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# Swiss Medical Technology Industry Sector Study 2024

SWISS MEDTECH

 **helbling**

# Introduction

The Swiss medical technology industry is robust and important for the Swiss economy, and its impressive success story continues. Over 20,000 new jobs have been created in the last ten years, including 4,200 in the last two years alone. With an average sales increase of 6% over this period, the medtech sector is growing twice as fast as Switzerland's gross domestic product.

Industry sales rose from CHF 20.8 bn in 2021 to CHF 23.4 bn in 2023 – growing faster than the number of employees and indicating increased productivity. Gains in efficiency are key to ensure the competitiveness of medtech production in Switzerland. Enhanced productivity in recent years is due (in part) to increased investment, automation, and high innovative strength. Companies in the medtech sector invest around 12% of their sales in research and development (R&D).

The Swiss medical technology sector is diverse: around 1,400 companies are primarily active in the field of medical technology which encompasses almost 30 different medical specialties. The industry is optimistic about the future but also aware of the obstacles. Free access to sales markets and skilled workers is crucial, especially with regard to the most important trading partners, the European Union and the USA.

## Challenges and opportunities

The increased regulatory requirements resulting from the MDR/IVDR are a significant challenge for many companies. Regulation leads to higher costs, which create a major burden for SMEs in particular. Existing products also require recertification, which leads to companies streamlining their portfolios. This in turn has negative consequences for the provision of healthcare – including in Switzerland. The national parliament's call for FDA products to be permitted in Switzerland may alleviate the situation.

Medtech companies see the greatest opportunities in digitalization, the use of artificial intelligence and, fundamentally, in maintaining innovation.

The medtech sector contributes significantly to the quality of life and prosperity of the Swiss population. In return, Switzerland traditionally offers innovative medtech companies attractive framework conditions. Switzerland has an ecosystem of large companies, many SMEs and (technical) universities with a large number of highly innovative spin-offs that is the envy of many countries. Swiss Medtech is committed to ensuring that this remains the case.

This ninth edition of the industry study on the Swiss medical technology industry was produced in close collaboration by Swiss Medtech and the Helbling Group and was supported by an expert advisory board. The study has been compiled every two years since 2008 and is based on the results of a broad-based survey of manufacturers, suppliers, specialized service providers, and trading companies from all parts of the country.

Bern and Zurich, September 2024

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1) Helbling; 2) Swiss Medtech

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## Key figures 2023 (I/II)



### Employees

71,700 total  
 + 3.1% p.a.  
 + 4,200 jobs since 2021



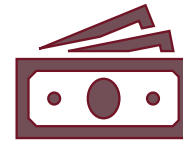
### Industry sales

CHF 23.4 bn total  
 + 6.1% p.a.  
 + CHF 2.6 bn since 2021



### Balance of trade

CHF 5.8 bn trade surplus  
 CHF 12.3 bn exports  
 CHF 6.5 bn imports



### Investments

62% of companies are planning investments  
 of which 70% are only in Switzerland, 25% in  
 Switzerland and abroad, 5% only abroad



### R&D expenditure

CHF 1.8 bn total  
 13% share of manufacturer sales  
 9% share of supplier sales



### Innovation focus of manufacturers

69% on manufacturing processes  
 53% on smart devices  
 35% on augmented reality / virtual reality

## Key figures 2023 (II/II)



### Sustainability

35% of companies already implementing  
 39% of companies in planning  
 26% no action planned yet



### Challenges

85% competition from cheaper non-premium products  
 77% cost pressure  
 71% MDR approval



### Diversity

40% share of women in the companies  
 26% share of women in management



### Opportunities

86% digitalization  
 72% dealing with artificial intelligence  
 71% maintaining/increasing innovative ability



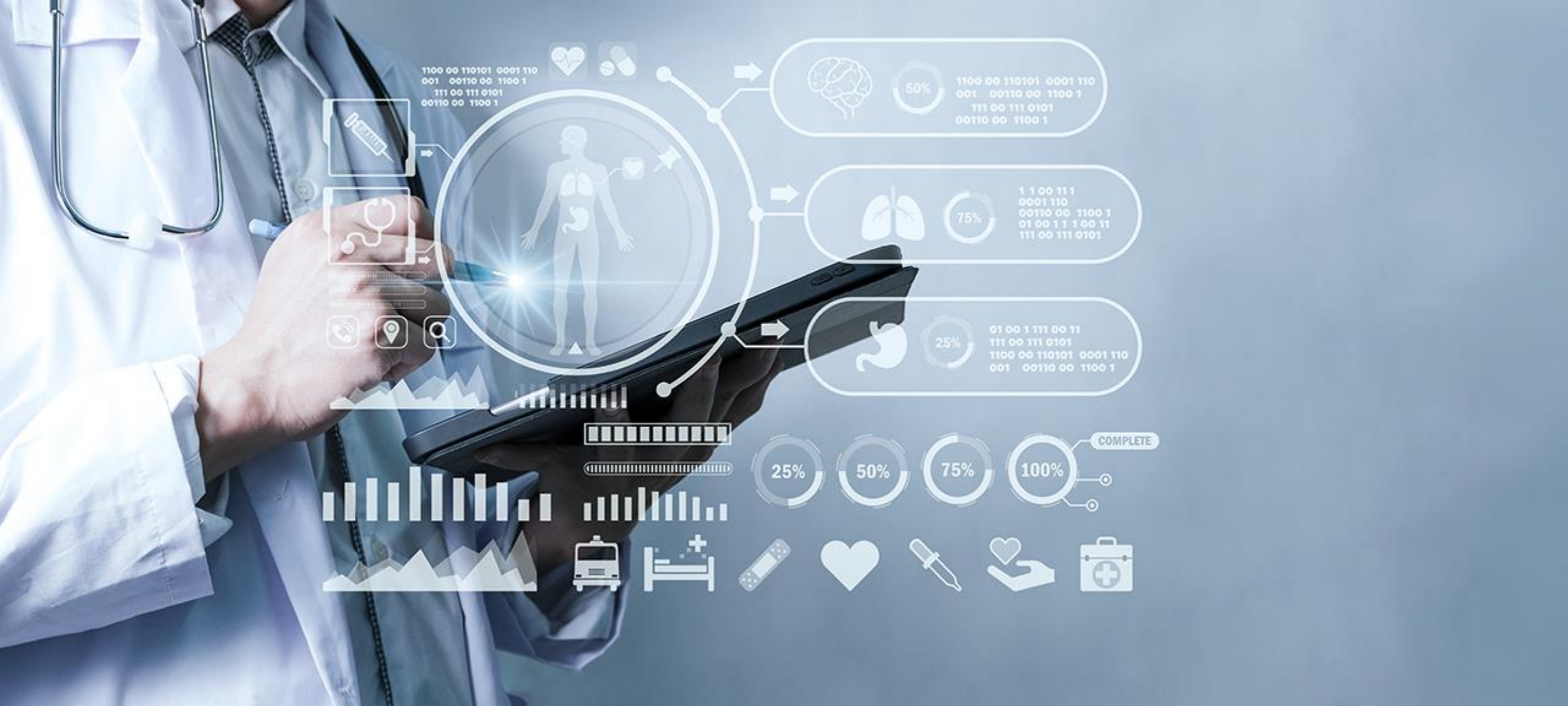
### Consequences of MDR/IVDR

13% increase in product costs  
 10% reduction in product portfolio  
 3% increase in human resources



### Dealing with the FDA

62% find acceptance in Switzerland important  
 47% certify products according to FDA  
 21% prefer first approvals according to FDA



## Overview of the Swiss medical technology industry

- 1 Employee development
- 2 Industry structure
- 3 Sales and growth

# Overview of the Swiss medical technology industry

As part of the SMTI survey, Swiss medical technology players were asked about their positioning in the Swiss market. The focus was on aspects such as their role in value creation, the medical subspecialties covered, development of employment figures and sales as well as prioritized growth options. The participating manufacturers and traders generate global sales of around CHF 160 bn, which corresponds to a global market share of around 25-30%.

## Employee development

Over the past two years, the number of employees has increased by around 3% p.a., reaching approximately 71,700 employees in 2023. The medtech sector created 4,200 new jobs in Switzerland during this period. After a phase of backlog demand with high employment growth due to the Covid pandemic, the trend slowed down in 2023 and 2024. This development has been accompanied by the challenge of finding suitable skilled workers.

## Industry structure

Companies in the medtech sector are very diverse. Around 1,400 Swiss based companies are primarily (>50%) active in medical technology. The ten largest employers in the industry (nine being manufacturers), are global players that occupy a leading position in their respective market segments. With a combined workforce of 17,290, almost a quarter of all employees in the sector work for these top 10 companies in Switzerland.

Although large companies (>250 employees) only represent around 5%, they employ half the workforce in the entire sector. Manufacturers, which account for around a third of companies, employ the largest proportion – at around 60%. Small and micro companies (<50 employees) make up the majority of the corporate landscape at around 85%, but only account for around 20% of the workforce.

## Sales and growth

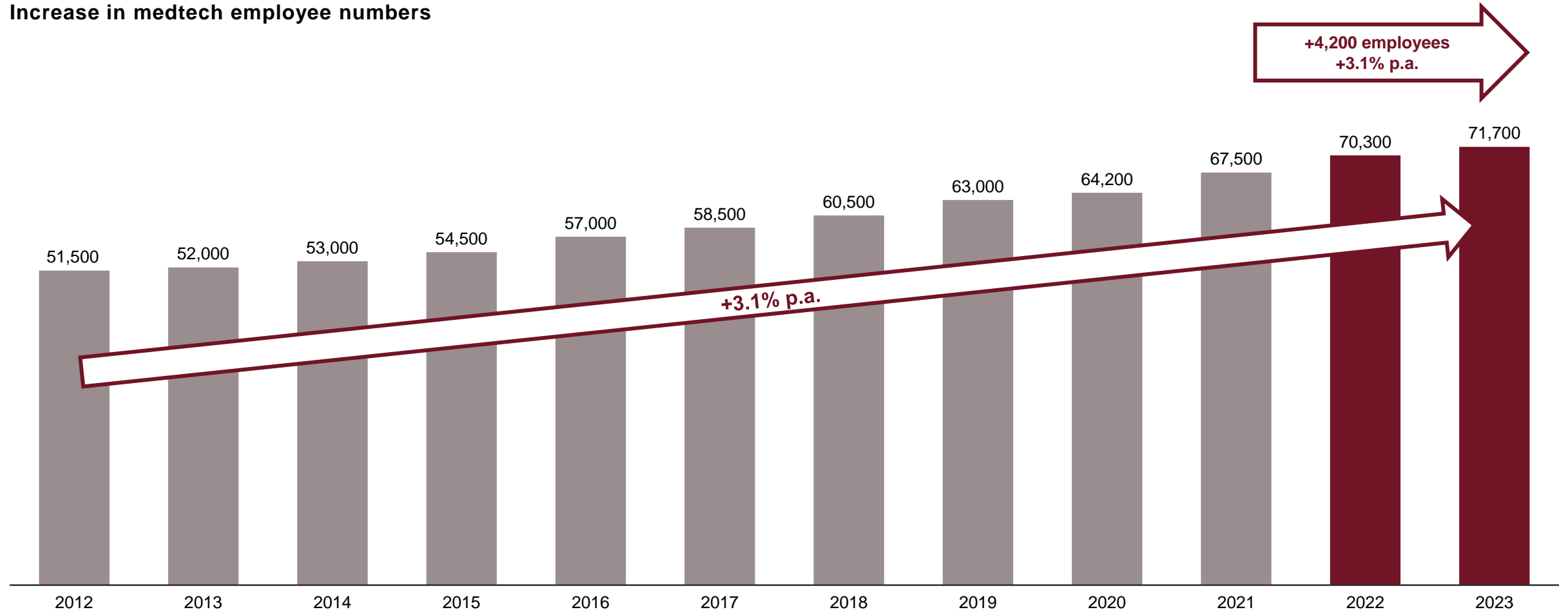
In 2022 and 2023, the industry as a whole recorded average growth of around 6%, generating total sales of CHF 23.4 bn in 2023. Small and micro companies, by nature, report sales numbers above the industry average. Medium-sized companies show strong growth of over 10% per year and expect this to continue in the future. Large companies, on the other hand, lie slightly below the average. Depending on their respective exposure in the medical specialty, their sales showed greater volatility during the Covid and inflation years.

## Methodology

The growth in industry sales and employees is extrapolated on the basis of the information provided by survey participants. Industry sales corresponds to the non-consolidated total sales of Swiss medical technology companies (manufacturers, suppliers, traders and service providers), including interim profits. In order to determine the growth of total industry sales, the sales growth rates indicated for each company are weighted by the number of employees. Industry sales are growing faster than the number of employees. This can be attributed to an increase in productivity and the expansion of the workforce outside Switzerland.

# The medtech sector has created 4,200 new jobs in the last two years

## Increase in medtech employee numbers

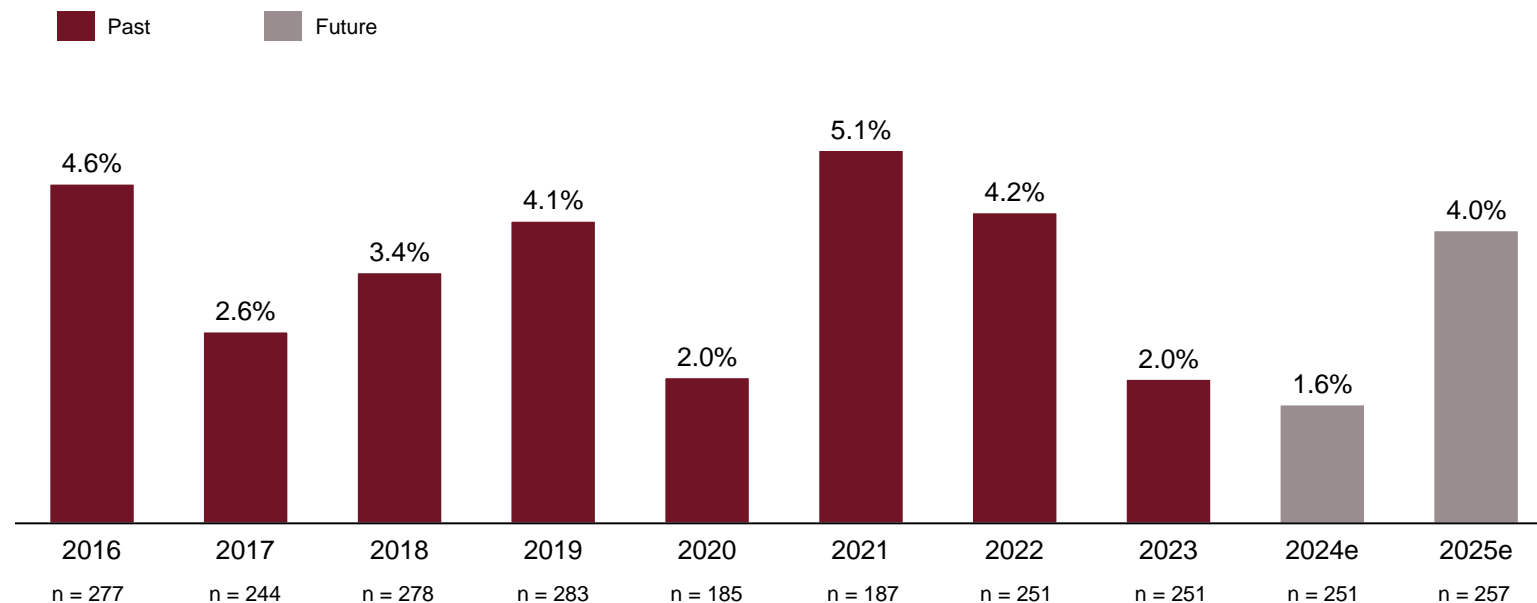




# High employment growth after the Covid pandemic was followed by somewhat lower figures – the industry is already expecting higher growth again in 2025

## Ø growth in employment

(in %, weighted by # of employees in Switzerland; all categories)



### Comments

- The Covid pandemic resulted in a considerable backlog, which triggered an upturn in employee growth. At the same time, additional staff were mobilized to meet the increased requirements for MDR/IVDR
- Employment growth slowed in 2023, influenced by structural adjustments following Covid- and MDR-related expansion. Weaker growth is expected again in 2024
- Growth in 2025 is expected to reach pre-Covid pandemic levels
- Other growth rates for comparison
  - Total number of jobs in Switzerland: 2.4% (2022), 1.7% (2023)
  - Jobs in Swiss pharmaceutical industry: 2.8% (2022), 6.4% (2023)
  - Jobs in Swiss MEM industry: 2.7% (2022); 1.7% (2023)

## Besides domestic companies, those headquartered in the USA are among the largest medtech employers in Switzerland

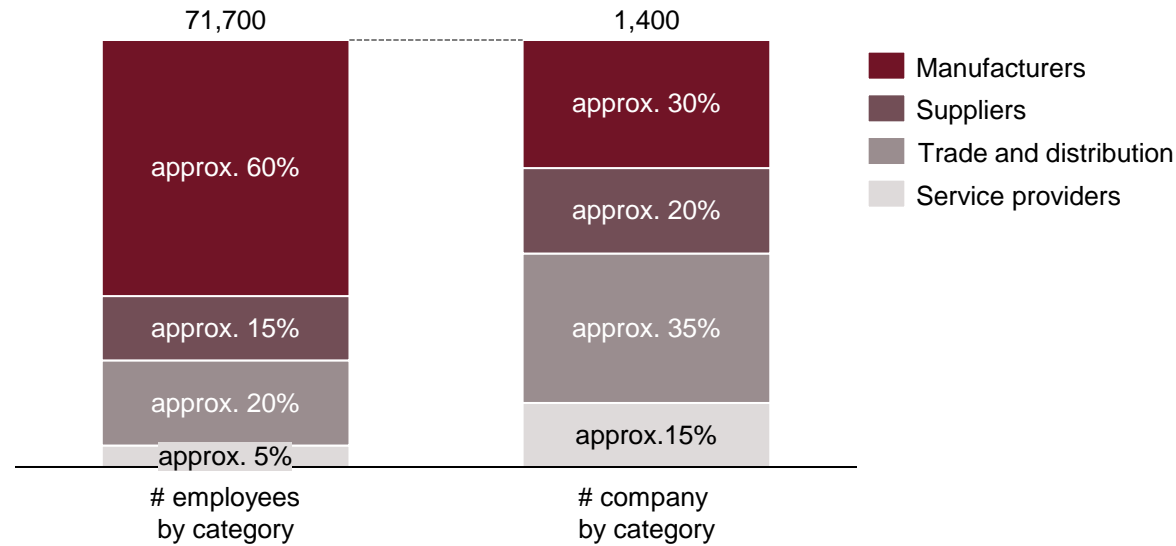
Top 10 employers in Swiss medical technology by number of employees in Switzerland (data 2023)

No.	Company	Core activities in Switzerland	Head office	Employees in Switzerland	Global sales growth (in %)	R&D / sales global (in %)
1	Roche Diagnostics	In vitro diagnostics	CH	2,841	-13.0%	13.1%
2	Jabil	Orthopedics	USA	2,541	n/a	n/a
3	Straumann	Dentistry	CH	1,722	9.8%	n/a
4	J&J Medical	Orthopedics, traumatology, wound treatment	USA	1,650	6.0%	17.0%
5	Ypsomed <sup>2)</sup>	Injection systems (drug delivery) and diabetes treatment	CH	1,627	25.0%	16.0%
6	Hamilton <sup>1)</sup>	Ventilators, in vitro diagnostics, laboratory automation	CH	1,600	n/a	n/a
7	Sonova <sup>2)</sup>	Hearing system technology	CH	1,559	-3.0%	6.5%
8	Biotronik	Cardiology	D	1,350	n/a	n/a
9	Zimmer Biomet	Orthopedics, traumatology	USA	1,250	7.0%	12.0%
10	Medtronic	Cardiology	IRL	1,150	4.0%	12.0%
				∑ 17,290	3.3%	12.9%

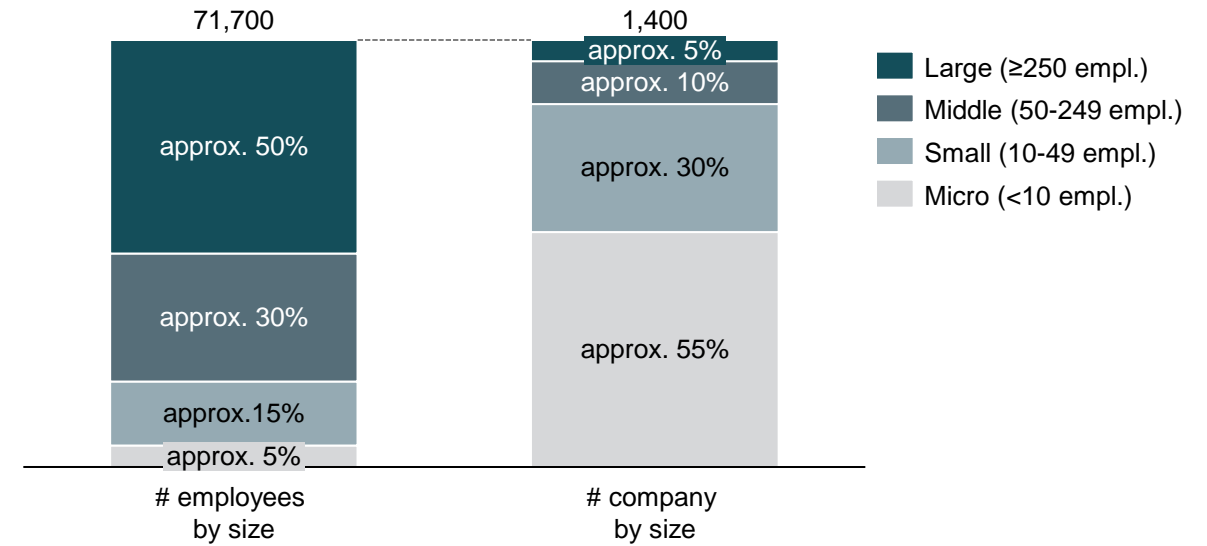
1) Two companies of the same group: Hamilton Medical AG and Hamilton Bonaduz AG; 2) Financial year as at the end of March 2024  
Source: annual reports and information provided by the companies

# 71,700 employees in the Swiss medtech industry work in around 1,400 companies

# of employees and companies by company category



# of employees and companies by size

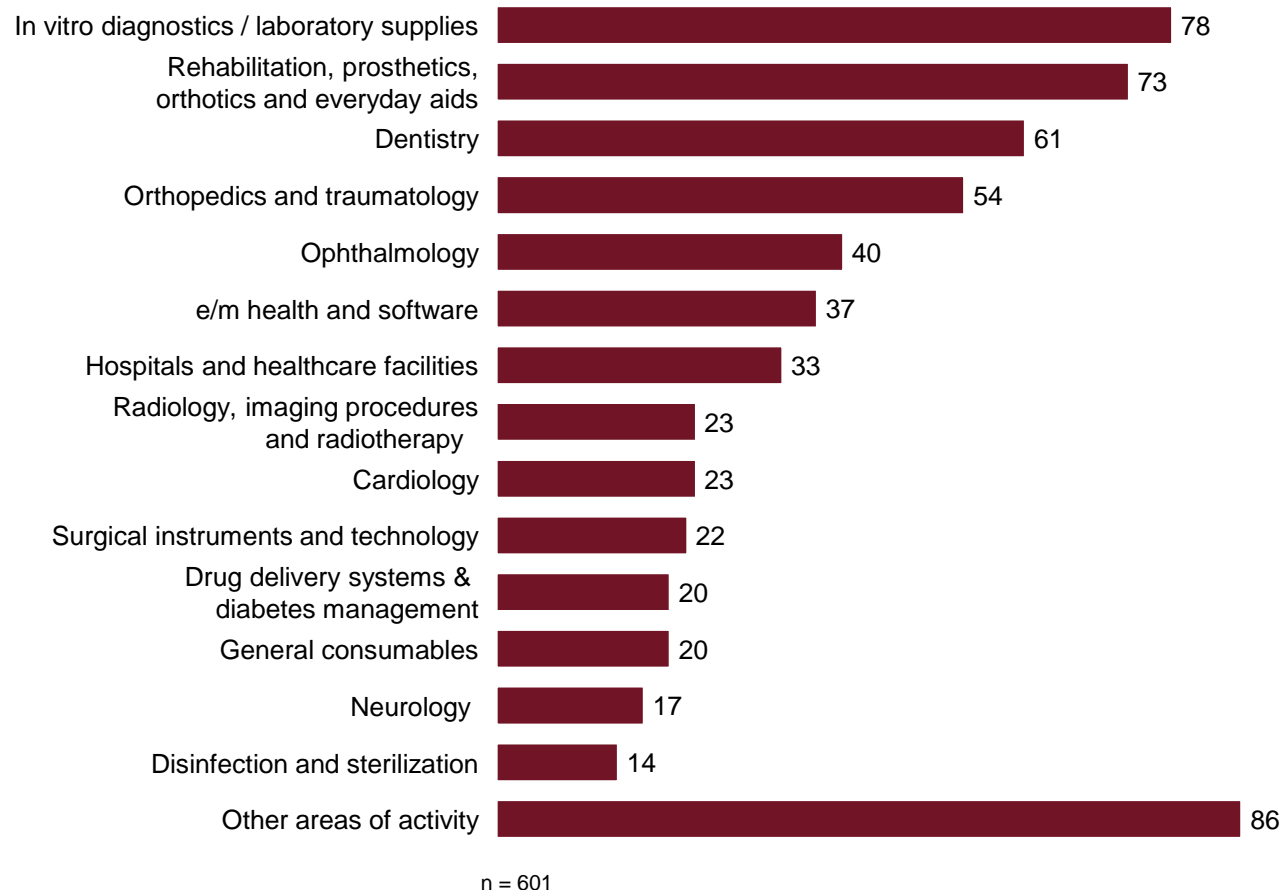


## Comments

- Around 75% of employees work for manufacturers or suppliers, which together make up around half of the companies in the Swiss medical technology industry
- Only around 5% of medtech companies based in Switzerland have more than 250 employees. These companies, however, employed every second person working in medical technology

## Swiss medtech manufacturers are active in a wide range of medical specialties – hubs can be found in diagnostics, and the orthopedics and implants sector

### # of manufacturers by medical subspecialties

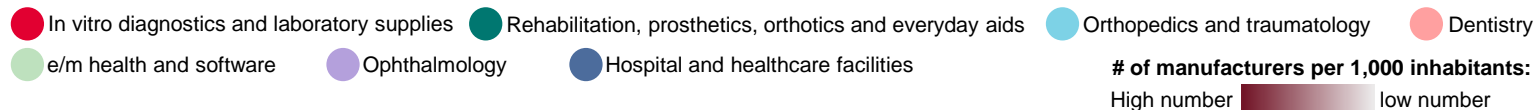
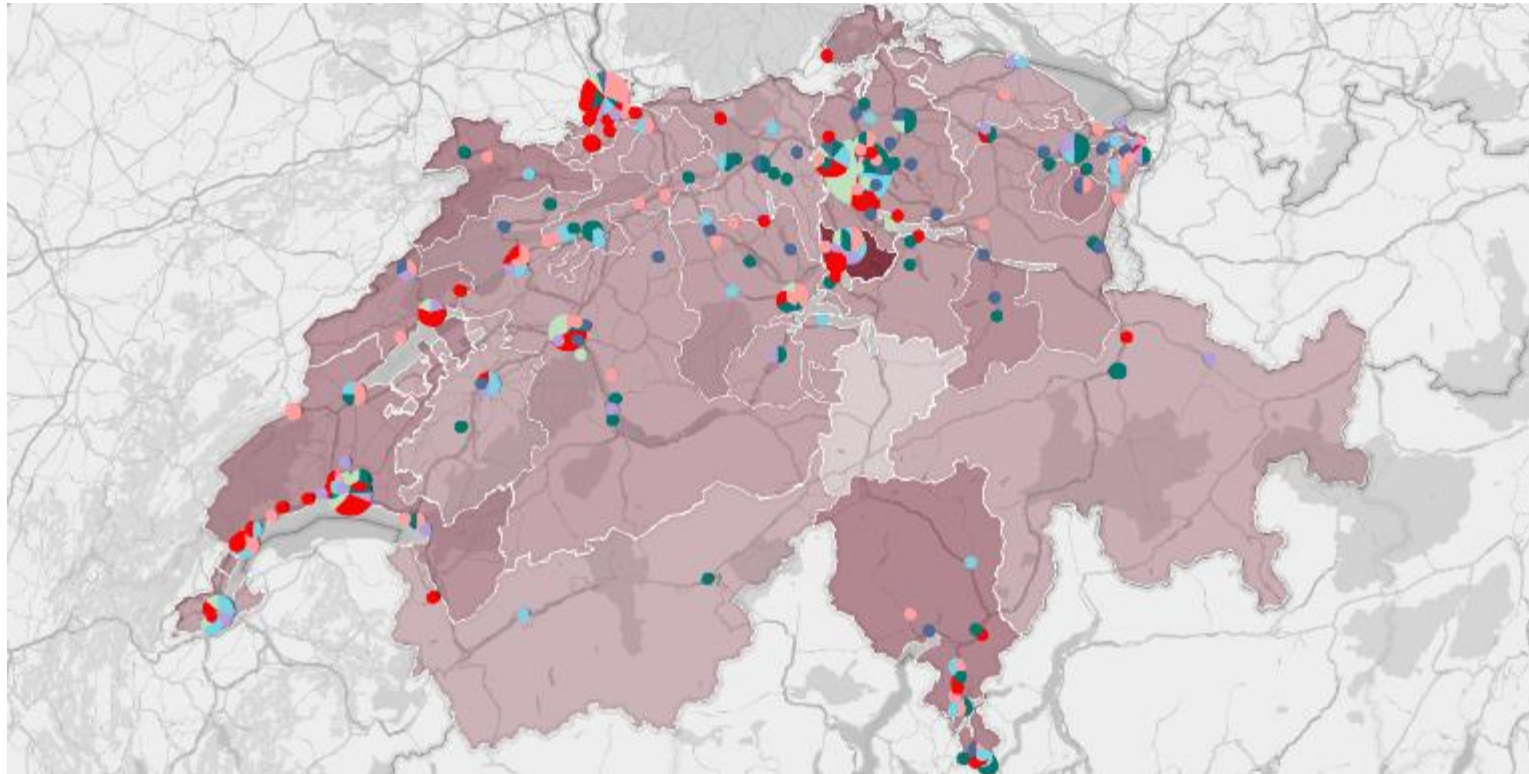


### Comments

- The Swiss Medtech database includes 601 manufacturers active in 29 different medical specialties. It also includes companies with less than 50% of activities in the medtech sector
- In view of the close links with the pharmaceutical industry (which is strongly anchored in Switzerland), it is not surprising that there are also a large number of in vitro diagnostics companies
- Switzerland is also a hub for companies involved in dentistry and those specializing in the musculoskeletal system:
  - Rehabilitation, prosthetics, orthotics and everyday aids
  - Orthopedics and traumatology
- Several of the largest medtech employers are also active in these areas

## Manufacturers in the Swiss medtech industry are primarily located near populous cities, technical universities and in the canton of Zug

### Manufacturer locations by medical subspecialties (top 7 subspecialties)



Note: Depth of coloring of the cantons is based on the number of companies per thousand inhabitants; points correspond to the postal codes of the manufacturers, regardless of the share of sales of medical technology in the company; size of the points corresponds to the number of mentions of the postal codes

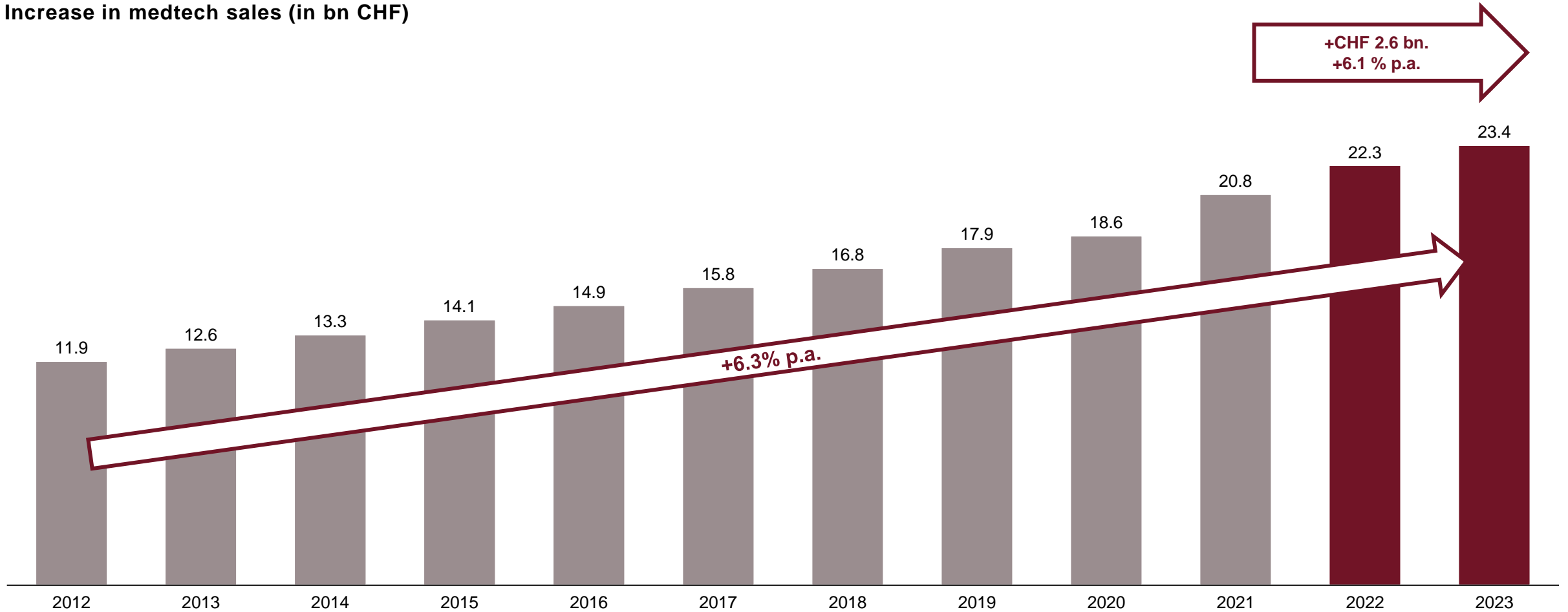
Source: Swiss Medtech database

### Comments

- The canton of Zug has the highest density of manufacturers per thousand inhabitants
- The concentration of medtech companies around Zurich and Lake Geneva is due to proximity to the Swiss Federal Institutes of Technology in Lausanne (EPFL) and Zurich (ETHZ)
- The Swiss medical technology industry is involved in a wide range of medical specialties. The seven medical specialties shown in the chart account for around 60% of Swiss manufacturers
- Companies in the in vitro diagnostics and laboratory supplies segment show high densities near the pharmaceutical stronghold of Basel and the technical universities
- The e/m health and software industry – which is dominated by start-ups – is mainly located in the city of Zurich

## Sales growth of 6.1% in the last two years slightly below the long-term average

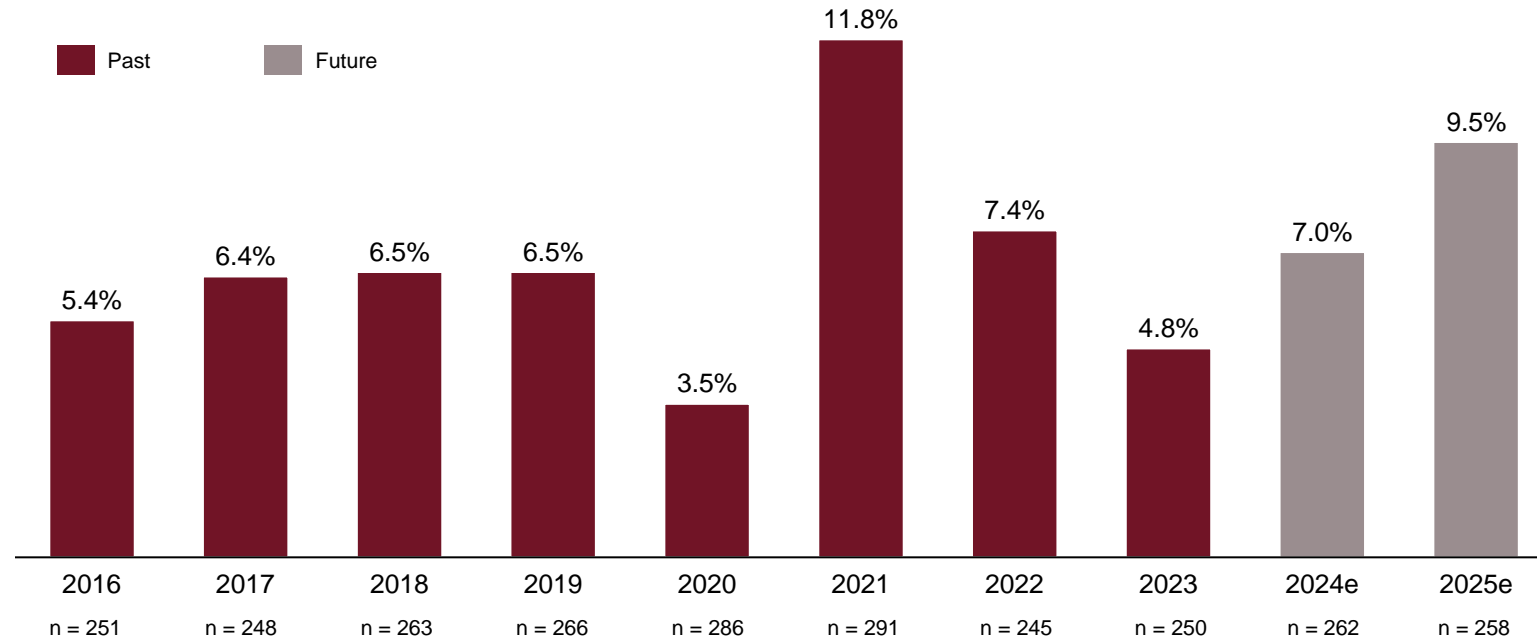
Increase in medtech sales (in bn CHF)



## Sales growth has returned to normal after the pandemic years – above-average rises are expected

### Ø sales growth

(in %, weighted by # of employees in Switzerland; all categories)

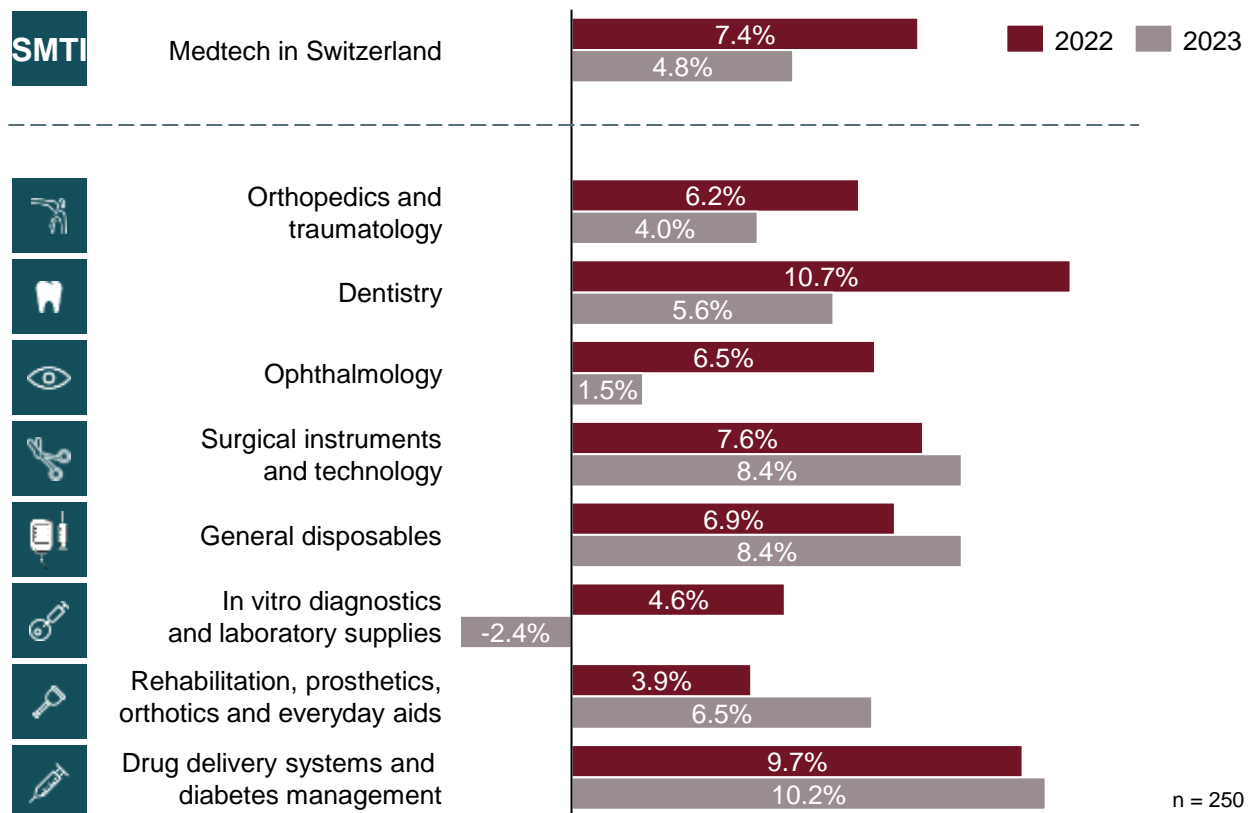


### Comments

- Growth over the last four years has been influenced by the challenges of the pandemic and subsequent inflation
- Growth is expected to be slightly above the long-term average (6.3%) in the coming years, with very ambitious growth forecast for 2025
- Other growth rates for comparison
  - Swiss GDP (nominal): 5.1% (2022), 1.7% (2023)
  - Healthcare costs: 2.4% (2022), 4.1% (2023)
  - Global medtech growth: 5.4% (2022), 5.2% (2023)
  - Germany medtech growth: 5.5% (2022), 5.2% (2023)
  - Swiss watch industry: 11.7% (2022), 7.6% (2023)
  - Swiss MEM industries: 9.4% (2022), -0.8% (2023)

## Varying sales trends of medical specialties – drug delivery systems and diabetes management retain a stable high growth level

Sales development 2022 and 2023 in comparison by medical subspecialty (in %)



### Comments

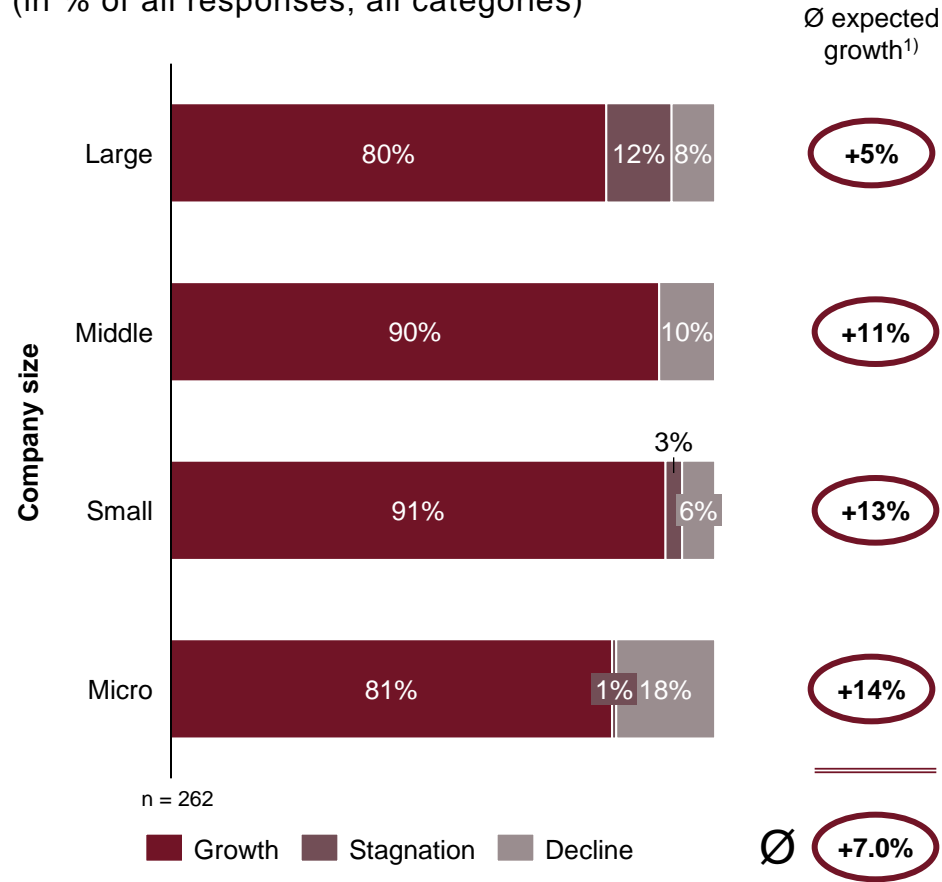
- Sales growth in 2022 showed a consistently high level for most medical specialist areas
- In 2023, the fields of orthopedics and traumatology, dentistry and ophthalmology in particular saw a temporary slowdown in growth. Due to lower purchasing power in the inflationary environment, elective (non-urgent treatments) or procedures for which the self-payer patient bears the costs were at times postponed
- Declines in the field of in vitro diagnostics were the result of the extraordinary growth during the Covid pandemic
- The specialist fields of surgical instruments and technology, general disposables and – in particular – drug delivery systems and diabetes management have grown faster than the medtech market as a whole

Note: Companies in the SMTI survey can cover several specialist areas; growth weighted by number of employees  
 Source: SMTI survey result 2024

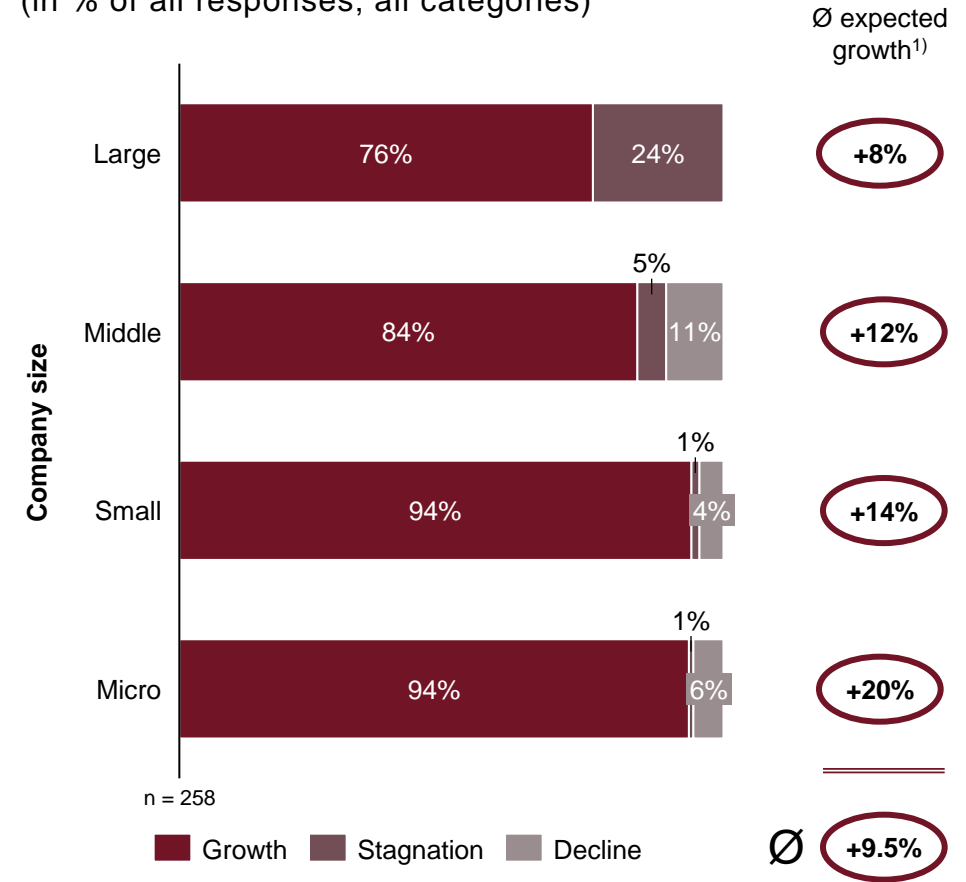


# Regardless of company size, higher growth is expected in 2025 – smaller companies with greater growth potential

**Expected sales development 2024**  
(in % of all responses; all categories)



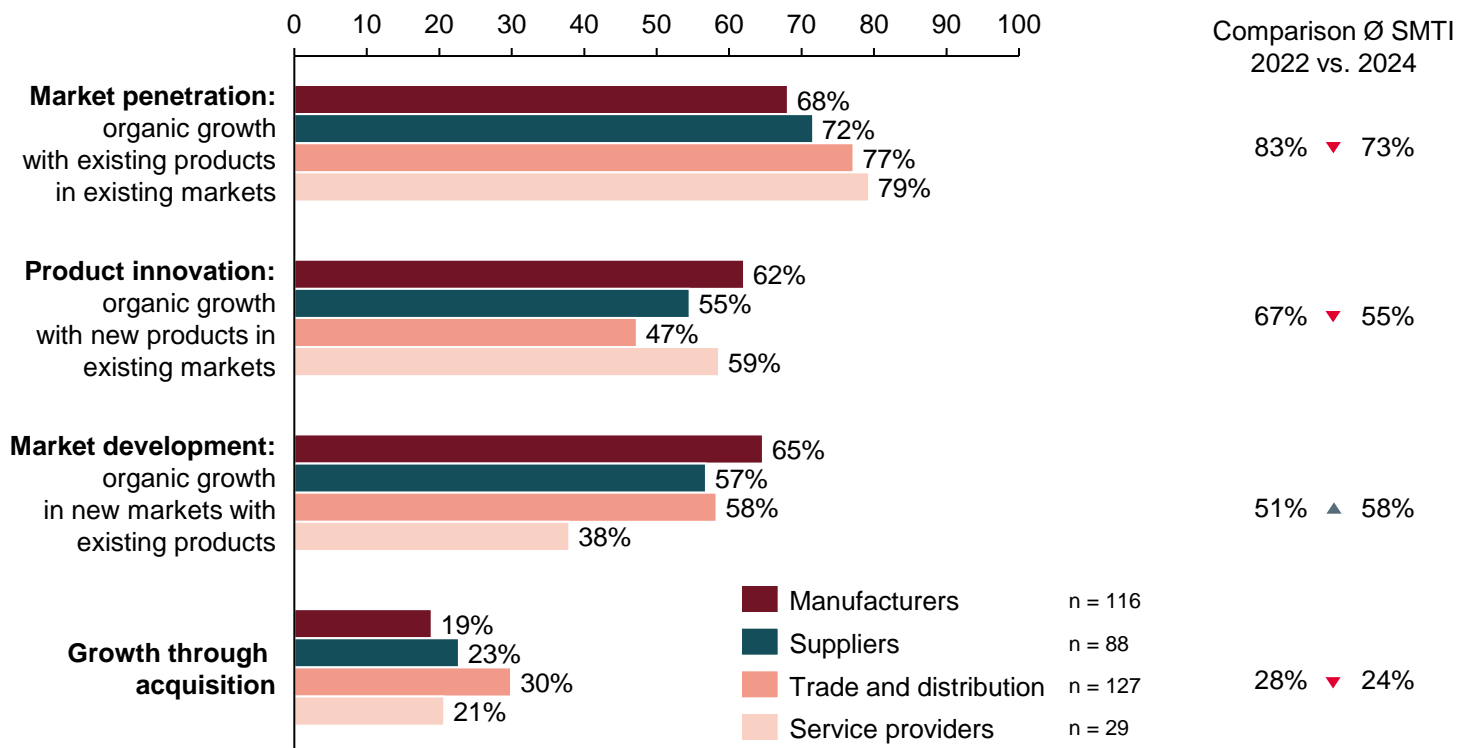
**Expected sales development 2025**  
(in % of all responses; all categories)



1) Weighted by number of employees  
Source: SMTI survey result 2024

# Targeted growth continues to be achieved primarily through market penetration – market development tends to become more relevant

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

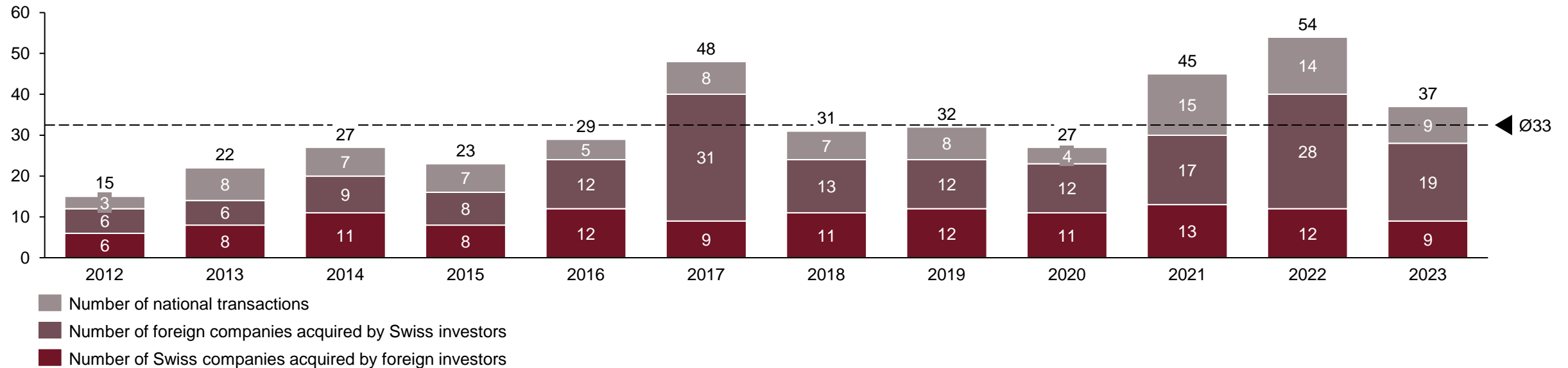


## Comments

- Market penetration is still cited as the preferred growth option, at a slightly lower level than in the last edition of the industry study (SMTI 2022)
- Compared to 2022, product innovation was listed as a less favored growth strategy. Declines among manufacturers (87% to 62%) and distributors (64% to 47%) indicate reduced innovation activities due to additional burdens following the introduction of MDR
- Market development as a way to increase growth has increased in importance
- Acquisition remains an attractive and valuable strategy for a quarter of survey participants

## After the boom years of 2021 and 2022, M&A activity in 2023 is once again slightly above the long-term average

### Number of deals with Swiss medtech companies



### Comments

- The Covid-related slowdown in 2020 was followed by the boom years of 2021 and 2022, which can be explained by the low and zero percent interest rates on the one hand, and the entry of financial investors (PE and family offices) into the healthcare sector on the other. In addition to manufacturing, investments were primarily made in the service sector (ophthalmology, dentistry, imaging)
- The lower number of deals in 2023 – partly due to rising interest rates – should not be seen as a slowdown but rather as a return to the long-term upward trend. The interest of financial investors is unbroken – there has been no consolidation due to the MDR so far



## Challenges and opportunities in the Swiss medical technology industry

- 1 Medtech in Switzerland
- 2 Regulatory environment (MDR/IVDR)
- 3 Sustainability and diversity
- 4 Innovation and technology

# Challenges and opportunities for the Swiss medical technology industry

Various influencing factors are impacting the Swiss medical technology sector – creating both new challenges and new opportunities, for companies. Regulatory requirements of the MDR/IVDR are putting pressure on smaller and larger companies, in particular. Developments in the market and competitive conditions present further challenges for Switzerland as a medtech location.

Nevertheless, the Swiss medtech industry feels positive about the future. The sector continues to grow at an above-average rate, and technological developments are creating new opportunities in various business areas. Switzerland remains an attractive business location. This is supported by the fact that a large proportion of Swiss medtech companies are planning investments in Switzerland and increases in their workforce.

## Medtech in Switzerland

Rising approval hurdles, rising cost pressure and changing market conditions with new competitors are the biggest challenges reported by Swiss medtech companies. This chapter on Switzerland as a medtech location deals with the demands on Switzerland as a medtech location and provides insights into how to deal with the ongoing shortage of specialists. It also highlights which investments are planned for Switzerland over the next few years and reasons why investments are being made in Switzerland, and abroad. The chapter also examines key export and import figures for medical technology products.

## Regulatory environment (MDR/IVDR)

Swiss medtech companies cite the increasing hurdles for market approval due to the MDR/IVDR as the biggest challenge at present. The new regulation has created a big burden – both in time and financially – and is associated with great uncertainty. Companies are reacting by increasing their workforce to cope with the new requirements, raising prices due to increased costs and reducing their product portfolio. More and more are leaning towards obtaining approval for their products in the US (FDA)

first in future, as processes there are more reliable, with lower estimates for time and financial outlays.

The challenges surrounding MDR/IVDR also have an impact on the Swiss healthcare sector. In order to promote security of supply, opening up the Swiss market to non-European certificates would be a viable option – for companies and politicians alike.

## Sustainability and diversity

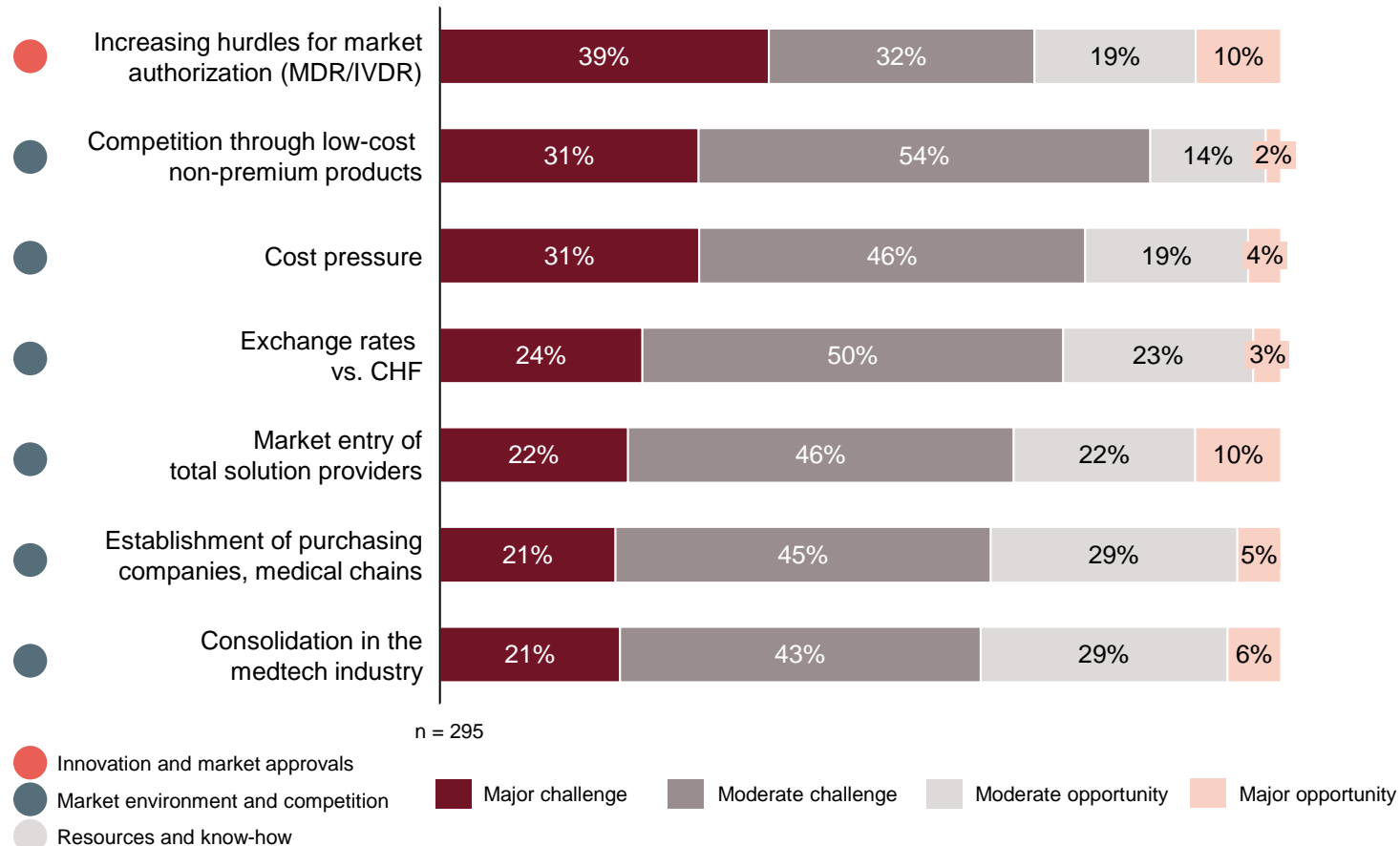
The companies surveyed see sustainability as both a challenge and an opportunity. While new regulations require expenditure of time and finances, companies may benefit from a “first-mover” advantage. In the medium term, sustainable practices will be standard and no longer necessarily represent a unique selling point. Sustainability, however, is not currently seen as one of the most important challenges or opportunities, which could change quickly, for example, due to new legal framework conditions. The study shows that the industry is moving in the right direction in terms of sustainability and diversity, but that there is still plenty of scope for improvement.

## Innovation and technology

Swiss medtech companies see great opportunities for the future based on their innovative strength and new technological developments. Focus here is on digitalization and the use of artificial intelligence (AI). The persistently high proportion of expenditure on R&D underlines companies’ commitment to innovation and progress. This chapter therefore looks at the key drivers of innovation in medical technology, which are divided into five main categories. The evolution of measured relevance of innovation drivers provides insights into current innovation activities and the future direction of the industry. It also shows where companies are using – or planning to implement – AI in upcoming years.

# Market approval and the associated hurdles are seen as the biggest challenge by Swiss medtech companies

## Top 7 challenges for medtech companies (in % of all mentions; all categories)

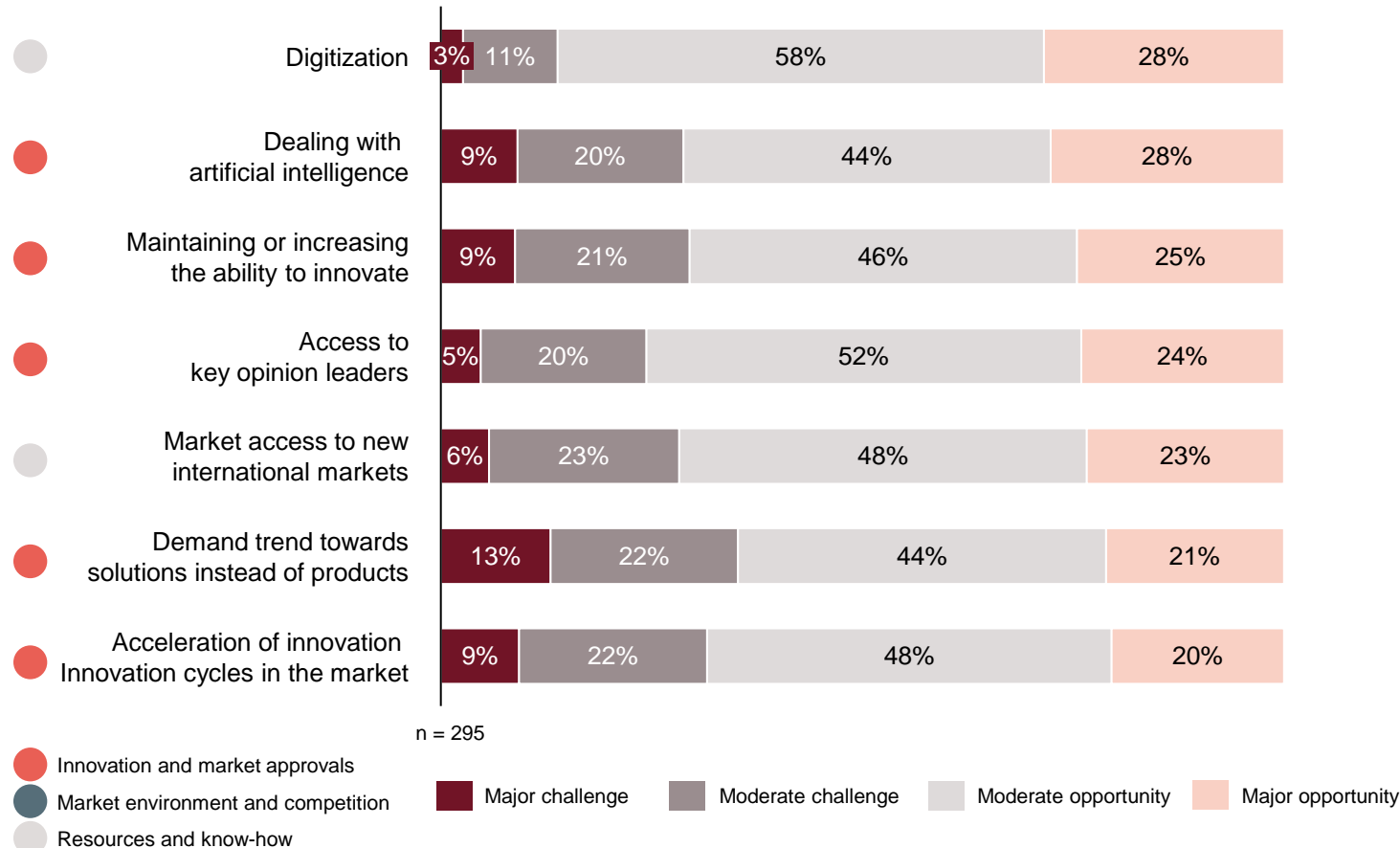


### Comments

- Greater hurdles for market approval due to new regulations are increasing pressure on medtech companies – smaller companies (<50 employees) in particular, however larger ones are also affected
- Large companies (≥250 employees) cite cost pressure and medium-sized companies (50-249 employees) cite competition from cheaper non-premium products as the most significant current challenges
- The issues and developments reported as challenges are increasingly in the areas of market environment and competition, and affect Switzerland as a medtech location as a whole

# Current technological developments and future innovations are shaping the opportunity landscape of the Swiss medtech industry

## Top 7 opportunities for medtech companies (in % of all mentions; all categories)



### Comments

- The influencing factors perceived as opportunities are strongly driven by innovation and often relate to technological developments such as artificial intelligence
- Medium-sized and smaller companies (<250 employees) also see entry into new international markets as a major opportunity
- Access to key opinion leaders is of central importance for medtech companies, as they can significantly accelerate product acceptance and market penetration
- The issue of sustainability is assessed differently by the companies surveyed. The fact that some weighted sustainability as both directions as “moderate” and not “major” highlights the uncertainty that still surrounds the topic



## 1 Medtech in Switzerland



# 1 Medtech in Switzerland

Switzerland is an important location for the global medtech industry. After Ireland, Switzerland employs the most people per 10,000 inhabitants directly in the medtech industry<sup>1</sup>. The medtech sector is an important industry for the Swiss economy. It generated a trade surplus of CHF 5.8 bn in 2023. Switzerland's medtech companies are looking with determination into the future, and plan to continue investing in Switzerland as well as expanding their workforce. The SMTI survey provides a valuable platform to discuss the specific requirements of Switzerland as a business location and identifying where action is needed.

## Requirements for Switzerland as a medtech location

In addition to the domestic market being opened for non-European certificates, Swiss medtech companies are calling for improved access to qualified specialists and a more reliable political framework. The latter two are also essential for an industry so heavily involved in international trade.

## Recruitment and skills shortage

Access to qualified specialists continues to be one of the most important requirements of medtech companies in Switzerland. Survey participants focus recruitment efforts in Switzerland mainly in the areas of marketing and sales, production and R&D. Recruitment difficulties exist particularly in the areas of regulation and approval, digitalization and AI, as well as R&D. To cope with regulatory requirements, companies often rely on existing R&D staff or hire external service providers. International companies are increasingly establishing shared services in areas such as digitalization and AI abroad, where the relevant specialists are available.

## Investments in Switzerland and abroad

The number of planned investments has fallen slightly in recent years. Nevertheless, almost 60% of the companies surveyed are still planning to invest in Switzerland in the next two years. Reasons for investing in Switzerland include the high level of medtech

expertise, the stable economic environment, the importance of "Swiss made" reputation and the quality of the skilled workforce in Switzerland. The focus is on investments in production and R&D, which further strengthens Switzerland's role as an innovation center. Only 3% of companies choose to invest exclusively abroad.

However, many Swiss medtech companies are also planning to invest in production abroad, with proximity to customers and lower personnel costs playing a particularly important role. A general trend towards the internationalization of production is evident, even if the proportion of companies that produce solely in Switzerland has remained relatively constant since 2019. Around 80% of manufacturers and over 90% of suppliers currently have at least one production site in Switzerland.

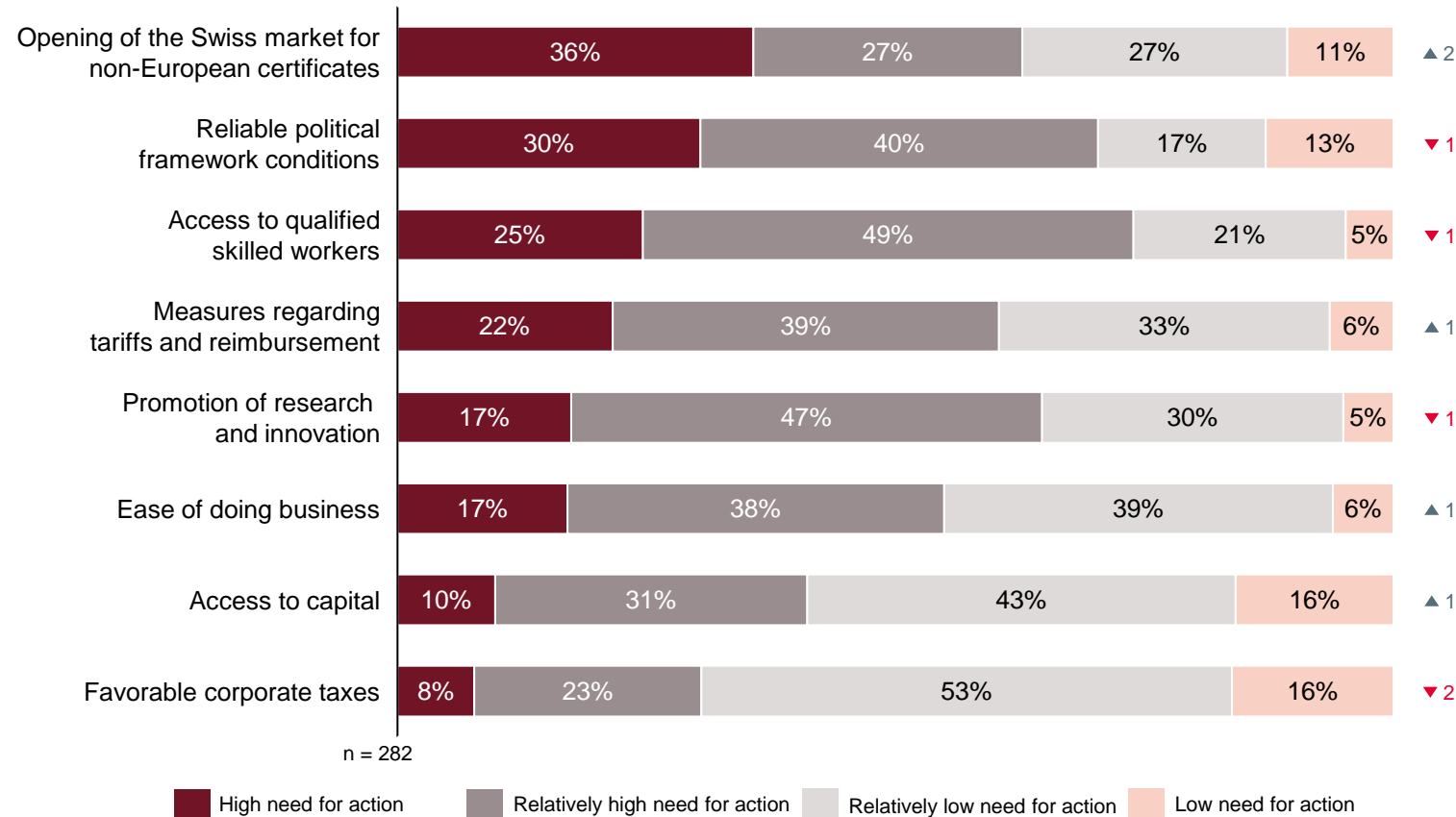
## Exports and imports

Exports rose again after the slump due to the Covid pandemic. However, the strong Swiss franc in 2023 had a dampening effect, particularly on trade with the USA. Nevertheless, the latter (as a single country) and the EU remain by far the most important export markets for Swiss medical technology. Meanwhile, emerging Asian countries are recording higher growth rates. Overall, the sector exported products worth CHF 12.3 bn in 2023 and contributed just under 12%<sup>2)</sup> to the overall Swiss trade surplus.

1) MedTech Europe Report: Fact & Figures 2024; 2) Federal Office for Customs and Border Security (BAZG)

# Swiss medtech companies call for the Swiss market to be opened for non-European certificates and for a more reliable political framework

## Companies' requirements of the Swiss medtech location (in % of all responses; all categories)



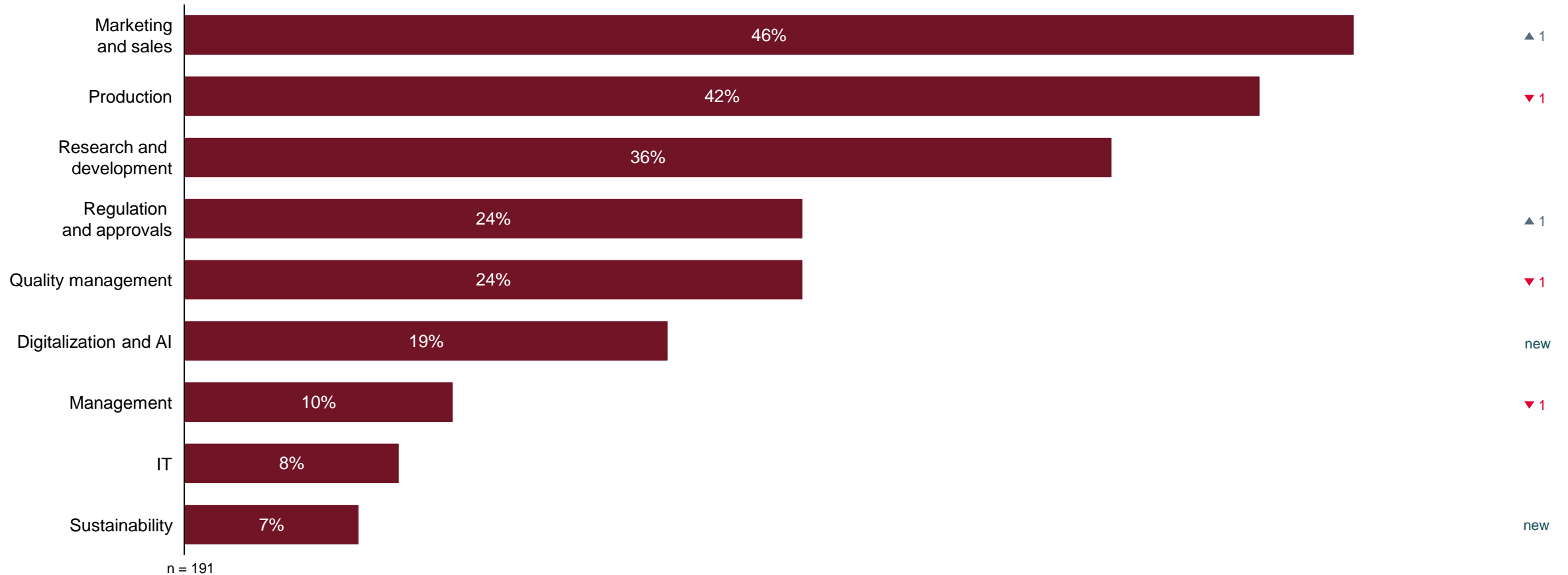
### Comments

- Opening up the Swiss market to non-European certificates is a top priority for Swiss medtech companies
- Currently, only medical devices with CE marking receive approval. Increasing hurdles (MDR/IVDR) reduce product diversity in Switzerland – which in turn affects many difficult-to-replace niche products
- Companies are also calling for more reliable political framework conditions, particularly in relation to Switzerland’s most important trading partners such as the EU
- Access to qualified personnel continues to be a problem for medtech companies – almost 75% of companies see a need for action in this area

Note: Change in placement compared to the 2022 SMTI study ▲ ▼  
Ease of doing business includes business start-ups, building permits, power supply and infrastructure  
Source: SMTI survey result 2024

# In Switzerland, a large increase in personnel is expected, particularly in the areas of marketing and sales, production, and R&D

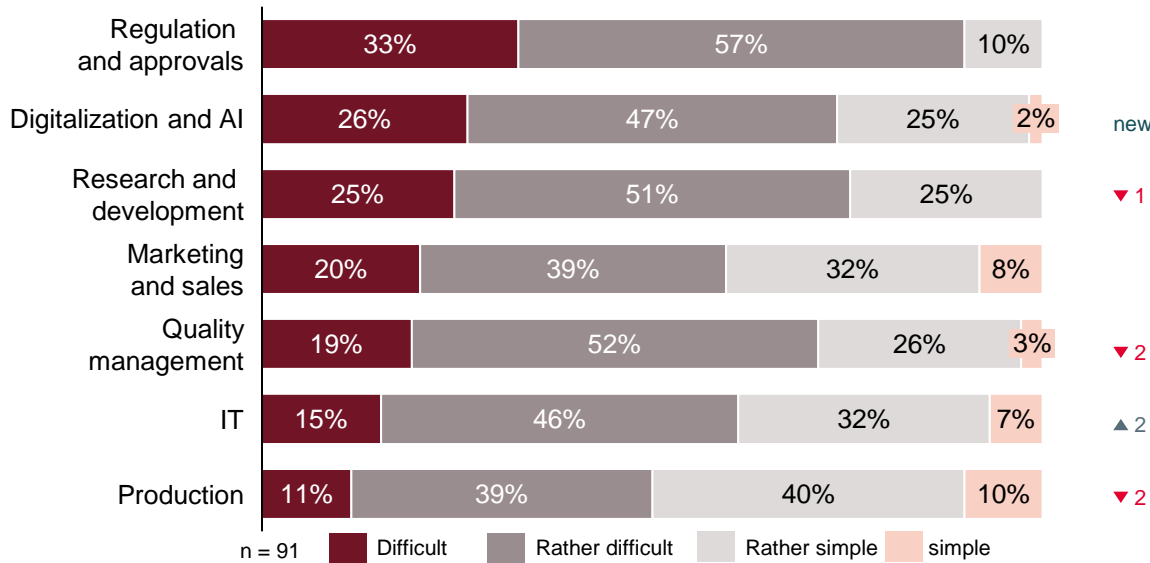
**Planned increase in personnel in Switzerland in the next two years**  
(in % of all responses; manufacturers and suppliers)



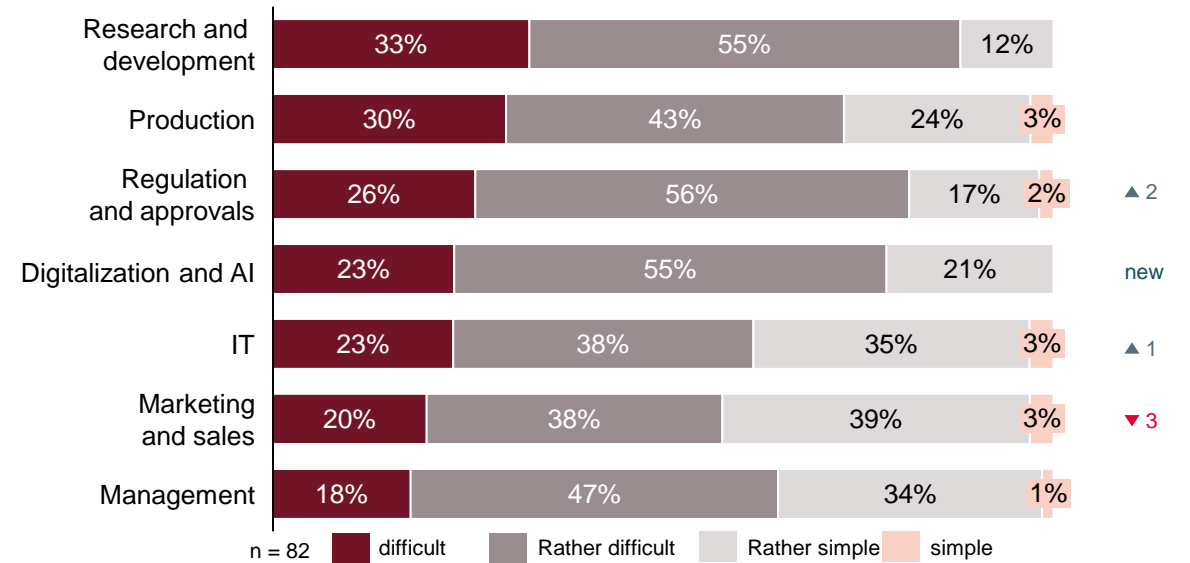
Note: Change in placement compared to the 2022 SMTI study ▲ ▼  
Multiple answers possible  
Source: SMTI survey result 2024

# Swiss medical technology manufacturers still face the greatest recruitment difficulties for regulation and approval, R&D and digitalization and AI

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



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

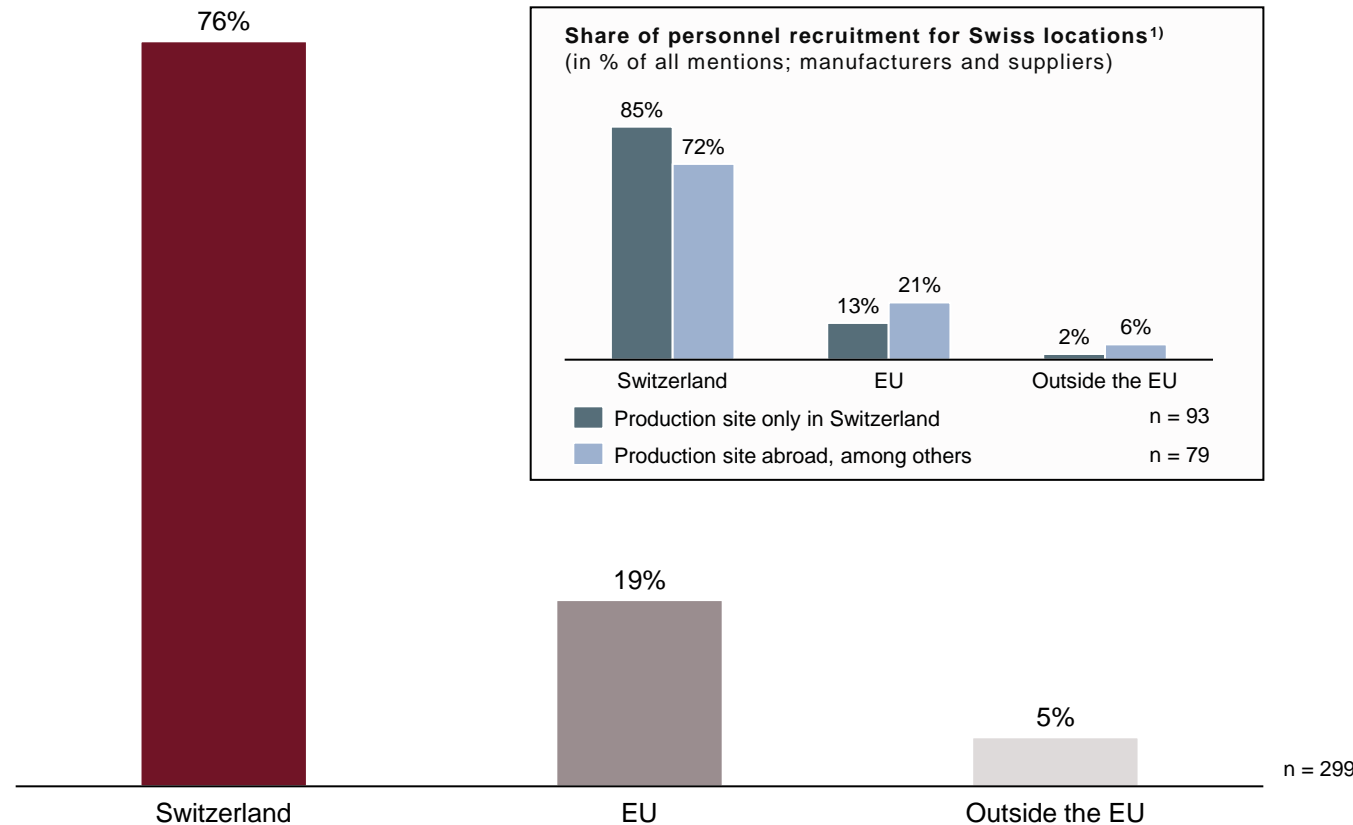


## Comments

- The shortage of skilled workers continues to pose a serious problem in medical technology. Manufacturing companies have major recruitment difficulties especially in the areas of regulation and approval. Suppliers are struggling to find suitable personnel in this area as well
- While the lack of personnel in research and development causes difficulties for both manufacturers and suppliers, the recruitment of personnel in production is more challenging for suppliers than for manufacturers
- In the field of digitalization and AI, which is becoming more important in modern medical technology, it is difficult to find suitable personnel

# Companies in the medtech industry are important employers for Swiss workers, but could benefit from easier access to foreign specialists

**Share of origin for personnel recruitment for Swiss locations**  
(in % of all mentions; all categories)



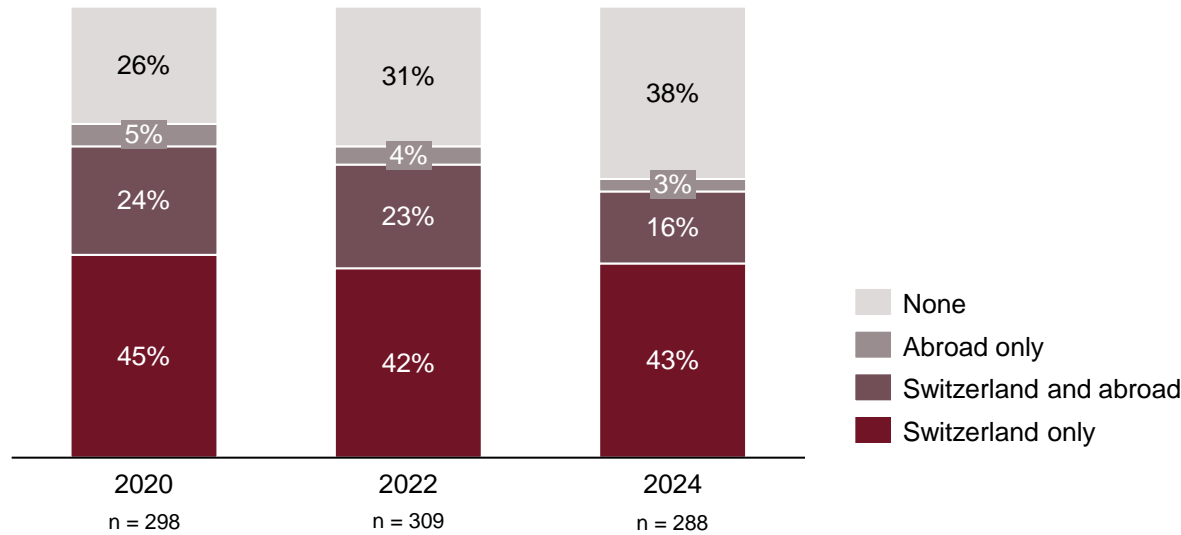
### Comments

- The Swiss medtech industry recruits over three quarters of its staff domestically
- Internationally active companies are also recruiting more staff from abroad for Swiss locations
- In addition, international companies have relocated or established certain functions abroad in recent years, which is not evident in the chart as only Swiss locations are taken into account
- Reasons for relocating abroad include availability issues of qualified personnel in Switzerland and the strong Swiss franc, which also drives up personnel costs
- Companies have difficulties finding suitable personnel in Switzerland in the field of digitalization and AI. Generally, they report high hurdles in recruiting staff from abroad for their Swiss locations

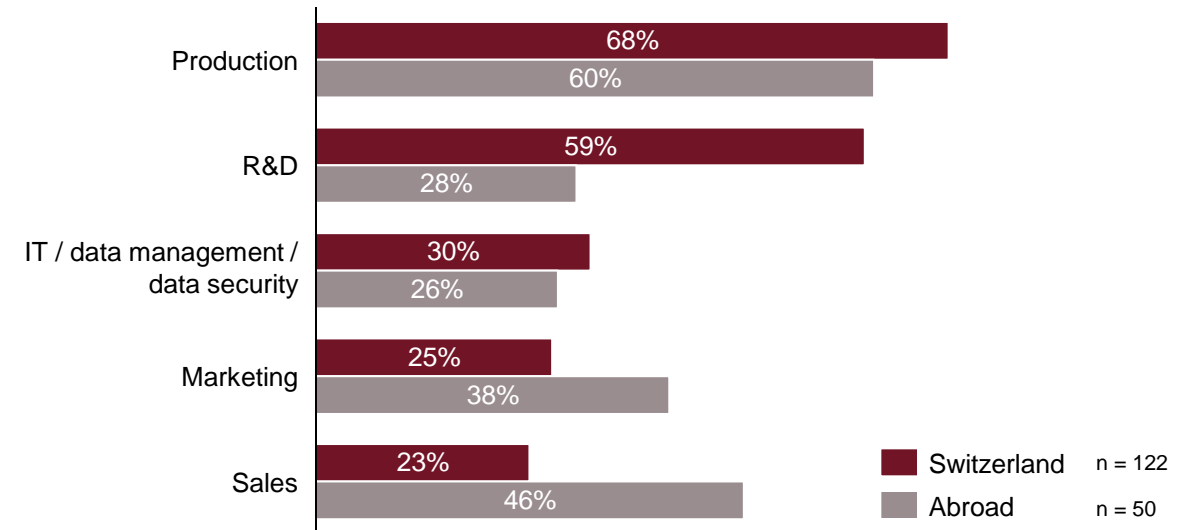
1) Evaluation according to companies' production footprint  
Source: SMTI survey result 2024

# Swiss medtech companies are investing in Switzerland, with a particular emphasis on production and R&D

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



**Planned investments in Switzerland and abroad, by sector<sup>1)</sup>**  
(in % of all mentions; manufacturers and suppliers)



## Comments

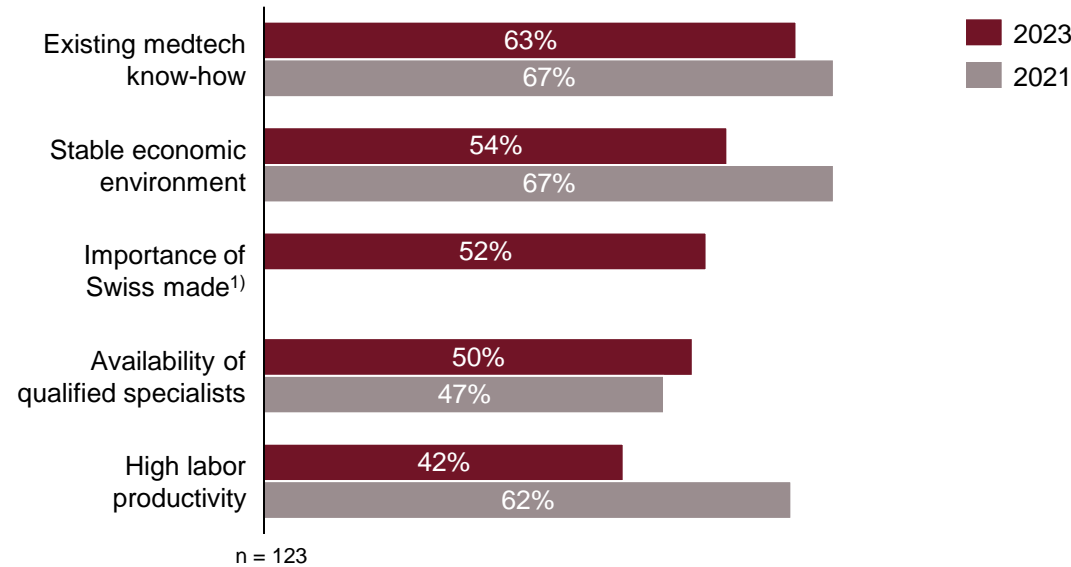
- 59% of medtech companies surveyed plan to invest in Switzerland in the next two years
- Production is to be further expanded both abroad and in Switzerland. Of the manufacturers and suppliers planning investments in Switzerland, 68% will concentrate on production
- Switzerland remains an R&D hub, while significantly more is being invested in marketing and sales abroad

1) The percentages refer to different populations: companies that invest in Switzerland (n = 122) and companies that invest abroad (n = 50). Companies that invest both in Switzerland and abroad are included in both populations

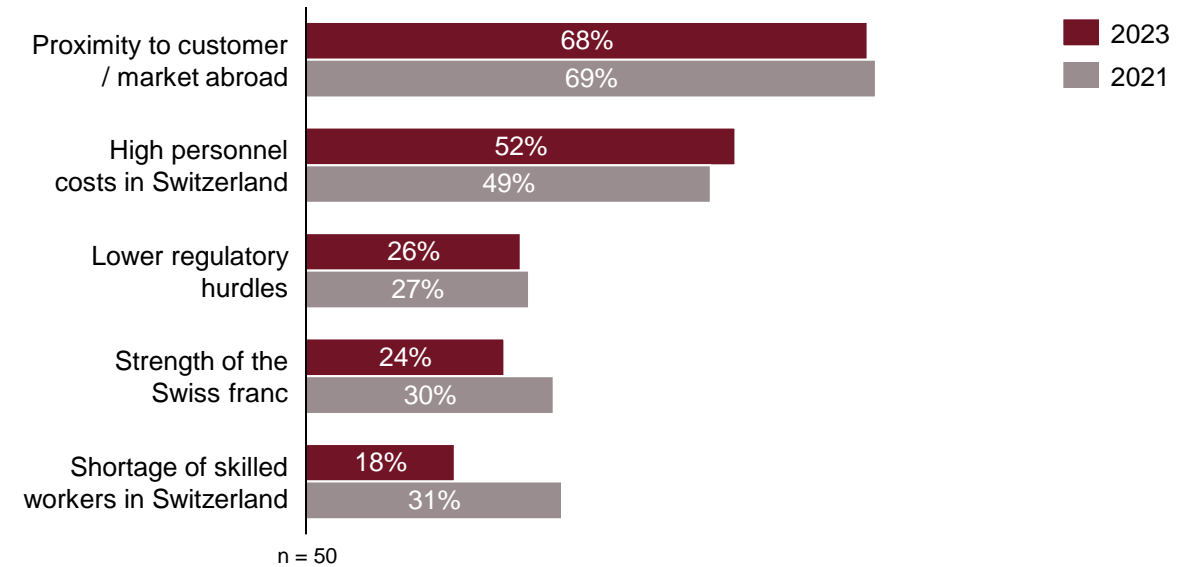
Source: SMTI survey result 2024

# Switzerland as a medtech location is especially recognized for existing know-how, stable economic conditions and quality specialist staff

**Top 5 reasons for investing in Switzerland**  
(in % of all mentions; manufacturers and suppliers)



**Top 5 reasons for investing abroad**  
(in % of all mentions; manufacturers and suppliers)



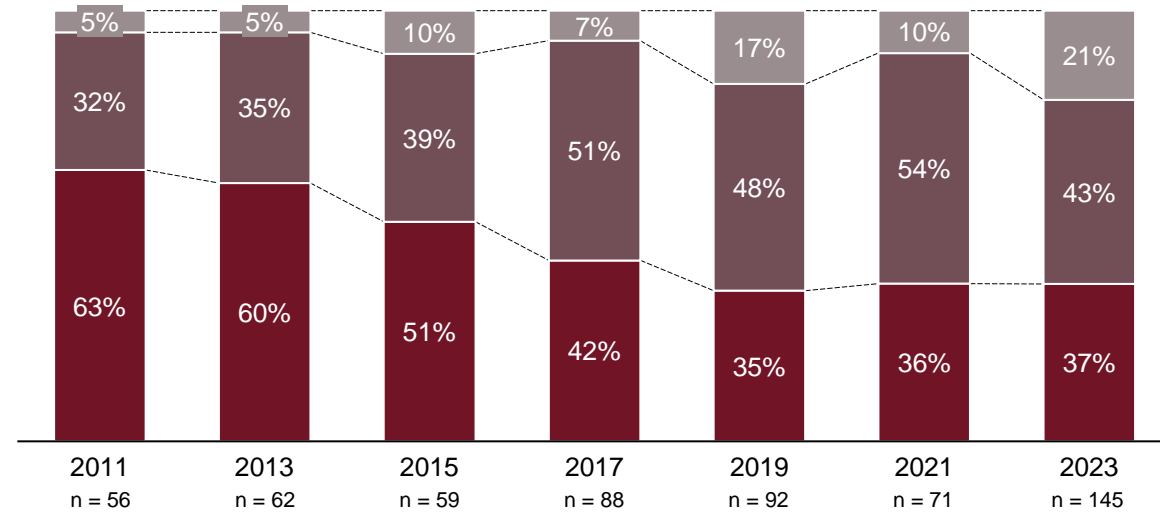
## Comments

- The existing medtech expertise and the stable economic environment continue to be the most important reasons for investing in Switzerland
- Swiss medtech companies also value the availability of qualified specialists (even if even better access is desired) and their high labor productivity. However, the associated high personnel costs are a key reason for investing abroad
- The main reason for investing abroad continues to be the proximity to customers and markets

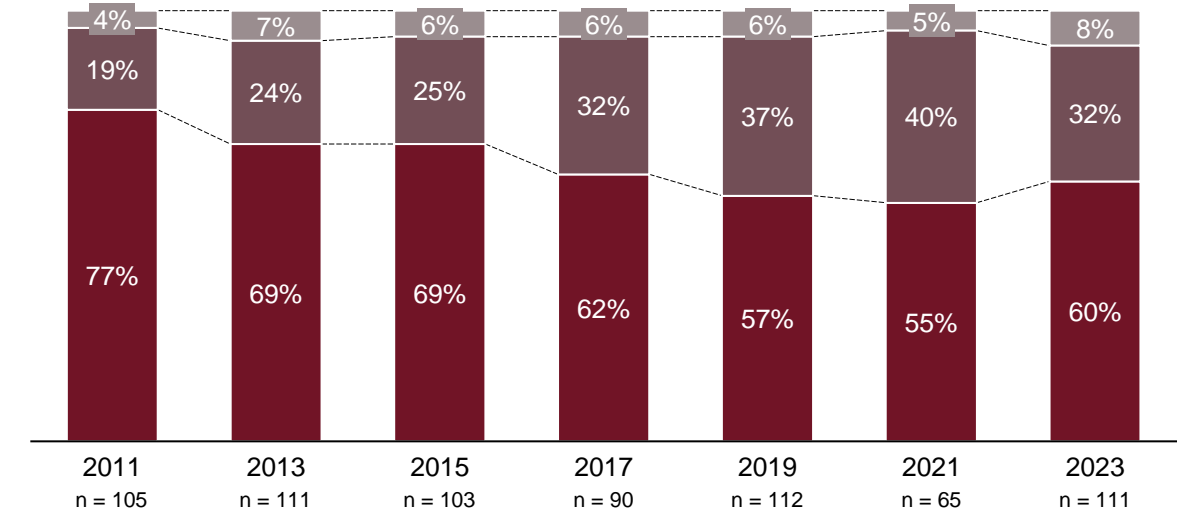
1) New answer option, which is why no comparison with 2021 is possible  
Source: SMTI survey result 2024

# Around 80% of manufacturers and 92% of suppliers produce in Switzerland, with the long-term trend pointing towards more international production

Manufacturer production sites (in % of all responses)



Supplier production sites (in % of all responses)



■ Production only in Switzerland ■ Production in Switzerland and abroad ■ Production only abroad

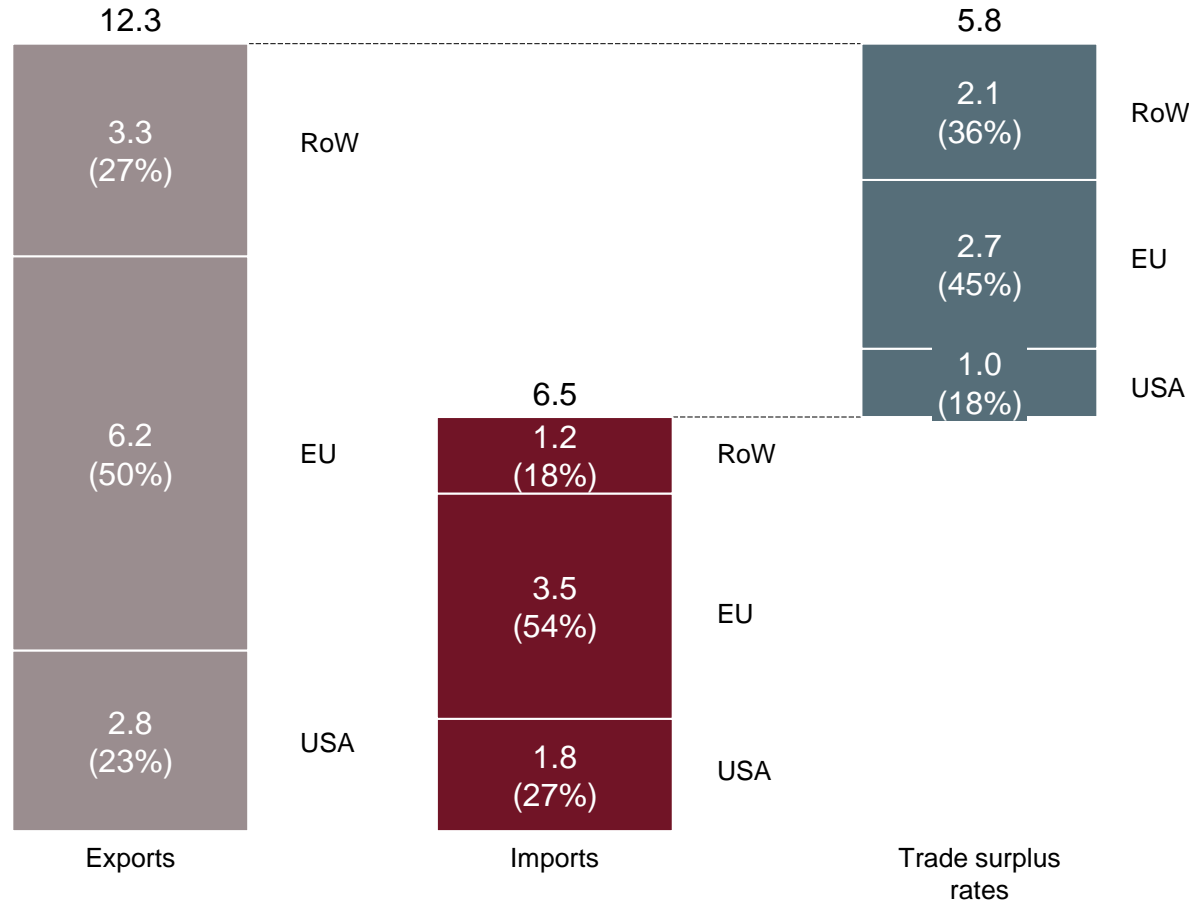
## Comments

- There is a recognizable trend within the Swiss medtech industry towards internationally oriented production
- However, in the last two years, manufacturers tended to relocate their Swiss production abroad and, conversely, suppliers have relocated from abroad to Switzerland



# Swiss medtech exports and imports have grown in step over the last two years

Key trade figures for the Swiss medtech sector in 2023 (in CHF bn)



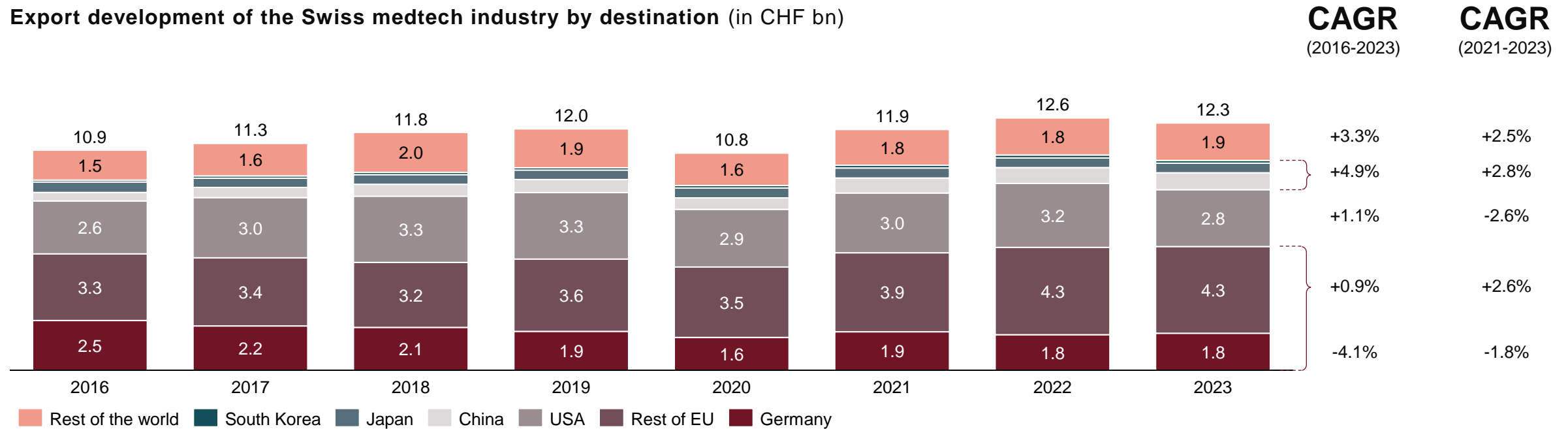
### Comments

- In 2023, the Swiss medtech industry exported goods worth CHF 12.3 bn across the globe (3.3% of all Swiss exports)
- As imports also increased significantly to CHF 6.5 bn, the resulting trade surplus totaled CHF 5.8 bn.
- The medtech sector therefore contributed a significant 11.9% to the positive trade balance of the Swiss economy
- The EU remains by far the most important sales market for the Swiss medtech industry. Every second franc the industry earns abroad is generated in the EU
- The EU is becoming less important for imports, while the USA is becoming more important

Note: The trade figures (exports and imports) only reflect finished products; the trade/sale of semi-finished products is not included in these figures. The customs tariff numbers used can be found on p. 68 ff.  
 Source: Federal Office for Customs and Border Security (BAZG)

# Medtech exports continue to rise after the Covid pandemic, but the strong franc is putting pressure on earnings, especially regarding trade with the USA

Export development of the Swiss medtech industry by destination (in CHF bn)



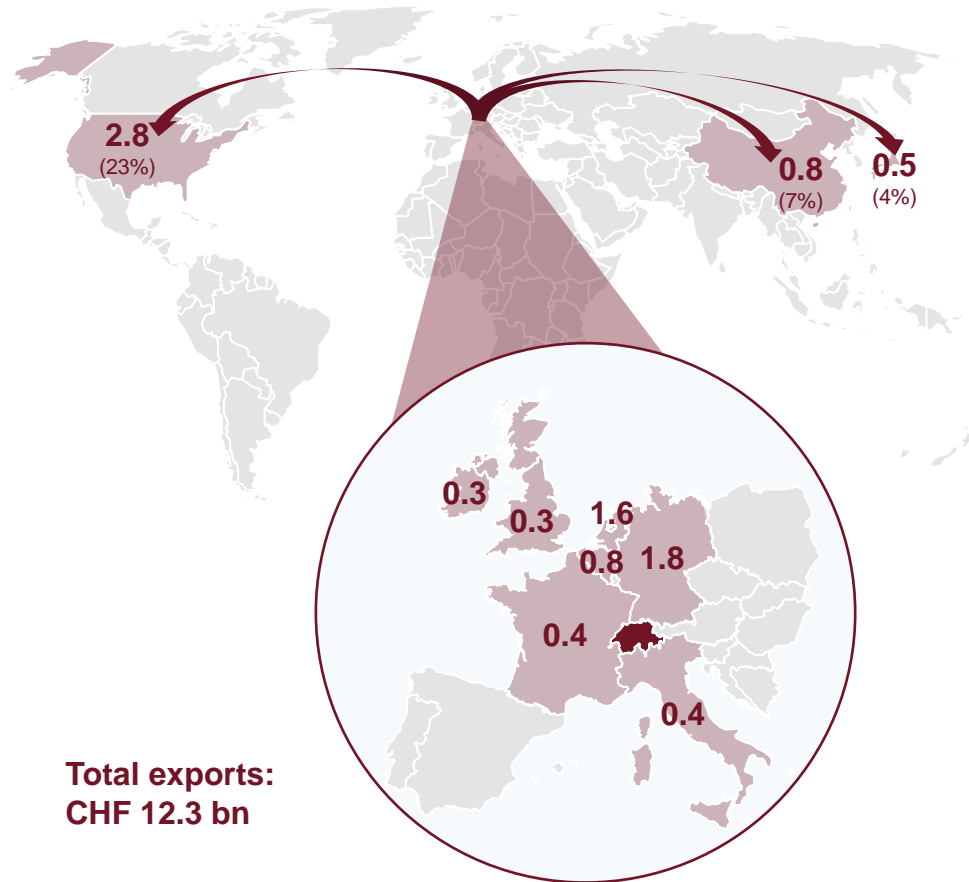
## Comments

- Swiss medtech exports continue to recover after the dip caused by the Covid pandemic and increased considerably, particularly between 2021 and 2022
- The decline in 2023 is due to the sharp drop in exports (approx. CHF 400m) to the USA. This not only affects the medtech sector but can also be observed in the overall trade in goods between the USA and Switzerland. One reason for this was the strong Swiss franc

Note: The trade figures (exports and imports) only reflect finished products; the trade/sale of semi-finished products is not included in these figures. The customs tariff numbers used can be found on p. 68 ff.  
 Source: Federal Office for Customs and Border Security (BAZG)

# The largest European economies, the USA, China and Japan are the most important customers for Swiss medical devices

Swiss medtech exports 2023 (in CHF bn)



**Total exports:  
CHF 12.3 bn**

Top 10 export countries

Rank	Country	Volume CHF bn
1.	USA	2.8
2.	Germany	1.8
3.	Netherlands	1.6
4.	China	0.8
5.	Belgium	0.8
6.	Japan	0.5
7.	France	0.4
8.	Italy	0.4
9. ▲1	Ireland	0.3
10. ▼1	UK	0.3
<b>Top 10 total</b>		<b>9.8 (80%)</b>

### Comments

- The USA remains by far the most important export country for the Swiss medtech industry despite a decline of around CHF 200 m in exports compared to 2021
- China and other Asian countries are significant growth markets, but as production facilities are often set up locally, this is only reflected to a limited extent in the export figures
- 80% (approx. CHF 9.8 bn) of all Swiss medtech exports are sold in the top 10 countries
- Ireland continues to gain importance as a sales market for Swiss medical devices
- Some global players have European central warehouses in the Netherlands and Belgium, so the respective exports do not reflect the countries' direct domestic consumption

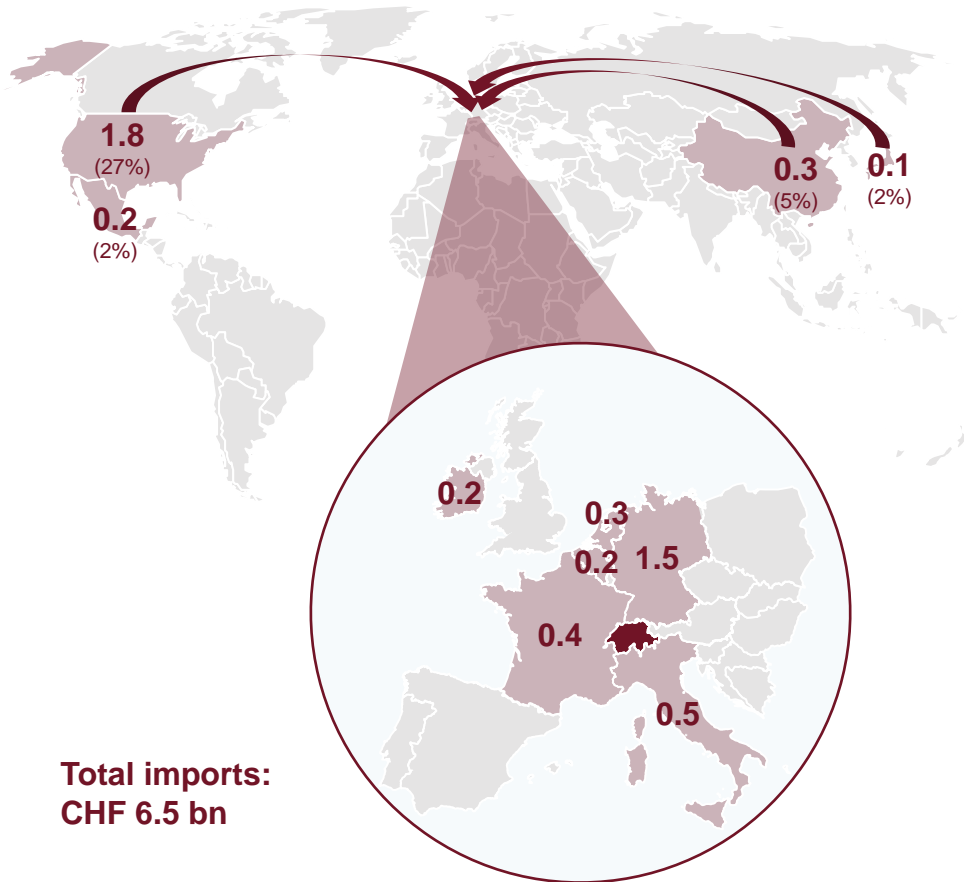
▲ ▼ Change in placement compared to the 2022 SMTI study

Note: The trade figures only reflect finished products; the trade/sale of semi-finished products is not included in these figures. The customs tariff numbers used can be found on p. 68 ff.

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

# In addition to record-high imports from the USA, Switzerland covers its needs in particular with medical products from its large neighboring countries

Swiss medtech imports 2023 (in CHF bn)



Top 10 import countries

Rank	Country	Volume CHF bn
1. ▲1	USA	1.8
2. ▼1	Germany	1.5
3. ▲1	Italy	0.5
4. ▲1	France	0.4
5. ▼2	Netherlands	0.3
6.	China	0.3
7.	Ireland	0.2
8.	Belgium	0.2
9. ▲2	Mexico	0.2
10.	Japan	0.1
<b>Top 10 total</b>		<b>5.4 (83%)</b>

## Comments

- The USA has become Switzerland's most important source of medtech products. Goods worth around CHF 1.8 bn were imported in 2023.
- Medtech imports into Switzerland have risen by almost CHF 500 m in the last two years
- Mexico, an important medtech exporter to the USA, is also gaining in importance for Switzerland
- Imports from The Netherlands, with its large ports, have fallen significantly

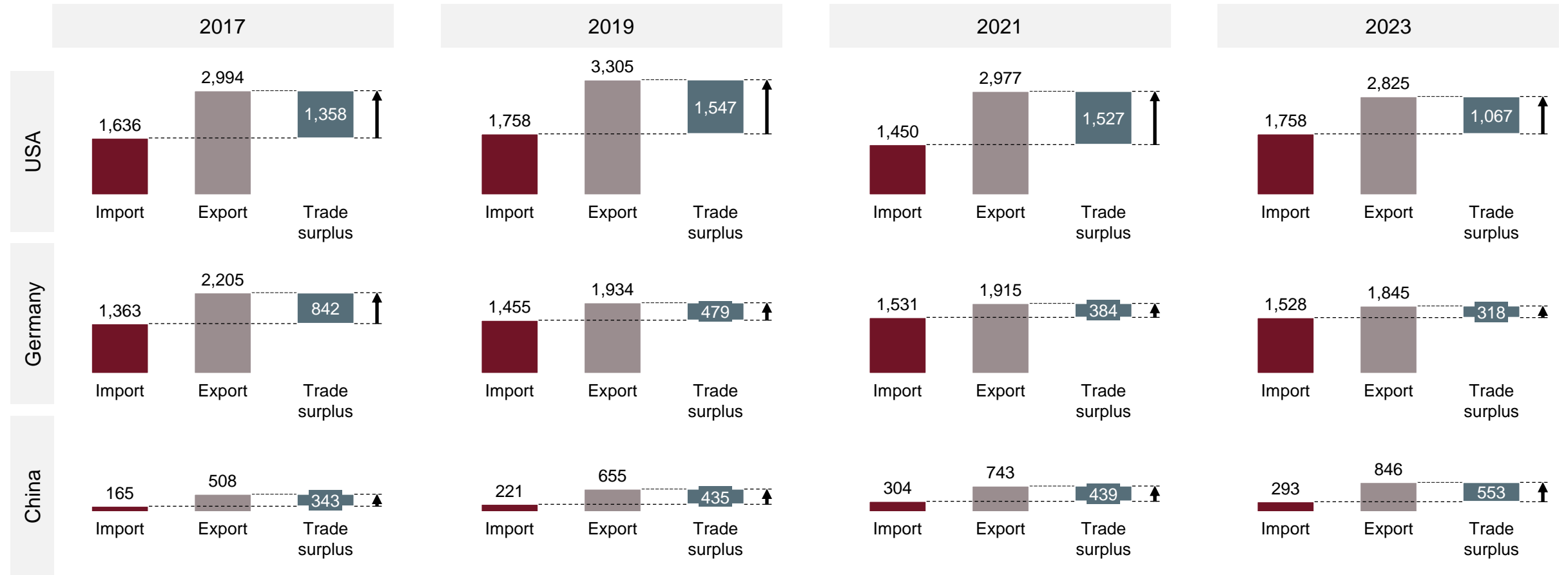
▲ ▼ Change in placement compared to the 2022 SMTI study

Note: The trade figures only reflect finished products; the trade/sale of semi-finished products is not included in these figures. The customs tariff numbers used can be found on p. 68 ff.

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

# While China is becoming an increasingly important supplier for many sectors, the Swiss medtech industry regularly generates trade surpluses

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



Note: The trade figures (exports and imports) only reflect finished products; trade/sales of semi-finished products are not included in these figures. The customs tariff numbers used can be found on p. 68 ff.  
 Source: Federal Office for Customs and Border Security (BAZG)



## 2 Regulatory environment (MDR/IVDR)

## 2 Regulatory environment (MDR/IVDR)

The introduction of the new EU medical device regulation MDR/IVDR and its implementation at Swiss level with the MedDO/IVDO have posed problems for medtech companies in recent years – and continue to do so. The increased requirements for market approval in Europe are also cited as the biggest challenge for the industry. Compared to the same survey two years ago, companies now have a better understanding of how the new regulations affect their business activities.

### Difficulties

When the new regulations came into effect in 2021, the system was not sufficiently prepared (keyword: lack of Notified Bodies). Due to the far-reaching changes and limited access to reliable information, there was a great deal of uncertainty in terms of legal interpretation. Although confusion has now decreased among manufacturers and distributors, it still poses problems for companies in all categories. The European healthcare system is also more advanced than it was two years ago, there are more Notified Bodies, and thousands of new inspectors have been hired. However, their reliability is increasingly perceived as a problem by companies. The biggest difficulty for manufacturing companies is clearly the financial burden associated with the additional regulatory workload.

### Consequences and priorities for action

The administrative effort required to recertify existing products and meet the increased regulatory requirements in general is a heavy burden. To this end, companies have firstly hired new employees and secondly moved staff from R&D in order to complete the new tasks. This has weakened not only the innovation activities of Swiss companies, but also Europe as a location for innovation as a whole. Almost all companies surveyed confirmed that MDR/IVDR has made the development of medical devices more expensive. Many companies took this as an opportunity to review the profitability of products and to streamline their portfolios. In addition to cost reduction measures, companies have also taken action on the sales side and increased the prices of their products.

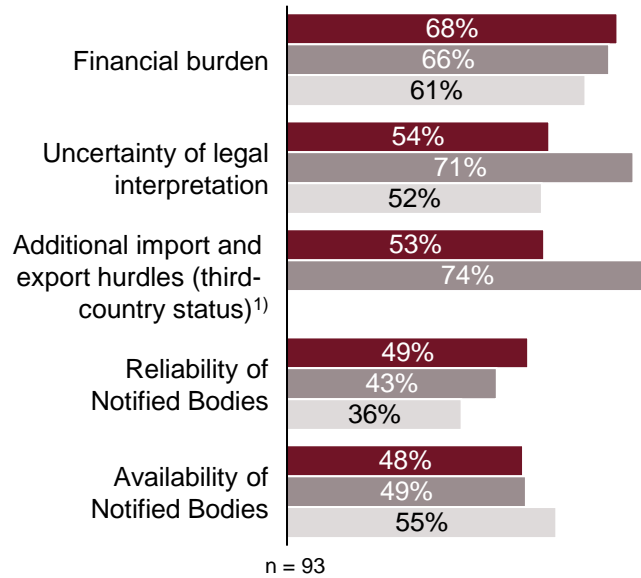
### FDA approval as an opportunity

The vast majority of Swiss medtech companies (93%) strive for CE marking for their products, thereby signaling their wish to supply the Swiss market too. Half of them (mostly small and medium-sized companies) only certify their products according to CE. This situation could change in the future. More and more companies are choosing other markets for initial approvals. FDA certification for the US market is particularly attractive due to its fast, clearly regulated and monitored approval procedures. Products from innovative small Swiss companies, e.g., spin-offs from technical universities), may not be available to the Swiss healthcare system until years later due to the “FDA first” logic.

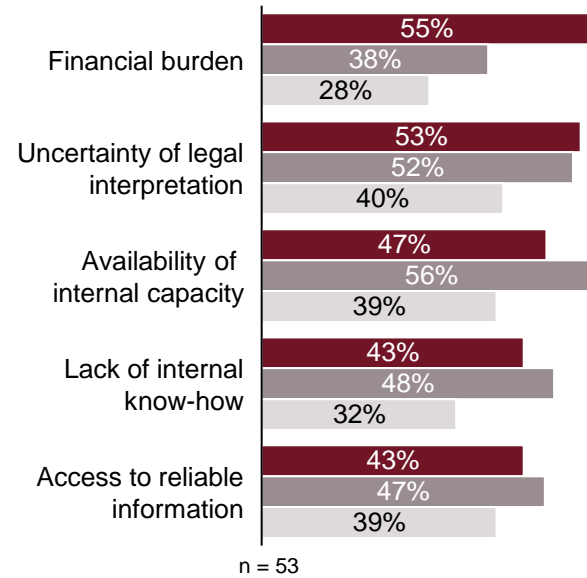
This is where the motion 20.3211 by Damian Müller, member of the Council of States, comes in. It would require that medical devices with FDA certification also be placed on the market in Switzerland – a strengthening of Swiss healthcare and Switzerland as a location for innovation. Medtech companies share this view. Two out of three companies welcome this mandate referred to the Federal Council by Parliament.

# In addition to legal uncertainty, the new medical device regulations have been a financial burden for companies

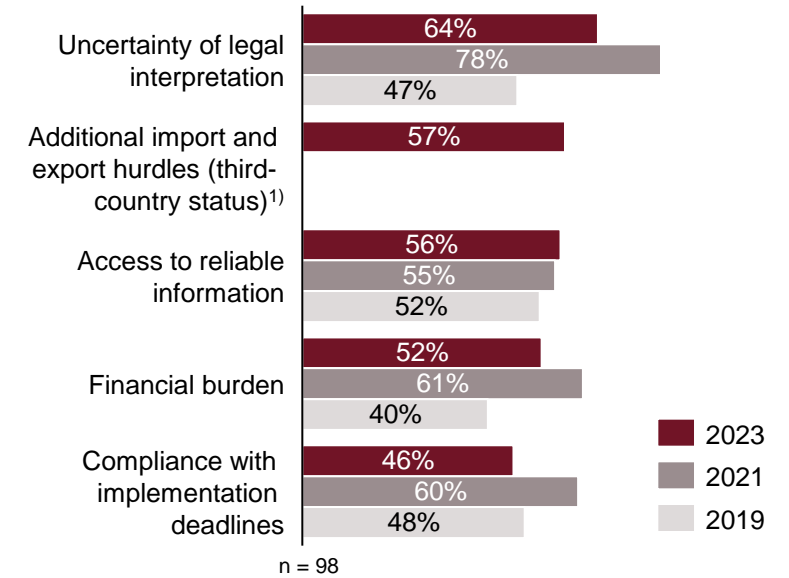
**Top 5 difficulties, manufacturers**  
(in % of all mentions)



**Top 5 difficulties, suppliers**  
(in % of all mentions)



**Top 5 difficulties, trade and distribution**  
(in % of all mentions)



## Comments

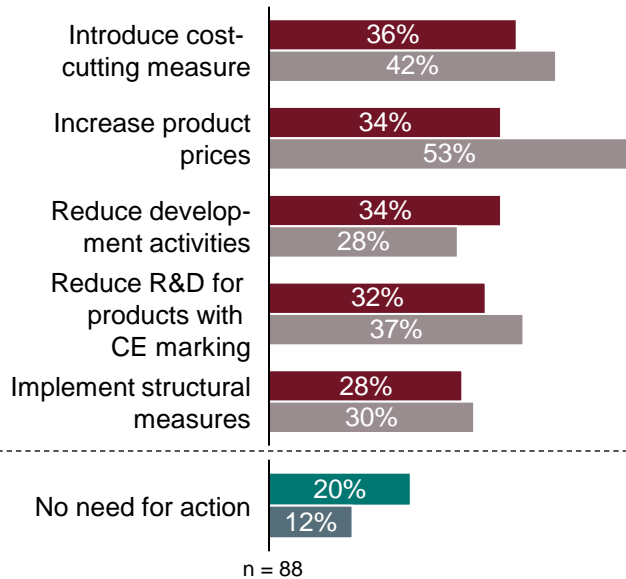
- Legal uncertainty among manufacturers and retailers has decreased in the last two years, but remains high
- MDR/IVDR creates an additional financial burden for manufacturing companies
- The availability and reliability of Notified Bodies (NB) are at odds with each other. The number of NBs has increased and they have hired many additional (although sometimes inexperienced) staff. This situation negatively impacts their reliability

1) New answer option, which is why no comparison with 2021 or 2019 is possible  
Source: SMTI survey result 2024

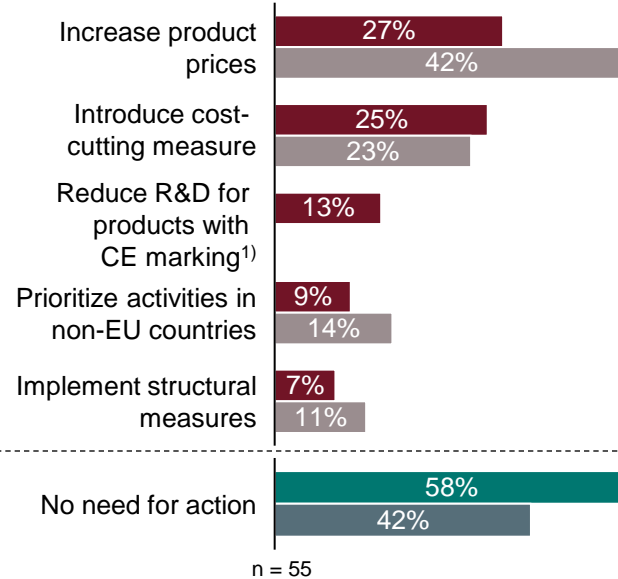


# The introduction of the MDR/IVDR led to cost reduction measures and price increases – often postponing R&D activity

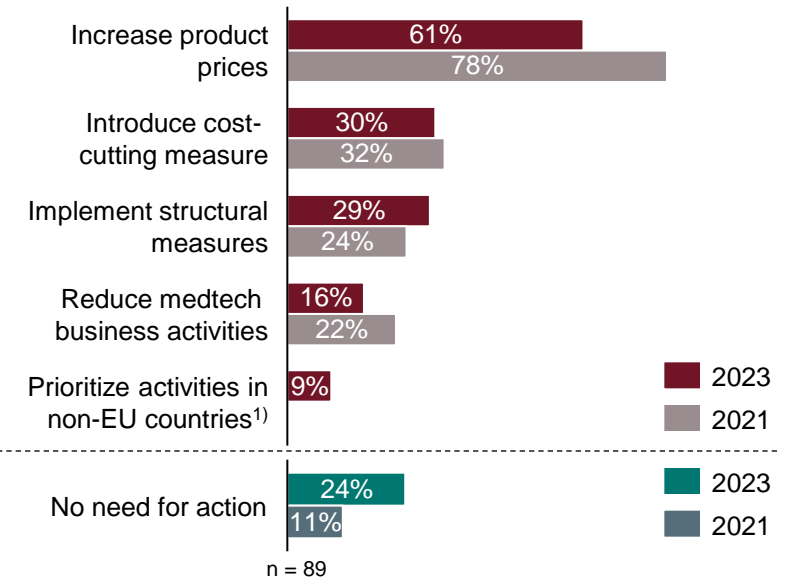
**Top 5 priorities for action, manufacturers**  
(in % of all mentions)



**Top 5 priorities for action, suppliers**  
(in % of all mentions)



**Top 5 priorities for action, traders**  
(in % of all mentions)



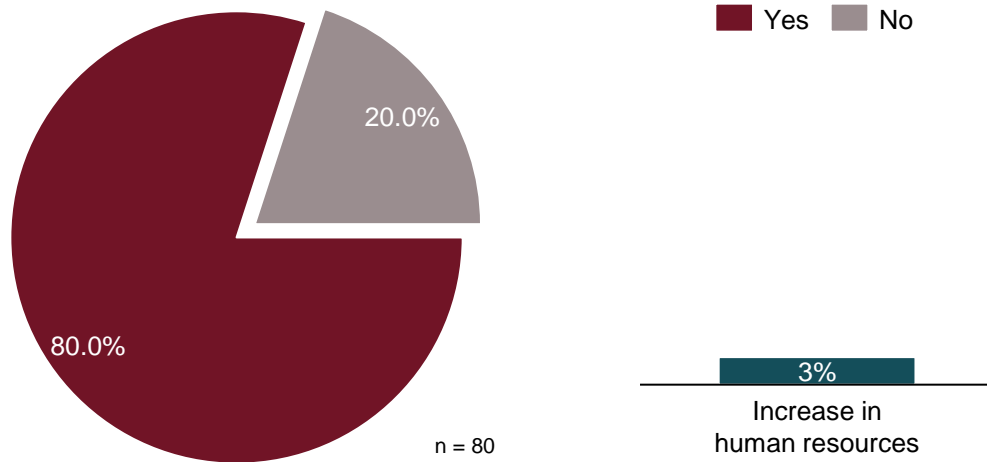
## Comments

- Companies in all categories have responded to the increased regulatory requirements of the MDR/IVDR with cost reduction measures and product price increases. In addition, manufacturers in particular were forced to put innovation projects on the back burner
- Companies have adapted to the new situation. Even though more than 75% of manufacturers and retailers still need to take action, this has decreased slightly compared to two years ago

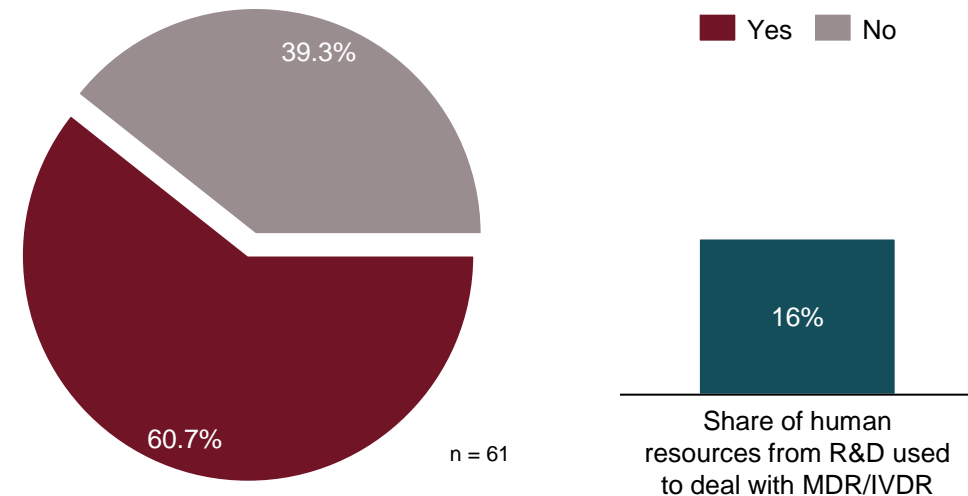
1) New answer option, which is why no comparison with 2021 is possible  
Source: SMTI survey result 2024

# Additional personnel needed to meet MDR/IVDR requirements was covered by hiring new staff and transferring R&D employees

**Increase in human resources**  
(# of mentions in %; manufacturers)



**Use of human resources from R&D**  
(# of mentions in %; manufacturers)

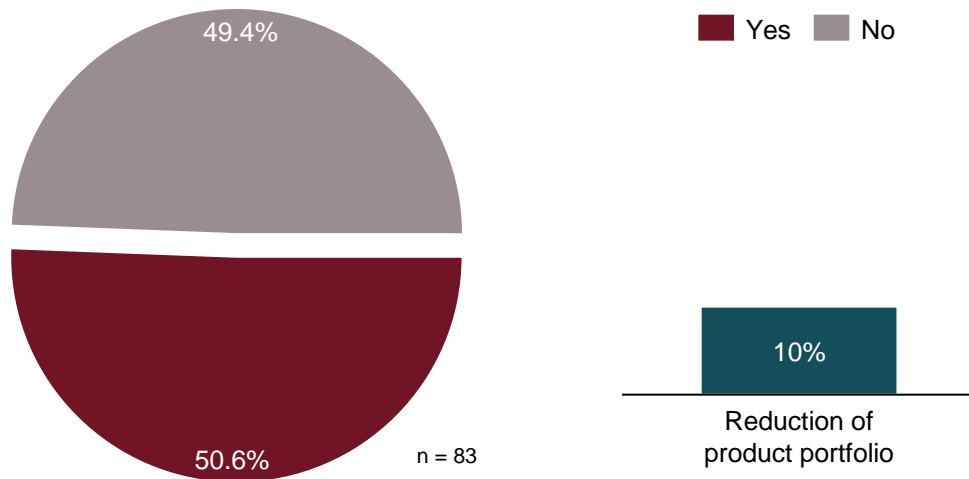


## Comments

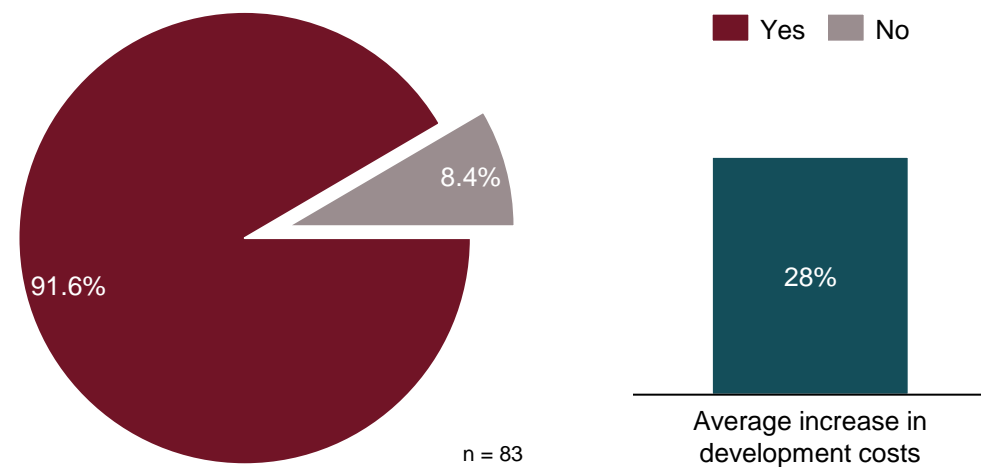
- Four out of five companies have hired additional staff to address the challenges posed by the MDR/IVDR. In addition, many external service providers were called in
- Sixty percent of companies have shifted personnel resources from research and development to deal with the increased regulatory requirements. This will dampen innovation activities of Swiss medtech companies, at least in the short and medium term

# The MDR/IVDR have made development of medical devices considerably more expensive

**Reduction of product portfolio due to the introduction of MDR/IVDR**  
 (# of mentions in %, manufacturers)



**Increase in development costs**  
 (# of mentions in %, manufacturers)



### Comments

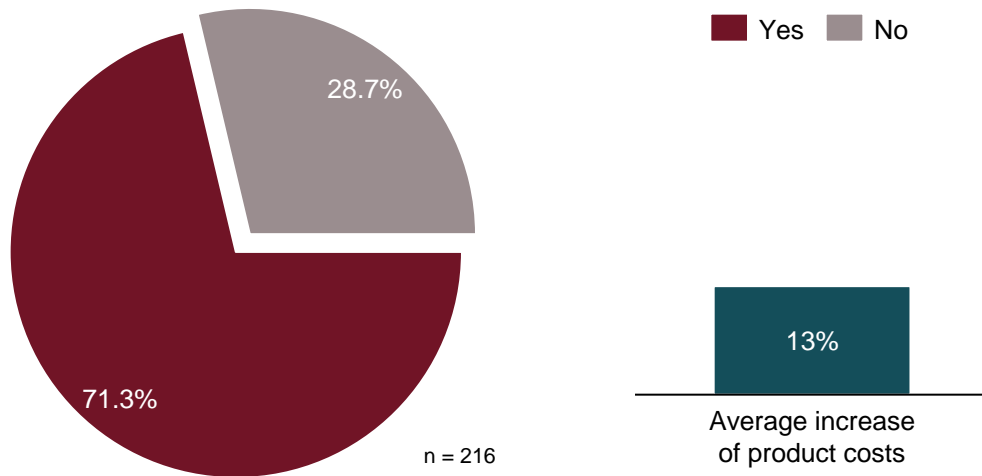
- The MDR/IVDR led to an average 20% reduction in product portfolio of half of the Swiss medtech manufacturers surveyed. This means that around 10% of products are no longer available to the Swiss healthcare system. In addition, companies in the EU have also withdrawn products from the market at a similar rate
- Development costs rose by approx. 30% for almost all companies due to the new regulations. This increase is significantly higher than the 12% anticipated by companies two years ago

Note: Average portfolio reduction not weighted by number of products; to calculate the average increase, the weighted average of the yes share (% of increase) and the no share (0%) was calculated  
 Source: SMTI survey result 2024; MedTech Europe 2022 survey

# Both product costs and price of medical devices have increased as a result of the MDR/IVDR

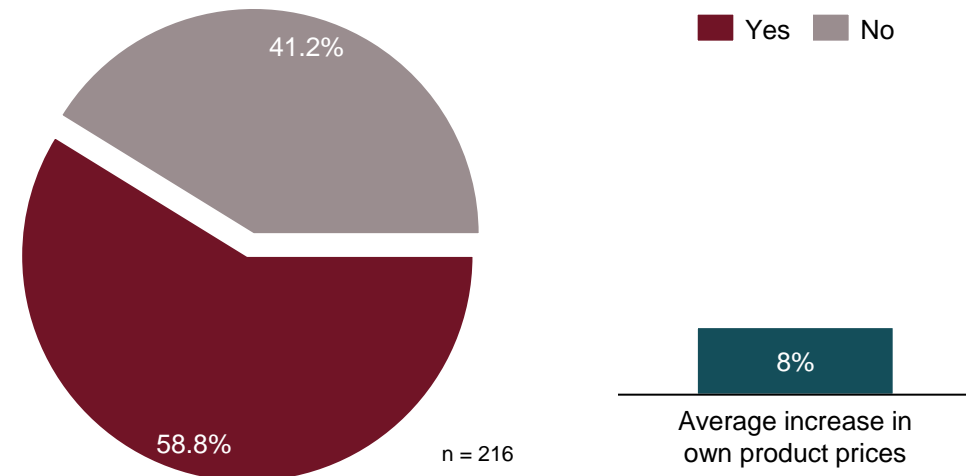
## Increase in product costs

(# of mentions in %; manufacturers, suppliers, trade and distribution)



## Increase in prices of own products

(# of mentions in %; manufacturers, suppliers, Trade and distribution)

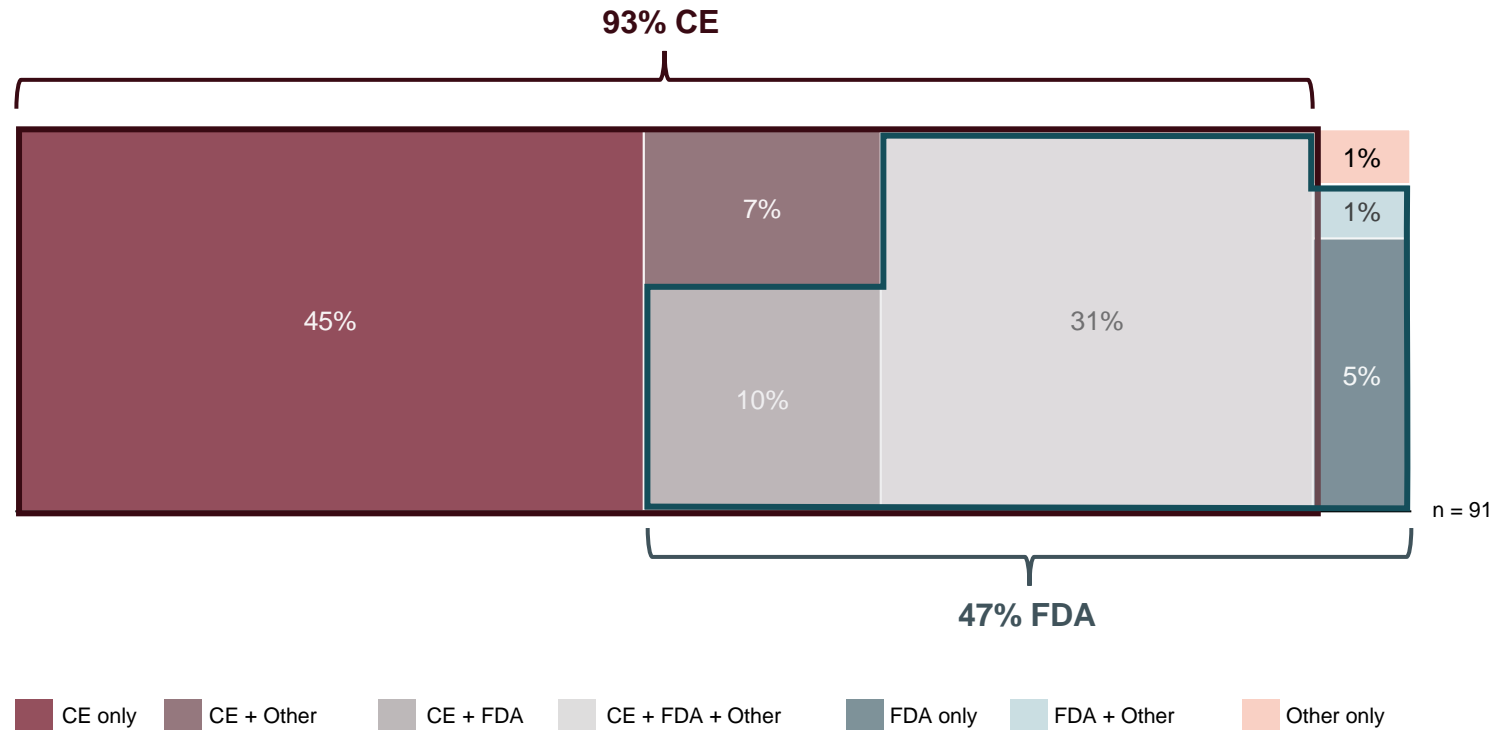


### Comments

- Stricter regulatory requirements (in combination with other factors such as rising inflation, labor costs and energy costs) lead to 13% higher product costs
- Survey participants reported that their own product prices had to be increased by 8% due to the stricter requirements in MDR/IVDR and other cost increases

# Virtually all Swiss medtech manufacturers certify their products to CE – half of them exclusively

**Overview of applied certification systems for own products**  
(number of mentions in %; manufacturer)

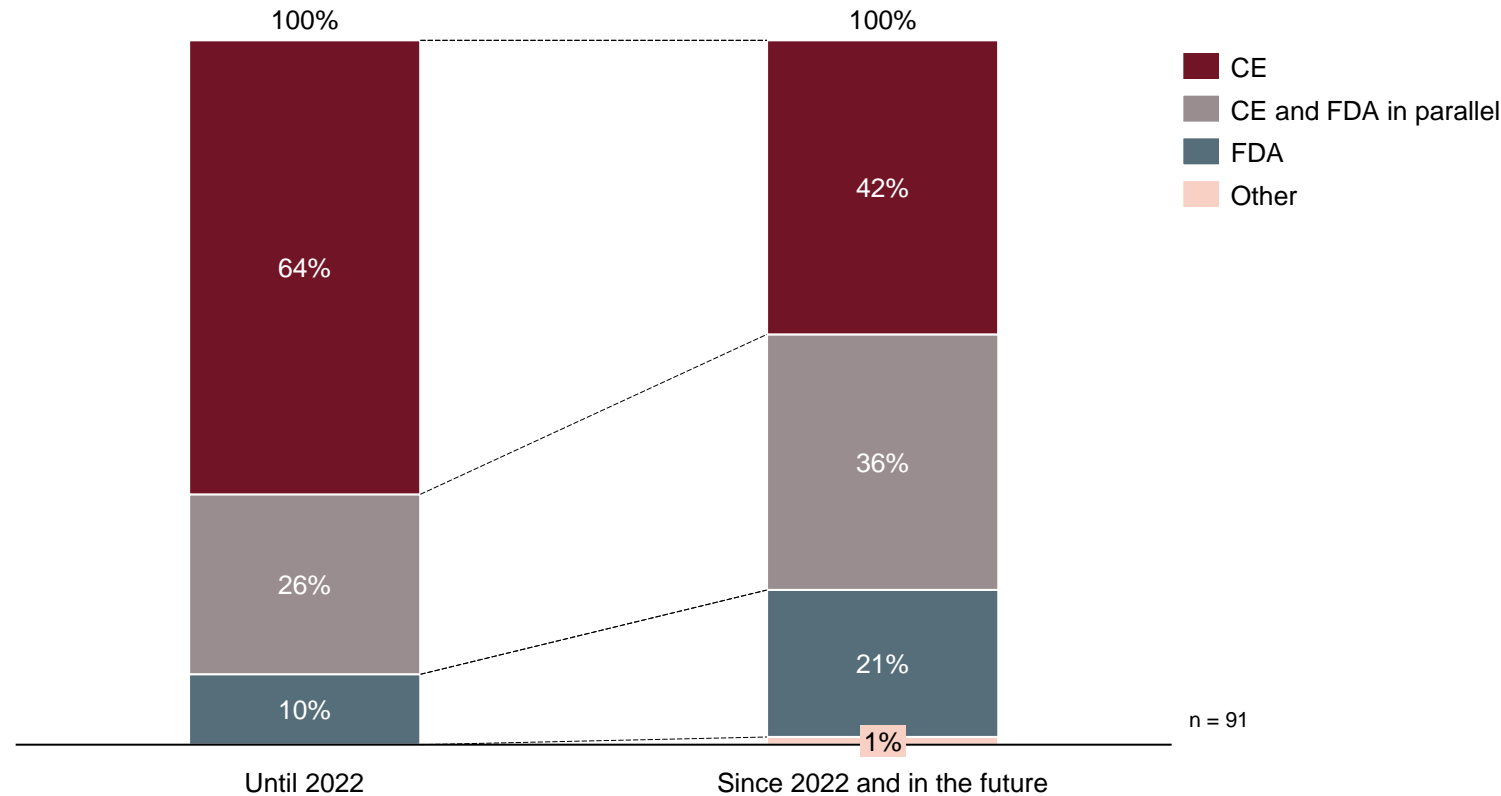


### Comments

- Swiss medtech manufacturers typically certify their products according to CE (93%). Half certify their products exclusively according to CE (45%). These are mainly small and micro companies
- In contrast, mostly large globally active companies hold FDA and other certificates in addition to CE (31%)
- Almost half of all products from Swiss manufacturers are authorized in the USA (FDA approval)

# The European medical device market (CE) is becoming less attractive compared to the US FDA system, and initial approvals are moving away from Europe

**Preferred certification system for first registrations**  
(number of mentions in %; manufacturs)

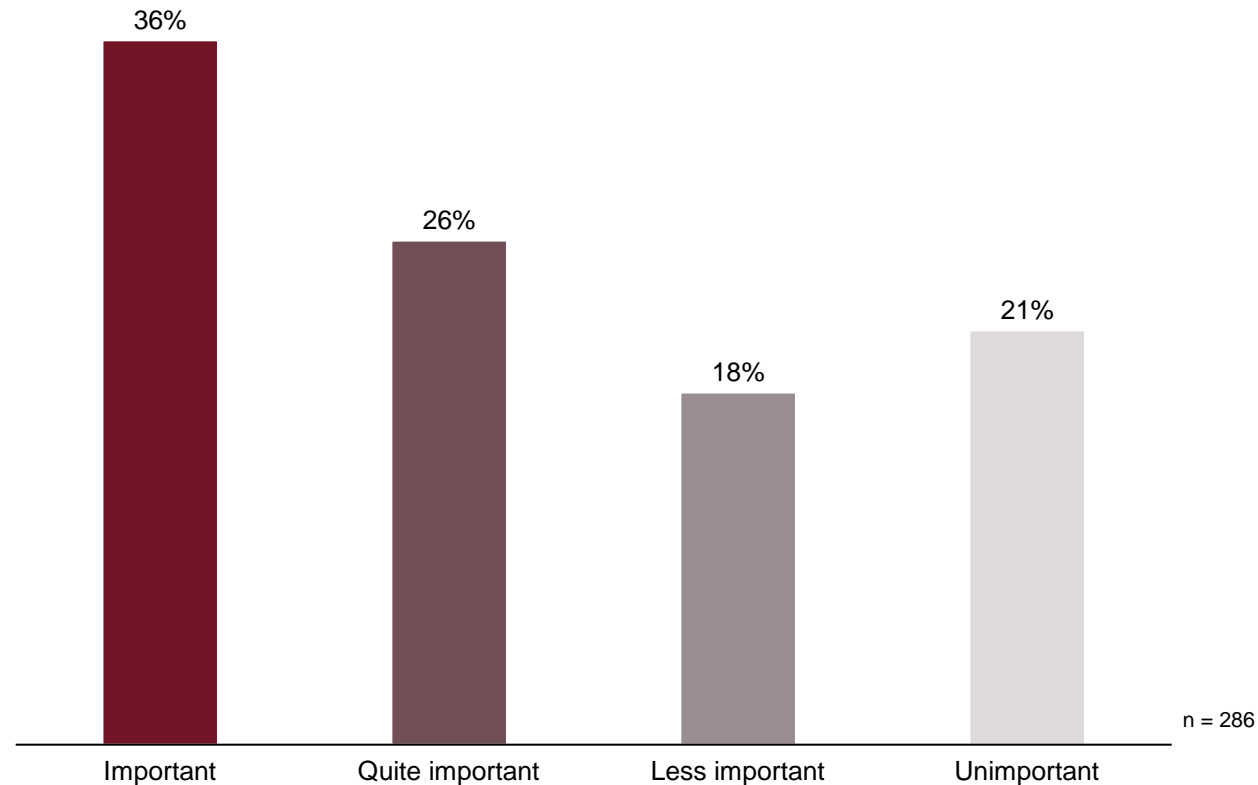


### Comments

- The certification process in Europe (and therefore also in Switzerland) has become more expensive and takes significantly longer due to the MDR/IVDR. As a result, Europe is becoming less attractive as a market for medical devices, and companies increasingly prefer the USA for initial approvals. This is particularly true for Swiss start-ups
- The proportion of medtech manufacturers that look to the USA first for initial product approval has doubled since 2022
- Due to the varying length of certification processes, Swiss innovations are increasingly reaching the market in the USA first and are only available to Swiss patients years later, if at all

## Two out of three medtech companies surveyed consider it (quite) important that FDA products can be brought to market in Switzerland in the future

Importance of FDA product approval for the Swiss market  
(in % of all mentions)



### Comments

- The MDR/IVDR cause medical devices to be voluntarily or involuntarily withdrawn from the market. This affects, for example, niche products with low sales or without sufficient clinical data
- As substitute products cannot always be found within a reasonable period of time, the secure supply of high-quality medical devices to the Swiss healthcare system is threatened
- To counteract supply bottlenecks, 62% of companies surveyed consider it (quite) important that FDA products are approved for the Swiss market
- For this reason, Parliament adopted motion 20.3211 and instructed the Federal Council to amend the legal basis accordingly





## 3 Sustainability and diversity

Interestingly, the issue of sustainability is not mentioned either as one of the most important opportunities, or as one of the most important challenges. The reason for this could be that companies have familiarized themselves with the topic and have drawn their own conclusions. If the topic is approached from the regulatory side and the expected increasing requirements, sustainability is seen more as a challenge. Conversely, the topic is perceived as an opportunity if companies hope to gain vs. the competition via a “first mover advantage”.

### Sustainability

A separate chapter has been dedicated to sustainability in this study despite its unclear classification because: sustainability has become a highly relevant criterion for the medtech industry in terms of market access, reputation, recruitment of junior staff and access to capital. In addition to legislators, customers and investors are the real drivers. They are increasingly demanding data on sustainability, in particular on climate protection across the entire value chain.

Sustainability is defined in the UN’s 2030 Agenda according to Sustainable Development Goals (SDGs). With around 500,000 first-class medical care devices, the medtech industry contributes significantly to achieving Goal 3 “Good health and well-being.” SDGs 8, 9, 12 and 13 are also relevant for medtech companies, which should work towards these goals in order to become more sustainable. In hospitals in particular, medical devices are often disposed of after a single use. Re-use and recyclability could come into focus, not least politically. However, medical technology companies have the greatest leverage in their supply chains (scope 3). This is also where many companies first focus their sustainability efforts. Drawing up a carbon footprint is also a sensible measure, as it gives individual companies a good overview of their own scope or need for action.

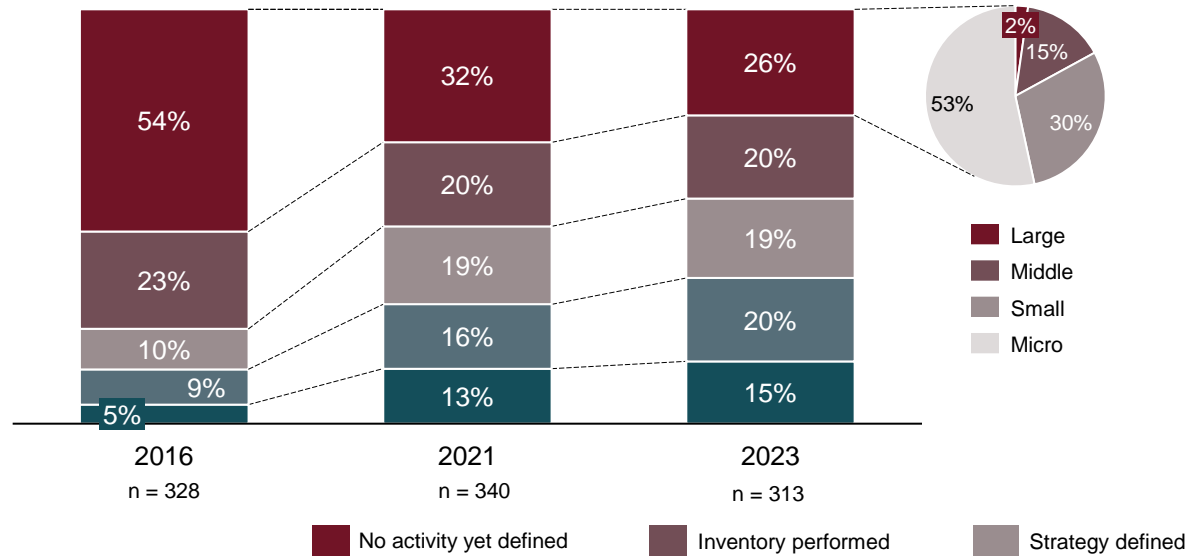
### Diversity

Employees play a central role in promoting both sustainable practices and diversity within the company. In addition to regulatory requirements, they exert (indirect) pressure on company management. This chapter shows that companies have achieved similar progress in diversity as they have in the area of sustainability (and the trend is rising) – but that there is still potential for more. The extent to which efforts related to diversity have progressed also depends on the size of the company. The category also plays (a not insignificant) role in the proportion of women in the company and on the management board. The production-intensive and SME-dominated supply industry has the lowest figures. With a total of 26% women on management boards, the medtech sector as a whole is in line with the Swiss average.

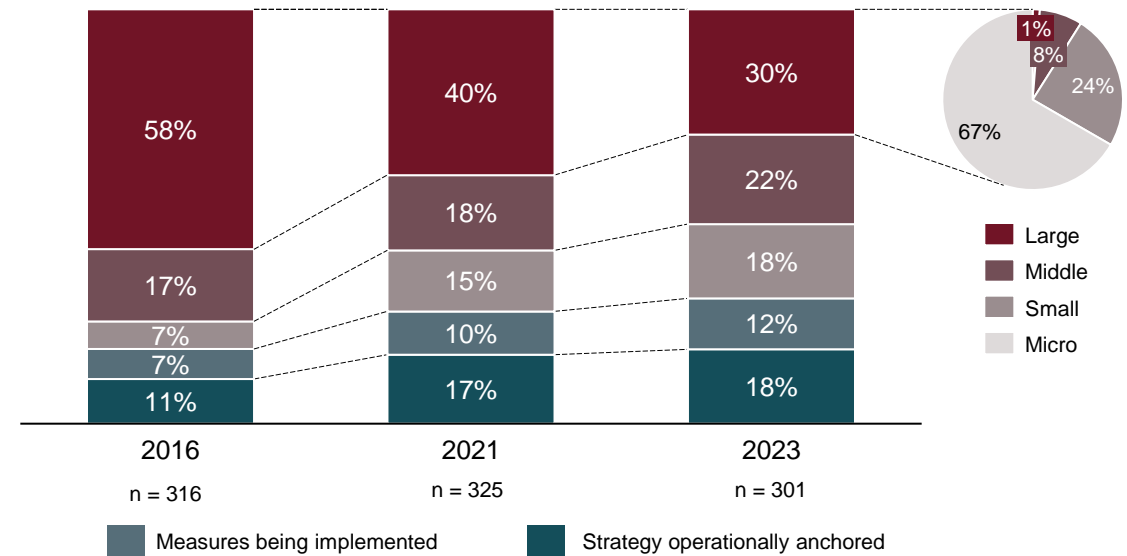


# Sustainability and diversity in companies continue to grow in importance, but are overwhelming small companies in particular

**Focus on sustainability**  
(in % of all mentions)



**Focus on diversity**  
(in % of all mentions)



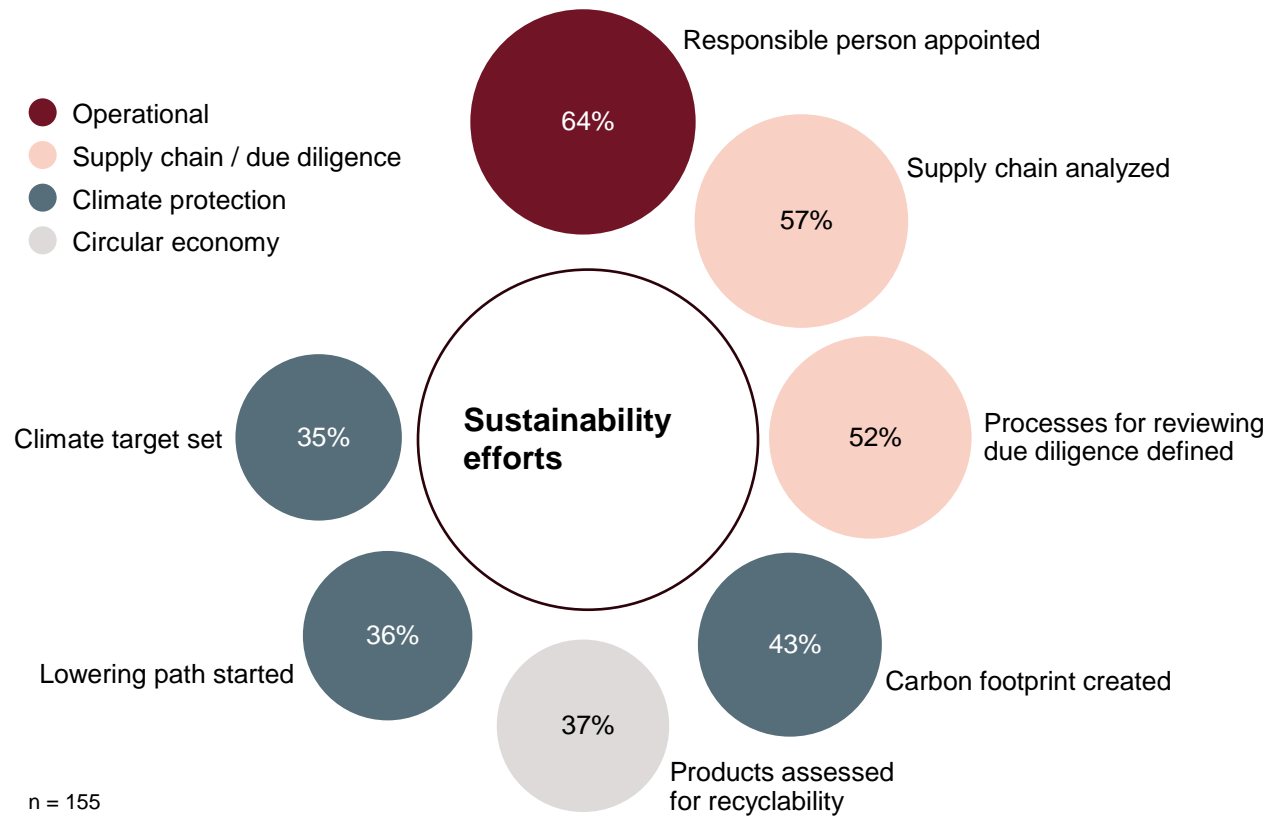
## Comments

- Three quarters of companies surveyed address sustainability issues according to customer requirements but also due to the various related regulations companies face. Small and micro enterprises in particular are focusing on other issues or simply lack available capacity
- The industry reports a similar situation regarding diversity. The trend is moving in the right direction

# The rate of measures already taken reflect the logical process companies follow in their sustainability efforts

## Measures taken in the area of sustainability

(in % of all responses; companies having defined at least one strategy)

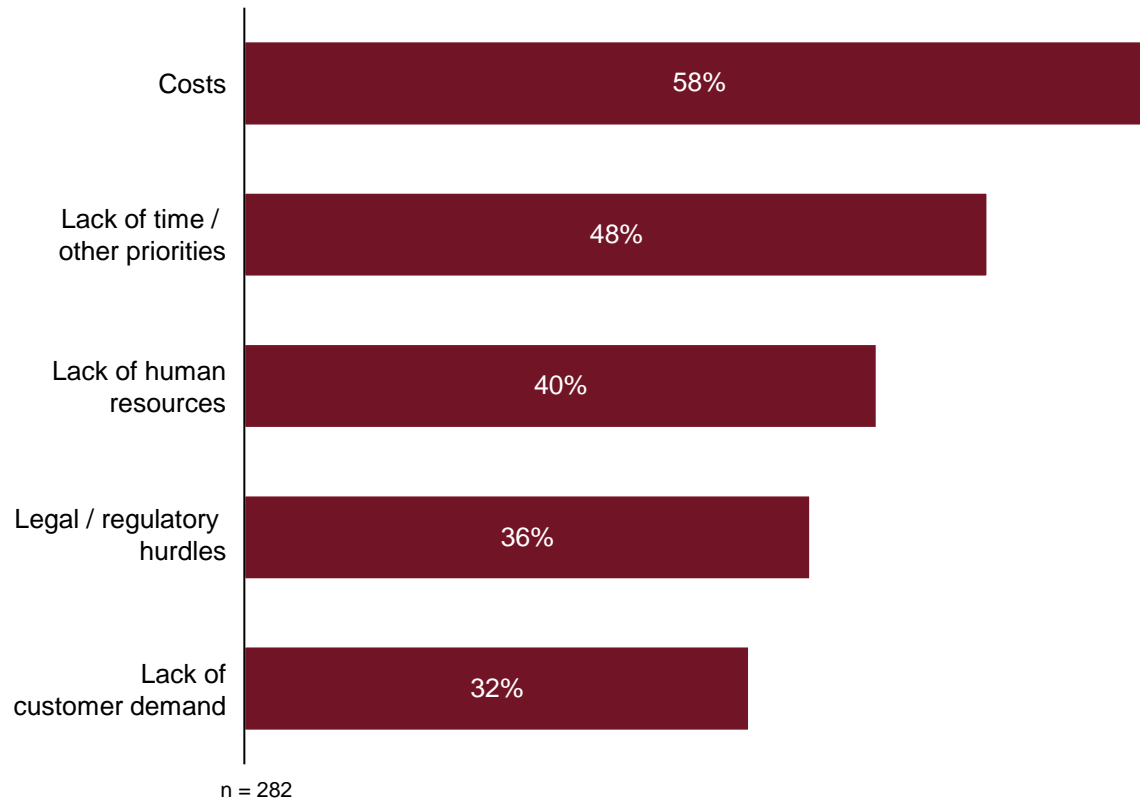


### Comments

- The sustainability measures taken by medtech companies can be roughly divided into three subareas that address different Sustainable Development Goals (SDGs):
  - 1 Supply chain / due diligence obligations (3, 8, 9)
  - 2 Climate protection (13)
  - 3 Circular economy (12)
- Efforts to become more sustainable often start with the appointment of a responsible person
- Medtech companies have the greatest leverage in the supply chains (scope 3), where new regulations are also being drafted
- Drawing up a carbon footprint provides valuable information on the supply chain and identifies areas for action. In the case of medical products, for example, it becomes clear that the recyclability of products should be improved

## Both customers and company employees are demanding more sustainable products – the biggest obstacles are the associated costs and lack of time

### Obstacles to implementation / improvement of sustainable practices (in % of all mentions)

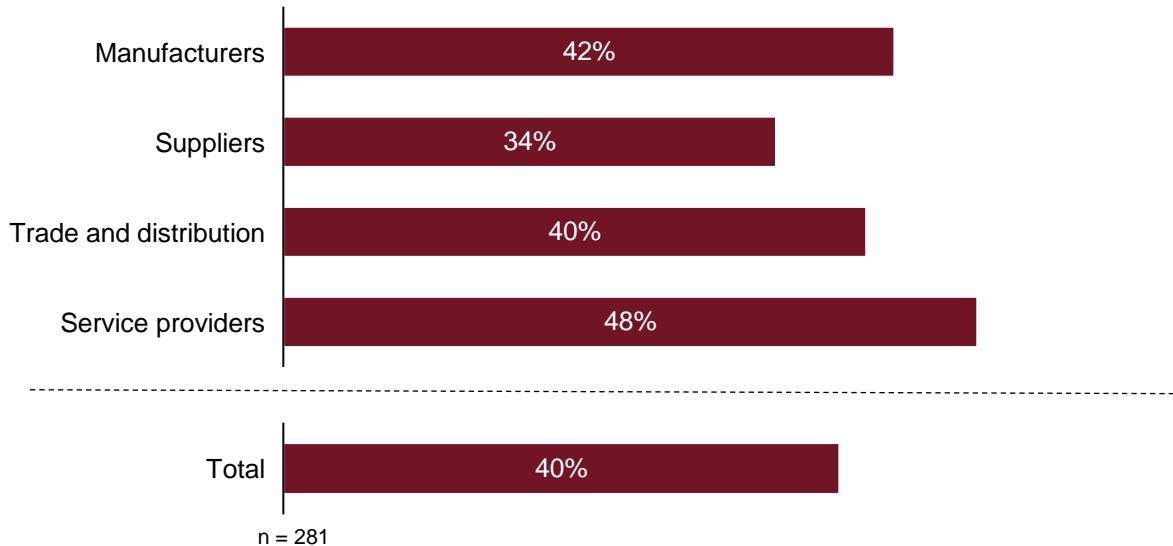


### Comments

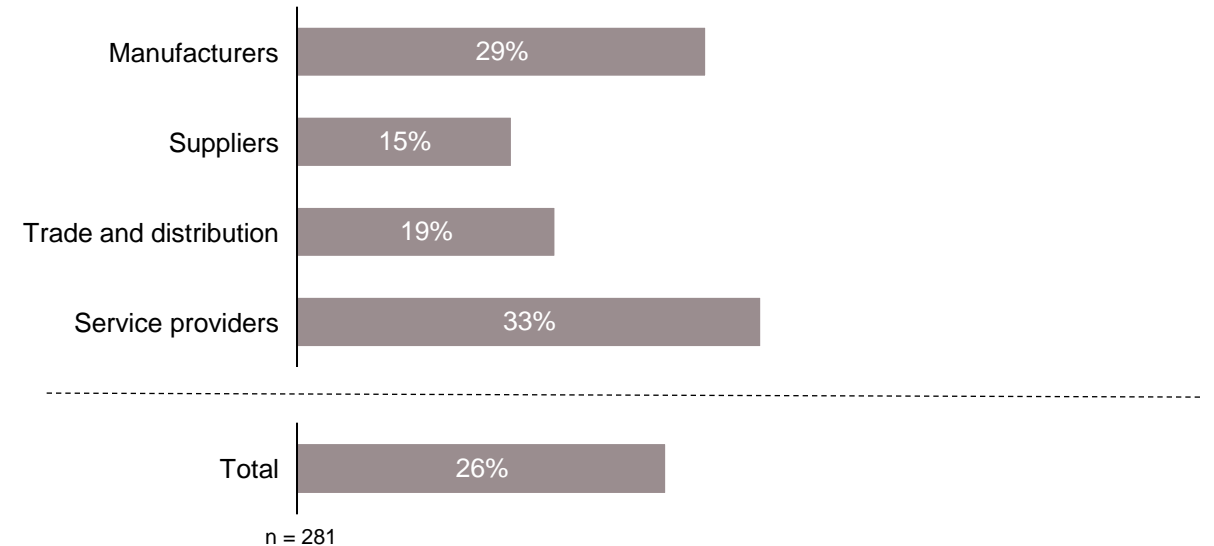
- How much progress companies have made in sustainability depends largely on their size
- Large companies are able to address the new topic more easily than SMEs
- It is therefore not surprising that 58% of respondents particularly cite the associated costs as an obstacle to implement sustainable practices
- Customer demand for more sustainable products does exist. At the same time, the willingness to pay more for these products is apparently still too low – as individual companies have commented
- Medtech companies are also feeling pressure from their employees to become more sustainable

## The proportion of women on the management boards of Swiss medtech companies is comparable with other sectors

**Percentage of women in companies, by category**  
(in % of all mentions)



**Proportion of women on management boards**  
(in % of all mentions)



### Comments

- The production-intensive supply industry has the lowest proportion of women at 34% (workforce) and 15% (management). A significant influence of company size on the proportion of women in the company cannot be deduced from the survey data
- Despite the low figure for suppliers, the medtech sector is roughly equivalent with the national average for proportion of women in management (26%). There are major differences between sectors: While women make up the majority of managers in the social services sector, for example, the percentage is significantly lower in the energy sector (15.6%) or mechanical engineering (15.5%) than in medtech



## 4 Innovation and technology

## 4 Innovation and technology

Medical technology plays a key role in achieving the goals of medicine. These aims include the prevention of disease and the promotion of health. Medical technology uses technological principles that interact directly with the human body. This synergy enables diagnosing, monitoring states of health, carrying out therapeutic measures and ensuring patient care.

Continuous investment in research and development is required to maintain the industry's innovative strength and secure Switzerland's leading role (measured by the number of patent applications per capita). The Swiss medical technology sector invests around CHF 1.8 bn in R&D every year.

Five years ago, we identified 18 innovation drivers and have since asked the industry every two years about their innovation priorities.

According to the survey, the most important driver of innovation for manufacturers is the improvement of existing production processes through automation and digitalization (Industry 4.0). The development of new production processes (e.g., 3D printing, dematerialization), on the other hand, plays a lesser role.

Product innovations such as the collection of human biological and environmental data, intelligent devices (smart devices) on and in the body (wearables, hearables, implantable), and new types of materials are seen as the second focus of innovation by the industry. Technologies such as individualized products and the development of new sensors for data collection are gaining in importance but not yet widespread.

Observers note that innovation drivers aimed at meeting patient needs have become increasingly important in recent years. These include access to information to protect the patient's health, disease prevention as part of everyday life and ease of interaction with the healthcare system (e.g., telemedicine, diagnostics/therapy at home or at the point of

care). Innovations which manage patient data by analyzing large amounts of data (big data) or recognizing patterns in diagnostics (also supported by AI) are viewed with caution. Looking at patent applications provides an additional glimpse into the future. In 2021, the most world-class patents were filed in the field of patient data processing.

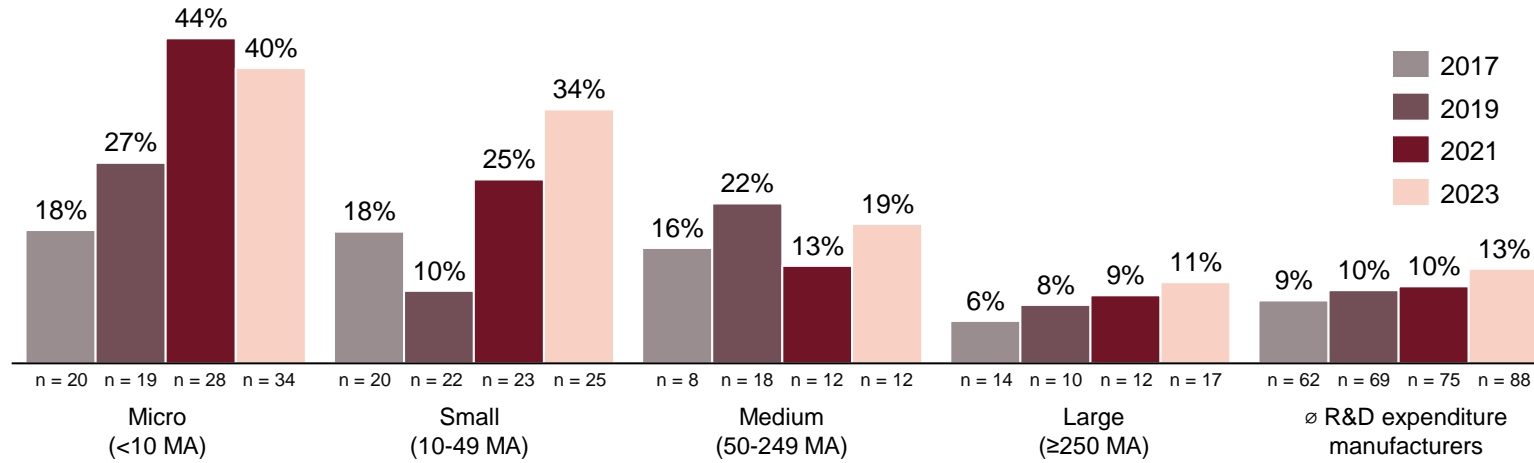
A fourth group of innovation drivers has gradually gained in importance in recent years, although its absolute relevance remains low. These include personalized diagnostics, augmented reality / virtual reality as an optical aid in the visualization of patient data, in planning or for training purposes in the simulation of therapies, and automation and robotization in therapies.

Artificial intelligence (AI) has experienced rapid expansion in recent years. A third of manufacturers are already using AI today, while another third are planning to use it – primarily in product innovations, internal processes and diagnostics.

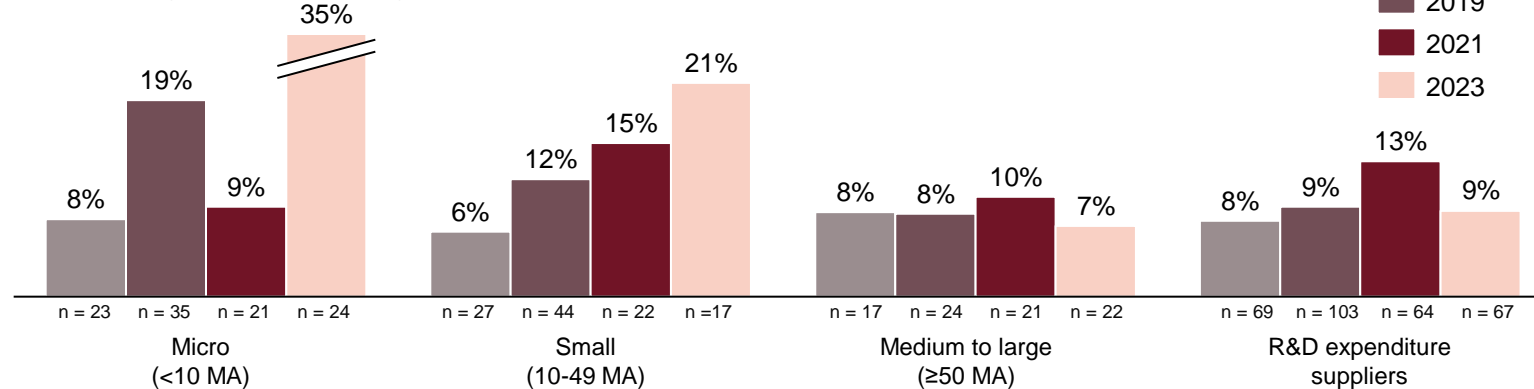
Product innovations with novel sensors and new manufacturing processes are seen as the biggest challenges. The greatest opportunities are attributed to innovation drivers such as individualization, smart devices and material innovation. The picture is ambivalent when it comes to telemedicine, which is seen as both an opportunity and a challenge.

# Manufacturers increasing R&D spending to maintain innovation and temporarily cope with MDR requirements

**R&D expenditure as proportion of manufacturers' sales**  
(in %, weighted according to sales)



**Share of R&D expenditure of suppliers' medtech sales**  
(in %, weighted according to sales)



## Comments

- Expenditure on R&D is an important indicator of a company's commitment to innovation. Medical technology is characterized as an industry with a high proportion of R&D. According to the survey results, Swiss medical technology companies invest around CHF 1.8 bn annually
- Switzerland's R&D expenditure amounts to 3.2% of GDP, which puts it in seventh place internationally. Medtech manufacturers reinvest 13% of their sales in R&D
- However, these investments not only benefit innovation, but were partly used for coping with regulatory requirements – the innovative strength is weakened by MDR/IVDR
- In MEM industries, R&D expenditure is approx. 5%; in the pharmaceutical industry around 16%



# 18 drivers of innovation in medical technology, divided into five main categories

Digitalization as a driver for new applications and usage options in processes, products and services

## Product innovation

<b>1</b>	<b>Smart devices</b>	Smart design and engineering, wearables, hearables, implantables, etc.
<b>2</b>	<b>Material innovation</b>	Improved properties: durability, biocompatibility, surfaces, malleability, etc.
<b>3</b>	<b>Substitution technology</b>	New sensors for continuous non-invasive and invasive measurement of body data, etc.
<b>4</b>	<b>Data acquisition</b>	Internet of things, sensorization, integration with evaluation software, etc.
<b>5</b>	<b>Individualization</b>	Individualized prostheses and implants, electronic tablets, etc.

## Manufacturing process

<b>1</b>	<b>Manufacturing processes</b>	Industry 4.0, digitalization of industrial production, automation and robotization, etc.
<b>2</b>	<b>Substitution technology</b>	3D printing, dematerialization, digitalization, miniaturization, batch size 1, etc.

## Diagnostics

<b>1</b>	<b>Service automation</b>	Remote monitoring, automatic ordering of replacement parts, etc.
<b>2</b>	<b>Patient data processing</b>	Big data analysis and processing, cyber security, artificial intelligence (AI), pattern recognition in unstructured data, etc.

<b>3</b>	<b>Personalized medicine</b>	Precision medicine adapted to genome, patient-specific implants, etc.
<b>4</b>	<b>Augmented Reality / Virtual Reality</b>	Viewing internal body structures, visualization of complex data, simulation of interventions, surgery planning including risk management, etc.
<b>5</b>	<b>Human-machine interfaces</b>	Intuitive handling, speech recognition, brain-computer interfaces, etc.

## Therapy

<b>1</b>	<b>Automation and robotization</b>	Robots to support surgical, hospital, and nursing staff, etc..
<b>2</b>	<b>Decision-making autonomy of physicians</b>	Automation of interpretation and decision-making based on diagnostic values, etc.

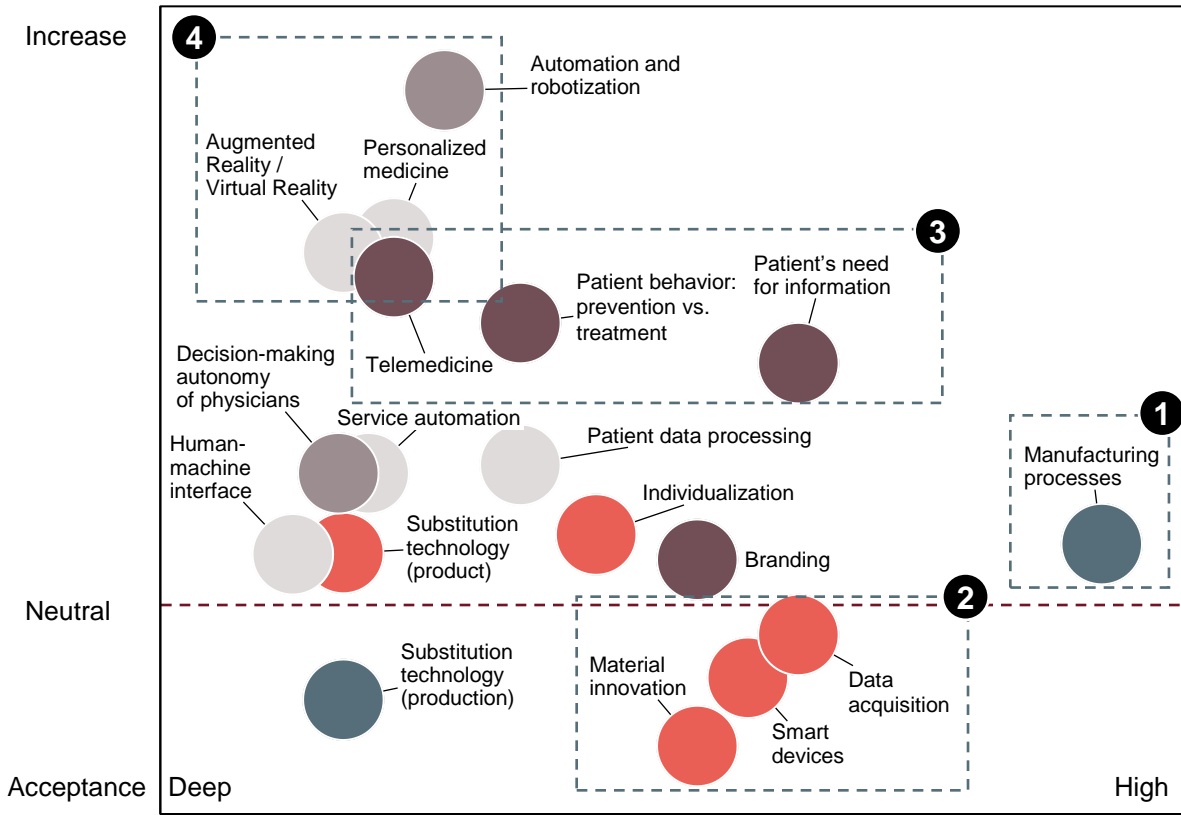
## Healthcare

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

# Innovation focus of manufacturers continues to be on manufacturing processes and product development – patient technologies in diagnostics and therapy becoming increasingly relevant

## Change in relevance of technologies

(Change in # mentions over the years 2019 to 2023, manufacturers)



Relevance of technologies (# mentions, manufacturers)

n = 88

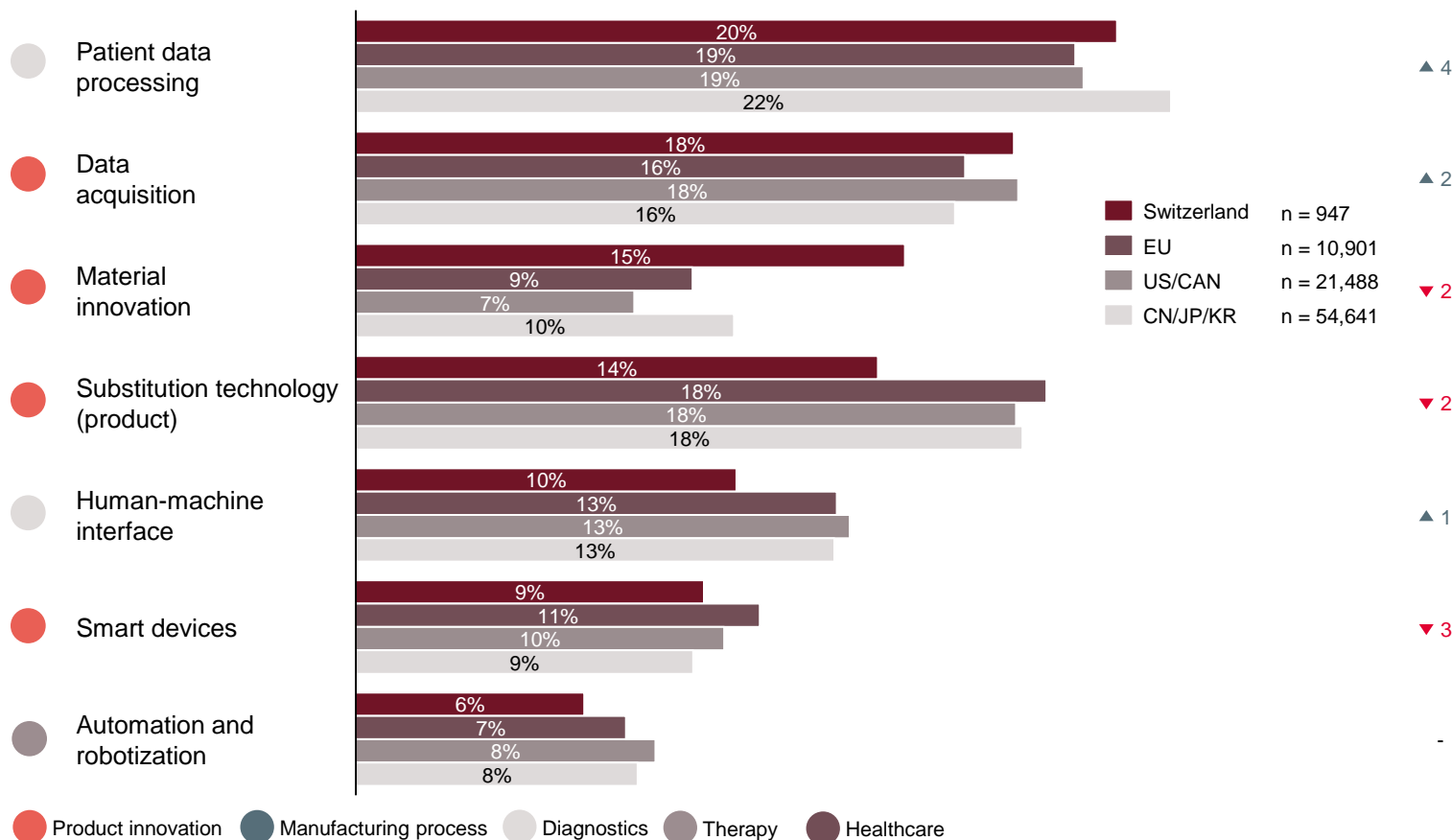
- Product innovation
- Manufacturing process
- Diagnostics
- Therapy
- Healthcare

## Comments

- 1** Innovations within manufacturing processes such as Industry 4.0, digitalization of industrial production, automation and robotization are clearly the focus of manufacturers
- 2** Product innovation such as smart devices, data acquisition and material innovation have been in the top ranks for years, but the number of mentions is declining
- 3** Patient-centered innovations in healthcare have been increasingly embraced by the industry. Manufacturers are proactively responding to patients' need for more information on health and types of therapy
- 4** Relevance of the following innovations and technologies in diagnostics and therapy is still low, but is clearly growing
  - Personalized medicine: individual implants, laboratory analysis or usage of patient data for individualized therapies
  - Augmented Reality / Virtual Reality: education and training with realistic simulations, location-independent diagnostics and treatment
  - Automation and robotization such as robot-assisted surgical procedures, care and rehabilitation

# The global gap in patent applications for patient data processing and data recording has been closed – materials innovation and smart devices have lost ground

**Top 7 innovation drivers derived from patent applications<sup>1)</sup> in the 4 regions in 2021**  
(in % of all patent applications with allocation to the top trends)



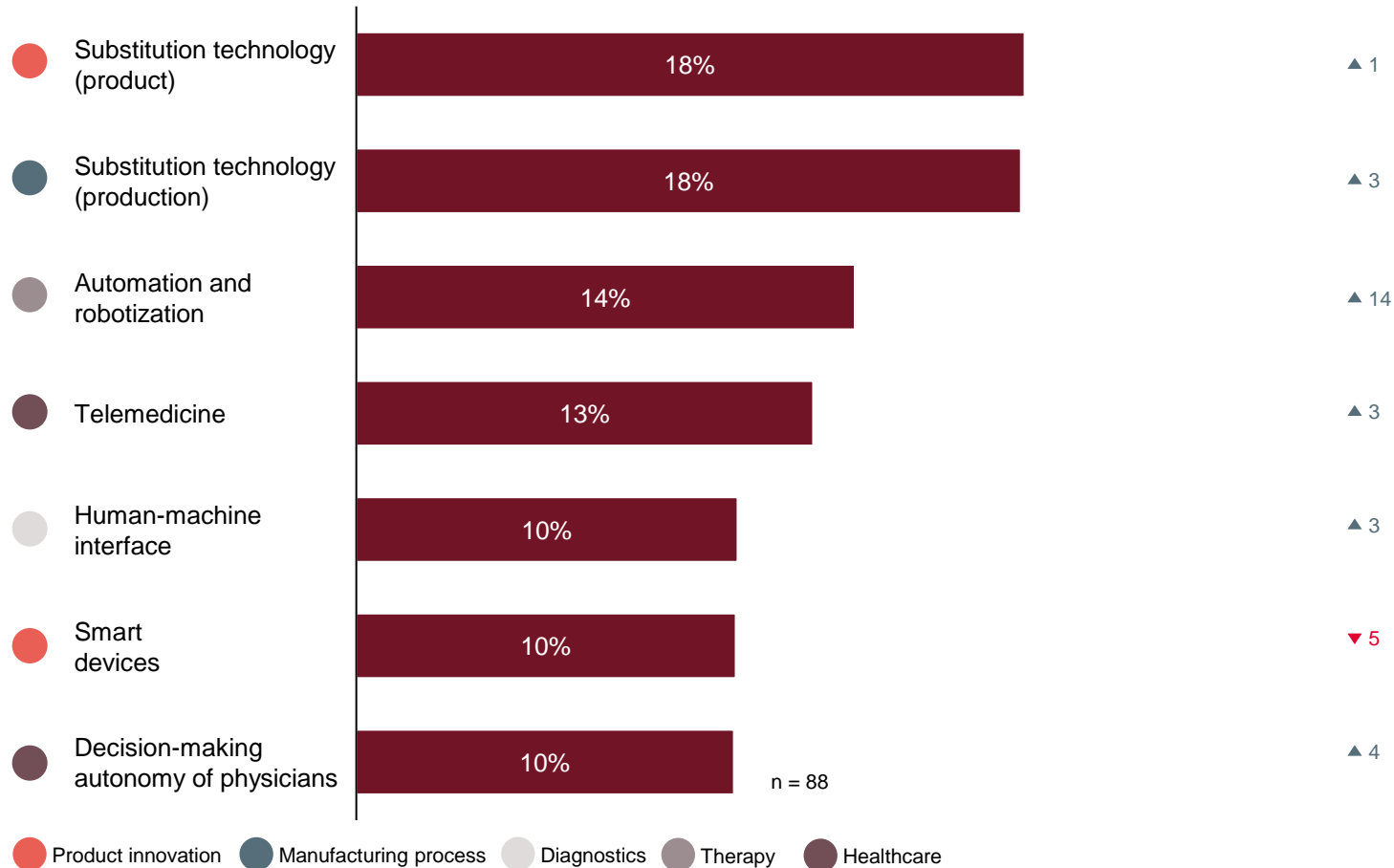
1) Registration of patents with high significance = world-class patents (citation, technical relevance, breadth of patent coverage), 60-70% of patent applications in 2021 taken into account; excluding large appliances, hospital equipment, disposables, prostheses  
 Note: Change in ranking compared to the 2022 SMTI study ▲ ▼  
 Source: EconSight GmbH

## Comments

- Switzerland remains in first place regarding the number of world-class patent applications<sup>1)</sup> per capita (68), ahead of South Korea (44) and Denmark (43)
- Patents for materials innovation, substitution technology (product) and smart devices have lost ground in Switzerland. This is also reflected in the change in relevance of the 2024 survey results
  - In global comparison, Switzerland still focuses strongly on materials innovation
- Data-driven innovations such as patient data processing and data acquisition have now also risen to the top of the Swiss patent landscape. Internationally, these two innovation drivers have occupied the top ranks since 2018

# In addition to substitution technologies in products and production, automation, robotization and telemedicine are seen as the greatest challenges

**Top 7 challenges from the manufacturers' perspective**  
(in % of all mentions)



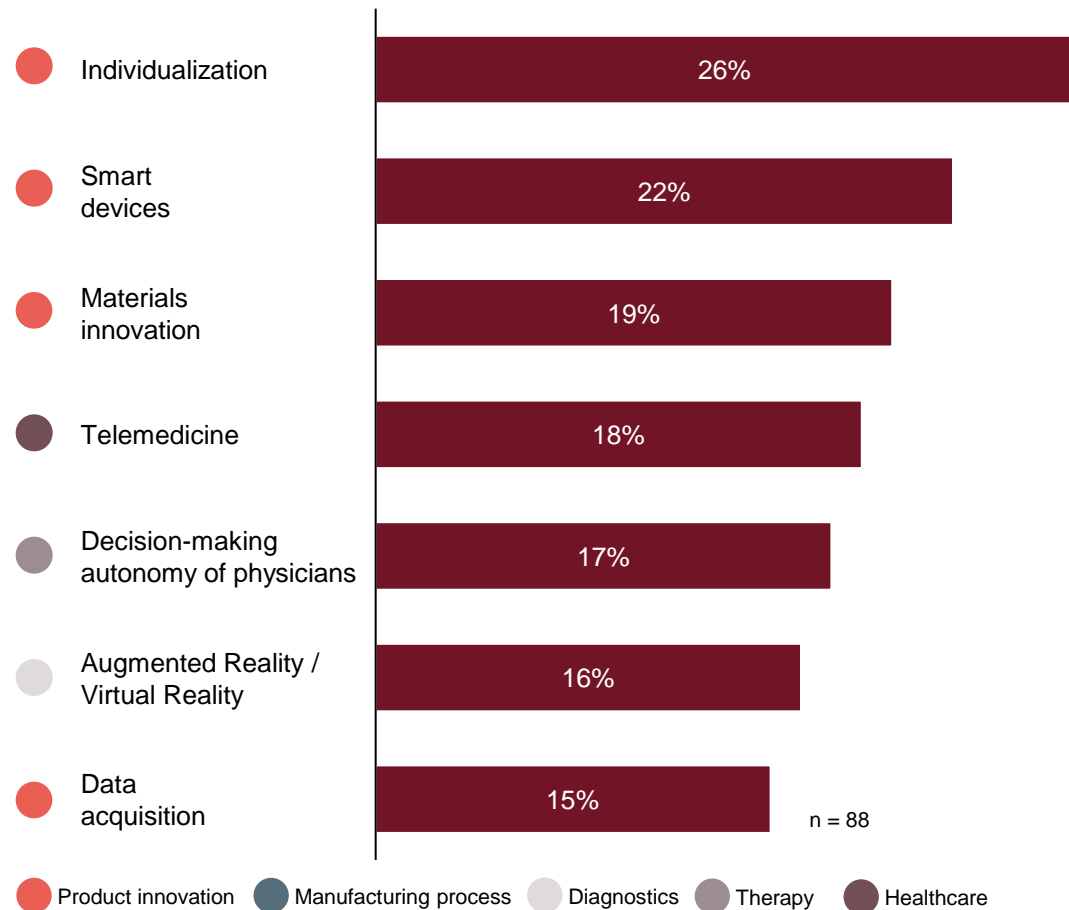
Note: Change in ranking compared to the 2022 SMTI study ▲ ▼  
Source: SMTI survey result 2024

## Comments

- Smart devices are no longer viewed as the biggest challenge. Instead, almost one in five manufacturers cite substitution technology for products and manufacturing as the biggest challenge
- The innovation of automation and robotization in therapy has now made it into the top 7 challenges
- Telemedicine is also described by one in seven manufacturers as increasingly challenging. The innovation driver of physician decision-making autonomy within automated interpretation and decision-making based on diagnostic values (supported by AI) are also new in the top 7 challenges

## Product innovations such as individualization, smart devices and material innovations are seen as major opportunities by manufacturers

### Top 7 opportunities from the manufacturers' perspective (in % of all mentions)

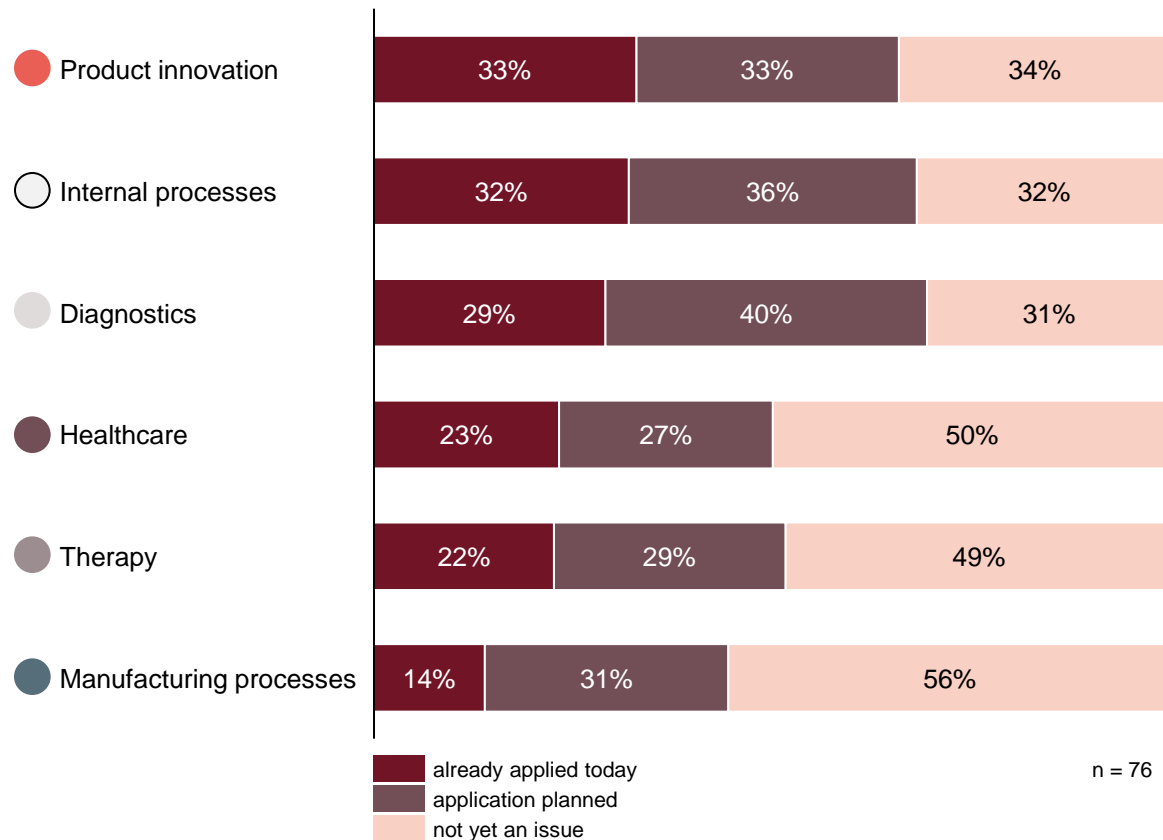


### Comments

- Among the drivers of innovation, survey participants see individualization as the greatest opportunity – for example, custom-made implants, and laboratory analysis for more individualized diagnosis and treatment
- Smart medtech devices, innovative medical aids for prevention, diagnosis and therapy, and materials innovation are seen by manufacturers as high potential opportunities
- Telemedicine and physician decision-making autonomy are seen on the one hand as top opportunities, and on the other hand as top challenges of innovation (see previous page)
- Patient data processing (including big data analysis / processing, AI) does not make it into the list of top opportunities (rank 14)

# One third of manufacturers are already using AI today, another third are planning to use it

**Use of AI from the manufacturers' perspective**  
(in % of all mentions)



### Comments

- Artificial intelligence (AI) is revolutionizing medical technology as it enables the processing of large amounts of data, early detection of diseases and improvements in the accuracy of diagnostics. These advances result in personalized recommendations, faster decision-making, and more precise and effective healthcare overall
- The legal framework in connection with medical technology is still being in development. The EU Artificial Intelligence Act was passed in May 2024
- Typical applications for AI include diagnostic imaging, health predictions, personalized medicine, robotic surgery, wearables and remote monitoring
- Two thirds of the surveyed companies are already using or planning to use AI
  - Product innovation, internal processes and diagnostics are the most mentioned areas of application with the greatest potential

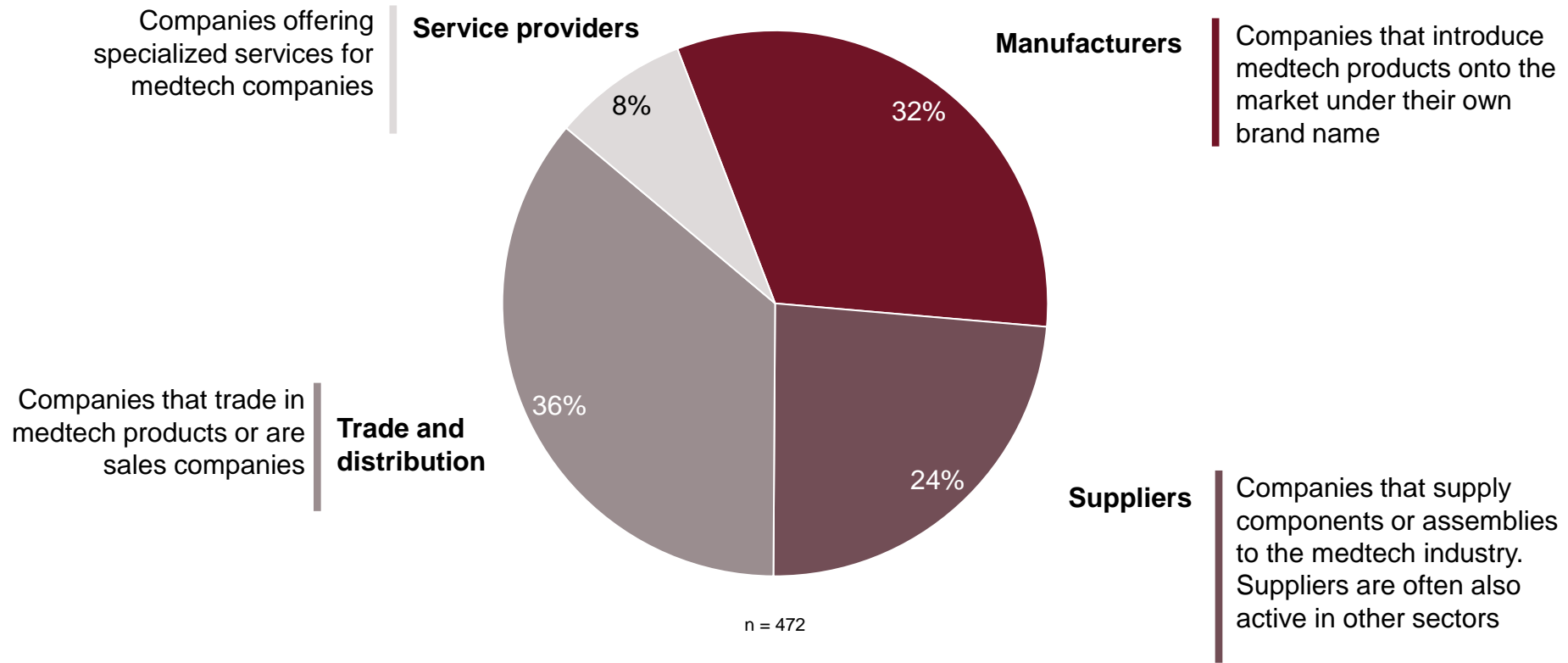


## Methodology and appendix

- 1 Survey participant profiles
- 2 Methodology
- 3 Partner and publisher
- 4 List of abbreviations

## 472 companies in the medical technology sector took part in the SMTI survey 2024

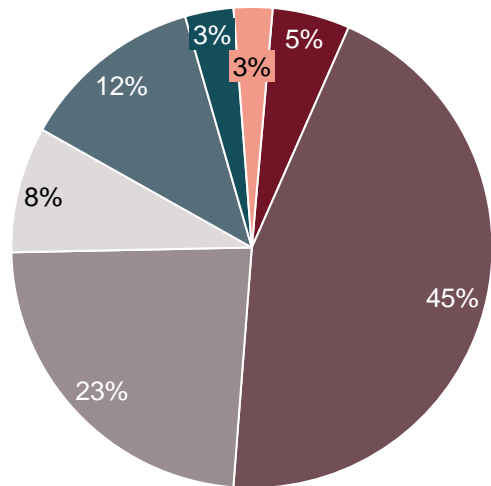
### Participating companies, by category (in %)





# Companies participating in the survey represent a diverse mix...

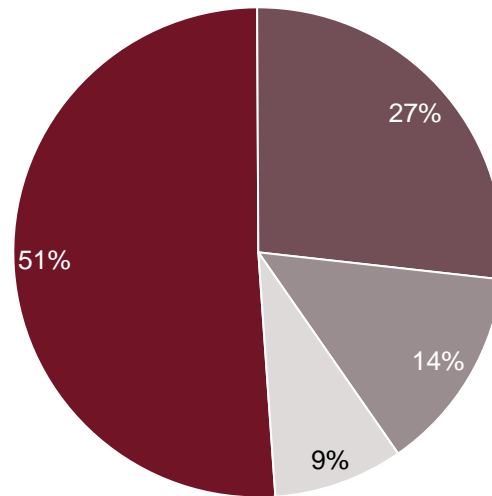
**Company size according to medtech sales<sup>1)</sup> (in %)**



n = 307

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

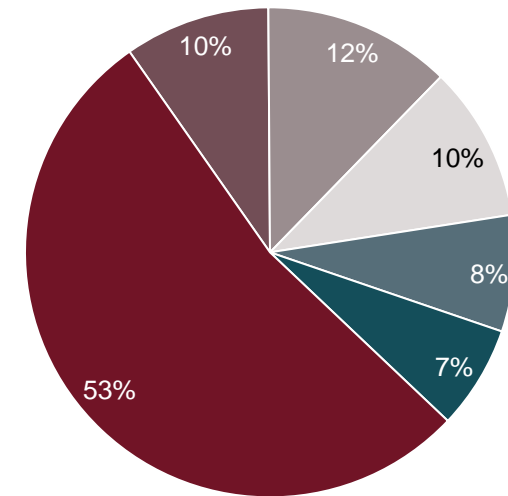
**Company size by # of employees in Switzerland (in %)**



n = 339

- Micro (<10 empl.)
- Small (10-49 empl.)
- Medium (50-249 empl.)
- Large (≥250 empl.)

**Company age by date of foundation (in %)**



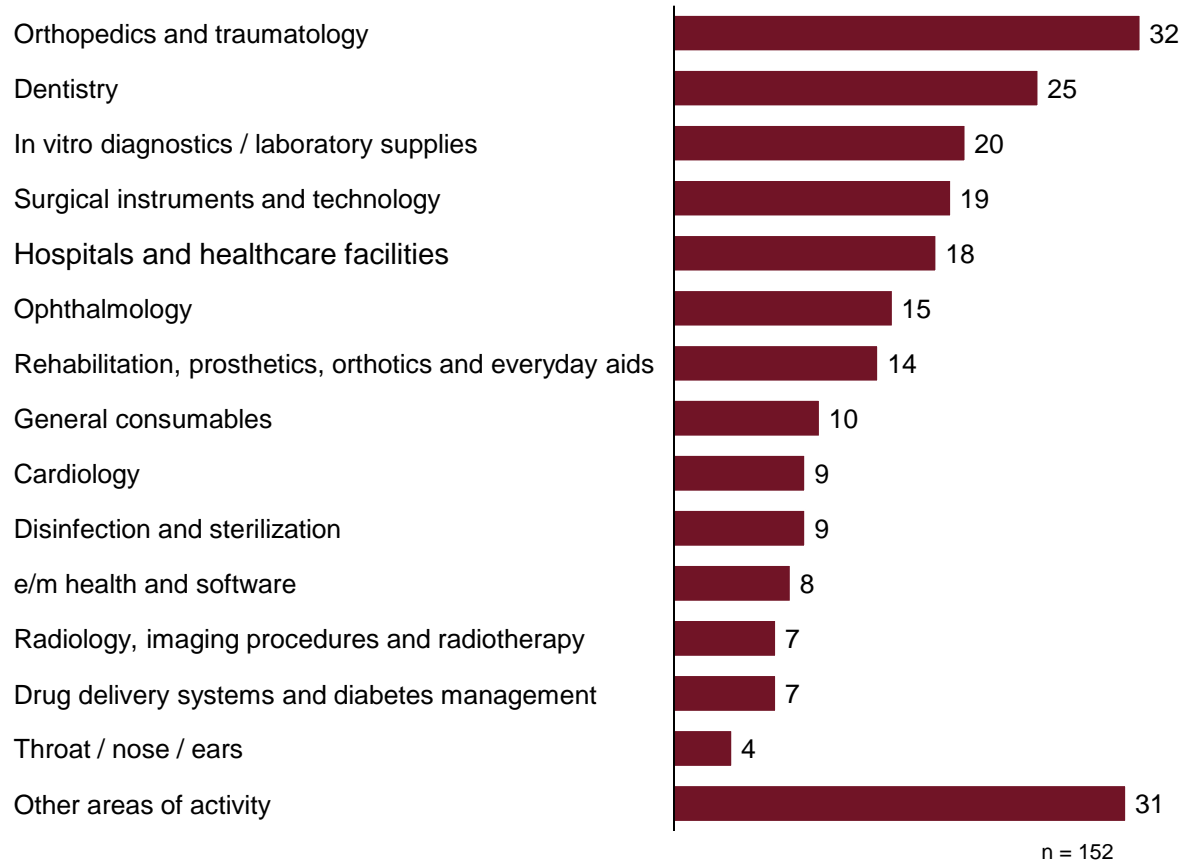
n = 468

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

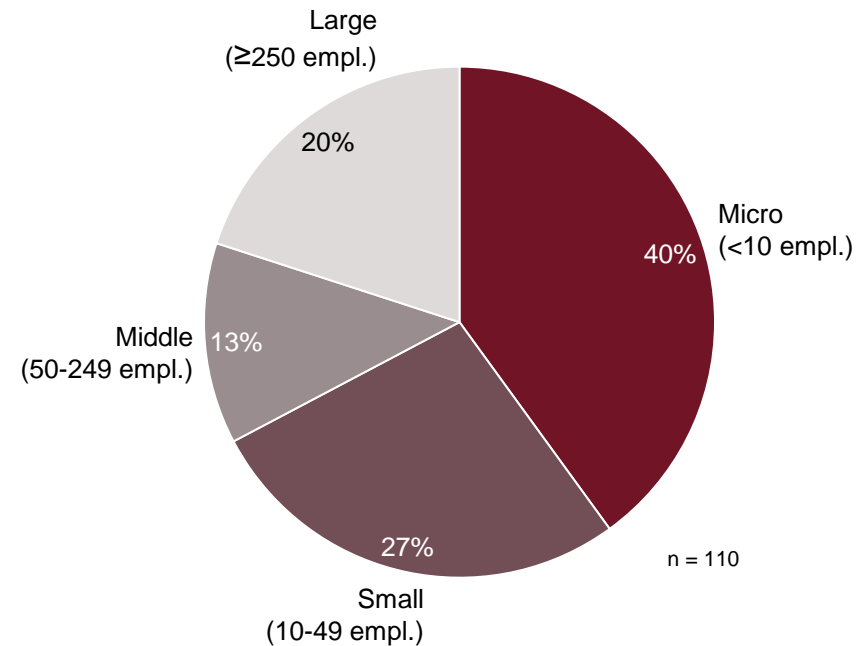
1) Sales of products and services manufactured in Switzerland  
Source: SMTI survey result 2024

## ... and encompass an impressive range of medical specialties

**Swiss medtech manufacturers by medical specialty**  
(number of mentions)

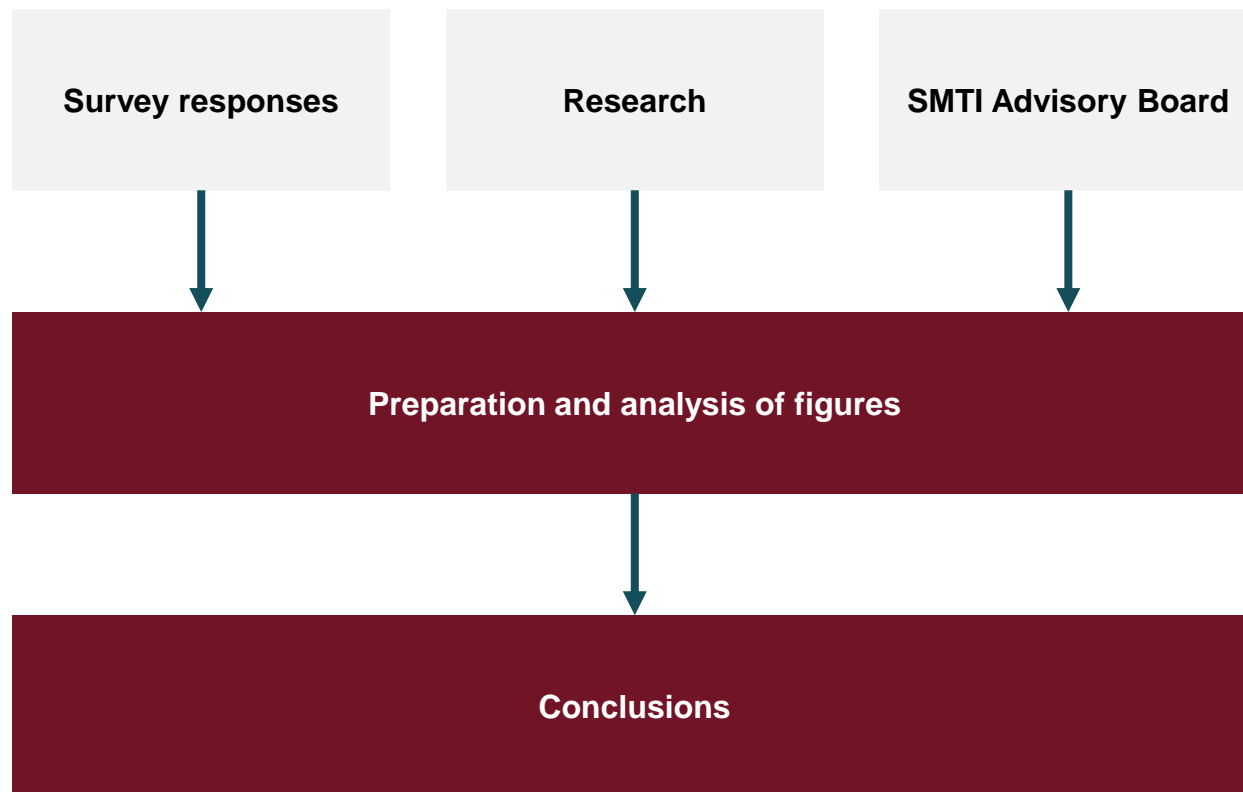


**Swiss medtech manufacturers by size**  
(number of mentions)



## Three main sources were consulted for this study

### Basic methodology of the SMTI Industry Study 2024



### Methodology

- The SMTI study is based on the following three main sources:
  - Evaluation of an electronic survey completed in full or in part by 472 medtech companies operating in Switzerland. The survey was conducted from March to May 2024
  - Research based on the Swiss medtech database, previous SMTI studies, public databases and other sources
  - Statements and support from the SMTI study Advisory Board
- Information from the three sources was analyzed and key figures for the study derived
- Conclusions were discussed and validated together with the Advisory Board and other external experts

## Customs tariff numbers (I/III)

3005	Absorbent cotton, gauze, bandages and the like (e.g., bandages, plasters for medical use, mustard plasters), impregnated or coated with medicated substances or put up for retail sale for medical, surgical, dental or veterinary purposes
3006.1	Sterile catgut, similar sterile surgical sutures (incl. sterile absorbable surgical sutures for surgical or dental sterile surgical sutures (including sterile absorbable surgical sutures for surgical or dental purposes) and sterile adhesives for organic tissues used in surgery to close wounds; sterile laminaria pins; sterile absorbable hemostatic inserts and sterile non-adhesive barriers for surgical or dental purposes, absorbable or non-absorbable. purposes, absorbable or not
3006.2	Reagents for determining blood groups or blood factors
3006.3	X-ray contrast media; diagnostic reagents for use on patients
3006.4	Dental cement and other dental fillers; cement for restoring bone
3006.5	Bags and other containers with pharmacy equipment for first aid
3006.7	Preparations in the form of gel for use in human or veterinary medicine as a lubricant for certain parts of the body during surgical procedures, medical examinations or as a contact agent between the body and medical instruments
3306.2	Yarns for cleaning the interdental spaces (dental floss), in individual sales packaging
3306.901	Adhesive powders and pastes for dentures
3307.901	Solutions for contact lenses or artificial eyes
3808.94	Disinfectants and similar products, in forms or packings for retail sale or as preparations or goods
3822	Diagnostic or laboratory reagents on supports of all kinds, whether or not prepared and on a support (excl. compound diagnostic reagents for use on patients, reagents for determining blood groups and blood factors, animal blood for diagnostic purposes, vaccines, toxins, cultures of microorganisms and similar products); standard reference materials









## Customs tariff numbers (II/III)

4014	Articles for hygienic or medical purposes, incl. teats, of vulcanized soft rubber, whether or not combined with hard rubber parts, n.e.c. (excl. clothing and clothing accessories, incl. gloves, for all purposes)
4015.11	Gloves made of vulcanized soft rubber, for surgery
6212.9091	Medical belts (excl. those made of vegetable textile materials)
7015.1	Glasses for medical spectacles, convex, curved, hollow or the like, but not optically worked (excl. flat glass for the same purposes)
8419.2	Sterilizers for medical or surgical purposes or for laboratories
8713.9	Wheelchairs and other vehicles for the sick and disabled, motorized or otherwise mechanically propelled (excl. automobiles and bicycles with special devices)
9001.3	Contact lenses
9001.4	Spectacle lenses made from optically processed glass
9001.5	Spectacle lenses made from materials other than glass
9003	Frames for spectacles or similar articles and parts thereof, n.e.c.
9004	Prescription spectacles, safety spectacles or other spectacles and similar articles (excl. spectacles for testing eyesight, contact lenses, spectacle lenses and spectacle frames)
9018	Instruments and appliances for medical, surgical, dental or veterinary use, incl. scintigraphic and other electromedical apparatus and apparatus for testing visual acuity, n.e.c.
9019	Apparatus and appliances for mechanotherapy; massage apparatus and appliances; apparatus and appliances for psychotechnics; apparatus and appliances for ozone therapy, oxygen therapy or aerosol therapy, resuscitators and other apparatus and appliances for respiratory therapy

## Customs tariff numbers (III/III)

9020	Respiratory apparatus and equipment and gas masks (excl. protective masks without mechanical parts and without replaceable filter elements, resuscitators and other apparatus and equipment for respiratory therapy)
9021	Orthopedic appliances and appliances for orthopedic purposes (including crutches and medical-surgical belts and bandages); splints, gutters and other appliances and appliances for the treatment of fractures; prostheses; appliances for the hearing impaired and other appliances for correcting functional defects or infirmities, for carrying in the hand or on the body or for implanting in the body
9022	X-ray apparatus and apparatus using alpha, beta or gamma rays, including apparatus for medical, surgical, dental or veterinary purposes, including apparatus for screen photography or radiotherapy, X-ray tubes and X-ray generators, high-voltage generators, control panels, monitors, examination and treatment tables, chairs and the like
9402	Furniture for human medicine, dentistry, veterinary medicine or surgery (e.g., operating tables, examination tables, hospital beds with mechanical devices, dental chairs); hairdressing chairs and similar chairs, with swivel, tilting or lifting mechanism; parts thereof

## The SMTI Sector Study 2024 is the ninth report on the Swiss medical technology 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”	Swiss Medical Technology Industry – Sector Study 2016	Swiss Medical Technology Industry – Sector Study 2018	Swiss Medical Technology Industry – Sector Study 2020	Swiss Medical Technology Industry – Sector Study 2022
Authors (* Lead)	<ul style="list-style-type: none"> <li>Dr. Patrick Dümmler*</li> <li>Beatus Hofrichter*</li> <li>René Willhalm</li> <li>Peter Biedermann</li> </ul>	<ul style="list-style-type: none"> <li>Dr. Patrick Dümmler*</li> <li>Beatus Hofrichter*</li> <li>Peter Biedermann</li> </ul>	<ul style="list-style-type: none"> <li>Dr. Patrick Dümmler*</li> <li>Beatus Hofrichter*</li> <li>Peter Biedermann</li> </ul>	<ul style="list-style-type: none"> <li>Dr. Patrick Dümmler*</li> <li>Beatus Hofrichter*</li> <li>Peter Biedermann</li> </ul>	<ul style="list-style-type: none"> <li>Laura Murer Mecattaf*</li> <li>Jonas Frey</li> <li>Annebel Smolders</li> <li>Peter Biedermann</li> </ul>	<ul style="list-style-type: none"> <li>Laura Murer Mecattaf*</li> <li>Jonas Frey</li> <li>Tobias Pieper</li> <li>Peter Biedermann</li> </ul>	<ul style="list-style-type: none"> <li>Emanuel Wettstein*</li> <li>Jonas Frey</li> <li>Jonas Rothen</li> <li>Peter Biedermann</li> </ul>	<ul style="list-style-type: none"> <li>Emanuel Wettstein*</li> <li>Christian Huber</li> <li>Anna Germann</li> <li>Peter Biedermann</li> </ul>
Publisher	Medical Cluster	Medical Cluster	Medical Cluster	Medical Cluster	Swiss Medtech	Swiss Medtech	Swiss Medtech	Swiss Medtech
Partners	<ul style="list-style-type: none"> <li>Helbling</li> <li>Roland Berger</li> </ul>	<ul style="list-style-type: none"> <li>Roland Berger</li> <li>Deloitte</li> <li>CTI</li> </ul>	<ul style="list-style-type: none"> <li>Medtech Switzerland</li> <li>IMS Consulting Group</li> <li>CTI</li> </ul>	<ul style="list-style-type: none"> <li>Medtech Switzerland</li> <li>Helbling</li> <li>CTI</li> </ul>	<ul style="list-style-type: none"> <li>Helbling</li> <li>CTI</li> </ul>	<ul style="list-style-type: none"> <li>Helbling</li> </ul>	<ul style="list-style-type: none"> <li>Helbling</li> </ul>	<ul style="list-style-type: none"> <li>Helbling</li> </ul>

## Partner and publisher

### Swiss Medtech

Swiss Medtech is the Swiss medical technology association. As an industry association, we represent around 800 companies. With a contribution of 11.9% to Switzerland's trade surplus and around 71,700 employees, the medical technology industry is important for the Swiss economy.

Swiss Medtech represents and promotes the interests of the Swiss medical technology industry. We are committed to creating optimal framework conditions that favor innovation, promote start-ups and strengthen the competitiveness of companies. To this end, we actively incorporate the common interests of our members into economic and healthcare policy decision-making processes and promote networking within the industry and with relevant players. We work closely with our members, inform about key developments and provide support when they face challenges. As an industry association, we are the first point of contact for all matters relating to the Swiss medical technology industry and communicate its importance and activities to the public.

### Helbling Group

Founded in 1963, the internationally active Helbling Group is owned by 36 partners and employs over 600 professionals in four divisions at its locations in Switzerland, Germany, Poland, the USA and China.

We differentiate ourselves in the market with our unique interdisciplinary range of skills in engineering and business consulting. Our services range from innovation, technology and product development to strategy, restructuring, mergers and acquisitions, IT, real estate, energy and infrastructure.

Our unique combination of expertise in technological innovation and business consulting makes us one of the few service providers able to not only handle tasks in a specialist and project-oriented manner but also to approach them from an overall business perspective – both for strategic and operational projects.


Regardless of the specific task with which our customers mandate us, we always pursue one goal: to strengthen their innovative power and competitiveness.

Our professionals are committed to ensuring that customers receive the best solution for their long-term needs, be it on a technical, economic or organizational level, in line with our motto: “Innovating a sustainable future.”




# The SMTI Advisory Board supported the study with valuable industry insights and assessments

## Expert Advisory Board for the SMTI Industry Study 2024



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Site Manager, Roche  
Diagnostics International




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## Extended network of experts

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- Thomas Bertschinger, Managing Director, Helbling Business Advisors

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- His main areas of expertise are strategy, organization, performance management, marketing and distribution, as well as carrying out market and industry studies
- Over the course of his consulting career, he has conducted a large number of projects and market studies for Swiss companies
- Emanuel Wettstein studied physics at ETH Zurich with a focus on quantum electronics, and worked as a development engineer and in business development for a Swiss medical technology company

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- His responsibilities include public affairs projects and internal project management of the SMTI industry study. He has also acted as secretary of the cross-party group on medical technology since June 2024
- Christian Huber studied economics with a minor in economic policy at the University of Zurich and Erasmus University Rotterdam. In the first half of 2022, he also completed a course in Regulatory Affairs (CAS) at the FHNW

The publisher of the Swiss Medical Technology Industry Study 2024 is Swiss Medtech  
Contact: Daniel Delfosse; email: daniel.delfosse@swiss-medtech.ch; phone: +41 31 330 97 74

# List of abbreviations

3D printing	Three-dimensional printing	e/m health	electronic and mobile health	MedDO	Medical Devices Ordinance	techn.	technical
AG	public limited company	EPDG	Federal Act on the Electronic Patient Record	medtech	medical technology	Tel.	telephone
AI	artificial intelligence	EPFL	École polytechnique fédérale Lausanne	MEM	machinery, electrical and metal	tooth.	dental
approx.	circa, approximately	et al.	and others	m	million(s)	UK	United Kingdom
BAZG	Federal Office for Customs and Border Security	etc.	et cetera	MRA	Mutual Recognition Agreement	USA	United States of America
BFS	Federal Statistical Office	ETH	Swiss Federal Institute of Technology	n/a	not specified	v.a.	above all
bn	billion(s)	ETHZ	Swiss Federal Institute of Technology Zurich	n	sample size	vs.	versus
BVMed	German Medical Technology Association	EU	European Union	n.e.c.	not otherwise specified		
CAGR	Compound Annual Growth Rate	FDA	U.S. Food and Drug Administration	No.	number		
CAS	Certificate of Advanced Studies	ff.	following	OP	operation		
CE	Communauté Européenne	FH	Federation of the Swiss Watch Industry	p.	page		
CEO	Chief Executive Officer	FHNW	University of Applied Sciences Northwestern Switzerland	p.a.	per annum		
CH	Switzerland	GDP	gross domestic product	PE	private equity		
CHF	Swiss franc	incl.	including / inclusive	Phys.	physicist		
Covid	coronavirus disease 2019	IT	information technology	R&D	research and development		
Dipl.	graduate	IvDO	Ordinance on In Vitro Diagnostic Medical Devices	resp.	respectively		
Dr.	doctor	IVDR	In Vitro Diagnostic Medical Devices Regulation	RoW	Rest of the World		
e	expected	KOF	Economic Research Center	SDG	Sustainable Development Goal		
e.g.	for example	Ltd.	limited liability company	SMTI	Swiss medical technology industry		
empl.	employees	M&A	mergers and acquisitions	surg.	surgical		
		MDR	Medical Device Regulation	SVP	Senior Vice President		

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