Switzerland's third-country status (need for an EU-authorised representative and adjustments in logistics) must be the key reason for this discrepancy
- The USA is imposing different emphases in requirements. Aspects such as biocompatibility and "human factors" (clinical studies must be carried out in the USA) are becoming more important

Source: SMTI survey results 2022

Recruitment of personnel in the areas of regulations and approvals as well as quality management has become much more important

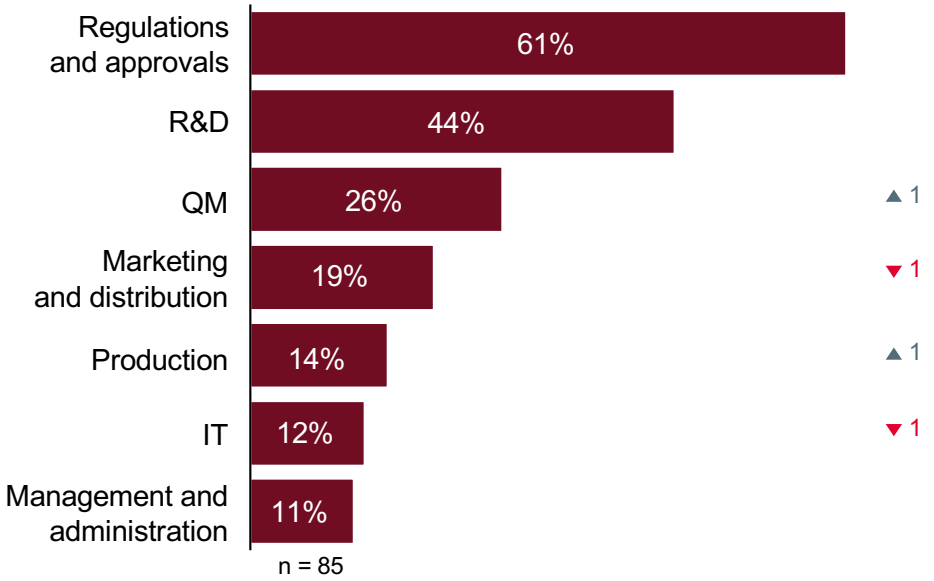
Planned expansion of the workforce in Switzerland over the next two years
(in % of all responses; all categories)



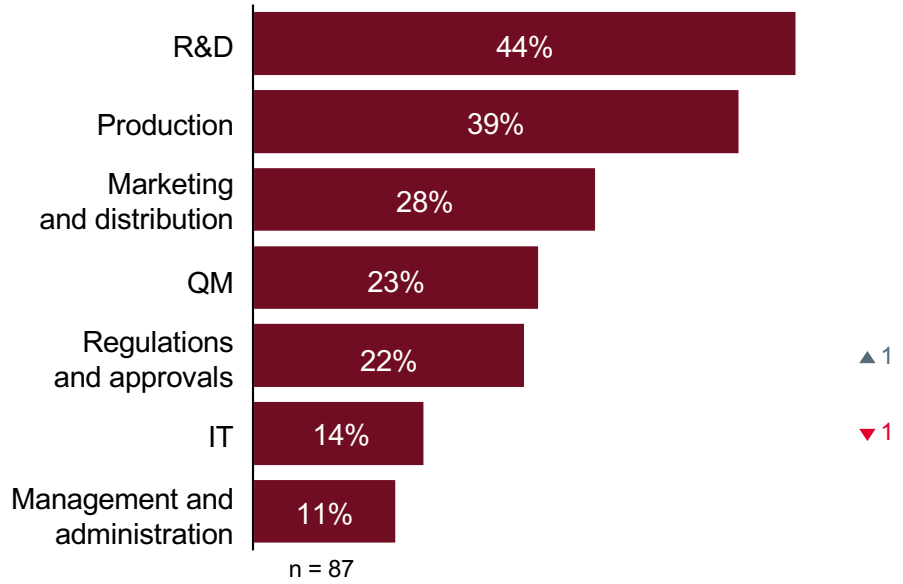
Note: ▲ ▼ Change in ranking compared to the SMTI study 2020
Multiple answers possible
Source: SMTI survey results 2022

Recruitment of qualified personnel is most difficult for manufacturers in the area of regulations and approvals

Recruitment difficulties for manufacturers
(% of all responses; manufacturers)



Recruitment difficulties for suppliers
(% of all responses; suppliers)



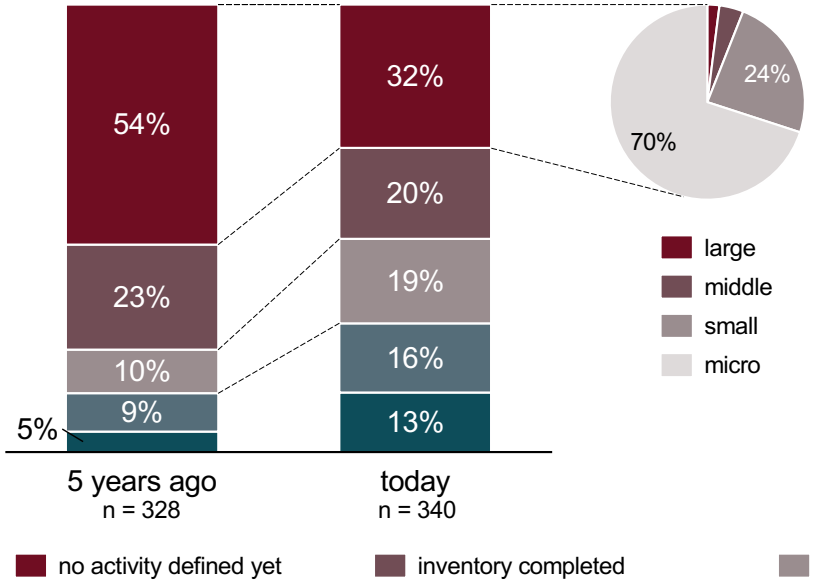
Comments

- As with other sectors, Swiss medical technology is also suffering from a shortage of qualified specialists. Manufacturers are finding it particularly difficult to recruit personnel in the area of regulations and approvals
- Both manufacturers and suppliers report difficulties in finding R&D specialists. The lack of suitable production staff also poses challenges for the supply industry

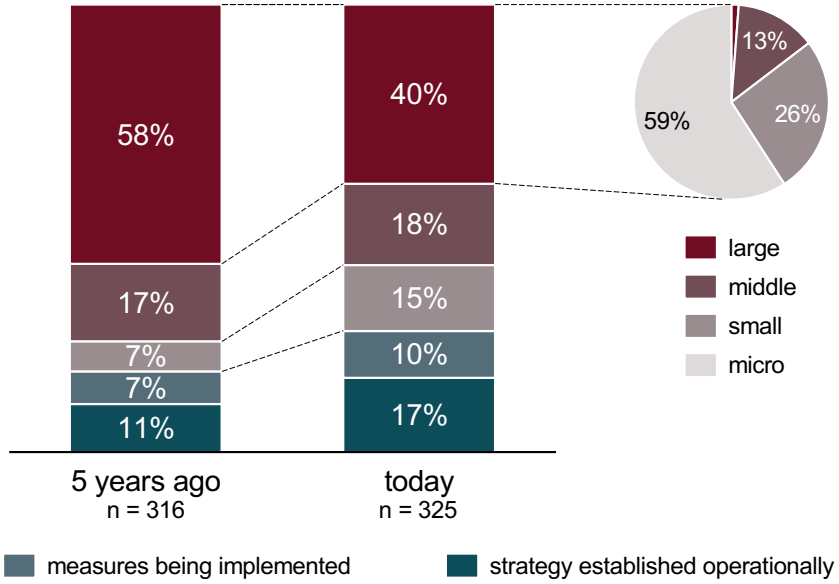
Note: ▲ ▼ Change in ranking compared to the SMTI study 2020
Further analyses p. 62
Source: SMTI survey results 2022

Ecological sustainability and diversity management gaining in importance within the Swiss medtech sector

Focus on ecological sustainability
(% of all responses)



Focus on diversity management
(% of all responses)



Comments

- As of today, about two thirds of the Swiss medtech sector have addressed the issues of ecological sustainability and diversity management. The positive trend is growing
- Ambitious reform projects (ex. European Green Deal) will have a major impact on the economy. The issue of sustainability will become relevant for market access and competition for Swiss medtech companies
- Small and microenterprises are lagging behind in both environmental concerns and diversity

Note: ecological sustainability = climate protection, reduction of the ecological footprint, decarbonisation, circular economy, preservation of biodiversity, careful use of resources; diversity management = non-discriminatory treatment of people of all ages, genders, disabilities, ethnicities, religious/other beliefs, sexual identity
Source: SMTI survey results 2022

Shaping the future of the Swiss medical technology industry

1. Strategies to achieve growth
2. Investments
3. Top trends as drivers of innovation
4. Research and development

Shaping the future of the Swiss medical technology industry

The Swiss medtech sector continues to invest heavily in innovation to ensure the continuation of its growth and attractiveness for the future.

The field of medicine – and by extension medical technology – pursues one major goal: to improve quality of life and increase life expectancy. Ideally, this should be achieved without incurring higher health care costs. Statistics, however, reveal a correlation between the two. Higher life expectancy goes hand in hand with higher health care costs (among other things). Currently, global expenditure on health care (approx. USD 8,600 billion) is increasing by around 5% per year. While costs are rising by 4% p.a. in industrialised countries, emerging markets have recorded growth of as much as 11% p.a. over the last ten years. Innovative medical technology solutions aim to counteract this trend – with much hope being placed in new digital concepts.

Strategies to achieve growth

Companies participating in the survey primarily plan to expand operations organically over the next two years. Market penetration is indicated as the most important alternative for growth. Swiss medtech manufacturers intend to grow through product innovations and, hence, demonstrate their innovative power. The purchase and sale of companies also increased significantly last year – indicating a trend towards consolidation also observed in the Swiss market as a whole.

Investments

More than two thirds of survey participants reported plans to invest in medical technology in the next two years. Investments are intended primarily in the areas of production expansion and optimisation, and to strengthen innovation (research and development). Factors encouraging investment in Switzerland are diverse: existing medtech know-how, a stable economic environment as well as high labour productivity. In contrast, Swiss companies are also investing more abroad due to customer proximity, higher personnel costs in Switzerland, and the increasing strength of the Swiss franc.

Top trends as drivers of innovation

Swiss medtech companies regard new technologies as opportunities: with a focus on optimising manufacturing methods and improving functionalities in products for diagnostics and therapeutics. Smart device technology – representing the ideal interface between patients and health care providers – ranks first in top trends, patent applications, but also as biggest challenges facing the industry.

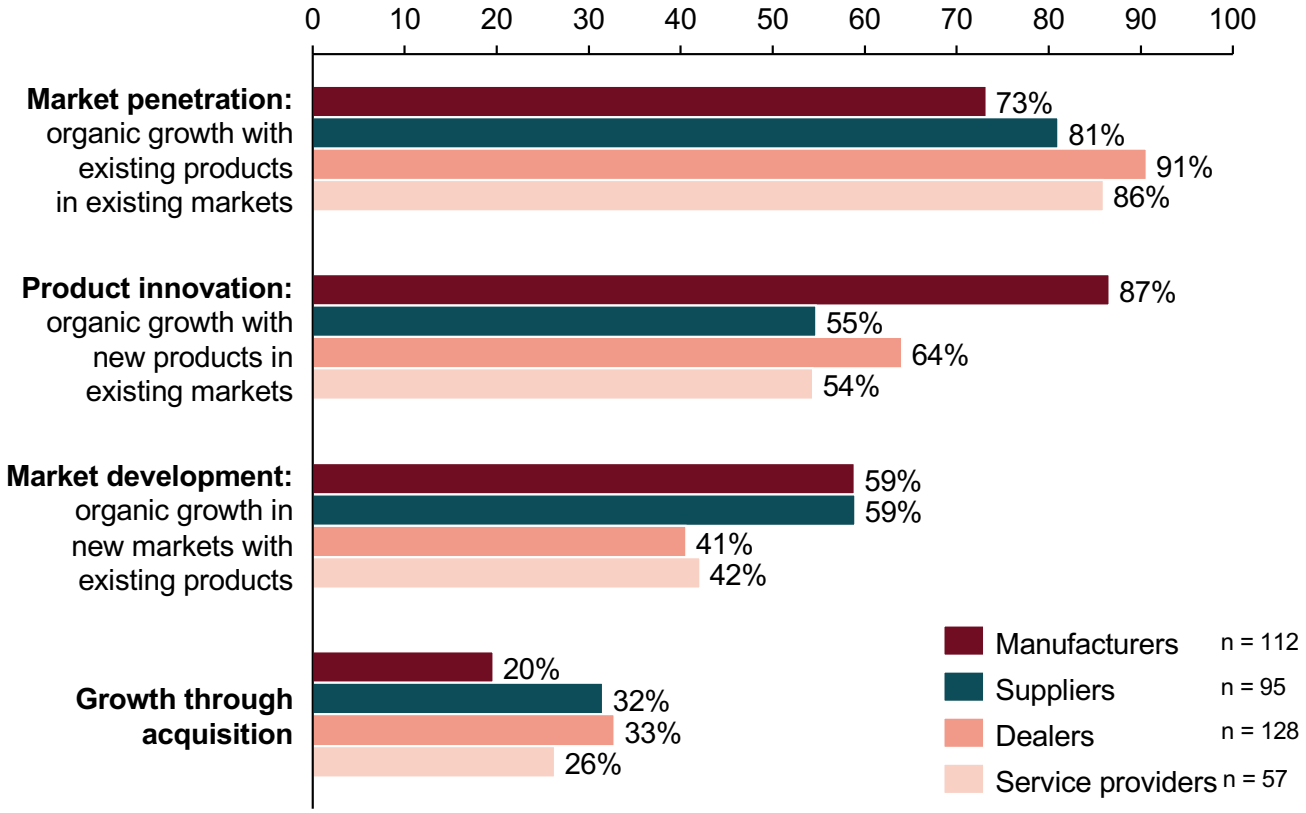
Research and development

The Swiss medtech sector is willing to invest in innovation. The R&D share of the respondents is between 10 and 13%. Companies reported a consistent increase in R&D expenditure over the last four years. Small companies and microcompanies (often start-ups) with turnover of less than CHF 5 million are investing above-average amounts in research and development.

Source: World Bank

Expansion is mainly intended in existing markets – Swiss medtech manufacturers aim for growth through product innovations

Strategic options for achieving growth
(in % of all responses; all categories)



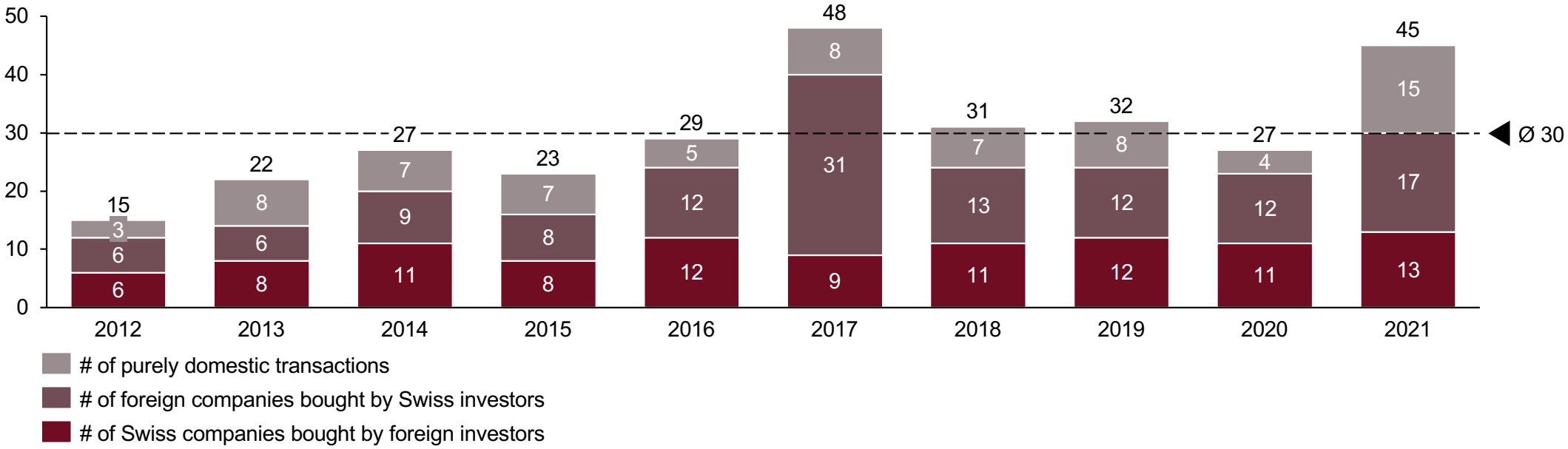
Comments

- The preferred growth option is the saturation of existing markets
- The survey confirms that the development of new markets and introduction of new products are associated with high regulatory hurdles – making market penetration a clear priority
- Manufacturers are the exception. They demonstrate their vast innovative capacity as distributors of new, innovative products in already established markets
- Only one in four companies aims to grow through acquisitions. Uncertainty surrounding the MDR compliance of potential acquisition targets may be contributing to this reluctance

Source: SMTI survey results 2022

M&A activities in the Swiss medtech sector and related industries

Number of deals involving Swiss medtech companies



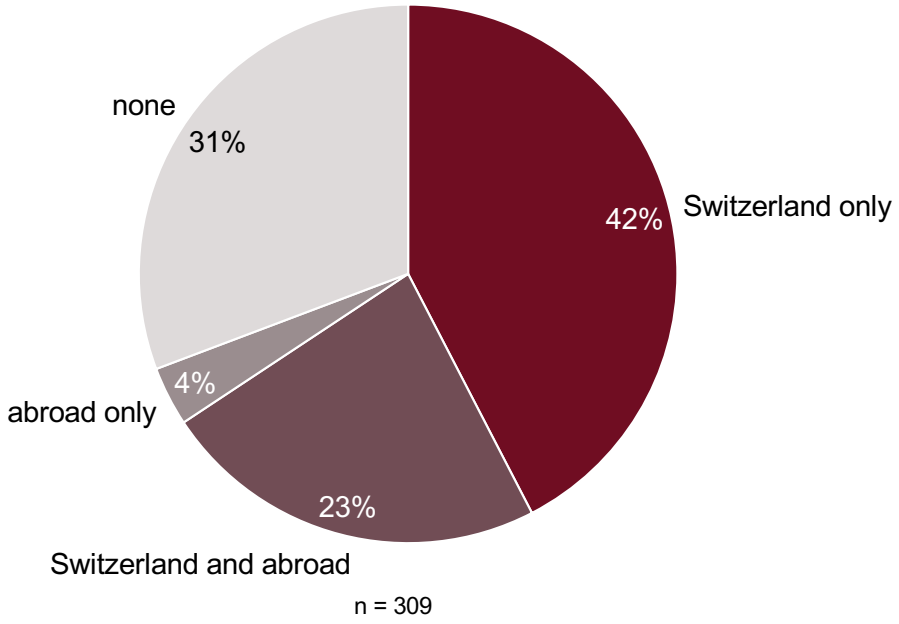
Comments

- Covid-19 had no significant negative effect on M&A activity in the medtech sector in 2020 – a pattern that mirrors overall M&A trends in the economy as a whole
- Since 2012, there has been a clear trend of increasing M&A activity. There was even an “M&A boom” in Swiss medtech in 2021, as was the case across all segments of the market. Private equity companies and financial investors are increasingly interested in the health care sector – especially ophthalmology and dentistry – which is reflected in the high number of transactions involving clinics and consolidations

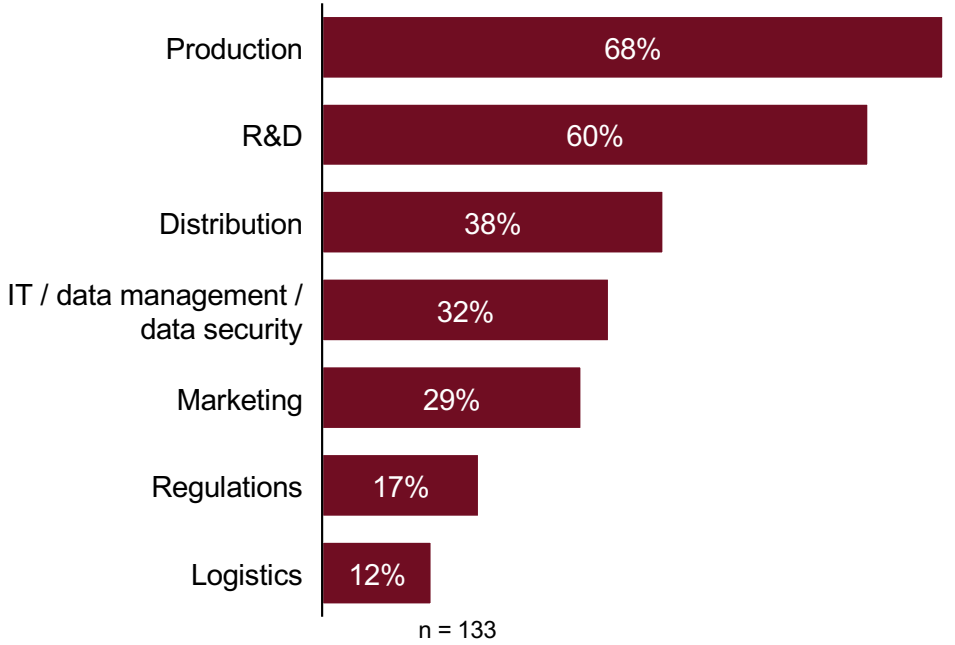
Note: M&A deals in the “Medical” segments (including health care institutions such as hospitals or clinics), only majority acquisitions (> 50%)
Source: Mergermarket 2022; EY (2021)

Two thirds of companies plan to invest within Switzerland in the next two years – especially in production and R&D

Planned investments in the next two years
(%; all categories)



Planned investments by area
(% of all responses; manufacturers and suppliers)



Comments

- 65% of medtech companies surveyed plan to invest in Switzerland in the next two years
  - 42% only in Switzerland, 23% in both Switzerland and abroad
- Almost one third of respondents are not planning any investments in the next two years

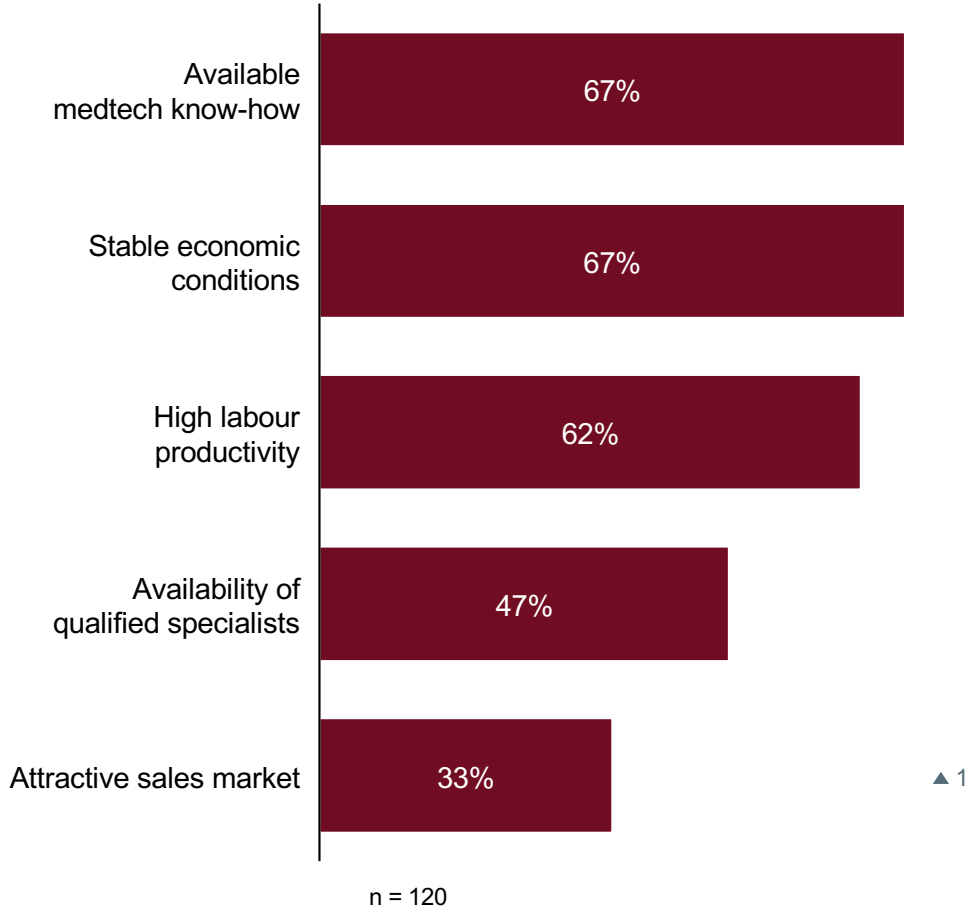
Comments

- The industry still aims to strengthen production and R&D in the next two years
  - Production investments are driven by the suppliers (>80%)
  - Switzerland remains a hub for R&D; 70% of manufacturers and 50% of suppliers plan to invest in this area

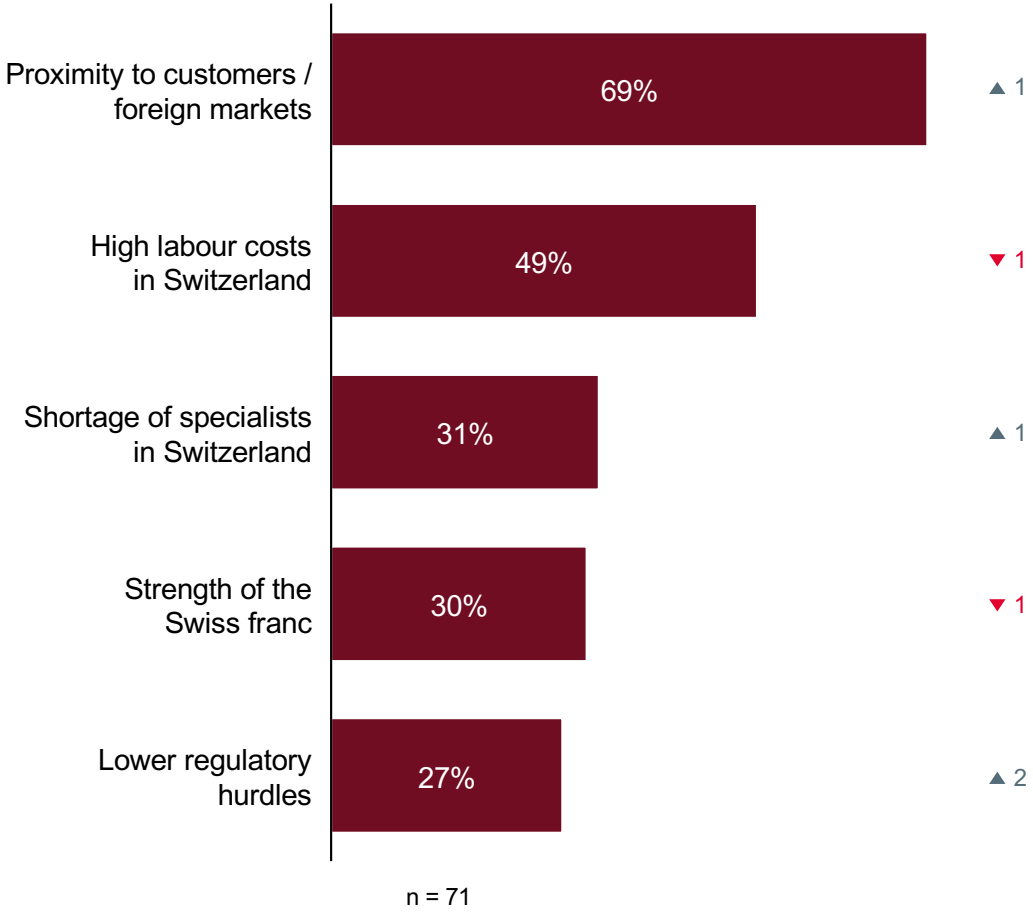
Source: SMTI survey results 2022

The availability of medtech know-how and the stable economic environment continue to be the most important reasons for investing in Switzerland

Top 5 reasons for investments in Switzerland
(% of all responses; manufacturers and suppliers)



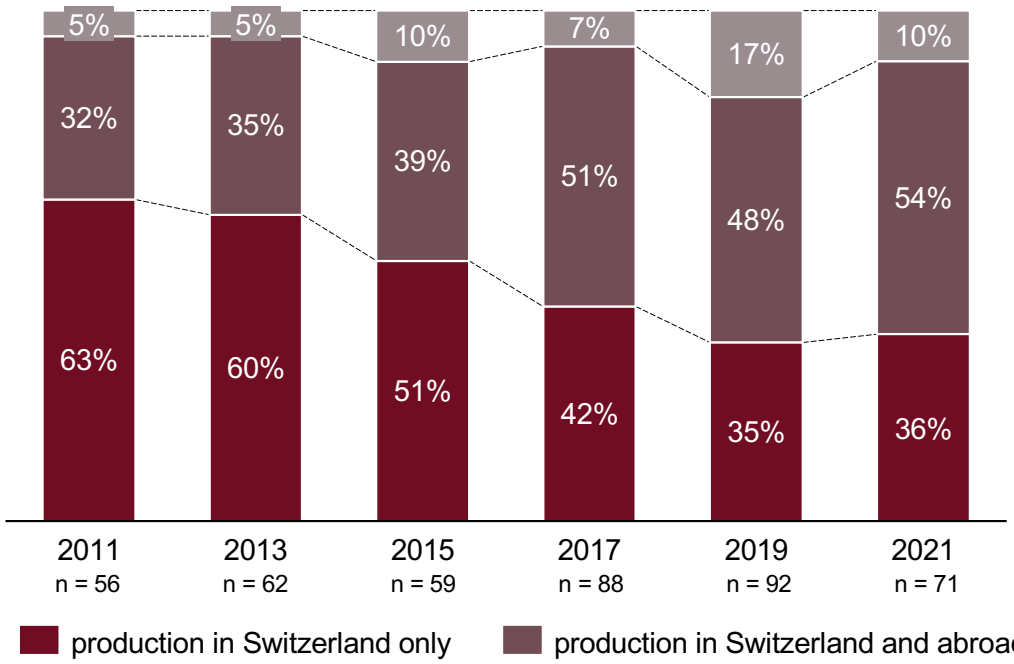
Top 5 reasons for investments abroad
(% of all responses; manufacturers and suppliers)



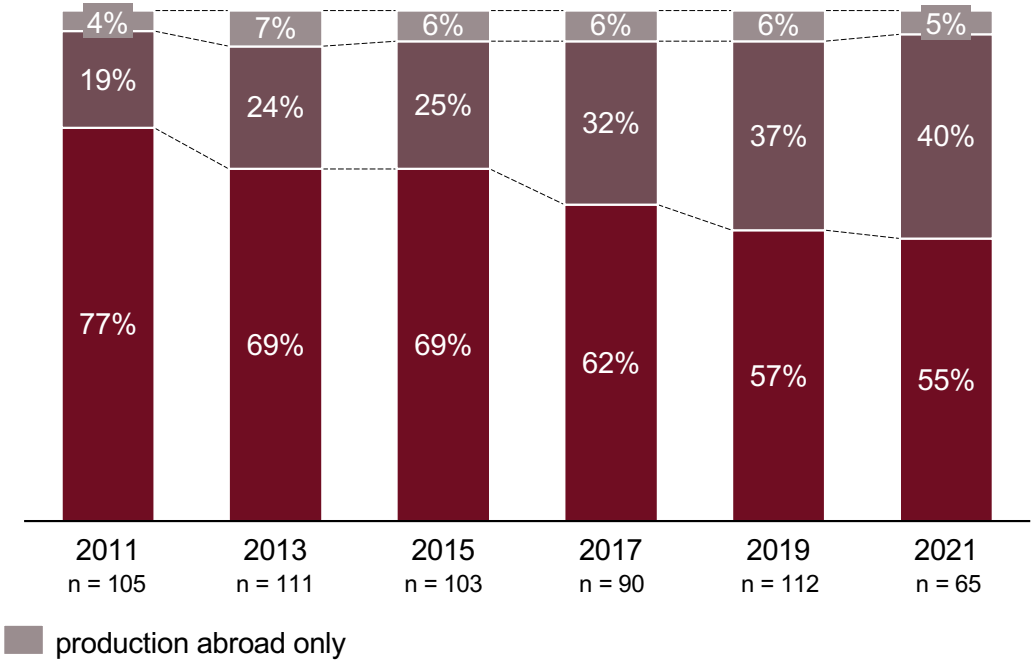
Note: ▲ ▼ Change in ranking compared to the SMTI study 2020
Source: SMTI survey results 2022

Over 90% of Swiss manufacturers and suppliers produce in Switzerland – the trend towards additional production abroad continues to rise

Manufacturer production sites (in %)



Supplier production sites (in %)



production in Switzerland only | production in Switzerland and abroad | production abroad only

Comments

- Known examples of companies bringing manufacturing processes back to Switzerland and shifts in distribution since 2019 point to a tendency to relocate. However, longer-term observation reveals a trend towards internationally oriented production and value chains
- Location advantages such as lower production costs, less complex export formalities, and proximity to customers encourage many companies to set up production facilities abroad

Source: SMTI survey results 2022

18 top trends in medical technology classified into five main processes

Digitalisation as a driver for new application and usage options in processes, products and services

Product innovation

1	**Smart devices**	Smart design and engineering, wearables, hearables, implantables, etc.
2	**Materials innovation**	Improved properties: durability, biocompatibility, surfaces, malleability, etc.
3	**Substitution technology**	New sensors for continuous non-invasive and invasive measurement of body data, etc.
4	**Data acquisition**	Internet of things, sensorisation, integration with evaluation software, etc.
5	**Individualisation**	Individualised prostheses and implants, electronic tablets, etc.

Manufacturing methods

1	**Manufacturing processes**	Industry 4.0, digitalisation of industrial production, automation and robotisation, etc.
2	**Substitution technology**	3D printing, dematerialisation, digitalisation, miniaturisation, batch size 1, etc.

Diagnostics

1	**Service automation**	Remote monitoring, automatic ordering of replacement parts, etc.
2	**Patient data processing**	Big data analysis and processing, cyber security, artificial intelligence (AI), pattern recognition in unstructured data, etc.
3	**Personalised medicine**	Precision medicine adapted to genome, patient-specific implants, etc.
4	**Augmented reality / virtual reality**	Viewing internal body structures, visualisation of complex data, simulation of interventions, surgery planning incl. risk management, etc.
5	**Human-machine interfaces**	Intuitive handling, speech recognition, brain-computer interfaces, etc.

Therapy/Treatment

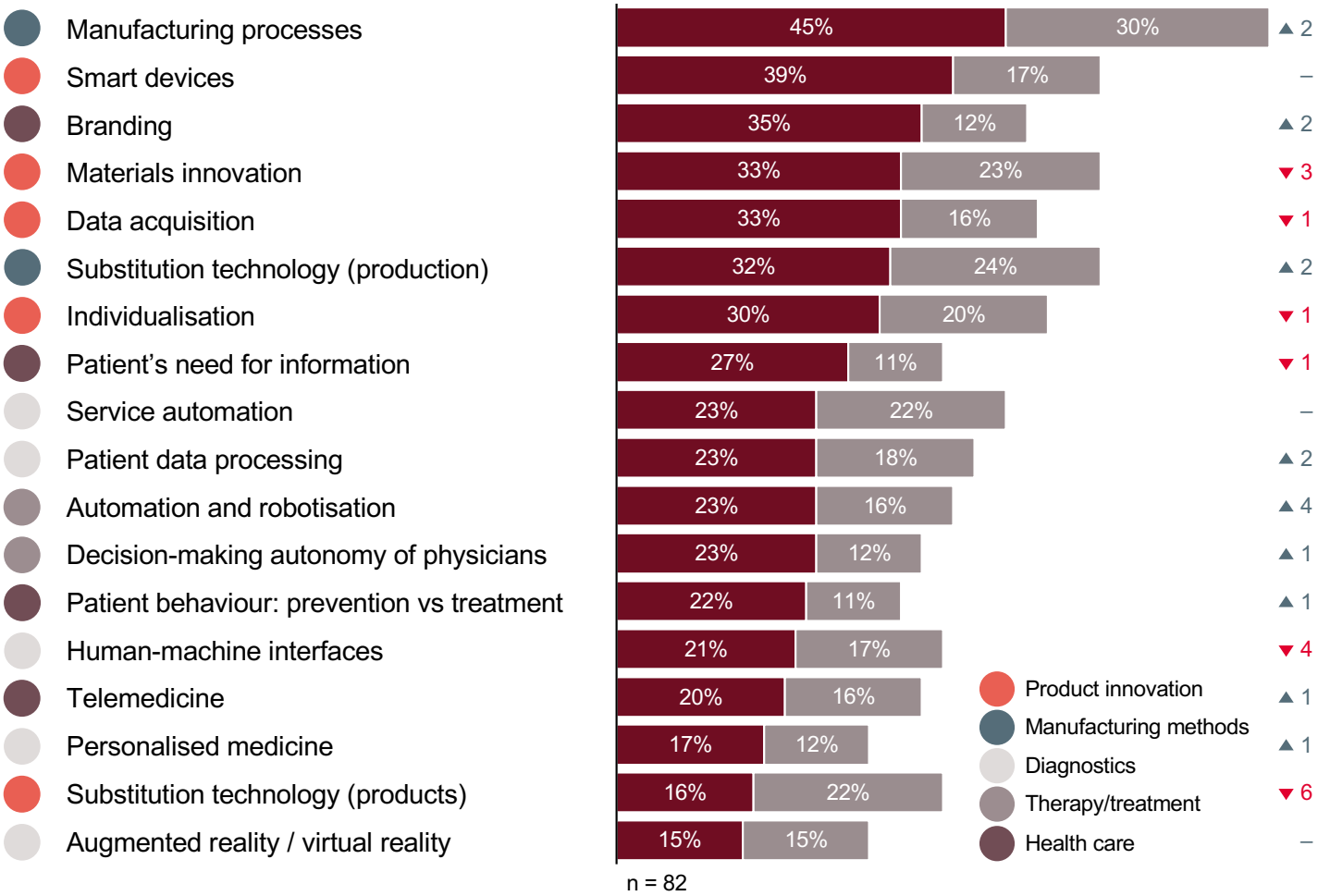
1	**Automation and robotisation**	Robots to support surgical, hospital, and nursing staff, etc.
2	**Decision-making autonomy of physicians**	Automation of interpretation and decision-making based on diagnostic values, etc.

Health care

1	**Patient behaviour: prevention vs treatment**	Integration of preventive health care into everyday life, etc.
2	**Patient's need for information**	Need for information on diseases, healthy living, all forms of treatment and sources, etc.
3	**Telemedicine**	Overcoming spatial or temporal distance for diagnostics and therapy, etc.
4	**Branding**	Brand awareness, etc.

Manufacturers' innovative focus is on manufacturing methods and product innovation

Top trends from manufacturers' perspective
(% of all responses)



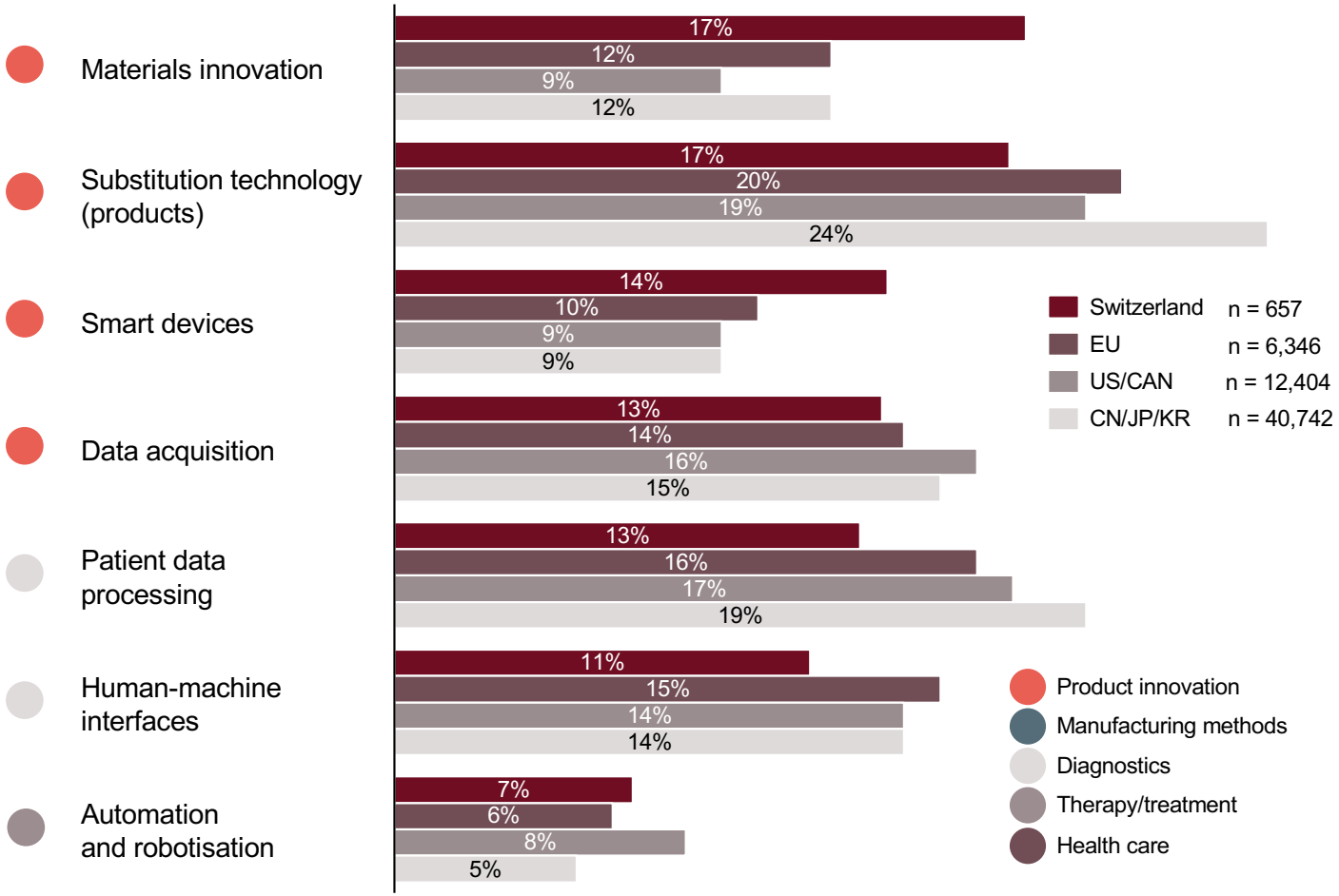
Note: ▲ ▼ Change in ranking compared to the SMTI study 2020
Further analyses p. 63 ff.
Source: SMTI survey results 2022

Comments

- 75% of manufacturers utilise digitalisation in the short to medium term to optimise manufacturing processes such as Industry 4.0, automation and robotisation
- New digital production technologies such as 3D printing, dematerialisation, and miniaturisation are expected to gain momentum in the medium term
- AR/VR, telemedicine or human-machine interfaces have gained in importance in absolute terms compared to 2020, but still occupy the lower ranks – not all product groups are capable of becoming "more digital"
- Restrictive data protection guidelines (ex. EPDG, ePA, HIPAA/HITECH) constitute major hurdles for digitisation efforts in the area of patient health data
- According to the survey, the data acquisition trend was accelerated significantly by the Covid-19 pandemic

Switzerland is ahead in materials innovation and smart devices, but lags behind in data acquisition and patient data processing

Top 7 trends based on patent applications[1] 2019
(% of all patent applications related to the top trends)



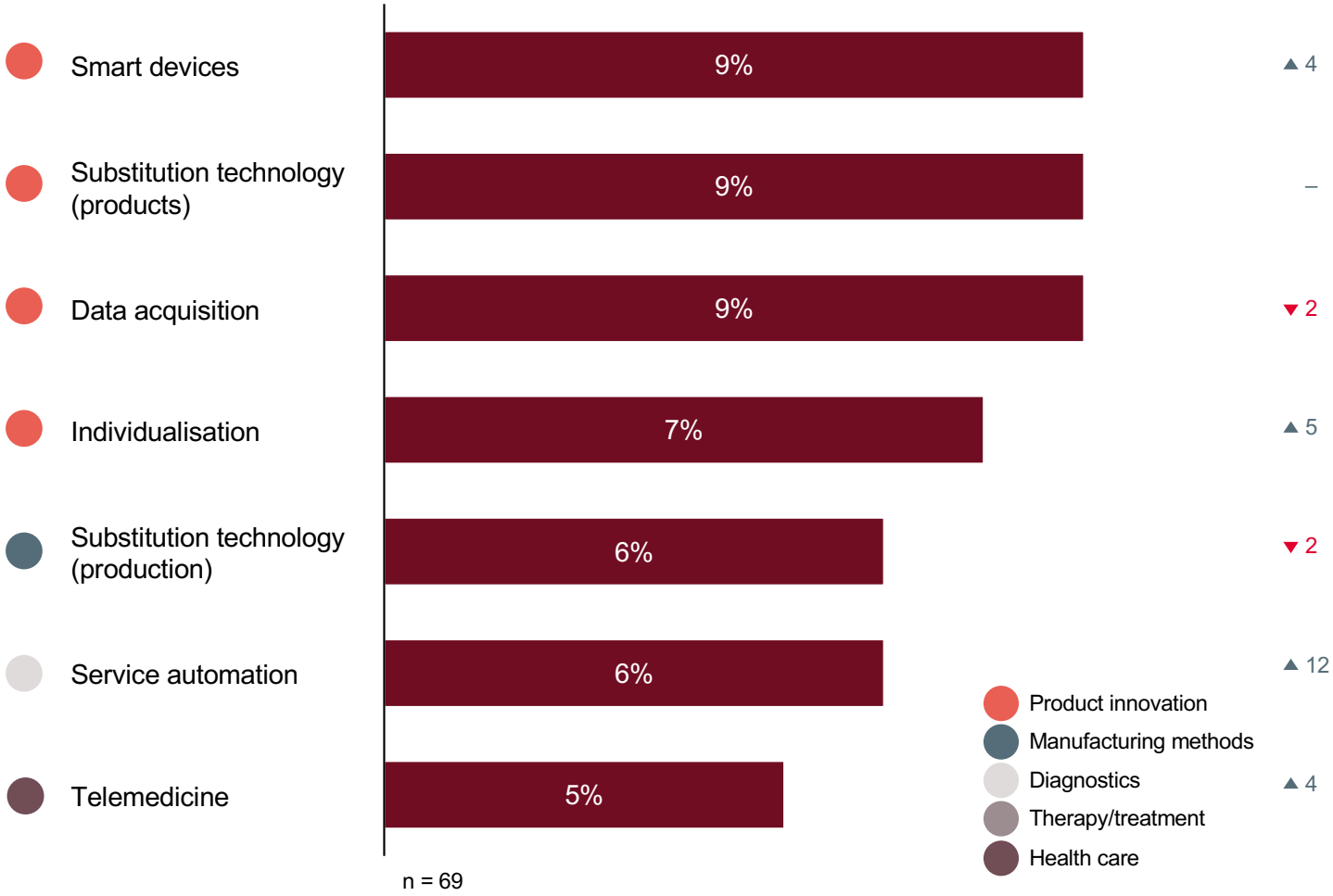
Comments

- The analysis of patent applications provides an additional glimpse into the future
- As in 2018, patent applications for material innovations and sensors to measure body data (substitution technology (products)) lead the way
- Smart devices rank top in the SMTI survey and patent application overview
- Data acquisition and human-machine interfaces are new among the top 7 trends
- In a global comparison, Switzerland lags behind in patient data processing, in part due to the restrictive data protection guidelines
- Switzerland continues to be global leader in patent applications per inhabitant; ahead of the Netherlands and Denmark

[1] Applications for patents with high significance (citation, technical relevance, breadth of patent coverage), 60–70% of patent applications considered in 2019; excluding large devices, hospital equipment, disposables, prosthetics
Source: EconSight GmbH

Smart devices are seen as the greatest challenge – individualisation, service automation and telemedicine now occupy top places

Top 7 challenges from manufacturers' perspective
(% of all responses)



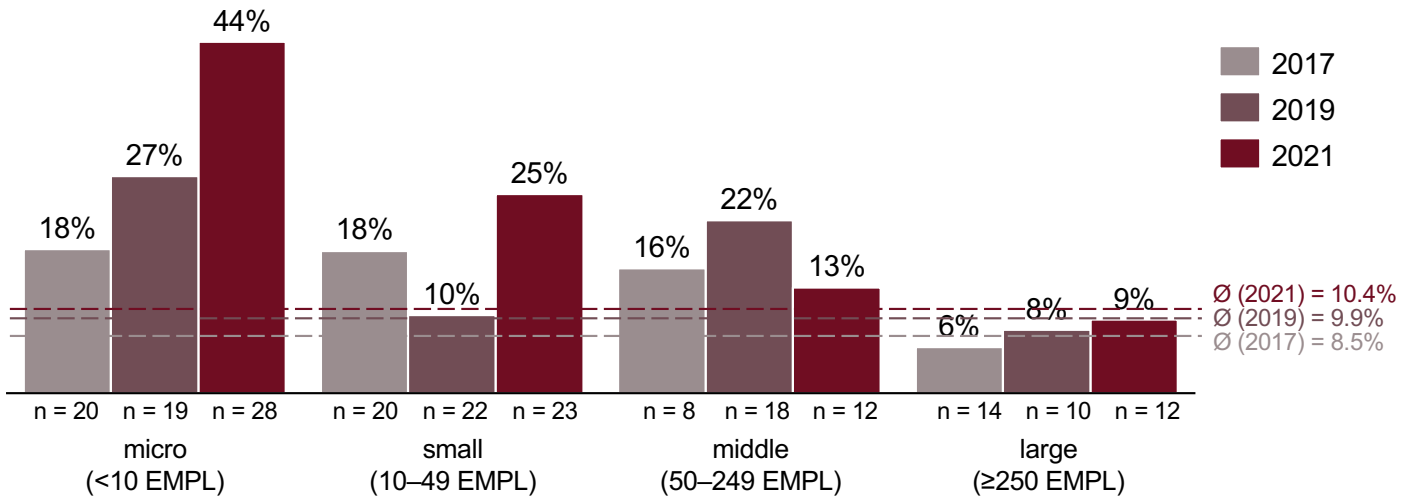
Note: ▲ ▼ Change in ranking compared to the SMTI study 2020
Further analyses p. 63 ff.
Source: SMTI survey results 2022

Comments

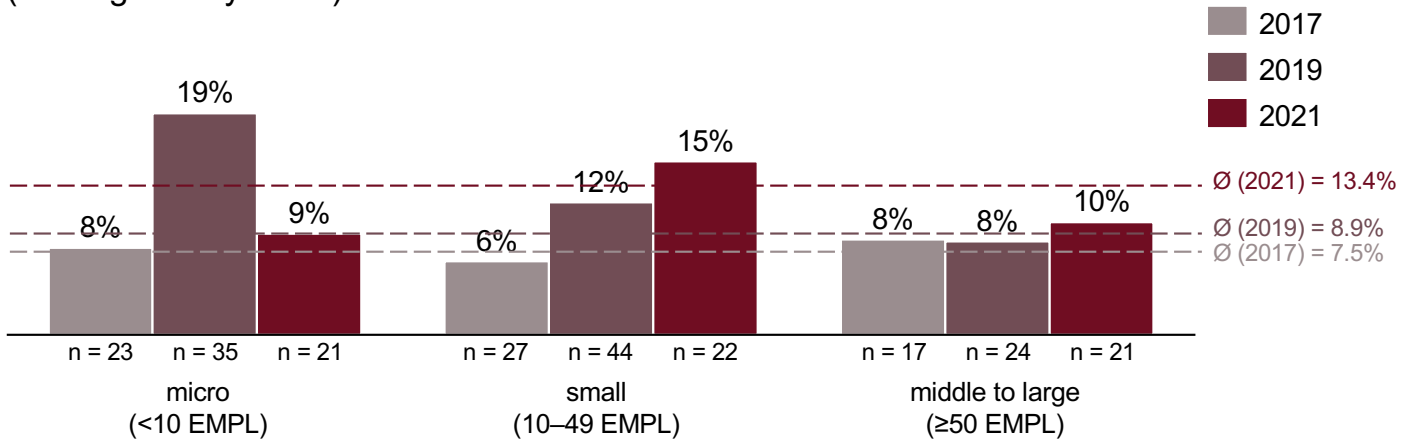
- Overall, challenges are rated "weaker" than in the 2020 survey (27% in 2020, 9% in 2022) – meaning manufacturers increasingly regard challenges as opportunities and consider themselves better equipped to deal with them
- Smart medtech devices include innovative medical aids for prevention, diagnosis and, in case treatment is necessary, are always applied directly to the patient. Their emergence is associated with both opportunities and risks for traditional medtech manufacturers
- Novel sensor technologies (substitution technologies), data acquisition and their interconnection offer new solutions for the health sector – survey respondents rank these as the most relevant and demanding challenges

R&D spending by Swiss medtech companies continues to rise

R&D expenditure as a percentage of manufacturers' revenues
(% weighted by sales)



R&D expenditure as a percentage of suppliers' medtech revenues
(% weighted by sales)



Source: SMTI survey results 2022

Comments

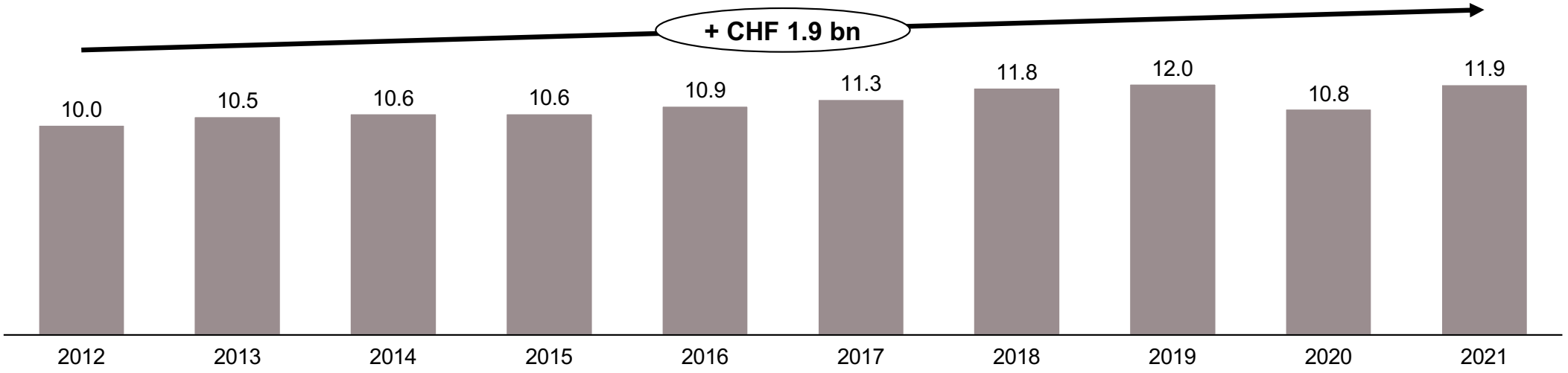
- On average, R&D expenditure amounts to 10.4% of manufacturers' sales, a slight upward trend can be observed over the last six years
  - Small and microenterprises still achieve limited turnover in the start-up phase, relative expenditure on R&D is therefore high
  - The top 10 employers in the Swiss medical technology sector devote a share of 8.1%, while the large manufacturers are slightly higher at 9.2%
- According to the survey, suppliers are spending on average as much as 13.4% of revenue on R&D. Compared to SMTI 2020, suppliers report an increase of 4.5 percentage points in their R&D expenditure share

Further analyses and methods

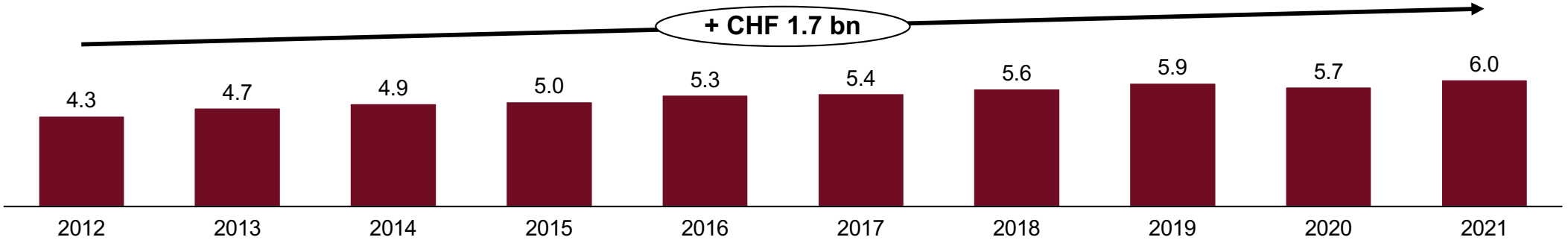
1. Supplementary data
2. Methods
3. Partners and publishers
4. List of abbreviations

Trade figures: exports and imports growing similarly

Export performance of the Swiss medtech industry (in billion CHF)



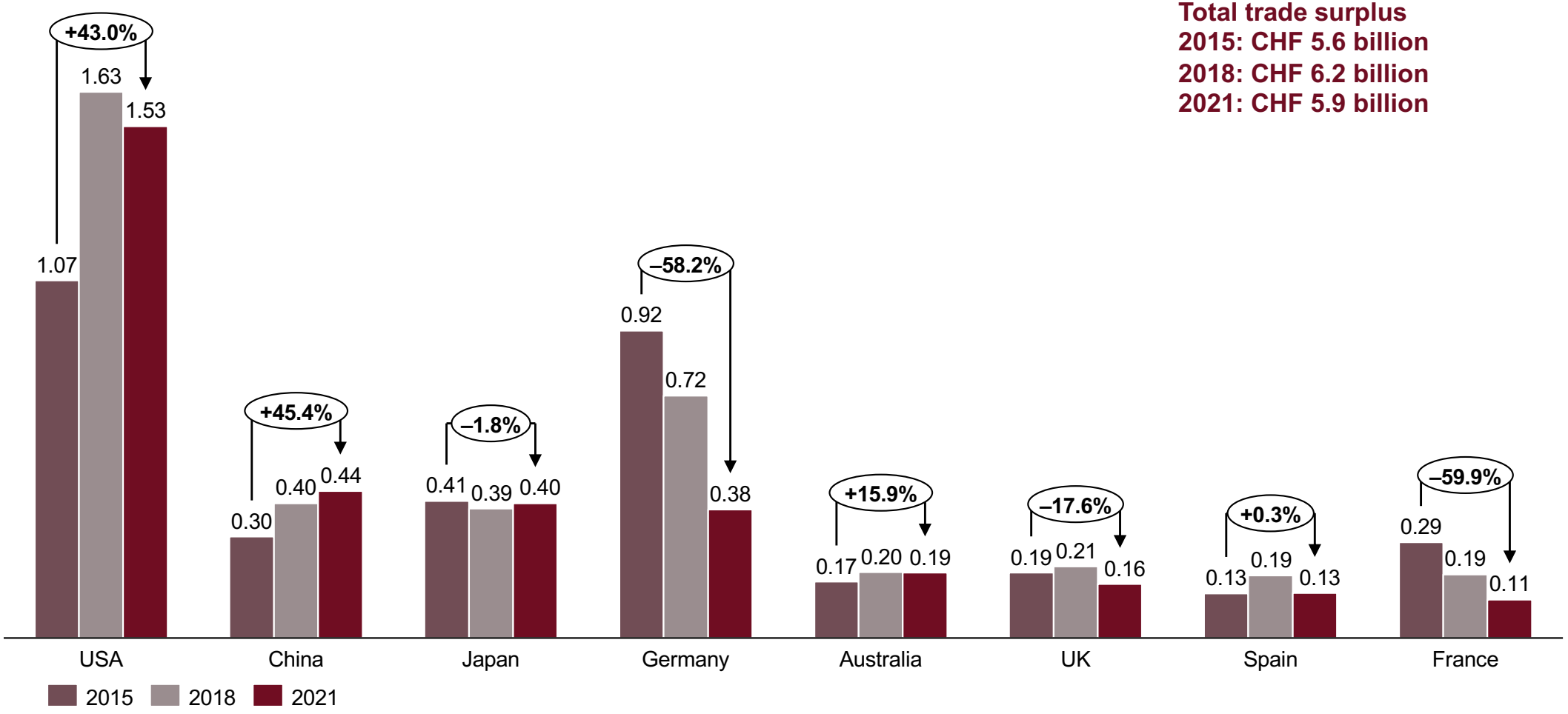
Import performance of the Swiss medtech industry (in billion CHF)



Note: Trade figures (exports and imports) reflect only finished products; trade/sales of semi-finished products are not included.
Customs tariff numbers used (p. 73 ff.) have been adjusted compared to previous years.
Source: Federal Office for Customs and Border Security (BAZG)

Trade figures: while the trade surplus with the USA remains high, the one with Germany continues to decline

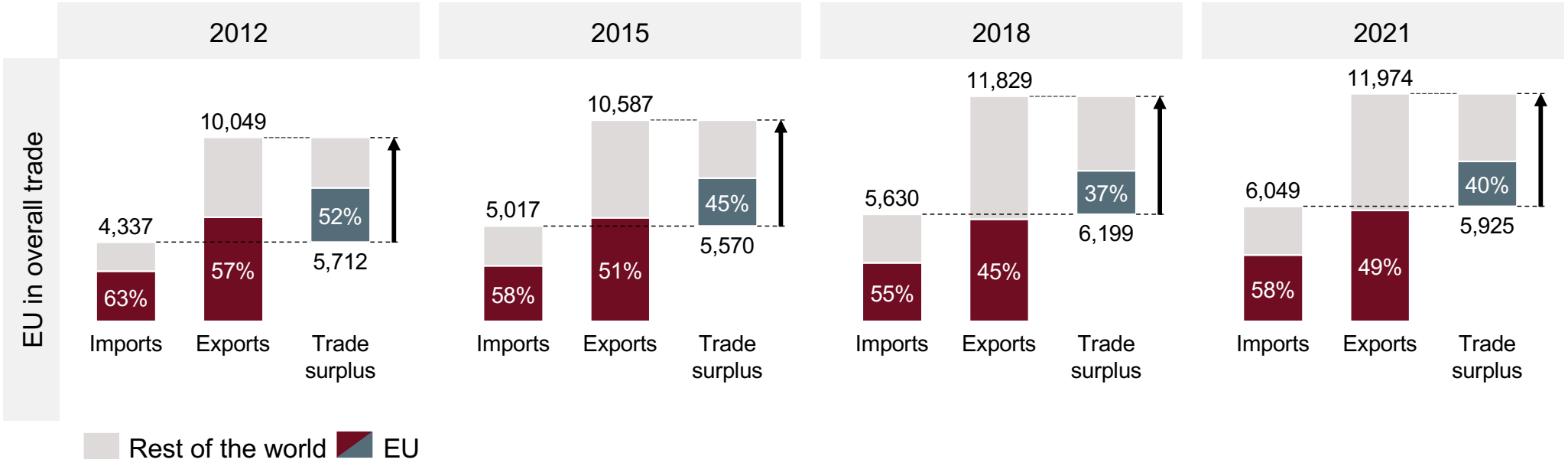
Top 10 Swiss medtech trade surpluses 2015–2021 (in billion CHF)



Note: Trade figures (exports and imports) reflect only finished products; trade/sales of semi-finished products are not included.
Customs tariff numbers used (p. 73 ff.) have been adjusted compared to previous years.
Source: Federal Office for Customs and Border Security (BAZG)

Trade figures: following declining numbers since 2012, the EU has regained importance for the Swiss medtech industry in recent years

Key figures EU: % of total trade from a Swiss perspective (in CHF million)



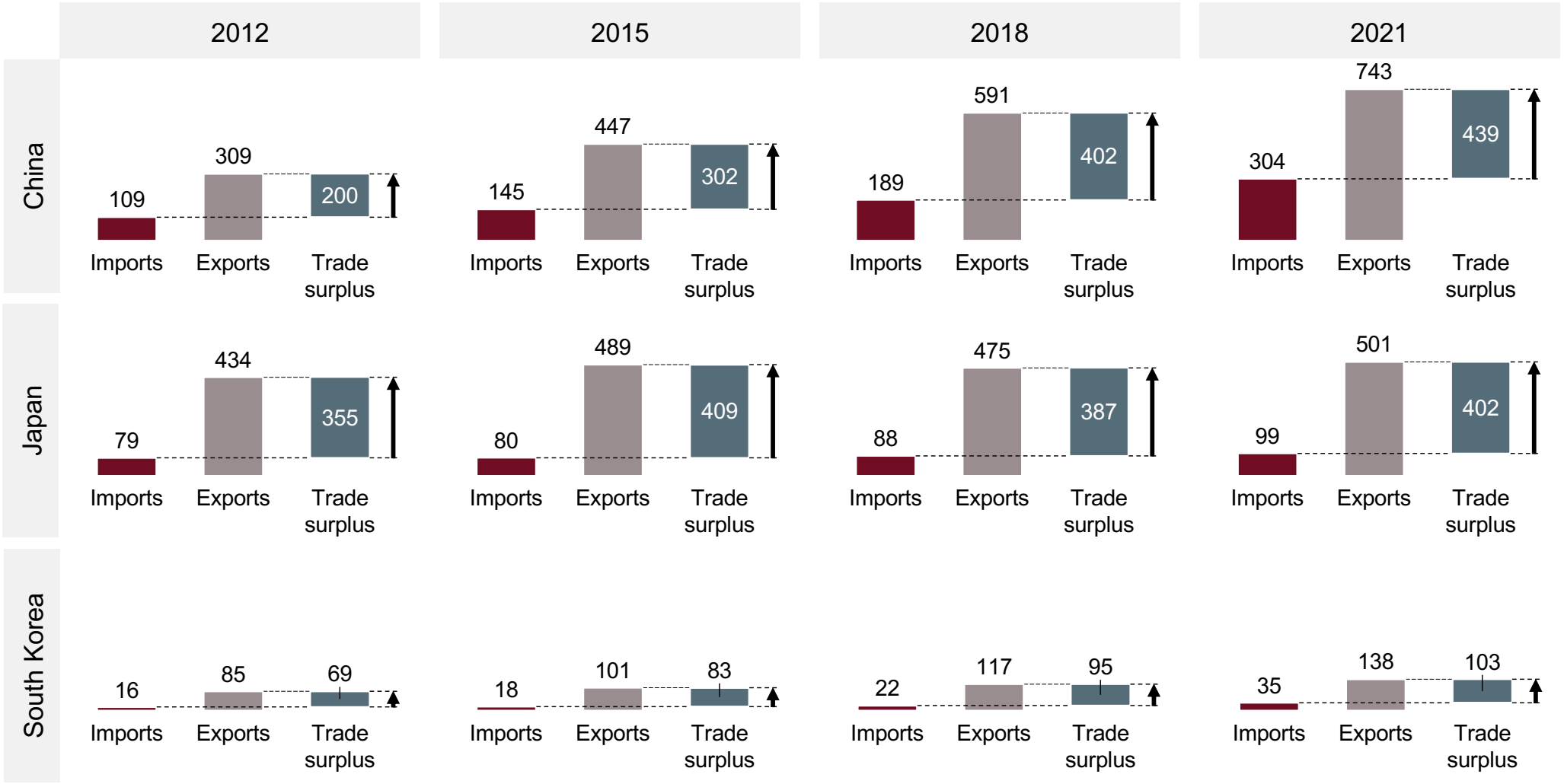
Comments

- In 2021, Switzerland imported 58% of its total trade in medical technology from the EU. As the destination for half of all Swiss medtech exports, the EU remains Switzerland's most important trading partner in both directions
- The EU has regained its significance since 2018. Covid-19 pandemic-related bottlenecks in global supply chains could account for this effect

Note: Trade figures (exports and imports) reflect only finished products; trade/sales of semi-finished products are not included.
Customs tariff numbers used (p. 73 ff.) have been adjusted compared to previous years.
Source: Federal Office for Customs and Border Security (BAZG)

Trade figures: trade surpluses with Asian countries continue to grow

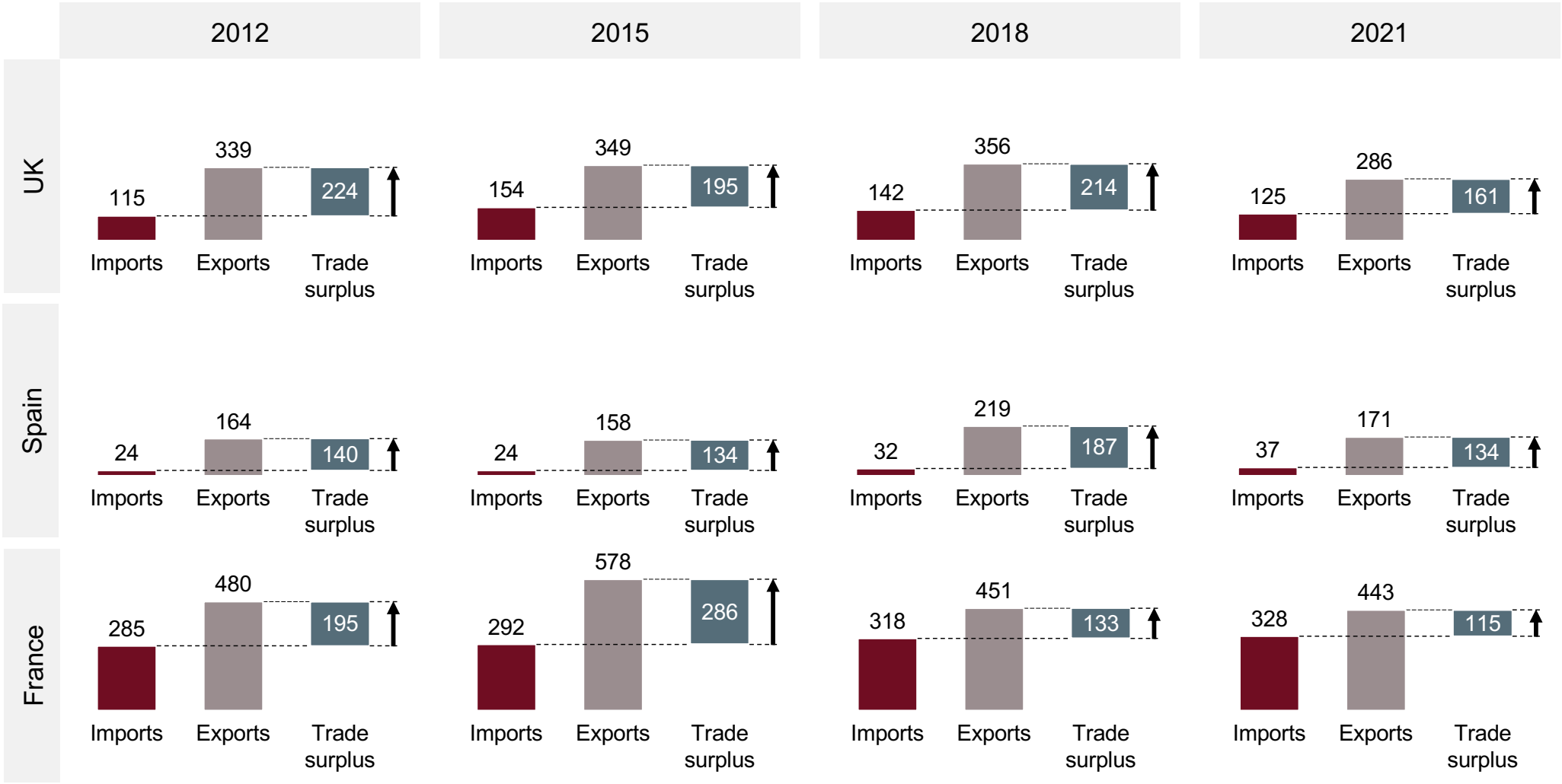
Key figures: China, Japan and South Korea from a Swiss perspective (in million CHF)



Note: Trade figures (exports and imports) reflect only finished products; trade/sales of semi-finished products are not included.
Customs tariff numbers used (p. 73 ff.) have been adjusted compared to previous years.
Source: Federal Office for Customs and Border Security (BAZG)

Trade figures: trade surpluses with the UK, Spain and France have decreased

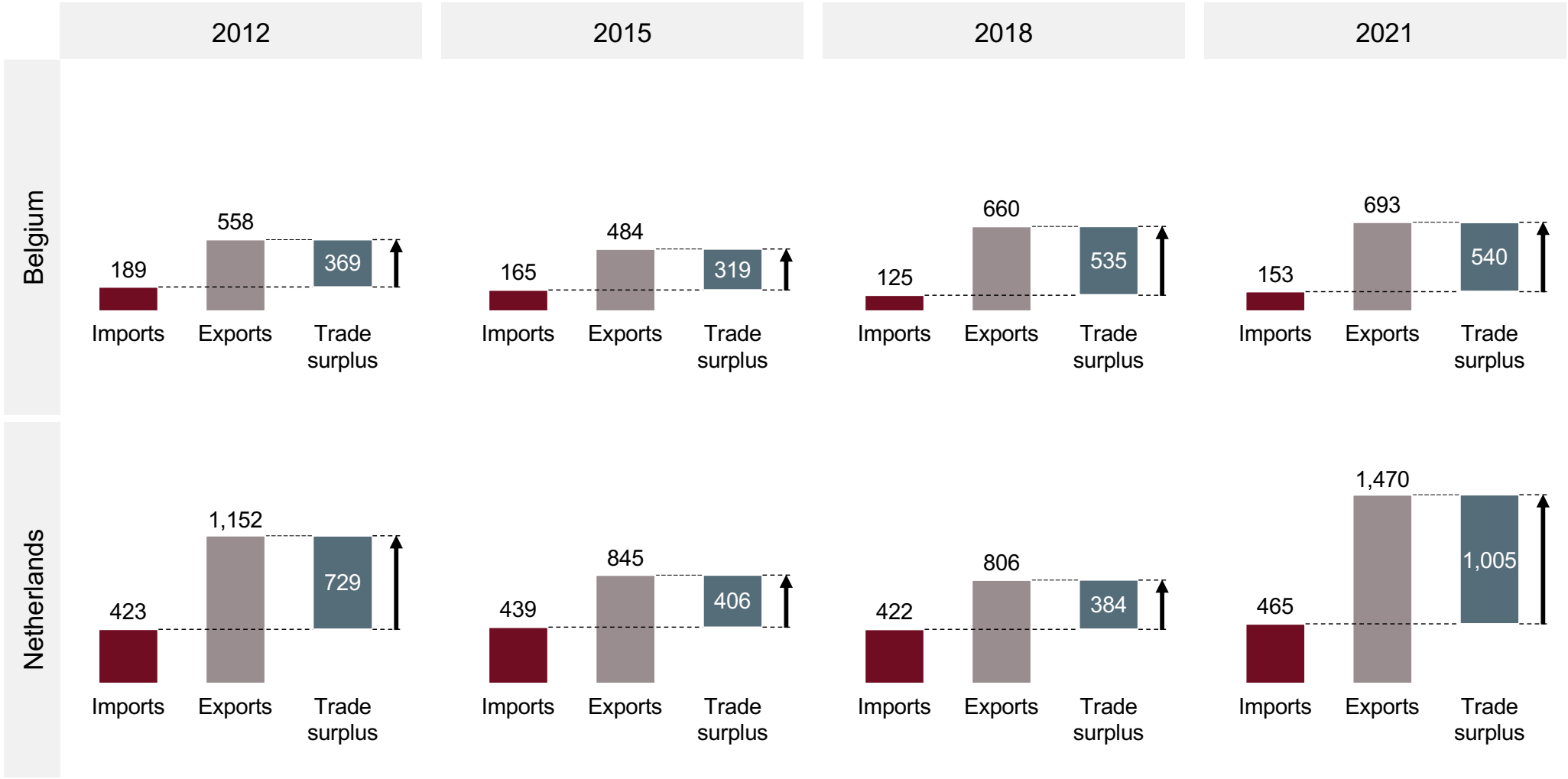
Key figures: UK, Spain and France from a Swiss perspective (in million CHF)



Note: Trade figures (exports and imports) reflect only finished products; trade/sales of semi-finished products are not included.
Customs tariff numbers used (p. 73 ff.) have been adjusted compared to previous years.
Source: Federal Office for Customs and Border Security (BAZG)

Trade figures: exports to Belgium and the Netherlands remain high, partly due to the presence of European central warehouses

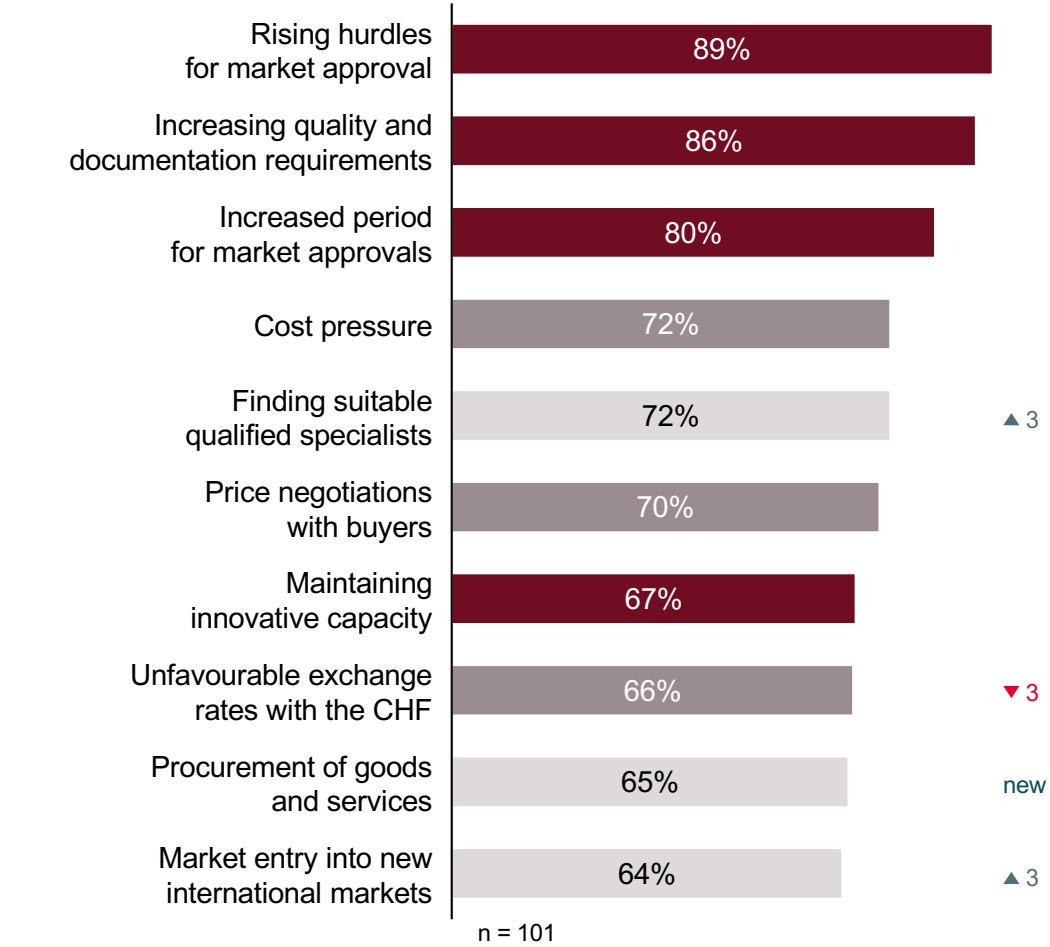
Key figures: Belgium and the Netherlands from a Swiss perspective (in million CHF)



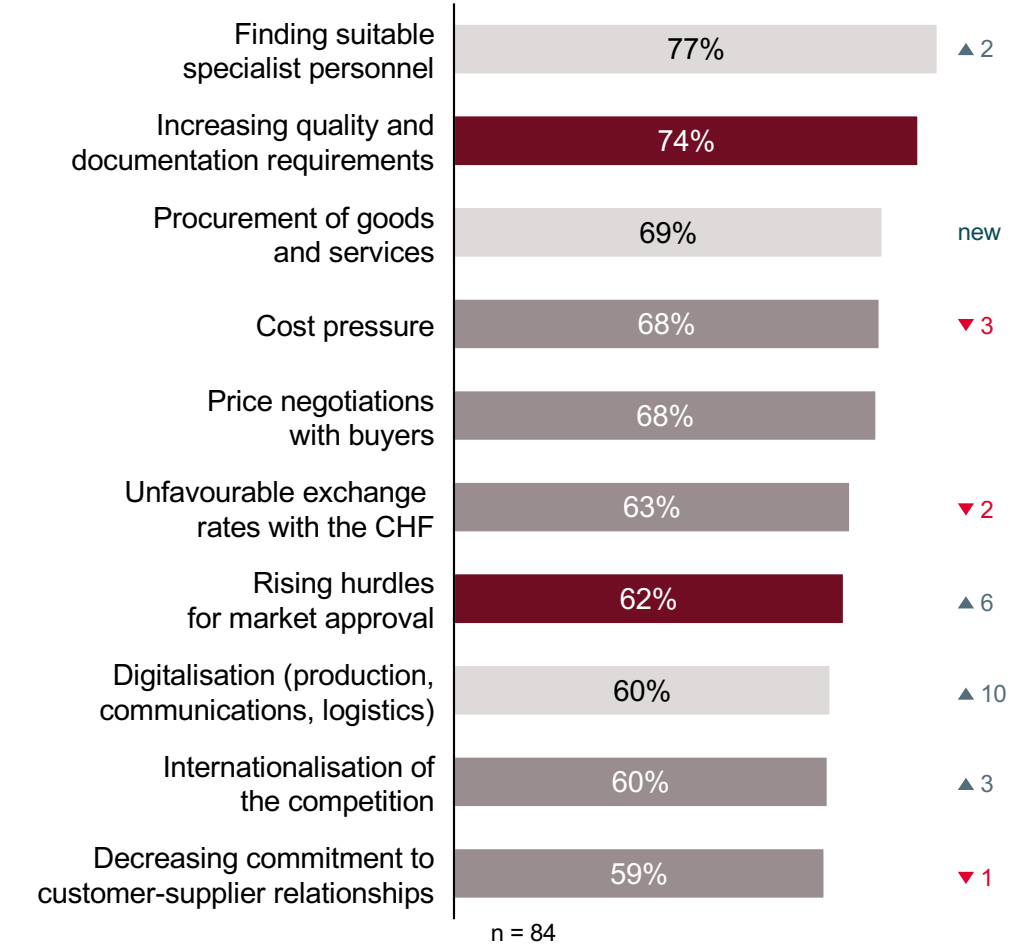
Note: Trade figures (exports and imports) reflect only finished products; trade/sales of semi-finished products are not included.
Customs tariff numbers used (p. 73 ff.) have been adjusted compared to previous years.
Source: Federal Office for Customs and Border Security (BAZG)

Challenges: top 10 challenges for manufacturers and suppliers

Top 10 challenges for manufacturers
(% of all responses; manufacturers)



Top 10 challenges for suppliers
(% of all responses; suppliers)

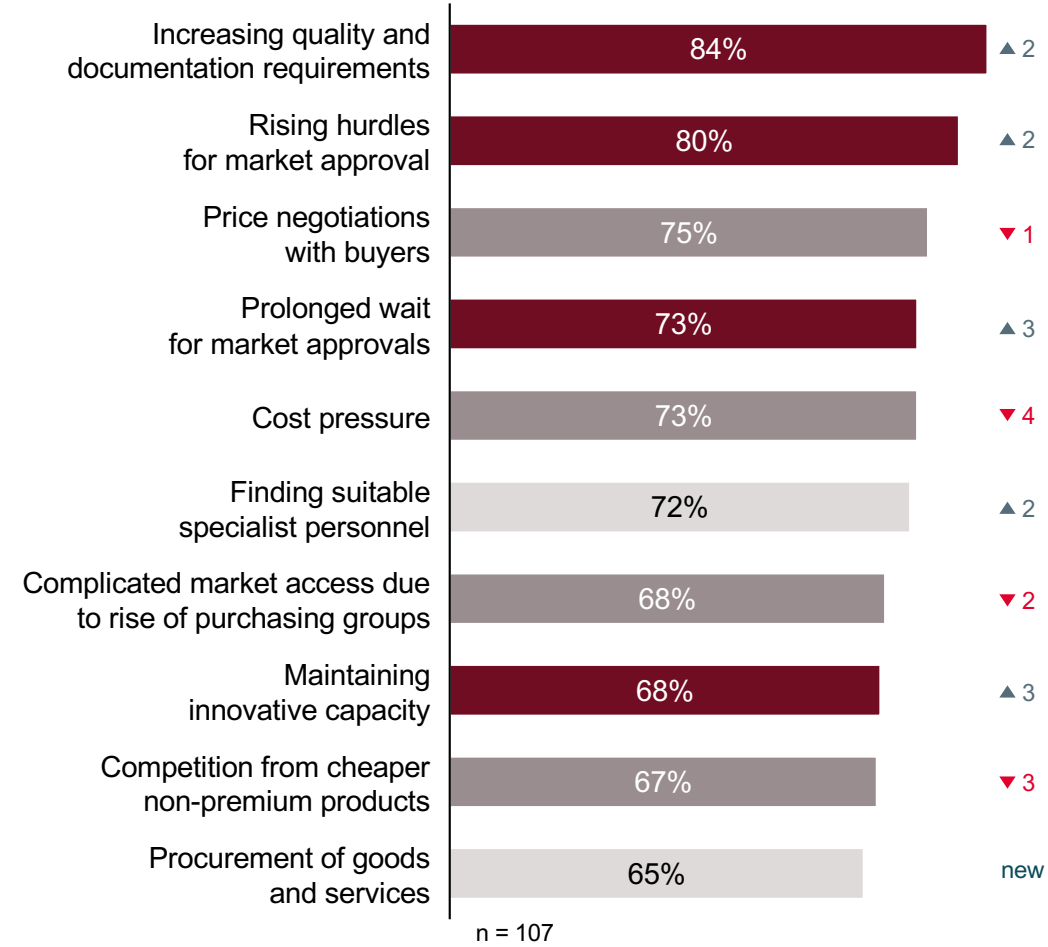


Innovation and market approvals | Market conditions and competition | Resources and know-how

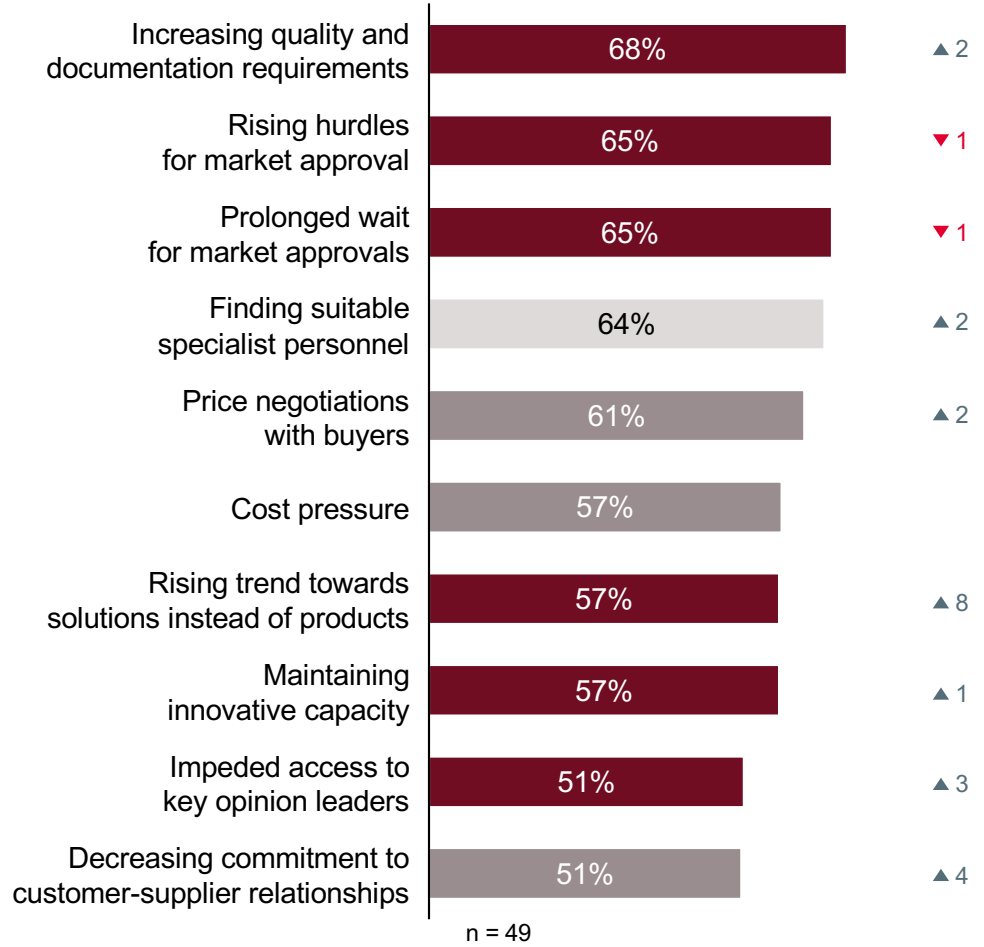
Note: ▲ ▼ Change in ranking compared to the SMTI study 2020
Source: SMTI survey results 2022

Challenges: top 10 challenges for distributors and service providers

Top 10 challenges for distributors
(% of all responses; distributors)



Top 10 challenges for service providers
(% of all responses; service providers)

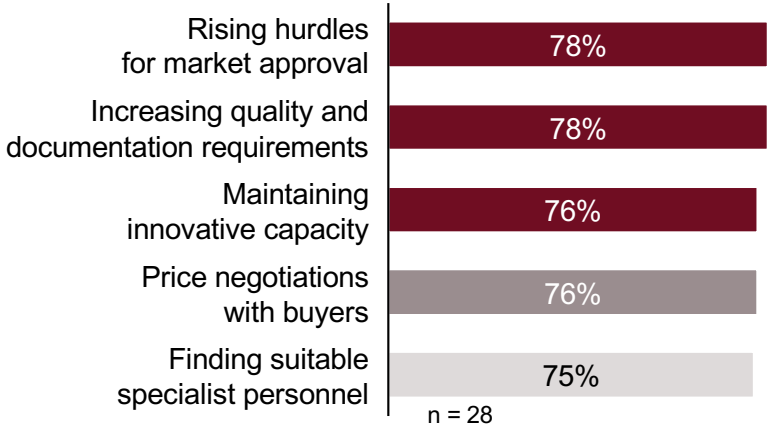


Innovation and market approvals | Market conditions and competition | Resources and know-how

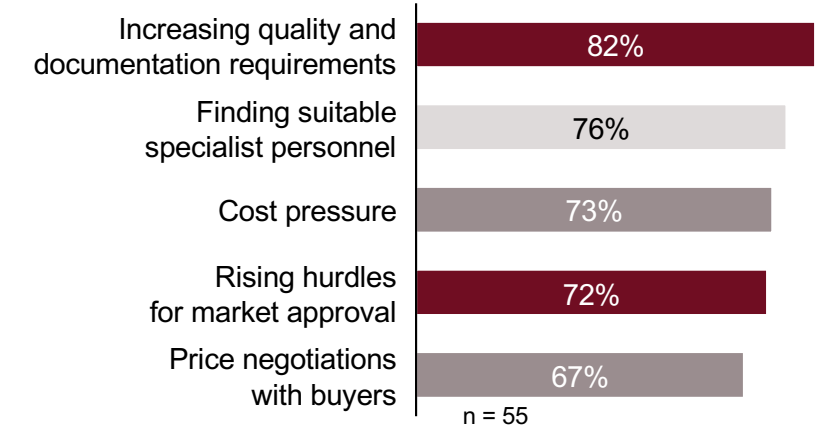
Note: ▲ ▼ Change in ranking compared to the SMTI study 2020
Source: SMTI survey results 2022

Challenges: top 5 challenges by company size

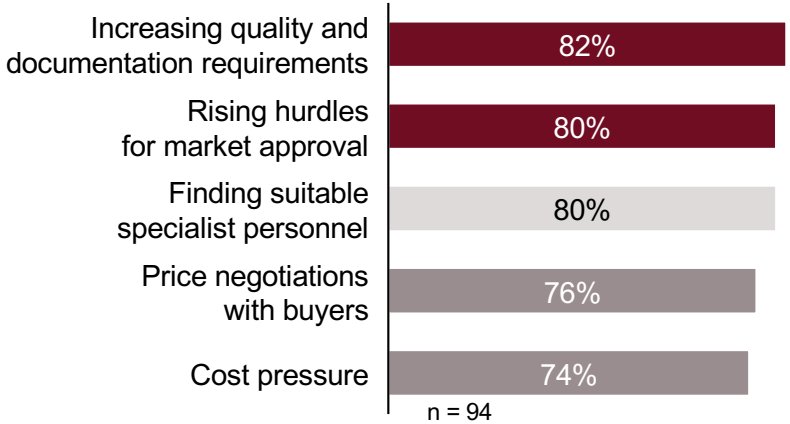
Top 5 challenges for large companies
(% of all responses; large companies)



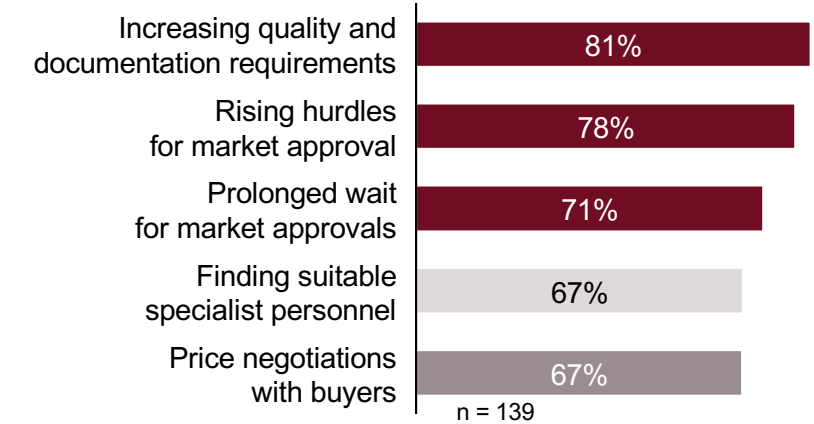
Top 5 challenges for medium-sized companies
(% of all responses; medium-sized companies)



Top 5 challenges for small companies
(% of all responses; small companies)



Top 5 challenges for microenterprises
(% of all responses; microenterprises)

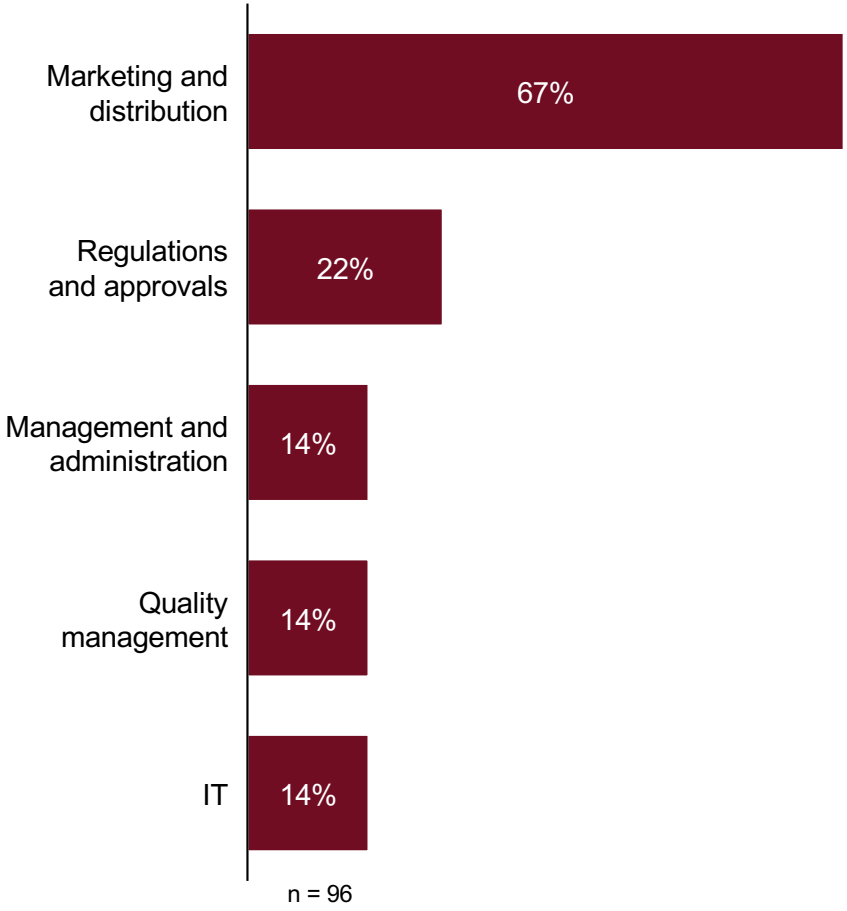


Innovation and market approvals | Market conditions and competition | Resources and know-how

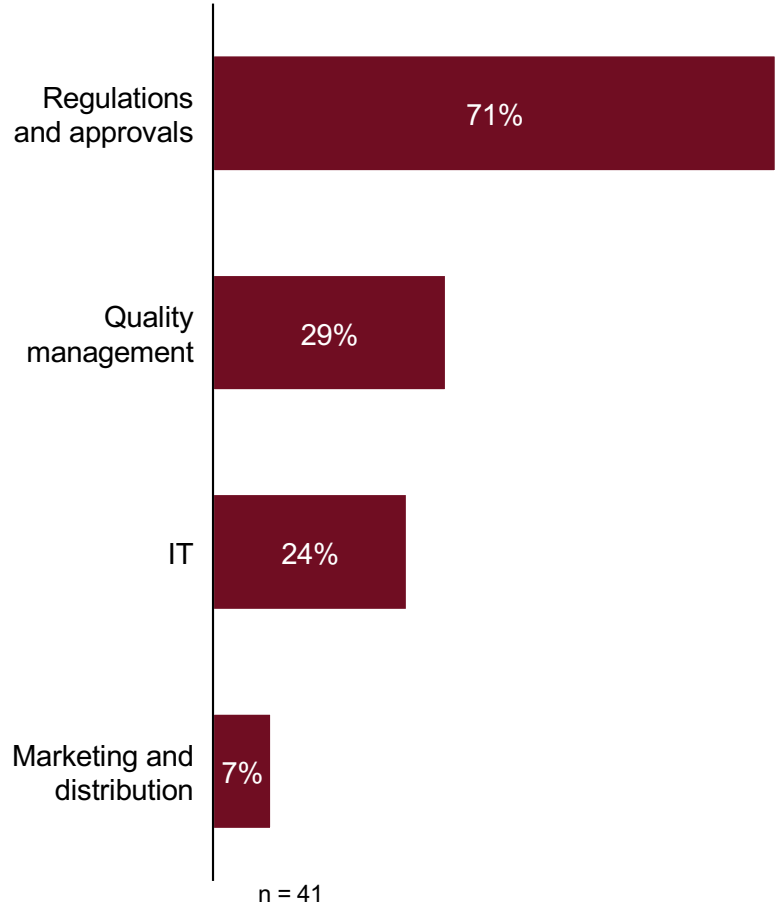
Note: ▲ ▼ Change in ranking compared to the SMTI study 2020
Source: SMTI survey results 2022

Challenges: recruitment difficulties of distributors and service providers

Recruitment difficulties of distributors
(% of all responses; distributors)



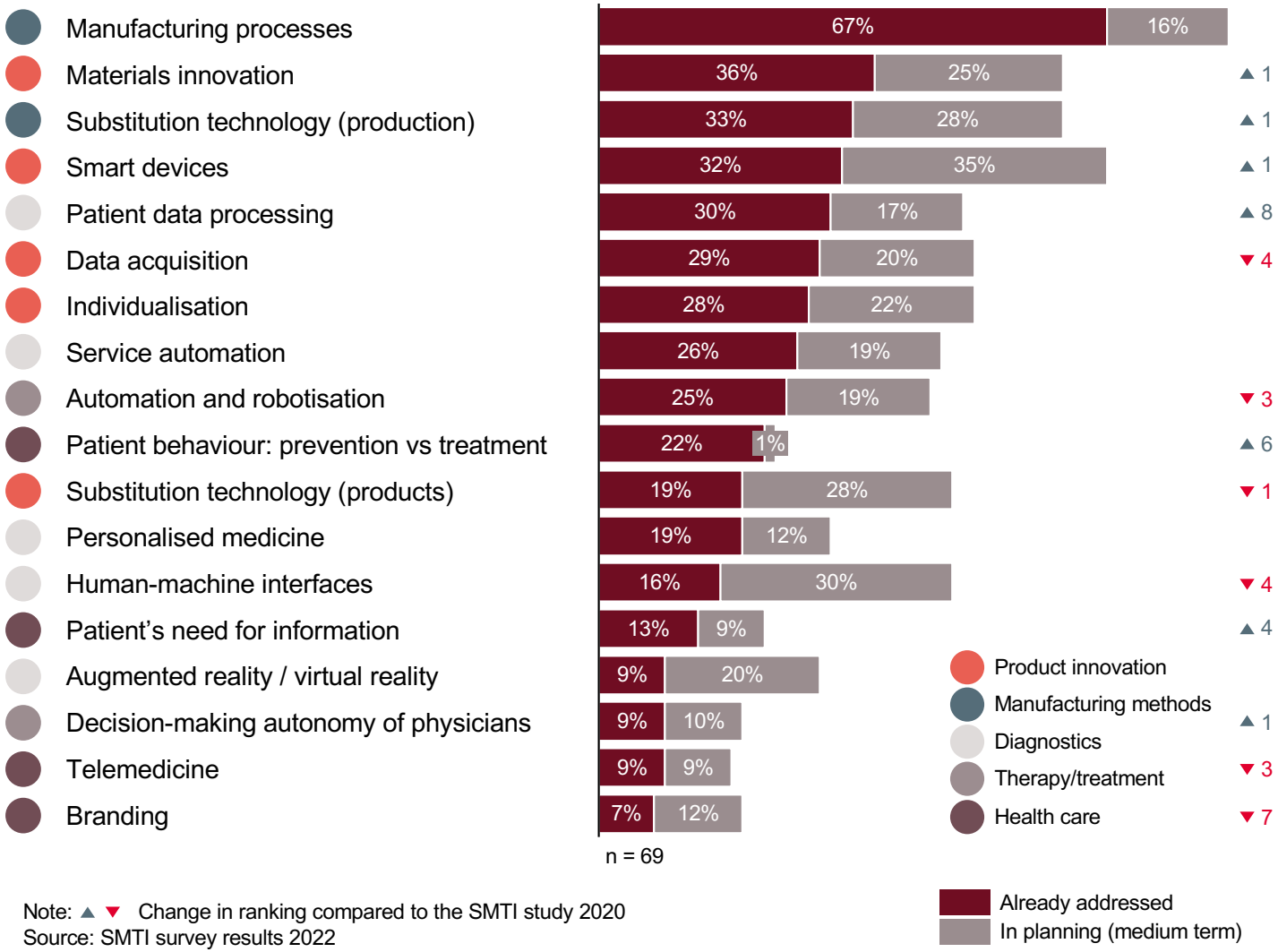
Recruitment difficulties of service providers
(% of all responses; service providers)



Source: SMTI survey results 2022

Top trends: manufacturing processes clear top trend for suppliers, followed by material innovation and substitution technology (production)

Top trends from suppliers' perspective
(% of all responses)



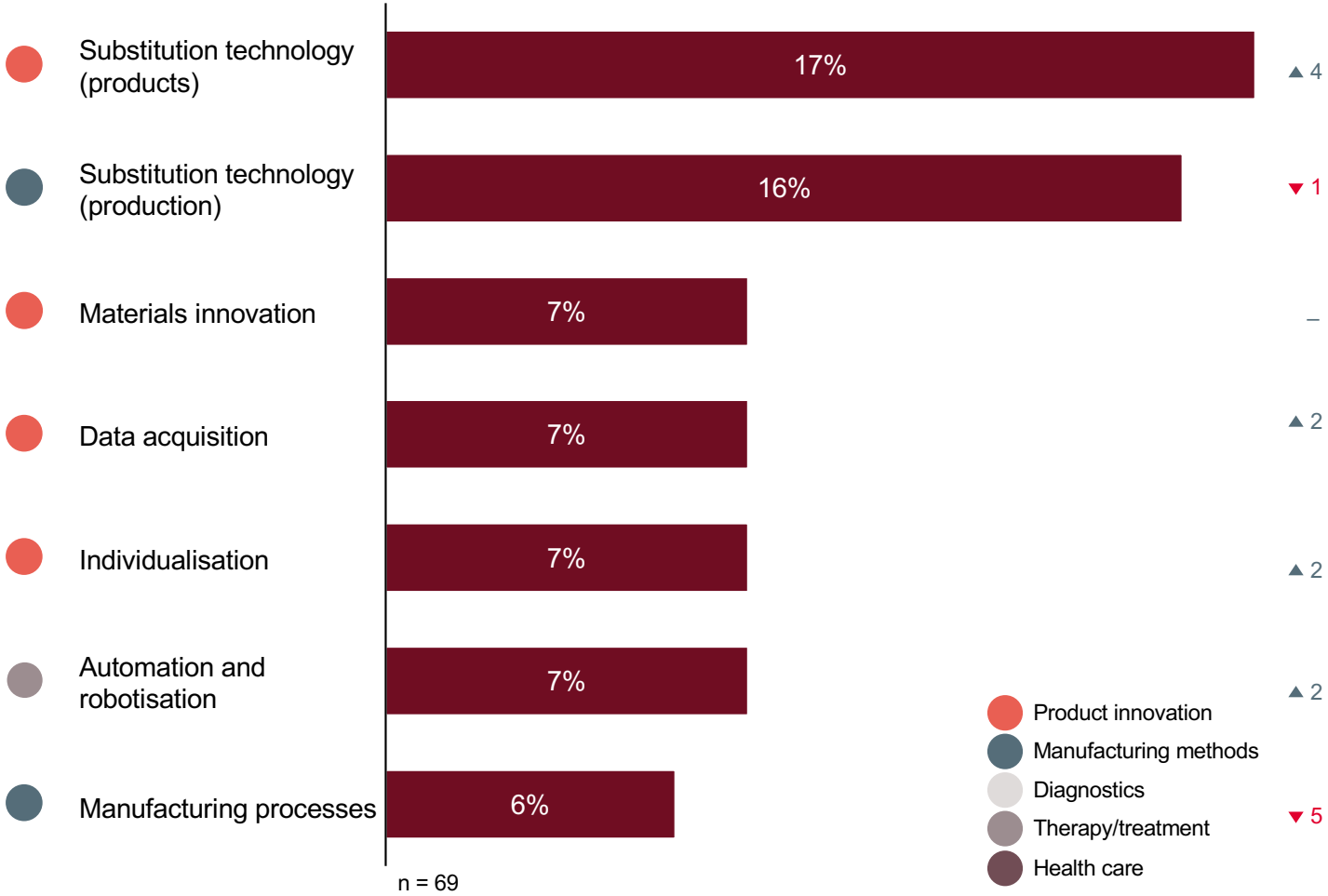
Comments

- Over 80% of suppliers identify manufacturing processes as the most important trend in the short and medium term
- Suppliers are focusing even more on top trends in manufacturing methods than manufacturers themselves: ex. the optimisation of existing processes or new technologies in manufacturing
- Survey findings indicate that the smart devices top trend will also gain in importance for the supplier industry in the short and medium term
- The trend patient data processing has significantly gained in relevance and is now in 5th place
- Data acquisition (+12%) and smart devices (+7%) trends gained in momentum due to Covid-19

Note: ▲ ▼ Change in ranking compared to the SMTI study 2020
Source: SMTI survey results 2022

Top trends: substitution technologies in products and manufacturing present the biggest challenges for suppliers

Top 7 challenges from suppliers' perspective
(% of all responses)



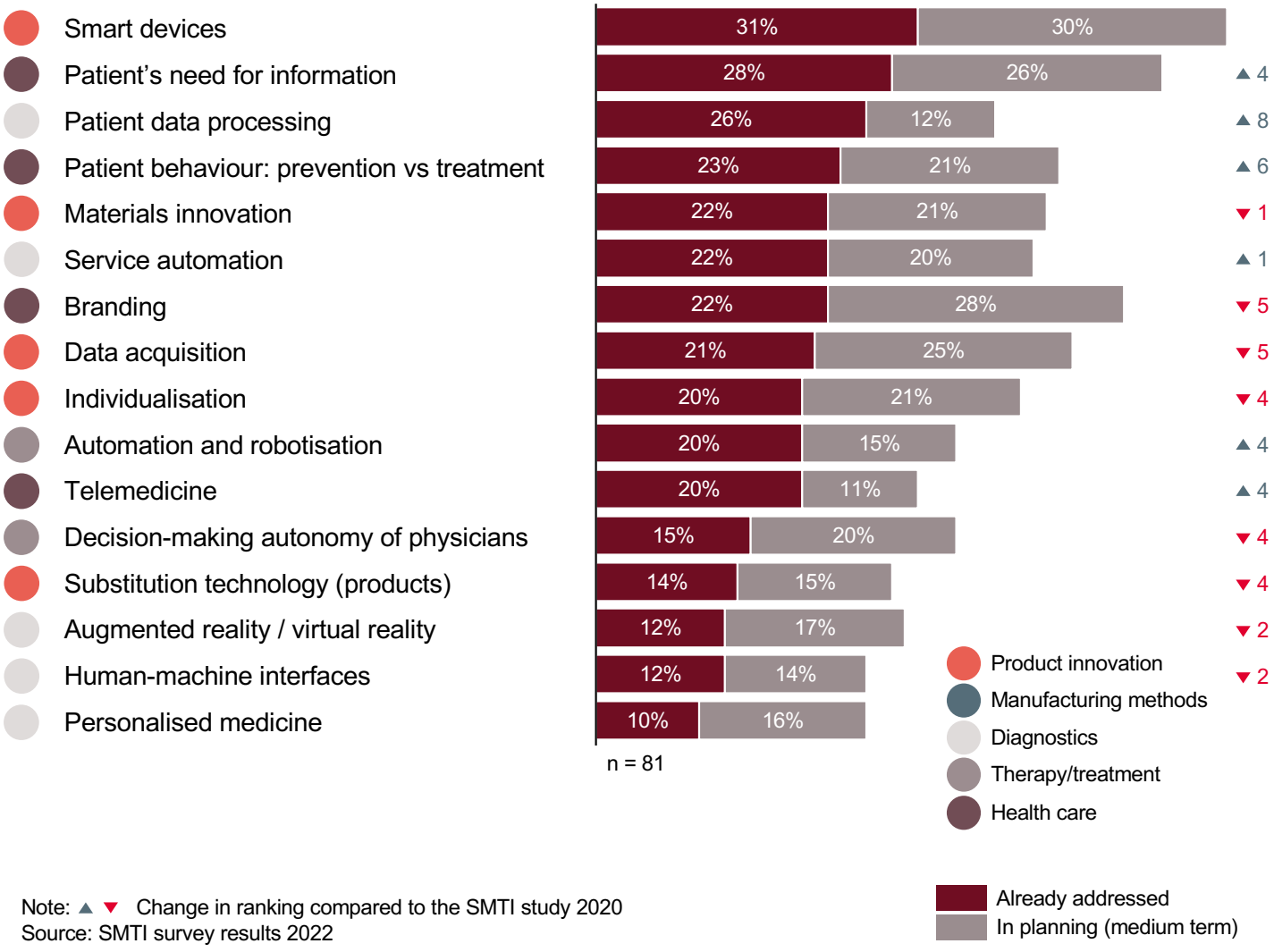
Comments

- The two trends of substitution technology (products) and substitution technology (production) are clearly seen as the two biggest challenges
- Substitution technology (products) has increased significantly compared to SMTI 2020; manufacturing processes have seen a reduction in threat potential

Note: ▲ ▼ Change in ranking compared to the SMTI study 2020
Source: SMTI survey results 2022

Top trends: smart devices and patient's need for information are the most important trends for trade and distribution companies

Top trends from distributors' perspective
(% of all responses)



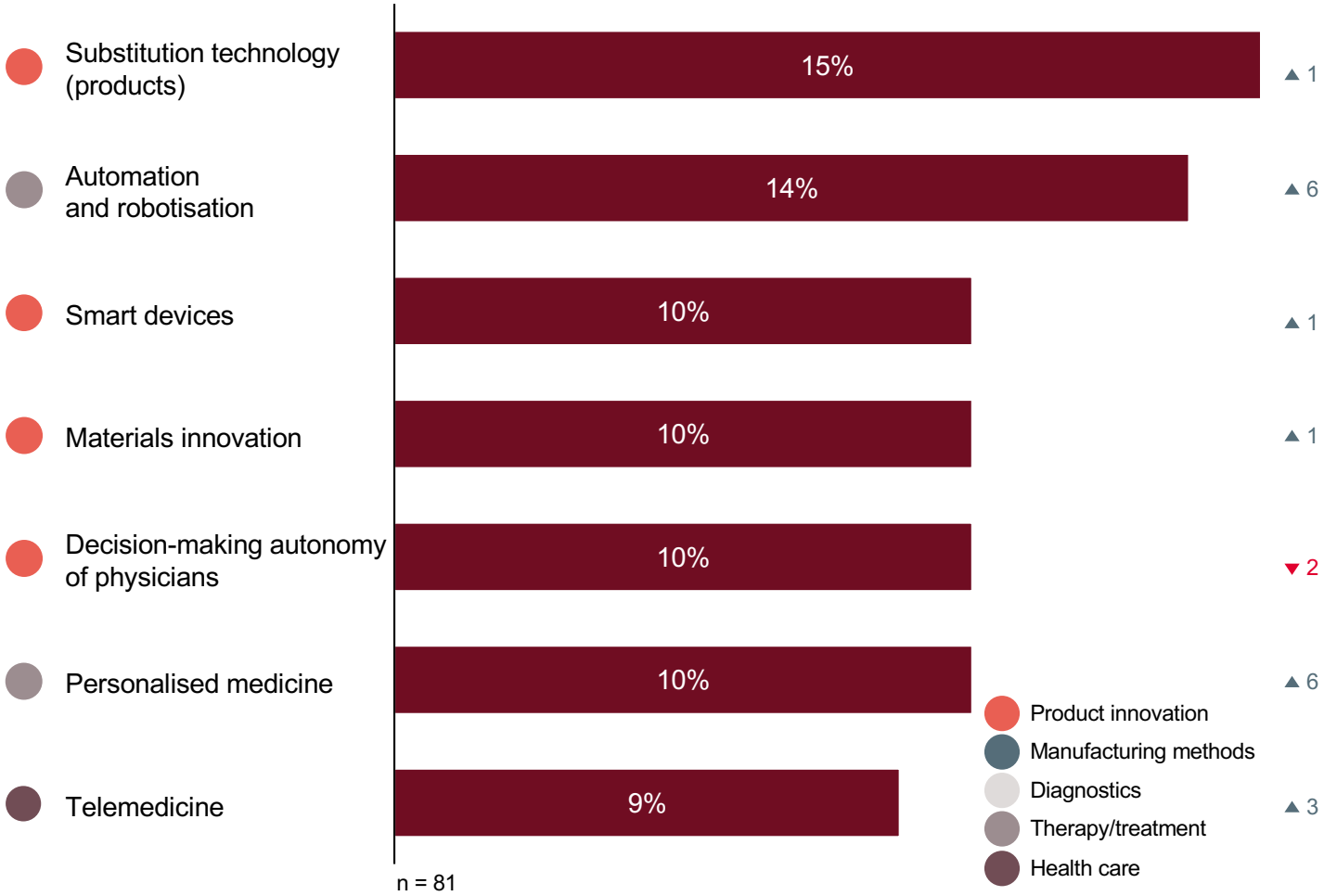
Comments

- The distributors are closest to patients and medical care providers. Their focus is therefore more on trends closely associated with the patient
  - Smart devices – mobile electronic terminals used by patients
  - Areas such as the patient's need for information, patient data processing and patient behaviour: prevention vs treatment have significantly increased in relevance compared to SMTI 2020
- According to the survey, telemedicine has also gained in importance, mainly as a result of Covid-19

Note: ▲ ▼ Change in ranking compared to the SMTI study 2020
Source: SMTI survey results 2022

Top trends: substitution technology (products) and more recently also automation and robotisation are most challenging for distributors

Top 7 challenges from distributors' perspective
(% of all responses)



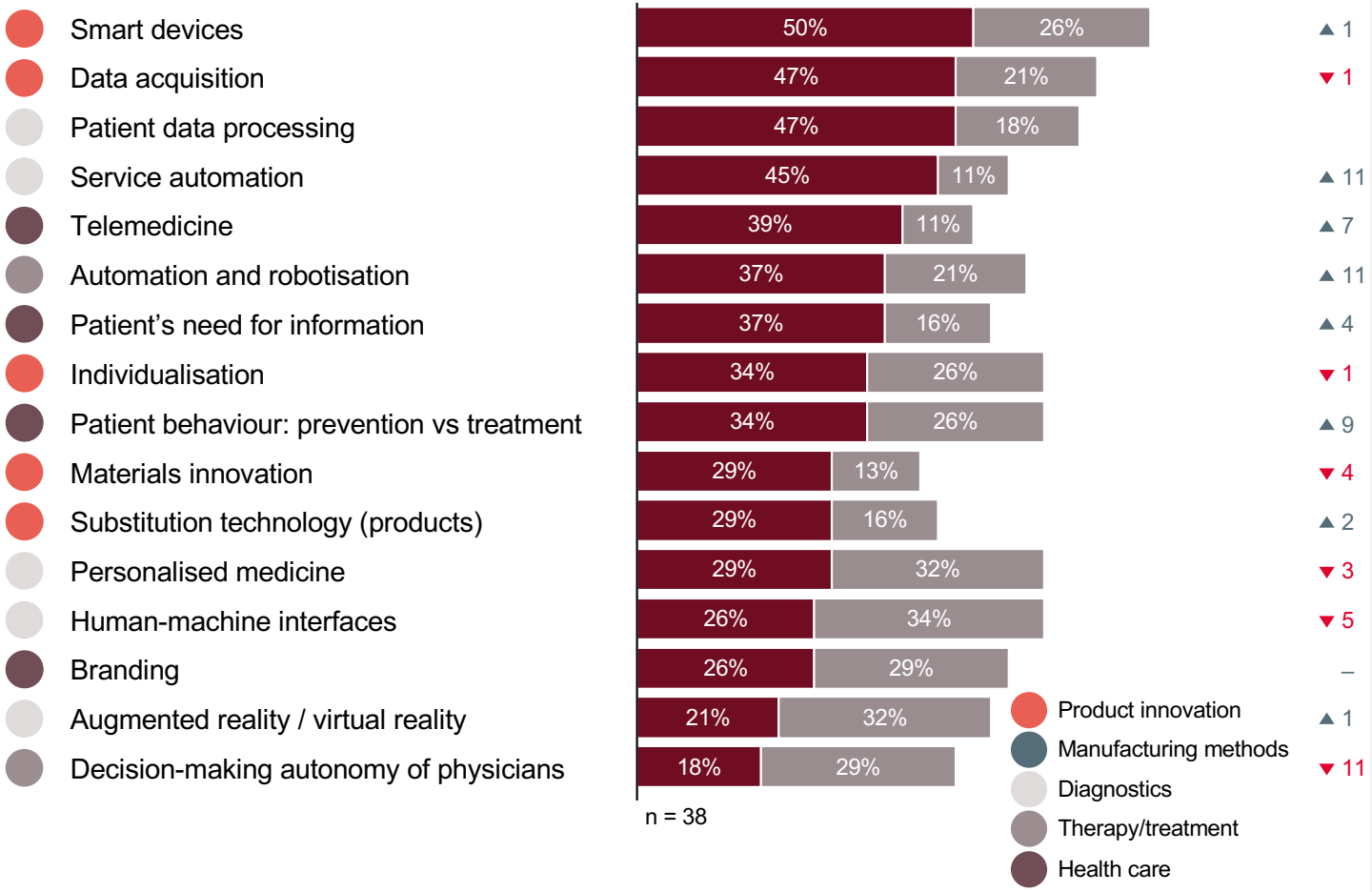
Comments

- Substitution technology (products) is the biggest challenge for trade and distribution companies
- Robotic technologies to support surgical, hospital and nursing staff are seen as having great potential to transform the health care system. This challenge ranks significantly higher in 2022 than it did two years ago
- New challenges such as personalised medicine and telemedicine have made it onto the top 7 list. Telemedicine gained significant attention as a result of the Covid-19 pandemic

Note: ▲ ▼ Change in ranking compared to the SMTI study 2020
Source: SMTI survey results 2022

Top trends: smart devices, data acquisition and patient data processing continue to lead the trends for service providers

Top trends from service providers' perspective
(% of all responses)



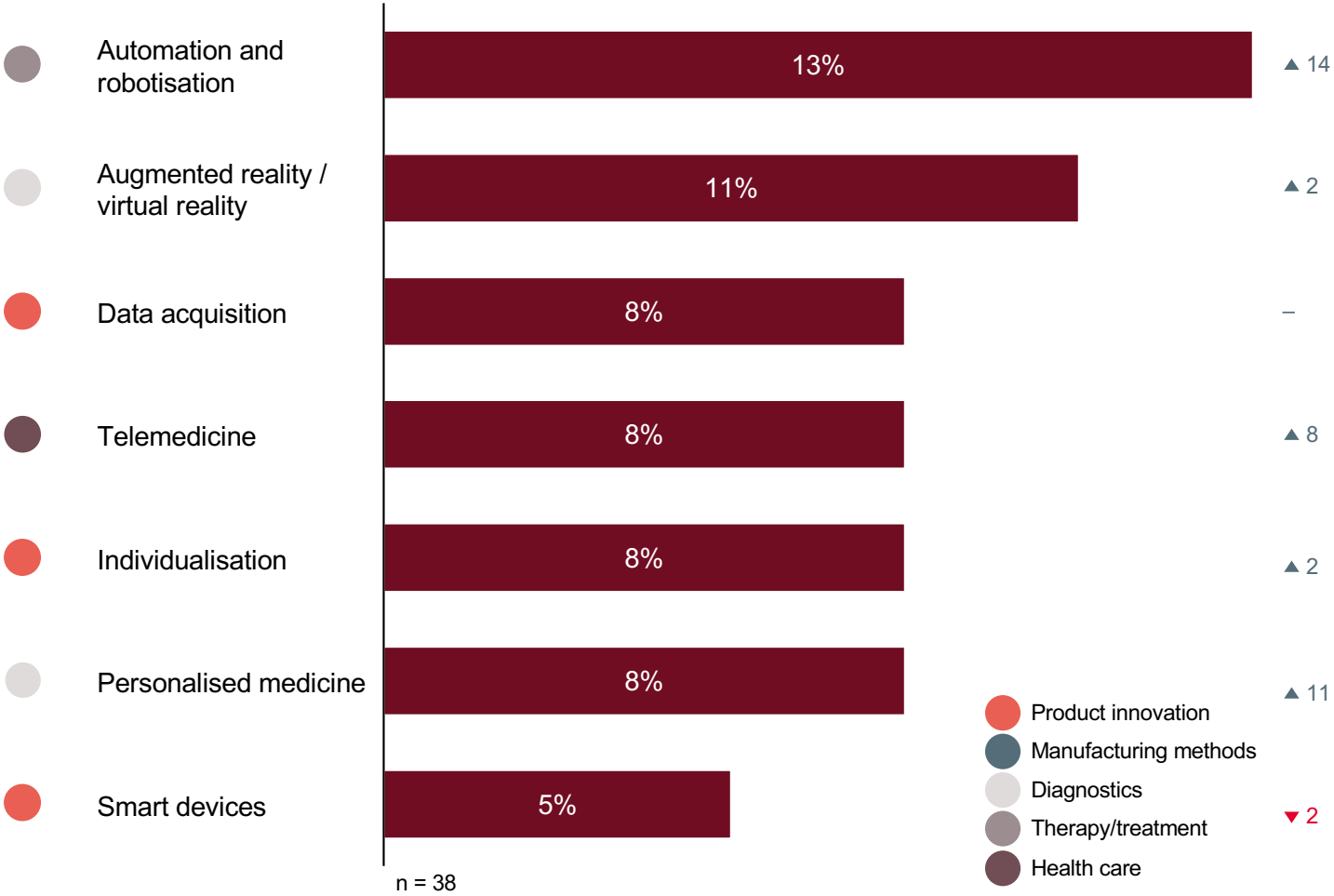
Comments

- The three top trends remain the same as in the SMTI survey 2020: smart devices, data acquisition, and patient data processing
- The top trends of service automation, telemedicine, and automation and robotisation have become highly relevant for service providers
- According to the survey, Covid-19 has accelerated the advancement of telemedicine (+29%), data acquisition (+26%), and the patient's need for information (+24%)

Note: ▲ ▼ Change in ranking compared to the SMTI study 2020
Source: SMTI survey results 2022

Top trends: automation and robotisation is rated by service providers as the newest and also the most important challenge

Top 7 challenges from service providers' perspective
(% of all responses)



Comments

- Three of the top seven challenges for service providers are new to the list:
  - Automation and robotisation
  - Telemedicine
  - Personalised medicine
- Similar to two years ago, the SMTI 2022 reveals that augmented reality / virtual reality is only seen as one of the top seven challenges by service providers

Note: ▲ ▼ Change in ranking compared to the SMTI study 2020
Source: SMTI survey results 2022

520 medtech companies took part in the SMTI 2022 survey

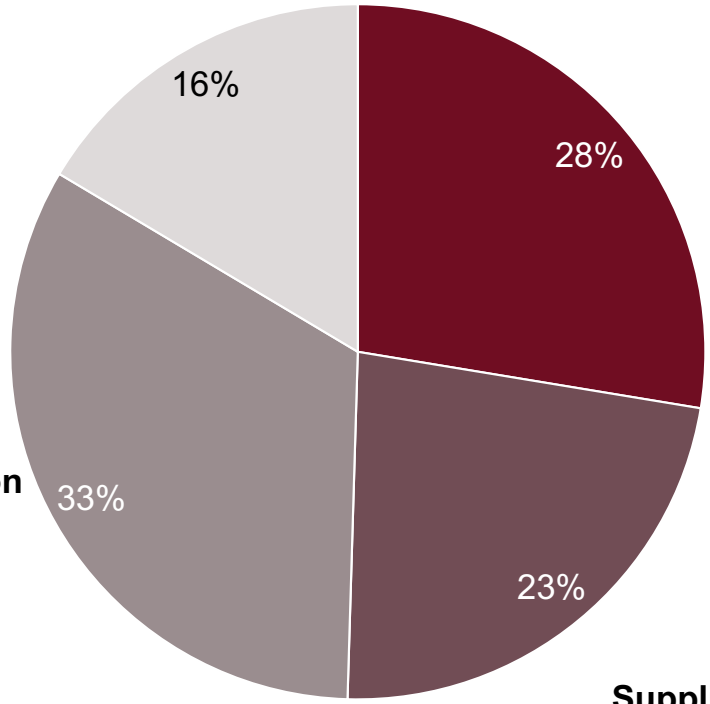
Participating companies by category (in %)

Companies that offer specialised services for medtech companies

Service providers

Manufacturers

Companies that market medtech products under their own brand name



n = 520

Companies that trade or distribute medtech products

Trade and distribution

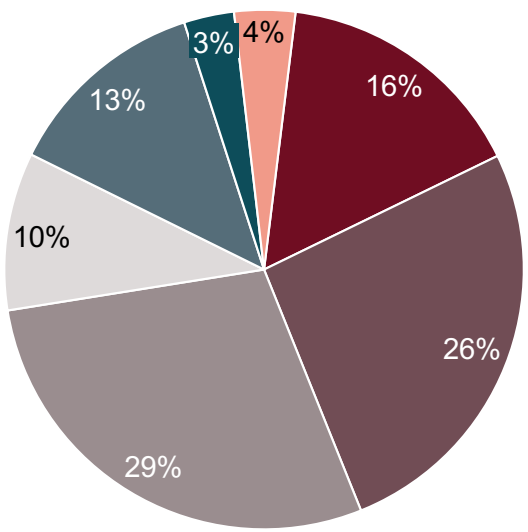
Suppliers

Companies that supply components or assemblies to the medtech industry. Suppliers are often also active in other industries

Source: SMTI survey results 2022

Companies with a wide range of profiles took part in the survey

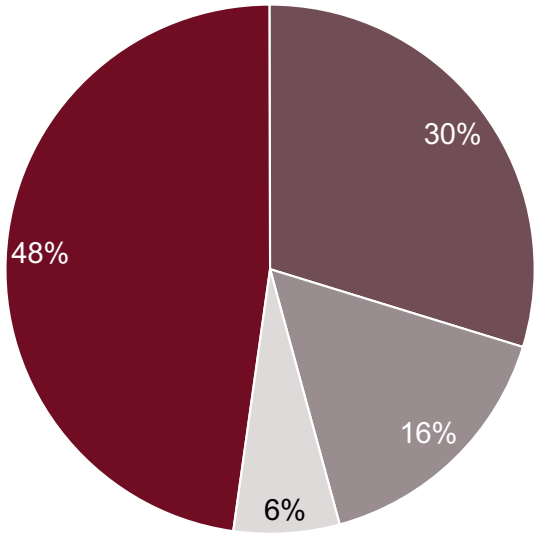
Company size according to medtech revenues[1]



n = 458

- 0 CHF
- < CHF 1 m
- CHF 1–5 m
- CHF 6–10 m
- CHF 11–50 m
- CHF 51–250 m
- > CHF 250 m

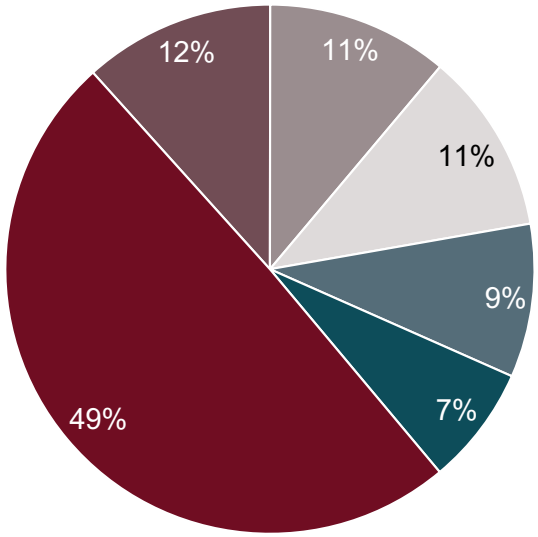
Company size according to number of employees



n = 356

- micro (<10 EMPL)
- small (10–49 EMPL)
- middle (50–249 EMPL)
- large (>250 EMPL)

Company age according to date of establishment



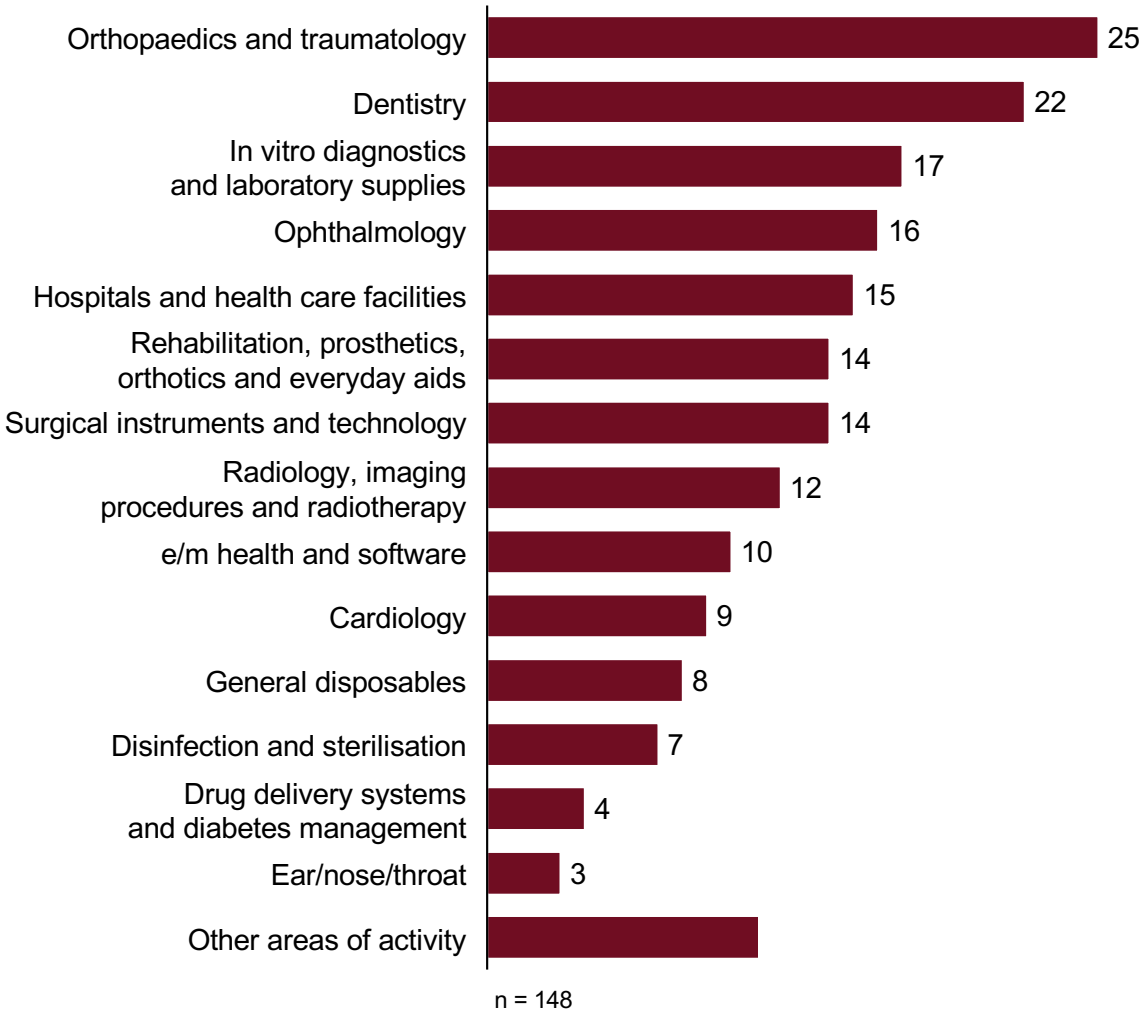
n = 520

- 0–5 years
- 6–10 years
- 11–15 years
- 16–20 years
- 21–25 years
- older than 25 years

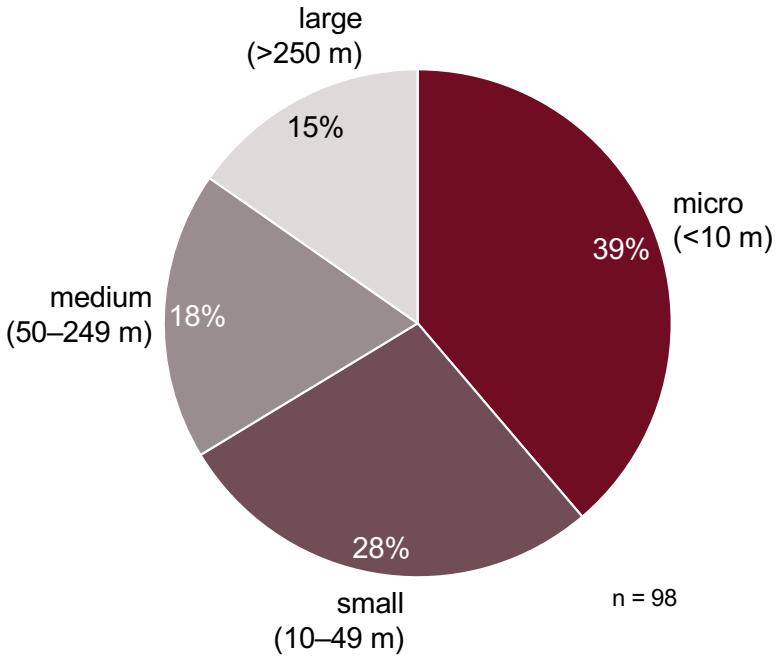
[1] Sales of products manufactured in Switzerland and services in 2021
Source: SMTI survey results 2022

The participating medtech manufacturers span diverse fields of application in health care

Swiss medtech manufacturers by medical subspeciality
(# of mentions)



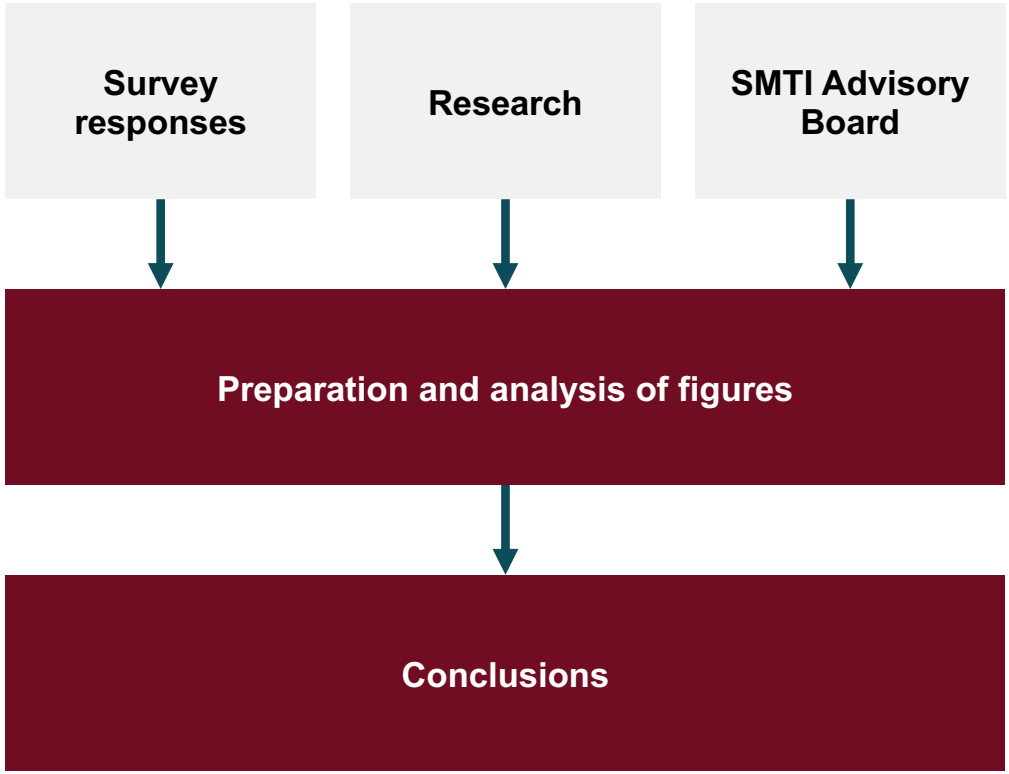
Swiss medtech manufacturers by size



Note: multiple answers possible
Source: SMTI survey results 2022

Three main sources were used for the present study

Basic methods for the SMTI 2022 Sector Study



Methods

- The SMTI study is based on the following three main resources:
  - The evaluation of an electronic survey, which was fully or partially completed by 520 medtech companies with operations in Switzerland. The survey was conducted from March to May 2022
  - Research based on the Swiss Medtech database, on previous SMTI studies, public databases, and other sources
  - Comments and assistance from the SMTI Study Advisory Board
- The information from the three sources was analysed and the key figures were derived for the study
- The conclusions were discussed and validated together with the advisory board and other external experts

Customs tariff numbers (I/III)

3005	Wadding, gauze, bandages and similar articles (for example, dressings, adhesive plasters, poultices), impregnated or coated with pharmaceutical substances or put up in forms or packings for retail sale for medical, surgical, dental or veterinary purposes
3006.1	Sterile surgical catgut, similar sterile suture materials (including sterile absorbable surgical or dental yarns) and sterile tissue adhesives for surgical wound closure; sterile laminaria and sterile laminaria tents; sterile absorbable surgical or dental haemostatics; sterile surgical or dental adhesion barriers, whether or not absorbable
3006.2	Reagents for determining blood groups or blood factors
3006.3	Opacifying preparations for X-ray examinations; diagnostic reagents designed to be administered to the patient
3006.4	Dental cements and other dental fillings; bone reconstruction cements
3006.5	First aid boxes and kits
3006.7	Gel preparations designed to be used in human or veterinary medicine as a lubricant for parts of the body for surgical operations or physical examinations or as a coupling agent between the body and medical instruments
3306.2	Yarn used to clean between the teeth (dental floss), in retail packaging
3306.901	Denture fixative powders or pastes
3307.901	Solutions for contact lenses or for artificial eyes
3808.94	Disinfectants and similar products, in forms or packing for retail sale or as preparations or goods
3822	Diagnostic or laboratory reagents on a backing, prepared diagnostic or laboratory reagents whether or not on a backing, and certified reference materials (excl. compound diagnostic reagents designed to be administered to the patient, blood-grouping reagents, animal blood prepared for therapeutic, prophylactic or diagnostic uses and vaccines, toxins, cultures of microorganisms and similar products)

Source: Federal Office for Customs and Border Security (BAZG)

Customs tariff numbers (II/III)

4014	Hygienic or pharmaceutical articles, incl. teats, of vulcanised rubber (excl. hard rubber), with or without fittings of hard rubber, n.e.s. (excl. articles of apparel and clothing accessories, incl. gloves, for all purposes)
4015.11	Gloves made of vulcanised soft rubber, for surgery
6212.9091	Surgical belts (excl. those made of plant fibres)
7015.1	Glasses for corrective spectacles, curved, bent, hollowed or the like, but not optically worked (excl. flat glass for the same uses)
8419.2	Medical, surgical or laboratory sterilisers
9001.3	Contact lenses
9001.4	Spectacle lenses of optically worked glass
9001.5	Spectacle lenses of materials other than glass
9003	Frames and mountings for spectacles, goggles or the like, and parts thereof, n.e.s.
9004	Spectacles, goggles and the like, corrective, protective or other (excl. spectacles for testing eyesight, contact lenses, spectacle lenses and frames and mountings for spectacles)
9018	Instruments and appliances used in medical, surgical, dental or veterinary sciences, incl. scintigraphic apparatus, other electro-medical apparatus and sight-testing instruments, n.e.s.
9019	Mechano-therapy appliances; massage apparatus; psychological aptitude-testing apparatus; ozone therapy, oxygen therapy, aerosol therapy, artificial respiration or other therapeutic respiration apparatus
9020	Breathing appliances and gas masks (excl. protective masks having neither mechanical parts nor replaceable filters, and artificial respiration or other therapeutic respiration apparatus)

Source: Federal Office for Customs and Border Security (BAZG)

Customs tariff numbers (III/III)

9021	Orthopaedic appliances (incl. crutches and surgical belts and bandages); splints, troughs and other orthopaedic or fracture appliances; prostheses; appliances for the hearing impaired and other appliances, which are worn or carried or implanted in the body to compensate for a defect or disability
9022	Apparatus based on the use of X-rays or of alpha, beta or gamma radiations, whether or not for medical, surgical, dental or veterinary uses, incl. radiography or radiotherapy apparatus, X-ray tubes and other X-ray generators, high-tension generators, control panels and desks, screens, examination or treatment tables, chairs and the like
9402	Medical, surgical, dental or veterinary furniture, ex. operating tables, examination tables, hospital beds with mechanical fittings and dentists' chairs; barbers' chairs and similar chairs having rotating as well as both reclining and elevating movement; parts thereof

Source: Federal Office for Customs and Border Security (BAZG)

This is the 8th report on the Swiss medtech industry

	2008	2010	2012	2014	2016	2018	2020	2022
Title	The Swiss Medical Technology Industry 2008	The Swiss Medical Technology Industry 2010 Survey "Medtech at the Crossroads"	The Swiss Medical Technology Industry 2012 "In The Wake Of The Storm"	The Swiss Medical Technology Industry 2014 "The Dawn of a New Era"	The Swiss Medical Technology Industry 2016 – Sector Study	The Swiss Medical Technology Industry 2018 – Sector Study	The Swiss Medical Technology Industry 2020 – Sector Study	Swiss Medical Technology Industry – Sector Study 2022
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Publisher and partner profiles

Swiss Medtech

Swiss Medtech is the association of Swiss medical technology. We represent around 700 companies. With an export share of over 70%, 11.5% of Switzerland's positive trade balance, more than 67,500 employees and the most patents per inhabitant across Europe, the Swiss medical technology industry is of great economic importance.

Swiss Medtech represents and promotes the interests of the Swiss medical technology industry. We are dedicated to an optimum environment that promotes innovations and start-ups and reinforces the competitiveness of companies. For this purpose, we actively incorporate the common interests of our members in decision-making processes regarding economic and health policies and promote networking within the industry and with relevant actors. We work closely with our members, informing them of essential developments and supporting them in the event of challenges. As an industry association, we are the first point of contact for all matters in the Swiss medtech industry and we inform the public of their importance and activities.

SWISS MEDTECH

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The SMTI Advisory Board contributed valuable industry information and insights to this study

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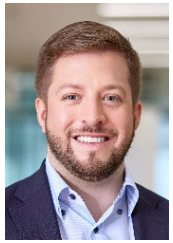

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Swiss Medtech is the publisher of the Swiss Medical Technology Industry Sector Study 2022.
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List of abbreviations

#	number
3D printing	three-dimensional printing
AG	public limited company
AI	artificial intelligence
approx.	approximately
AR/VR	augmented reality / virtual reality
BAZG	Federal Office for Customs and Border Security (FOCBS)
BFS	Federal Statistical Office (FSO)
bn	billion
BVMed	German Medical Technology Association
ca	circa
CAGR	compound annual growth rate
CAS	Certificate of Advanced Studies
CE	European Compliance
CEO	chief executive officer
CH	Switzerland
CHF	Swiss franc
CH Rep.	Swiss Authorised Representative
Covid-19	coronavirus disease 2019
Dipl.	Swiss federal accreditation
Dr	doctor
e	expected
e/m health	electronic and mobile health
EMPL	employees
ePA	electronic patient file
EPDG	Federal Electronic Patient Dossier legislation
EPFL	Swiss Federal Institute of Technology Lausanne
etc.	et cetera
ETHZ	Swiss Federal Institute of Technology Zurich
EU	European Union
ex.	for example
excl.	excluding
FH	Federation of the Swiss watch industry
FHNW	University of Applied Sciences Northwestern Switzerland
ff.	continued
GER	Germany
GmbH	limited liability company
GNP	gross national product
HIPAA	Health Insurance Portability and Accountability Act
HITECH	Health Information Technology for Economic and Clinical Health Act
incl.	including
IT	information technology
IVDR	In Vitro Diagnostic Medical Devices Regulation
IvDV	Ordinance on In Vitro Diagnostic Medical Devices
KOF	Swiss Economic Institute, ETH Zurich
m	million
M&A	mergers and acquisitions
MDR	Medical Device Regulation
MEM	machinery, electrical and metal
MepV	Medical Devices Ordinance
MRA	mutual recognition agreement
n	sample size
N/A	not available
No.	number
OP	operation
p.	page
p.a.	per annum
Phys.	physicist
QM	quality management
R&D	research and development
RoW	rest of the world
SMTI	Swiss medical technology industry
Sr	senior
techn.	technical
Tel.	telephone number
UK	United Kingdom
USA	United States of America
USD	United States dollar
vs	versus

Disclaimer

- This publication may be used or distributed in part or in its entirety for internal use, provided that the publisher and authorship is acknowledged correctly
- This report was compiled in summer 2022 based on a survey of 520 participating medtech companies in Switzerland. Additional data was obtained from the Swiss Medtech database, contributions from the Advisory Board, and internal research. Statistical data reflects the position of participating companies at time of the survey (March to May 2022) and therefore does not necessarily reflect the actual market situation at the time of reading
- The study's cover picture was used with kind permission of the Scewo company, winner of the Swiss Medtech Award 2021. It shows their BRO power wheelchair in action. The rest of the images in this report are licensed and sourced from the Adobe Stock image collection
- All persons associated with this study confirm that the collection, analysis, and interpretation of data was carried out thoroughly and anonymously. This publication contains information in summary form and is therefore to be considered solely as a general overview. The publisher and the authors cannot accept responsibility for any business decisions taken based on this information that later turn out to be disadvantageous
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