



## Switzerland – a hot spot for medical technology

Excerpts from the survey "The Swiss Medical Technology Industry 2008"

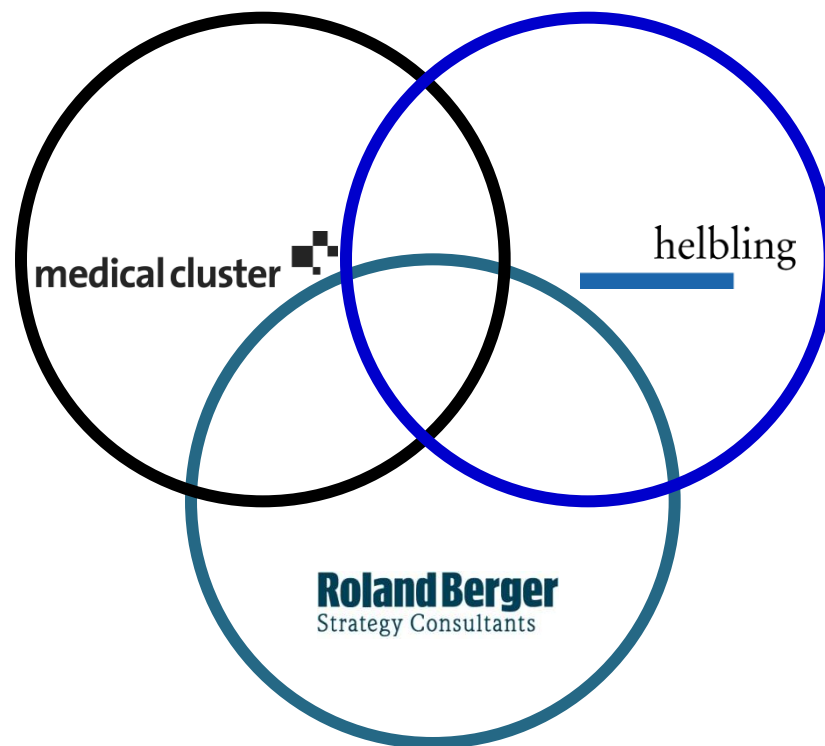
medical cluster 

helbling

**Roland Berger**  
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# Three strong partners join forces to examine the Swiss medical technology industry (SMTI)



## Sharing expertise

- **Medical Cluster**

Medical Cluster brings together manufacturers, suppliers, service providers and research and development firms from all over Switzerland. We offer platforms and assistance to ensure that medical technology in Switzerland continues to enjoy the optimum conditions for growth. The main accents are on supporting innovation and optimizing knowledge and technology transfer

- **Helbling Management Consulting**

Helbling supports organizations in the development and implementation of innovative entrepreneurial strategies that lead to accelerated growth, increased financial performance and solid corporate values. Helbling is unique through the ability to integrate a spectrum of professional know-how, skills and experience. Our mission: Valuable through Innovation

- **Roland Berger Strategy Consultants**

The Roland Berger Pharma & Healthcare Competence Center supports life-science players in seizing opportunities and mastering challenges. Besides traditional consulting areas such as marketing, organization, cost-cutting and M&A, we also provide input from our intensive analysis of current market trends and developments

# An in-depth survey and expert research form the basis of this unique report

## Objective

The Swiss Medical Technology Industry 2008 Survey

- Aims to embrace the widest industry sample possible
- Provides a contemporary macro- and micro-economic overview of this important sector
- Reflects on the trends, challenges and priorities along the SMTI value chain
- Indicates changes in the industry compared to the situation reported in the Helbling Swiss Medtech Report 2006

## Methodology

- A questionnaire-based approach with three focal points
  - General company data and profiles
  - Industry information and survey
  - Personal training, skills and R&D
- The detailed questionnaire was supported by desk research and data from industry-specific organizations such as EUCOMED

## Approach

- Under the umbrella of Medical Cluster, three strong partners joined forces to carry out a sound industry analysis
- The results will be comparable with other studies on an international level, as internationally recognized definitions are used<sup>1)</sup>
- The intention is to update the survey every two years, allowing the development of the SMTI, its trends and issues to be tracked

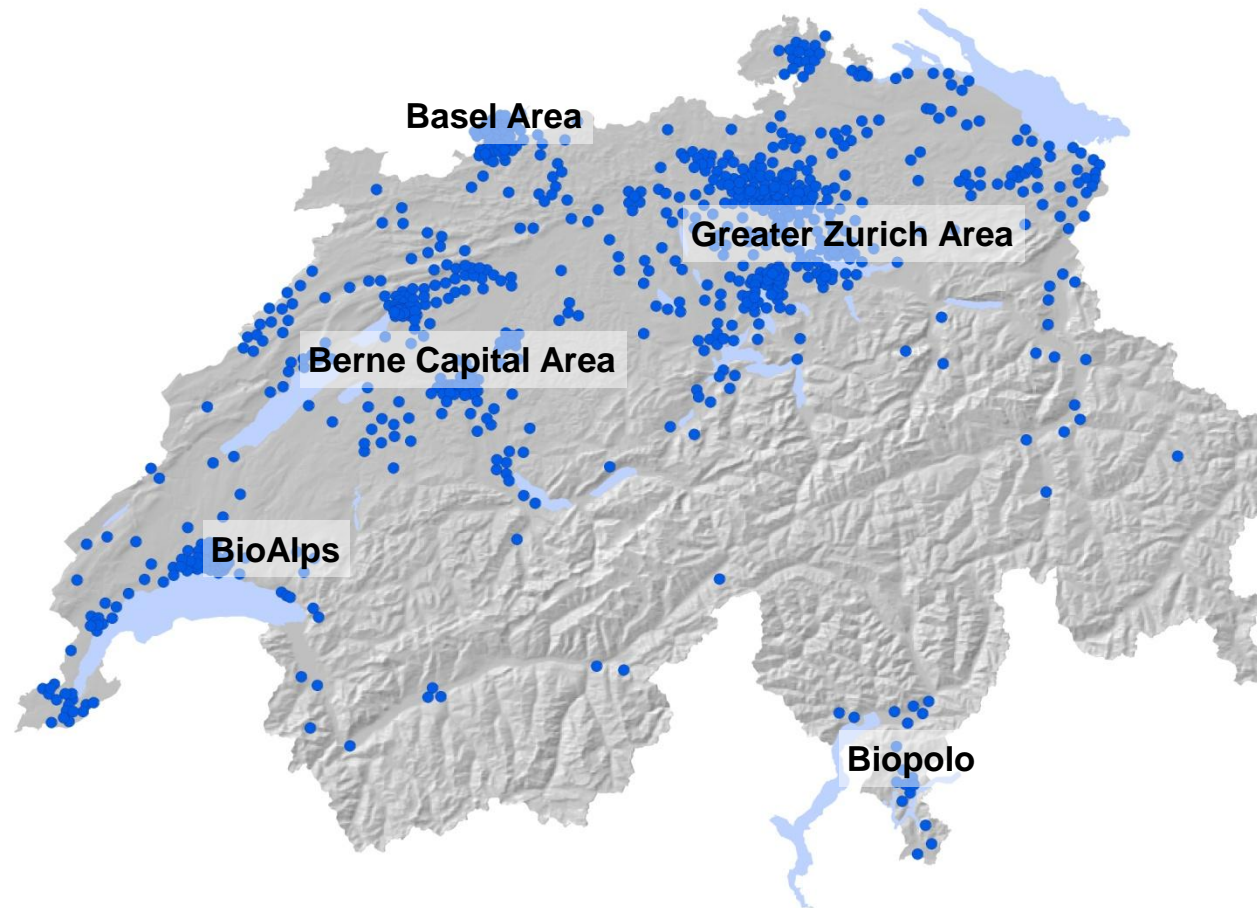
1) Currently no official statistical data is available on this sector for Switzerland; industry structure is not reflected in the NOGA codes



## **Profile of the Swiss Medical Technology Industry (SMTI)**



# The whole of Switzerland is one big medical technology cluster – 700 manufacturing companies supported by several organizations



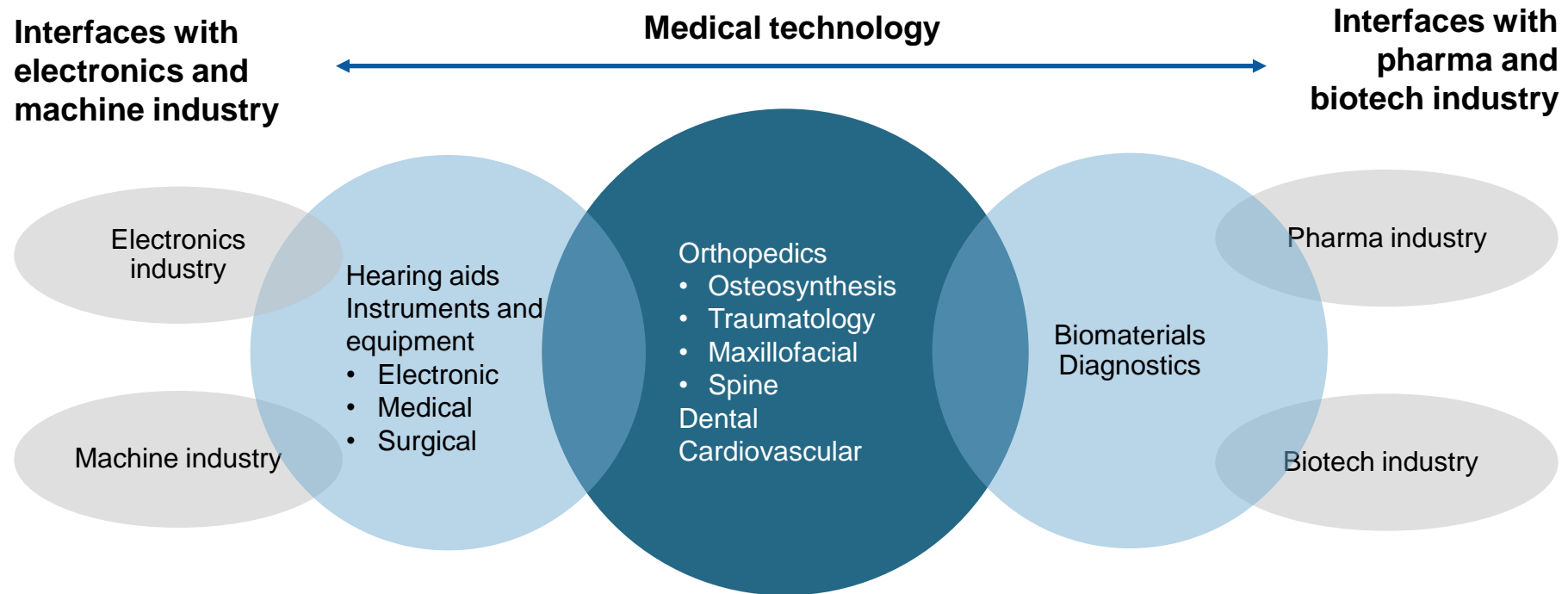
The SMTI is strongly supported by the Swiss Life Science Marketing Alliance SLSMA and its members

- Bio Alps, representing seven cantons in the west
- Berne Capital Area, on the Berne-Solothurn axis
- Basel Area in the north
- Greater Zurich Area, covering the center and east
- Biopolo in the south
- Medical Cluster, the industry platform
- SWX Swiss Exchange, the preferred European medical investor platform

The SLSMA markets the brand "Swiss Medtech"

● Location of medical technology manufacturers and suppliers; n = approx. 700

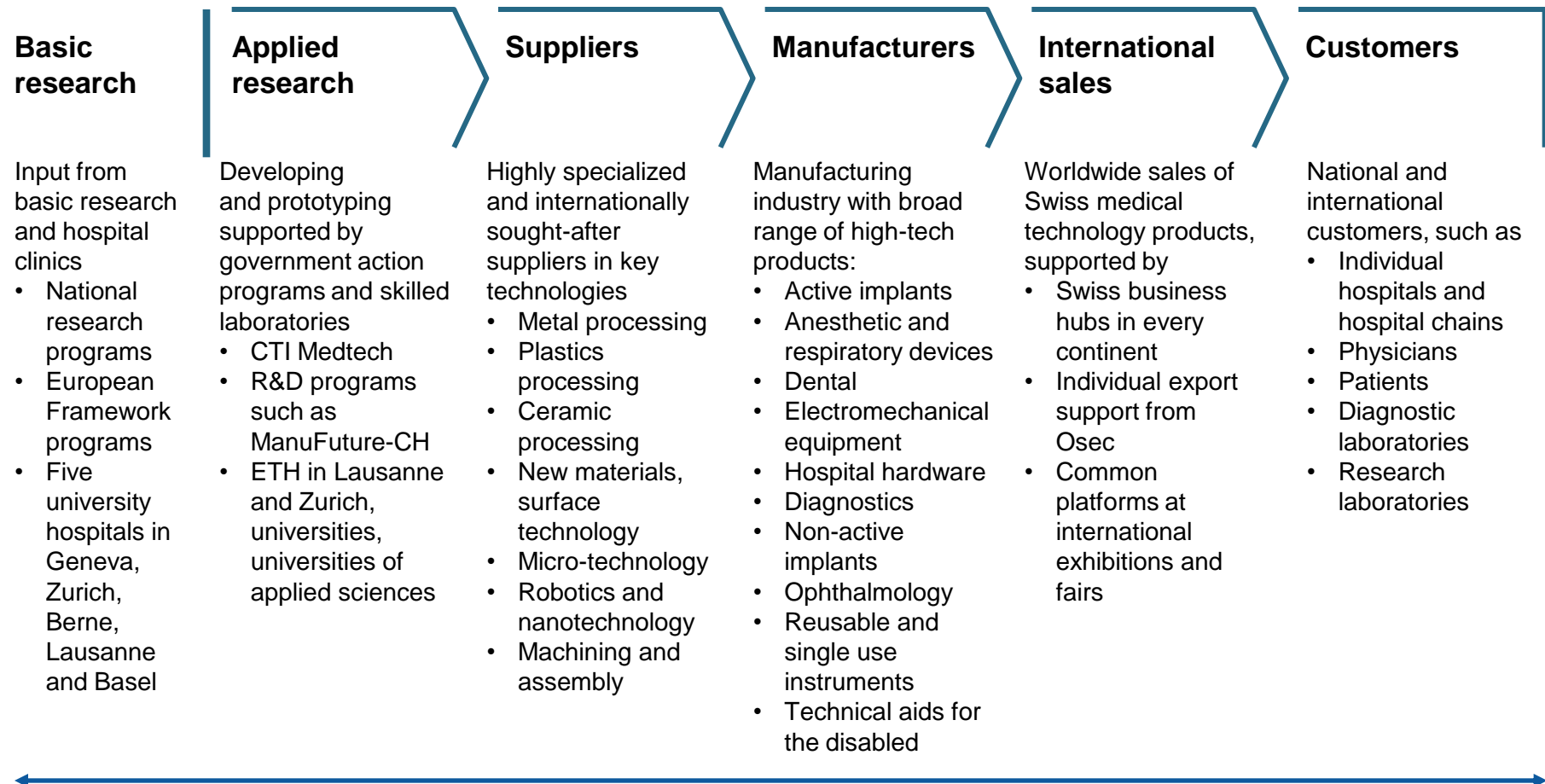
# The medical technology industry has interfaces with many traditional industries and is truly interdisciplinary



## What is medical technology?

Medical technology includes non-metabolic products, instruments and equipment that serve diagnostic purposes or improve general well-being, life expectancy or the quality of life

# The SMTI value chain is well developed and highly cross-institutional



Processes supported by the Medical Cluster, university transfer offices, Osec and Swiss Medtech



**Key indicators**





## Switzerland – a leading country for medical technology



The SMTI consists of around

- 600 - 700 Manufacturers and suppliers
- 500 - 600 Traders and distributors and service providers



- The gross revenue is around CHF 20.3 billions, own value added is around CHF 11.6 billions, representing 2.3% of the Swiss GDP



- Today around 45,000 employees work for the SMTI, this equals 1.2% of the Swiss workforce
- The total number of employees during the last two years increased by 20%
- The average turnover per employee is around CHF 460'000



- The average rate of exports is 66%



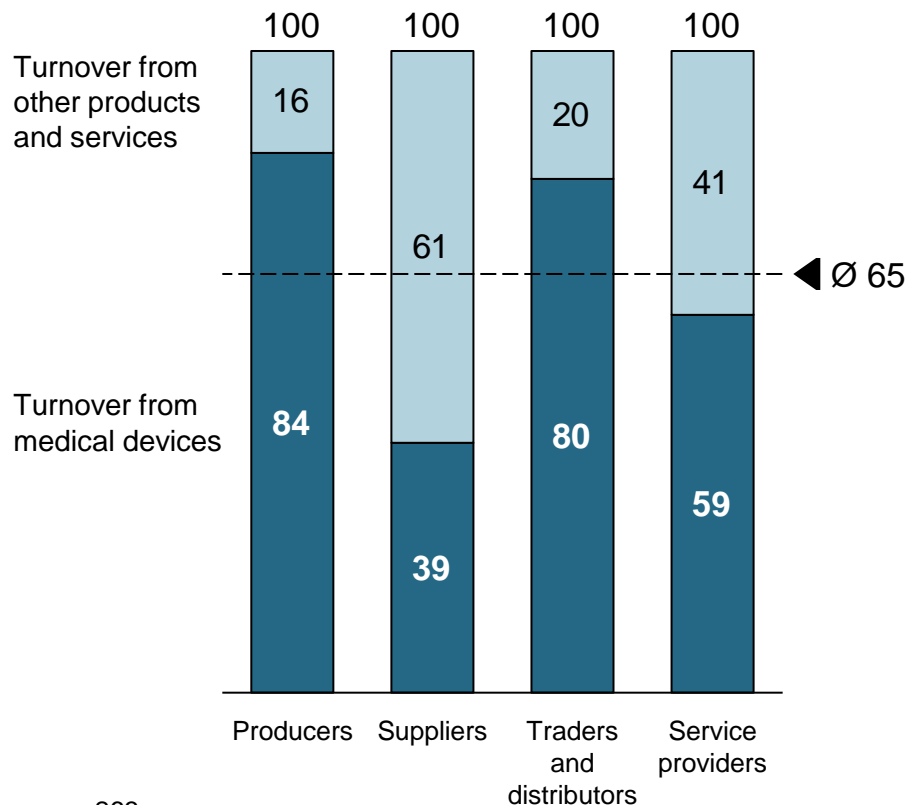
- 12% of the turnover is invested into research and development
- R&D is often done in collaboration with external partners



- In terms of absolute numbers of employees in the medical technology industry Switzerland ranks third in Europe, after Germany and the UK. In relative numbers Switzerland leads together with Ireland
- The perspectives for the SMTI are still very good, although challenges like the access to know-how and the availability of skilled employees exist

# Many medical technology companies are also significant suppliers to other industries

## Average turnover [%, 2007]



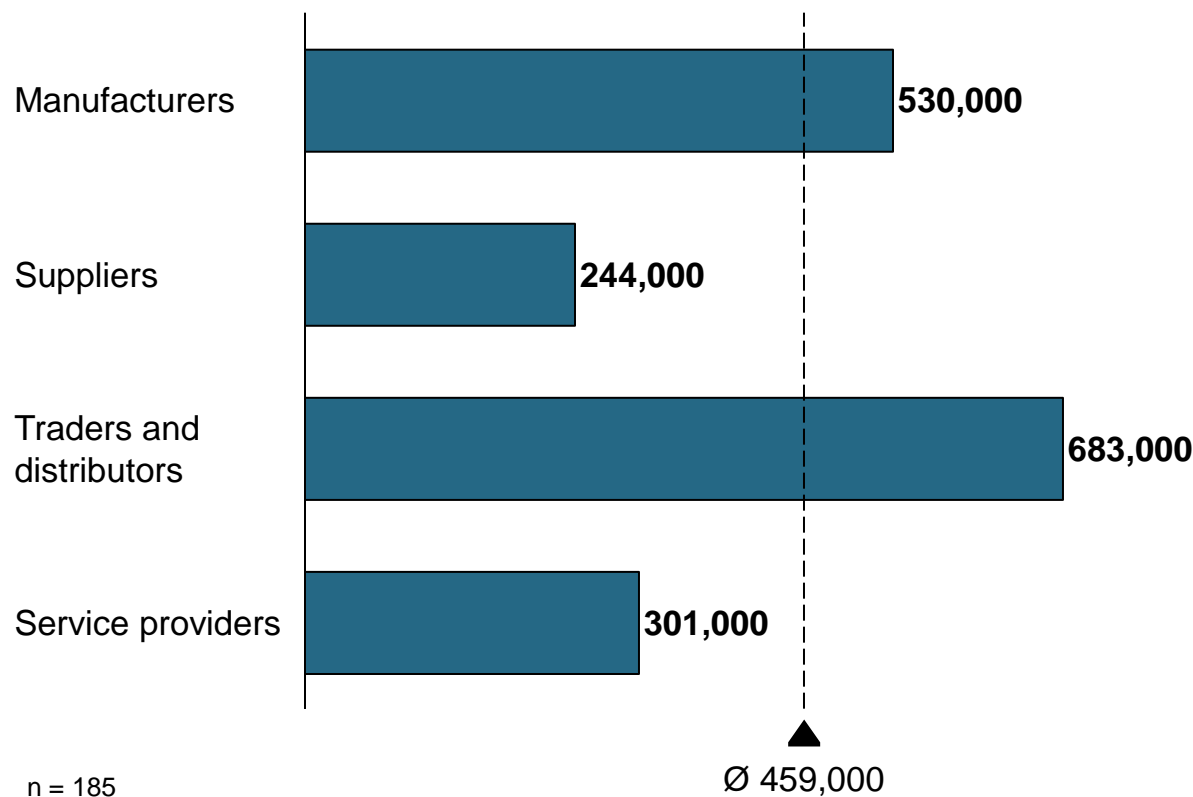
n = 263

## Comments

- In general, most of companies' turnover is generated from medical devices, on average of the sample 65%
- Suppliers are an exception, making only 39% of their total turnover from medical devices. The reason is their greater diversity: they often focus on one material or technological application and provide their expertise in this area to both the medical technology industry and other industries
- Companies generate revenue in other industry sectors apart from medical technology, including
  - Watches and optical instruments
  - Machine construction
  - Pharmaceuticals
  - Electronics
  - Automotive and airline
  - Food

# Traders and distributors lead the industry with the highest average turnover per employee

**Average turnover per employee [CHF, 2007]**

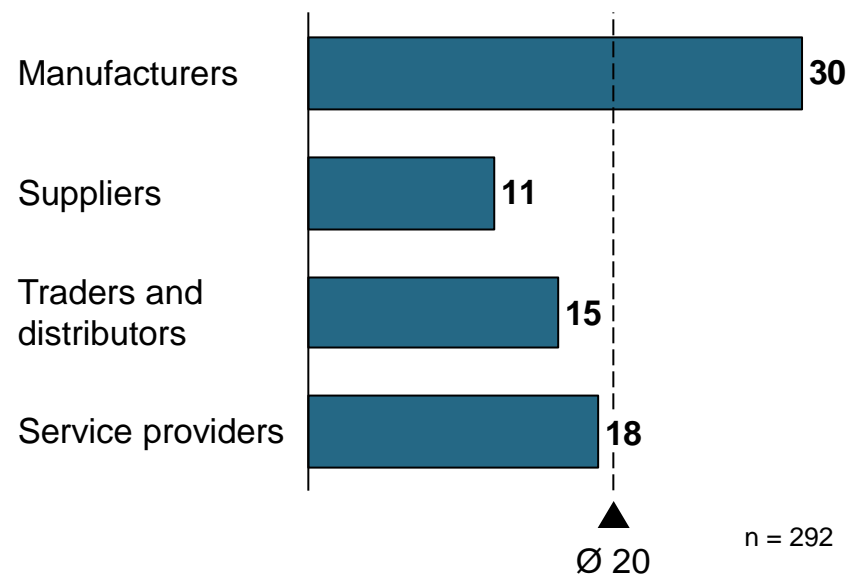


**Comments**

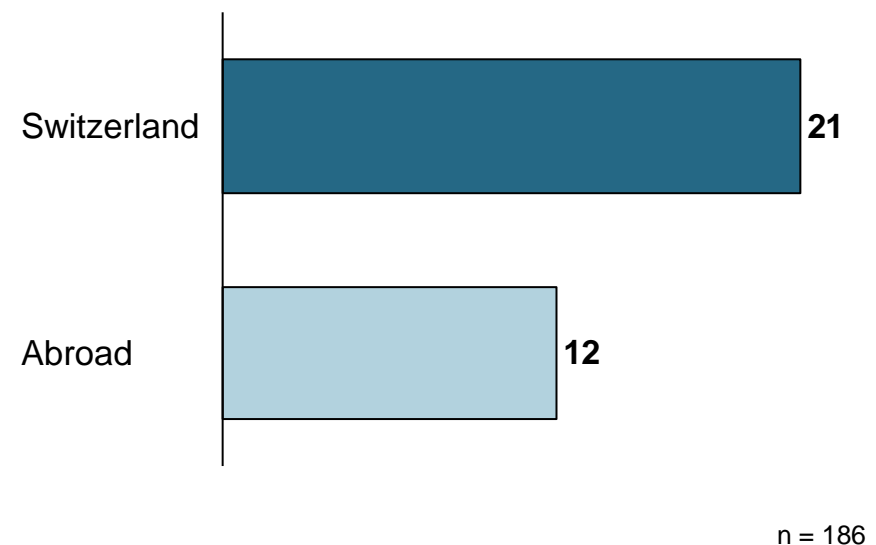
- Manufacturers have an average turnover per employee of CHF 530,000. This level is higher than for suppliers, who achieve CHF 244,000
- Traders and distributors achieve the highest turnover per employee by far, at more than CHF 683,000
- Service providers have a turnover per employee of CHF 301,000
- The estimated average turnover per employee for the whole SMTI is estimated at CHF 459,000
- For comparison: The average turnover per employee in the machine industry was CHF 408'000 (2005)

# The SMTI grows faster than the Swiss industry average – the workforce of the manufacturers grew by 30% over the last two years

**Average growth in staff in Switzerland [%, end 2005-2007]**



**Growth in local vs. foreign employment [%, end 2005-2007]<sup>1)</sup>**



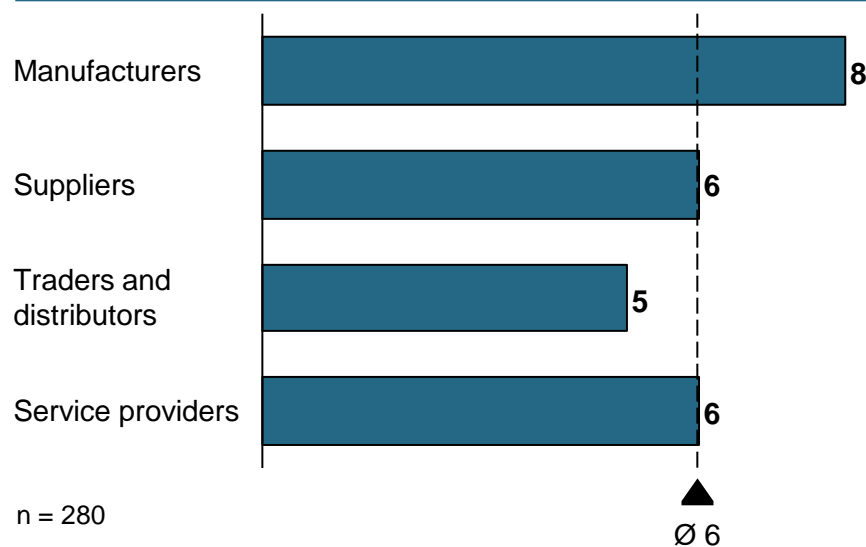
- The SMTI has grown by 20% on average since the end of 2005 – well above the average growth level for the Swiss industry (6%)
- Manufacturers in particular experienced strong growth in employee numbers in 2005-2007, at 30%. Suppliers grew more slowly, but still almost twice as fast as the Swiss average

- The survey reveals that the employment growth is focused mainly in Switzerland and not outside the country
- This ties in with the survey finding that off-shoring production is not one of the major strategies followed by companies

1) Only manufacturers and suppliers

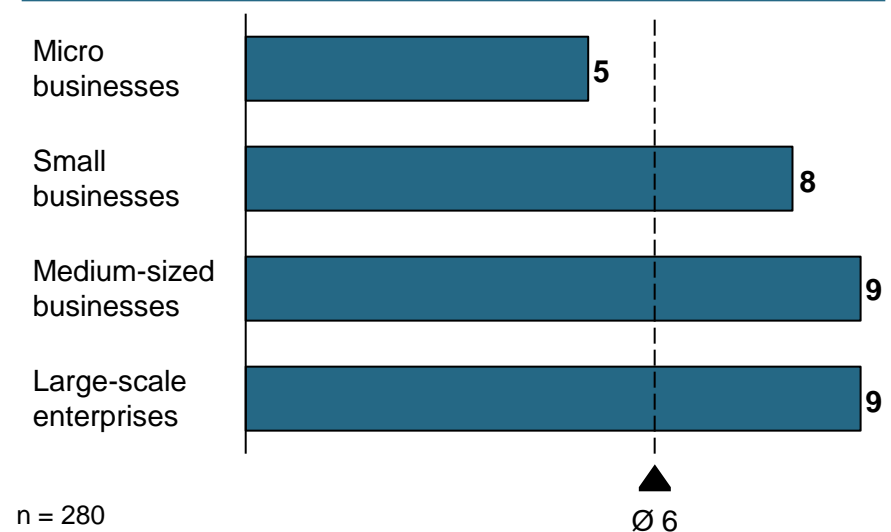
# Industry growth of 5 to 9% is expected in 2009

## Growth expectations by segment [%]



- Overall, respondents expect average growth of 6% in 2009
- Manufacturers expect above-average growth in 2009, while traders and distributors expect just 5% growth
- On average, traders and distributors expect a lower growth rate due to eroding margins as the market becomes more competitive

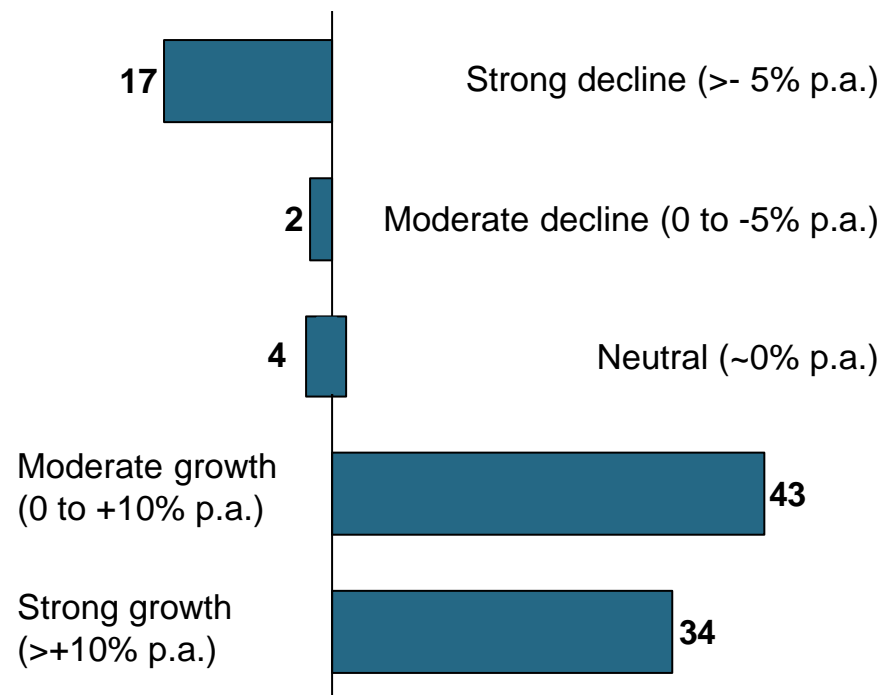
## Growth expectations by company size [%]



- All types of companies (except for micro businesses) expect growth of 8 to 9% in 2009
- Estimated industry growth in the next two years will be 5 to 9%
- Note: The survey was carried out prior to the accelerating financial crisis of October 2008, so companies' growth expectations should be treated with caution

# One-third of respondents expect revenue growth of over 10% for 2009

## Expected growth 2009 [% of answers ]



n = 280

## Comments

- 77% of respondents expect moderate to strong growth; 34% of respondents expect strong growth (over 10% p.a.)
- In June – the time the SMTI questionnaires were sent out – the OECD forecasted a Swiss GDP growth rate of 2% for 2008 and of 1.4% for 2009
- With 6% for 2009 the expected growth rate of the SMTI is clearly above. Average growth rates were 6 to 8% in the past 15 years<sup>1)</sup>
- The vast majority of the SMTI expects a growing SMTI in 2009. However a minority of 19% of all companies expect a decline, most of them even a strong decline of -5% or more

1) Helbling MedTech Report 2006



## **Challenges and strategic actions**



# Ranking of challenges by company size – access to know-how is almost equally important for all companies

Challenges <sup>1)</sup>	Company Size			
	Micro	Small	Medium	Large
Access to know-how	1	2	1	1
Availability of skilled employees	2	1	2	3
Increasing pricing pressure	3	3		
Regulations, listing requirements				1
Cost pressure from purchasers and health care institutions		3		3
Intensified international competition			3	

## Comments

- Looking more specific at different company sizes of this industry, the picture of challenges is still quite homogeneous: most of the companies see the
  - access to know-how and the
  - availability of skilled employees as the main issues
- Surprisingly, the challenge of skilled employees is also an issues with large companies, although they can recruit their employees in international markets
- The top three challenges of micro and small companies are almost similar
- Contrary to this, large companies are relatively more exposed to regulatory and health care industry issues

n = 296

1 Primary importance

2 Secondary importance

3 Third highest importance

1) Only these challenges are listed that are at least among the top three priorities



# Ranking of challenges by category of companies – availability of skilled employees is about equally important

Challenges	Company Category			
	Manuf.	Suppliers	Traders	Service prov.
Access to know-how	2	2	1	1
Availability of skilled employees	1	1	2	1
Increasing pricing pressure		3	2	
Regulations, listing requirements	3			3
Cost pressure from purchasers and health care institutions		3		
Intensified international competition				

## Comments

- In all company categories, the availability of skilled employees and access to know-how are of primary or secondary importance
- Especially for the interdisciplinary medical technology industry the access to newest know-how is essential
- Whereas manufacturers and service providers care about regulatory issues, suppliers (of e.g. sub-systems) and traders are facing price pressure

n = 296

1 Primary importance

2 Secondary importance

3 Third highest importance

# Ranking of strategic actions by company size – strengthening product innovation is for most companies important

Strategic actions	Company Size			
	Micro	Small	Medium	Large
Strengthening product innovation	2	1		1
Optimizing marketing	1		1	
Geographic expansion / internationalization	3	2	2	2
Further development of org. structure and processes		3		2
Optimizing distribution			2	
Developing new business models				

## Comments

- Examining the top priorities for companies in relation to their size shows that strengthening product innovation is critical for virtually all companies with the only exception of medium size companies
- Micro and medium-sized companies focus on optimizing their marketing in order to manage growth and drive further expansion (micro companies want to make their first money; medium-sized companies want to sell more of the same)
- International expansion – together with organizational development – are further strong priorities for small and large companies

n = 296

1 Primary importance

2 Secondary importance

3 Third highest importance

# Ranking of strategic actions by category of companies – strengthening product innovation is for all companies important

Strategic actions	Company Category			
	Manuf.	Suppliers	Traders	Service prov.
Strengthening product innovation	3	1	1	1
Optimizing marketing	2		2	3
Geographic expansion / internationalization	1	3		
Further development of org. structure and processes		3		
Optimizing distribution	2	2		
Developing new business models		3	3	2

## Comments

- Company segmentation according to category gives the most scattered picture
- Strengthening product innovation is top for virtually all companies – with the exception of the manufacturers
- Optimizing marketing is on average second priority for manufacturers, traders and service providers
- Third priority have the three strategic actions: geographic expansion / internationalization, optimizing distribution and developing new business models

n = 296

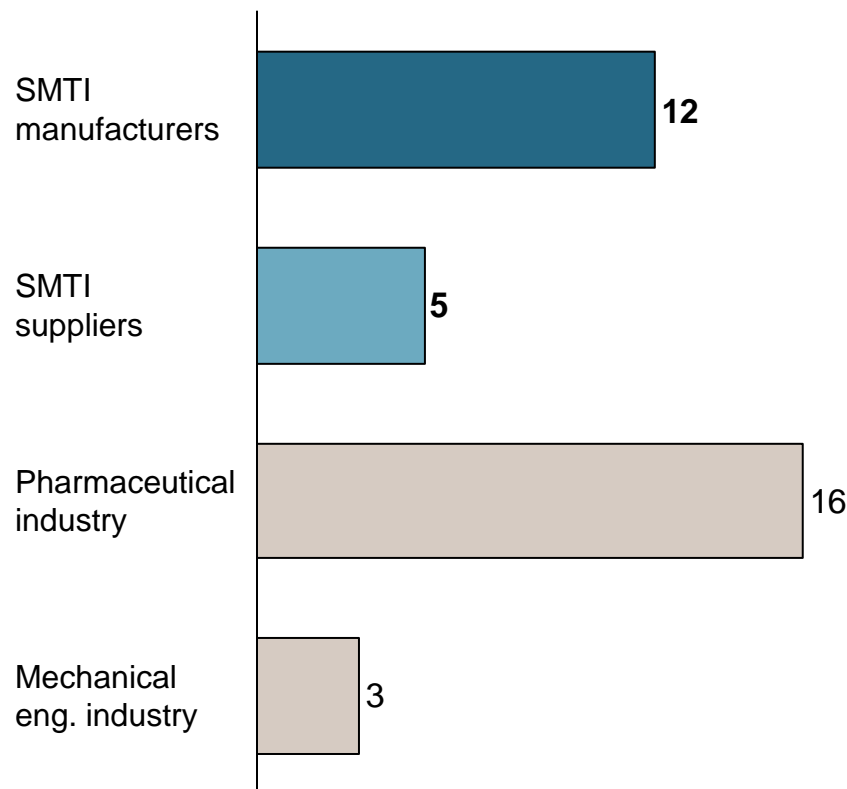
1 Primary importance

2 Secondary importance

3 Third highest importance

# Average spending on R&D in the medical technology industry is high – manufacturers spend around 12% on R&D

R&D spending as share of turnover [%]



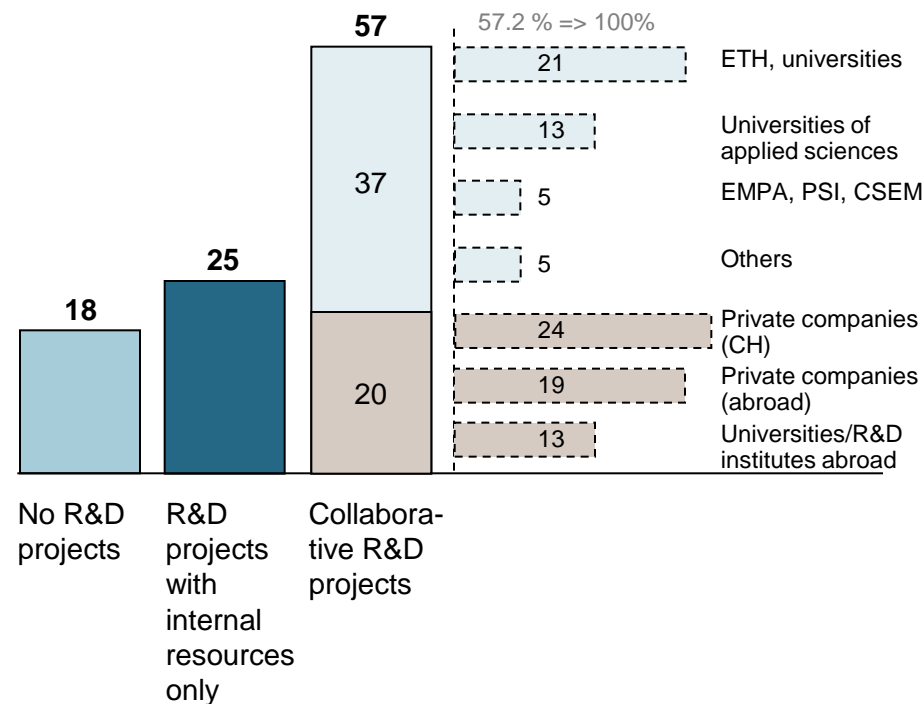
n = 176

## Comments

- On average, manufacturers spend about 12% of their turnover on R&D. This shows that medical technology is a high-tech industry and is to a large extent driven by technology
- Suppliers spend substantially less on R&D. The survey reveals a weighted spending of less than 5%. Within the group of the suppliers several companies invest far more into R&D than the average 5%. These are suppliers that evolved from a components manufacturer to a supplier that sells whole systems due to its technological competence
- R&D spending in the SMTI is higher than in mechanical engineering but lower than in the pharmaceutical industry

# 82% of all companies conduct R&D projects – most of them in collaboration with private companies and universities

## Companies engaged in collaborative R&D projects [%]



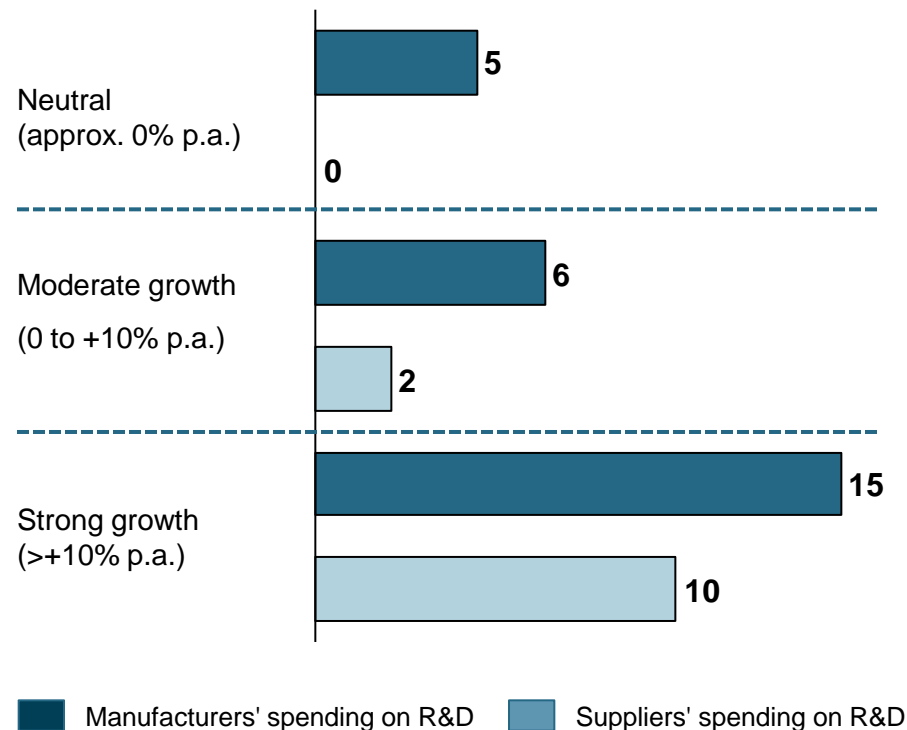
n = 247, multiple answers possible (508 entries)

## Comments

- 43% of companies have no collaborative R&D projects (some conduct independent R&D, some do no R&D at all). The other 57% engage in collaborative R&D with partners from industry or academia
  - "Collaboration with other private companies in Switzerland" and "collaboration with other private companies abroad" are the preferred patterns
  - "Collaboration with ETH and universities" is significant for most companies
  - "Collaboration with EMPA, PSI, CSEM" is of minor importance in terms of R&D collaboration
- Of all collaborative R&D projects with national institutes, 64% are of strategic importance. Of the companies engaged in such projects, 24 participated in EU-subsidized R&D programs; they were mainly micro companies
- The bigger the company, the less it participates in EU-subsidized R&D programs

# Manufacturers expecting strong growth also spend the most on R&D

## Expected growth and R&D spending [%]



n = 154

## Comments

- The survey reveals that the more growth companies expect, the more they invest in R&D
- Equally, companies expecting neutral to moderate growth spend much less on R&D
- Manufacturers expecting the strongest growth rates in 2009 are investing heavily in R&D. Their average R&D spending is approx. 15% of turnover – among the highest spending rates on R&D in the industry
- A similar pattern can be observed for suppliers, albeit starting from a lower level

# Outlook for the SMTI (I/II)

## Industry trends

It is fair to assume that the medical device industry is **less subject to global economic trends** than the other production industries. Sustained above-average growth therefore remains realistic – compared both to other industries in Switzerland and to key medical technology centers abroad.

However, **pressure on margins** will start to become more important in this industry than in the past. This development will increasingly force Swiss manufacturers to cut (mainly production and logistics) costs – which in turn will hit suppliers. Therefore, **cost reduction projects** are becoming more and more popular in the medical technology industry.

In addition, the **global regulatory authorities** are placing increasing demands on companies. This trend affects not only the manufacturers and distributors of medical products but also suppliers, who also have to adjust their processes to meet the increasingly strict regulations.

## Technology trends

Swiss medical technology companies will strengthen their position as technology leaders in their own particular niches. **Integrating key technologies** in the area of micro and nano systems, materials and surface technology, IT, electronics and robotics into product development – i.e. a process of **cross-industry innovation** – will be vital here. Accordingly, those companies that anticipate technology trends well in advance and have efficient **technology management processes** will be particularly successful.

Suppliers offering **unique technical features**, complex sub-systems or customer-specific solutions, coupled with a solid understanding of the medical technical market and trends, will also enjoy success.

# Outlook for the SMTI (I/II)

## Management trends

Companies that are growing particularly strongly invest **above-average amounts in R&D**. They also have well-developed processes and systems for managing the different aspects of innovation. These systems identify relevant trends in the industry and help the companies implement them consistently in their strategies. Successful companies make good use of external competence centers by forming **strategic partnerships**. In addition, comprehensive **staff training and education programs** remain the key to long-term success.

## Conclusion

Thanks to the industry's current strength and a continuing favorable business environment in Switzerland, it is believed that more non-Swiss companies with global operations will discover for themselves the advantages offered by **Switzerland as a location for medical technology**, following in the footsteps of B. Braun, Medtronic, Smith&Nephew, Stryker, Zimmer and many others.

The collaboration between businesses, public authorities and institutes should be optimized to ensure that Switzerland becomes the world's best place to produce medical devices.





## **Appendix – About the authors**



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- Within the national Swiss Life Science Marketing Alliance, he is in charge of the Medical Device Industry
- Mr. Biedermann is involved in various innovation programs in Switzerland, such as ManuFuture-CH
- Prior to joining Medical Cluster he was Director of the innovation agency innoBE AG in Berne. Here, he was responsible for various management consulting projects in different industries, including machining, micro-technology and microelectronics
- Peter Biedermann studied Chemistry and Environmental Sciences at the universities of applied sciences in Berne and Basel

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- Beatus Hofrichter is an Associate Director in Helbling Management Consulting – Life Science practice in Zurich
- He is co-author of the 2006 Helbling Report “Challenges & Opportunities of the Swiss Medtech Industry”
- He has more than eight years' consulting experience in a variety of industries, including biotech, chemicals, medical devices and pharmaceuticals
- Prior to joining Helbling, he worked as a consultant at BearingPoint Consulting and as a specialist at Cilag AG International (a Johnson&Johnson Company) in the area of strategic product introduction, supply-chain management and in-licensing/third-party management. Earlier in his career, he worked for Sony Music Europe in its distribution operations
- Beatus Hofrichter studied in London and has an MBA

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- He is co-author of the 2006 Helbling Report “Challenges & Opportunities of the Swiss Medtech Industry” and has published over 60 articles and books
- He has consulting experience in several industries, in particular medical devices and pharmaceuticals
- Prior to joining Roland Berger Strategy Consultants, he worked as a Manager at Helbling Management Consulting
- Dr. Patrick Dümmler studied Economics at the University of Zürich and completed his PhD at ETH Zurich. His PhD thesis was entitled “Knowledge-based clusters in Switzerland: Reality or fiction? The example of the Medical Devices Industry” (2005)

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# Disclaimer

- The authors of this survey are aware of the scale of the Swiss medical technology industry. Official sources do not exist but it can be estimated that around 1,100 – 1,300 companies are fully or partially involved in the industry
- This document is based on a survey carried out in the summer of 2008, involving 296 companies in the field of medical devices in Switzerland. It makes use of the database of Medical Cluster and additional desk research. The statistical data presented reflects the opinions of the participating companies at the time of the survey and may therefore not be a true reflection of some aspects of the overall industry
- The partners involved in the study confirm that the collection, analysis and interpretation of data was carried out carefully and anonymously. However, they do not guarantee the accuracy of the data. Use of information in this document remains solely the responsibility of the reader
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