

The Swiss Medical Technology Industry 2014: The Dawn of a New Era

Partner



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Innovation Promotion Agency CTI

Publisher

medical cluster 

SMTI 2014 – The Dawn of a New Era

This is the fourth full edition of the Swiss Medical Technology Industry (SMTI) Report first initiated in 2006. This issue is based on growing industry participation - over 340 firms contributed their insight and facts to this report.

Over the years we observed a fundamental shift in business behavior within the industry from soaring double digit growth to single digit growth in today's consolidating world. The stagnation, however, has ceased and firms are using the momentum to recuperate and initiate the next leap forward in their growth ambitions beyond bundled offerings. Thus, we foresee a new medtech era rising which embraces holistic integration. Holistic integration refers to the ability of a company to capture a whole area of healthcare, such as a disease, and owning all aspects of care from supplies to services to hospital suits.

As such, the SMTI 2014 report results led to astonishing observations and four focused conclusions.

- 1 Switzerland maintains (relative to its size and per capita) its globally leading position with the highest density of medtech-related activities. This is even more noteworthy today, as Swiss companies were under severe pressure of a rising Swiss Franc, making exports less competitive two years ago. (see SMTI 2012)
- 2 Medtech companies face two main challenges globally. The rising global pressure on healthcare costs and the rising demands on regulatory and administrative requirements. In particular, the latter makes it harder for the Swiss SME

based medtech industry to succeed in a globalized and consolidating business environment.

- 3 In order to remain competitive medtech companies should revisit their business models (see SMTI 2012) and in particular their market access strategies. Currently, new models are emerging. This development is driven by larger companies who apply forward integration in order to enlarge their share of wallet. Now such companies are in a position to block selected procedures, disease areas and/ or market channels entirely. This dominance will increasingly be applied to "lock-out" smaller competitors in their direct business relationship with customers.
- 4 However, Swiss medtech companies are well positioned to compete successfully in this new environment. Various strengths play to their advantage – be it the base of highly networked innovation, the premium technologies, the "Swiss" quality, the superb academic backbone or the broad skill base. Given these assets, the SMTI outlook is bright. The expected growth rate is almost 10% for 2014 and 2015 respectively.

We wish to sincerely thank all participating medtech companies, our sponsors, and the advisory board members for investing their time in constructive discussions. A special thank goes to Mr. Jonas Frey from the Medical Cluster, who supported the authors and the publisher in this report.

*Dr. Patrick Dümmler, Beatus Hofrichter, Peter Biedermann
Authors and publisher of the SMTI 2014, August 2014*

Contents

Management summary	5
A. Profile of the SMTI	8
B. Results of the survey	35
▪ Challenges	36
▪ Strategic actions	41
▪ International markets	47
▪ Innovation	54
C. Outlook: Trends and new opportunities	59
Appendix	
I Further survey results	67
II Study methodology	71
II Partners	77
III SMTI knowledge base	76



Management summary

Management summary (1/2)

Swiss Medtech Industry Landscape

- Switzerland is among the top global hotspots for medtech with the highest degree of specialization compared to other countries
- In total, the core of the Swiss medtech industry (SMTI) consists of roughly 1,450¹⁾ companies
- Half of all Swiss medtech companies have less than 10 employees, only 6% of all companies have 250 or more employees
- Per capita, Switzerland has one of the highest healthcare expenditures worldwide, making it an attractive market for medical devices

State of the SMTI

- Today, the SMTI employs approximately 52,000 FTEs, growing moderately since 2012
- The SMTI total turnover is estimated to be CHF 14bn (in 2013), representing 2.3% of the Swiss GDP and outperforming all other leading medtech nations
- The Swiss medtech sector grew by 5.8% in 2012 and 6.1% in 2013. Currently, the SMTI companies forecast a growth rate of 9.7% (for 2014/ 15)
- The R&D spending of manufacturers (17%) and suppliers (11%) underlines the high-tech value of the local industry
- Since our last report, the SMTI portfolio has grown older indicating a shift in the product development strategy

Challenges

- The global market environment is getting continuously tougher; price pressure and regulatory requirements take a significant toll on approx. 90% of all SMTI firms
- 78% of manufacturers stated a shortage of skilled resources in the field of regulatory affairs and QA
- Recent M&As among larger medtech players reveal a focus on portfolio consolidations and may affect local suppliers
- Since summer of 2013, growth in emerging and new frontier markets has been compromised by adverse local economic development and highly fluctuating exchange rates

1) Based on Medical Cluster database

Management summary (2/2)

Management actions	<ul style="list-style-type: none">▪ The crisis years seem of the past - SMTI firms have regained a stronger strategic focus▪ Focusing on new services and HR development are favorite growth drivers▪ Aspiring firms plan to boost their top-line growth through portfolio optimization by applying in-licensing of new technologies and products▪ Midsize firms continue to seek international exposure and geographical expansions for solid growth
International perspective	<ul style="list-style-type: none">▪ 76% of SMTI companies plan strategic investments for the coming 2 years with an emphasis on the home market▪ Germany is the main focus of SMTI investments. A shift in the investment strategy can be observed - USA/ CDN, China, France, rest of Europe and Italy are now in focus, while emerging markets and Brazil, India and Russia are de-prioritized▪ The average turnover of listed global top 90 medtech companies doubled since 2006▪ USA and Germany are the main Swiss medtech trade partners. Switzerland shows a medtech trade surplus with all major medtech markets
Outlook and conclusion	<ul style="list-style-type: none">▪ Swiss companies are well positioned as producers of premium technology▪ Medtech companies may reconsider their strategic positioning optimizing their competitiveness internationally▪ Driven by consolidation and the rise of GPOs, medtech manufacturers will be distinguished by their market access capabilities: those who dominate market access, those who compete at procurement level, or those who lead in a unique niche▪ Future winners invest in holistic integration through offering solutions to entire procedures or disease areas, thus preventing market access in saturated segments▪ Tomorrow's competitiveness can be found in the smart combination of acceleration capabilities, i.e. applying geographic expansion with an efficient localized channel approach▪ The medtech industry and healthcare sector are stepping into a new era – tomorrow's globally competitive environment will be ruled by industrial oligopoly and holistic integrators

Key facts about the Swiss medical technology industry (SMTI)¹⁾



- The SMTI consists of roughly 1,450²⁾ companies that can be split into four categories:
 - 343 manufacturers and 505 suppliers
 - 334 service providers and 265 traders & distributors

CHF

- Total turnover is estimated to be CHF 14bn (2013), this is 2.3% of the Swiss GDP and the highest share amongst all leading medtech countries
- For 2014 and 2015 companies expect an annual turnover growth of +9.7%. This is a significant increase compared to 2012 and 2013 (+5.8% and +6.1% respectively)
- 48% of manufacturers and 66% of suppliers are achieving a turnover of CHF 10m p.a. or less



- Employees in the medtech sector have grown from 51,000 in 2011 to roughly 52,000 in 2013, however, compared with the 45,000 employees in 2007, growth has substantially slowed
- The SMTI is dominated by SMEs; half of all Swiss medtech companies have less than 10 employees, 94% of all SMTI companies have less than 250 employees
- 1.1% of the Swiss workforce is employed by the SMTI – the highest share compared to other medtech countries



- In 2013 manufacturers spent up to 17% of their turnover on R&D while suppliers spend 11%
- 44% of the portfolio is less than 5 years old, a reduction compared to 59% in 2012
- R&D spending has been reduced over the last two years thus reducing new products and aging the overall product portfolio



- Exports from medtech manufacturers account for 5.2% of total Swiss exports (estimated worth CHF 10.5bn)
- Trade surplus from medtech manufacturers accounts for more than 24% the Swiss trade surplus
- Exports from suppliers are estimated to be worth approximately CHF 2.3bn
- Total Swiss medtech exports worth approximately CHF 12.8bn

1) Results of the SMTI report and estimations of the authors based on SMTI survey data

2) Based on Medical Cluster database; compared to previous years the database has been adjusted and the medtech definition has been adopted more rigorously, leading to the dropout of a number of companies



A. Profile of the SMTI

Key points

Strong medtech position

- Switzerland is among the global hotspots for medtech, showing a higher relative share of medtech employment, GDP and exports than Germany, the UK, the EU, and the U.S. The medtech specialization in Switzerland is almost three times higher than in other countries
- Most of Swiss medtech exports go to the USA which is still the biggest medtech market worldwide followed by Germany. Japan, the second biggest medtech market, ranks only seventh for Swiss exports, reflecting high entry barriers for most non-Japanese medtech companies
- Switzerland shows a strong medtech trade surplus compared to most countries including the USA and Germany

A unique Swiss medtech ecosystem

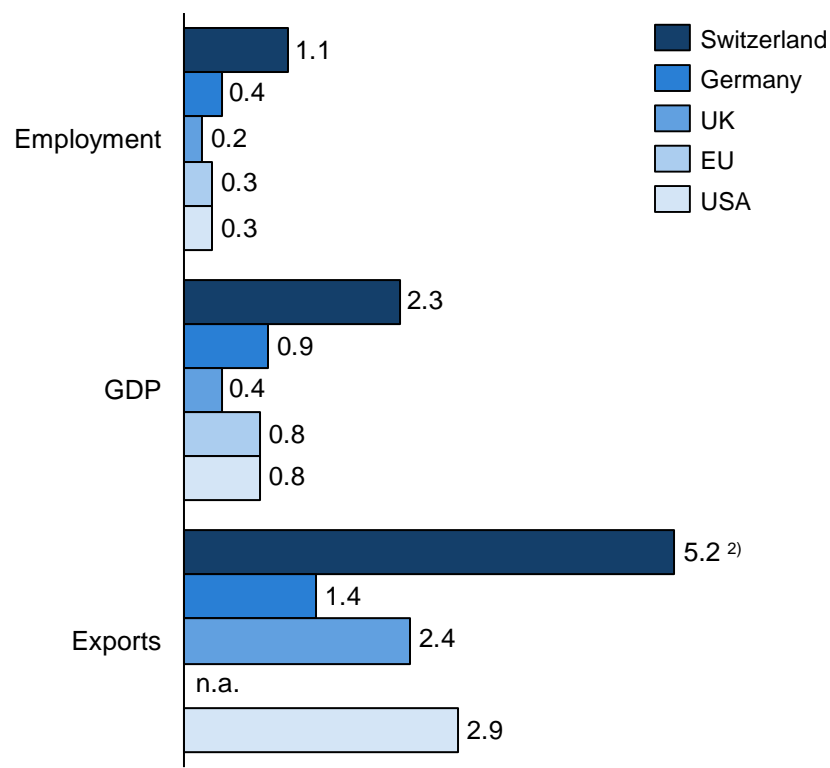
- Per capita, Switzerland has one of the highest healthcare expenditures worldwide making it an attractive market for medical devices
- The medtech industry in Switzerland benefits from a unique ecosystem encompassing all relevant stakeholders
- The SMTI has several key success factors like: sharing the same approach of doing business, the focus on innovation, collaboration, the spatial proximity of stakeholders and lasting political and financial stability

Profile of the SMTI

- Half of all Swiss medtech companies have less than 10 employees, only 6% of all companies have 250 or more employees. This typical SME structure is also reflected by the average turnover: the majority of medtech companies have a turnover of CHF 5m or less
- In spite of the challenges, medtech companies expect to grow by about 10% in 2014 and 2015. This is still above overall economic growth but less than in 2008
- Manufacturers spend up to 17% of their turnover on R&D, the respective number for suppliers is 11%, reflecting the high-tech characteristics of the Swiss medtech industry
- The majority of production is based in Switzerland: 60% of manufacturers and 69% of suppliers possess production capacities only in Switzerland, 35% of manufacturers and 24% of suppliers additionally have manufacturing facilities abroad

Switzerland continues to lead medtech activities internationally

INTERNATIONAL MEDTECH FOCUS [% of respective total]¹⁾



COMMENTS

- Switzerland possesses an active medtech industry that exploits a strong network of companies and institutions (cluster) which bolster industry growth
- Compared to other major medtech countries, the SMTI is significantly stronger in many important economic markers
- Today, the SMTI employs 1.1% of all Swiss employees and 5% of all Swiss general industry employees
- The GDP generated by the SMTI is more than double its share of employed people. This pattern is also observed in other countries indicating the high economic productivity of the medtech industry
- The SMTI has the highest ratio of medtech exports to total exports (5.2%) compared to other medtech export countries

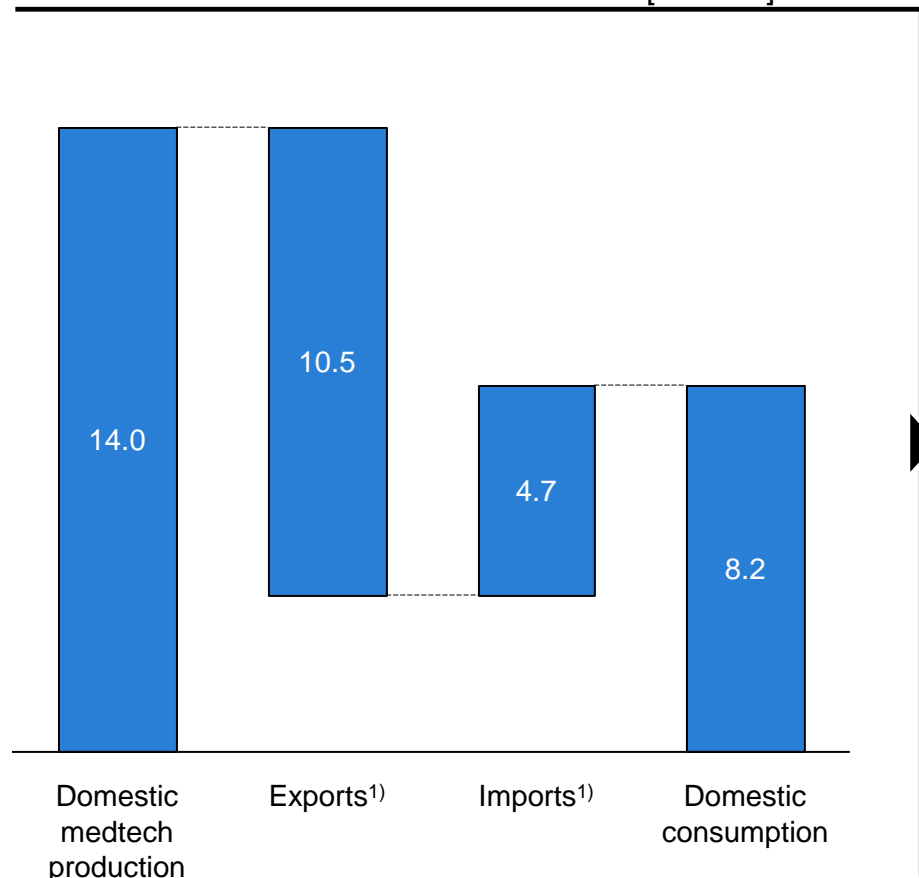
1) Data from 2013 whenever possible, elsewhere Data from 2012

2) Only finished products, figure does not include medtech components and specialized machines used for medtech production. Including all products related to the medtech industry it can be assumed that the relative share of Swiss medtech exports is roughly 6.4%

Data: Federal Statistical Office, Destatis, Espicom, Eucomed, Eurostat, IMF, Spectaris, UK National Statistics, US Bureau of Statistics, WTO, own calculations

The SMTI strongly contributes to the Swiss trade surplus

KEY TRADE FIGURES OF THE SMTI 2013 [CHF bn]



COMMENTS

- In 2013, the SMTI contributed an estimated CHF 5.7bn to the total Swiss trade surplus (total CHF 23.6bn)
- According to the definition of medtech, the domestic market is worth around CHF 8.2bn, which is approximately 12% of Swiss healthcare expenditures

FURTHER OBSERVATIONS

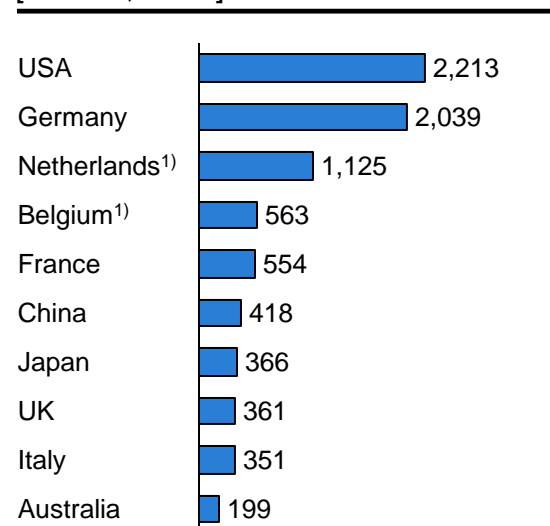
- Only finished medtech products are captured by the trade statistics
- It is estimated that components from medtech suppliers amount to another CHF 2.3bn, totaling Swiss medtech exports to be worth CHF 12.8bn
- Compared to 2011, data show an upward trend reflecting the strength of the SMTI
- Since 2011 an increase of 1.5bn in domestic production and 1.7bn in exports were achieved

1) Reflect finished goods only

Data: Export and import data Swiss Federal Customs Administration; total healthcare costs data Federal Statistical Office

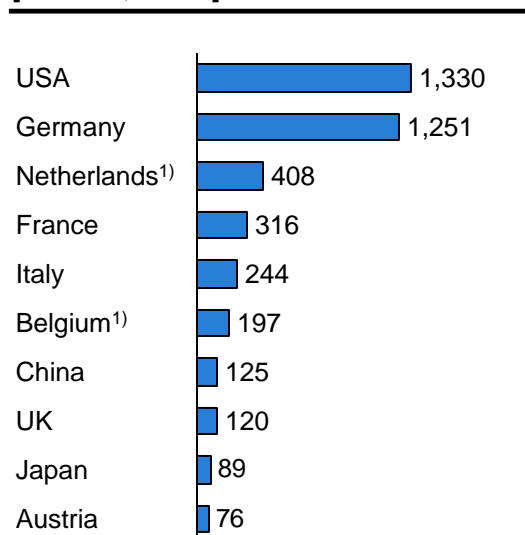
The USA and Germany are the main medtech trading partners for Switzerland

TOP SWISS EXPORT DESTINATIONS
[CHF m, 2013]



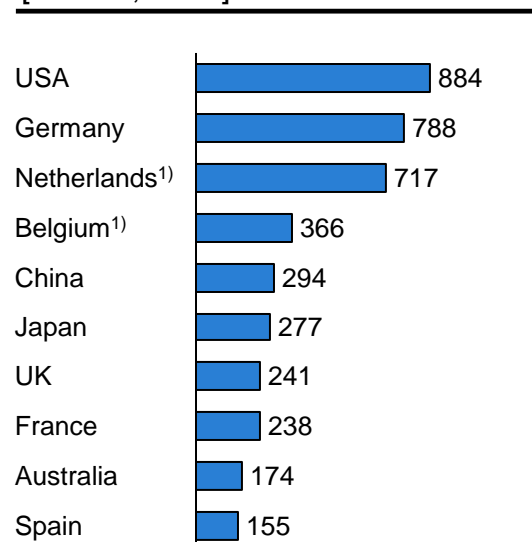
- Almost 9% of all Swiss exports to the USA are medtech devices
- China is rapidly gaining importance for SMTI manufacturers: in 1990 exports were less than CHF 1 m
- Apart from China other BRIC states are also in the top 20 of Swiss export destinations

TOP SWISS IMPORT SOURCES
[CHF m, 2013]



- Almost 12% of all imports from the USA are medical devices
- Also imports from China is growing, but at a slower rate than exports
- Imports from Brasilia (#25 of Swiss medtech imports), India (#36), and Russia (#53) are still quite low

SWISS TRADE SURPLUS RANKING
[CHF m, 2013]

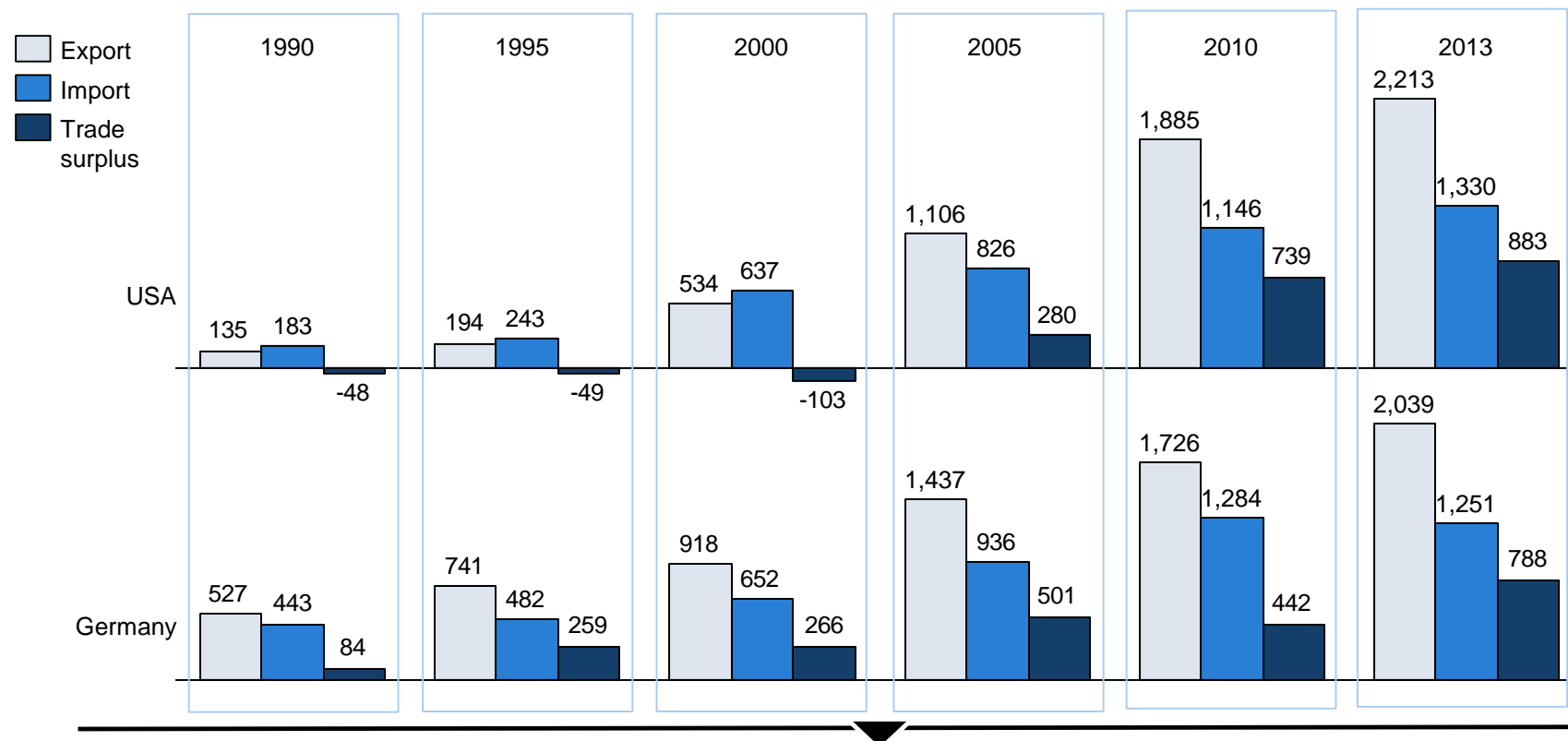


- Not only for exports and imports but also in terms of medtech trade surplus the USA and Germany are the most important partners
- All BRIC states are among the top 20 trade surplus ranking; China #5, Russia #11, Brazil #13, and India #19

1) Netherlands and Belgium serve as distribution centers for several medtech companies
Data: Swiss Federal Customs Administration; own calculations

Switzerland could substantially increase its trade surplus vs. its two main medtech trade partners

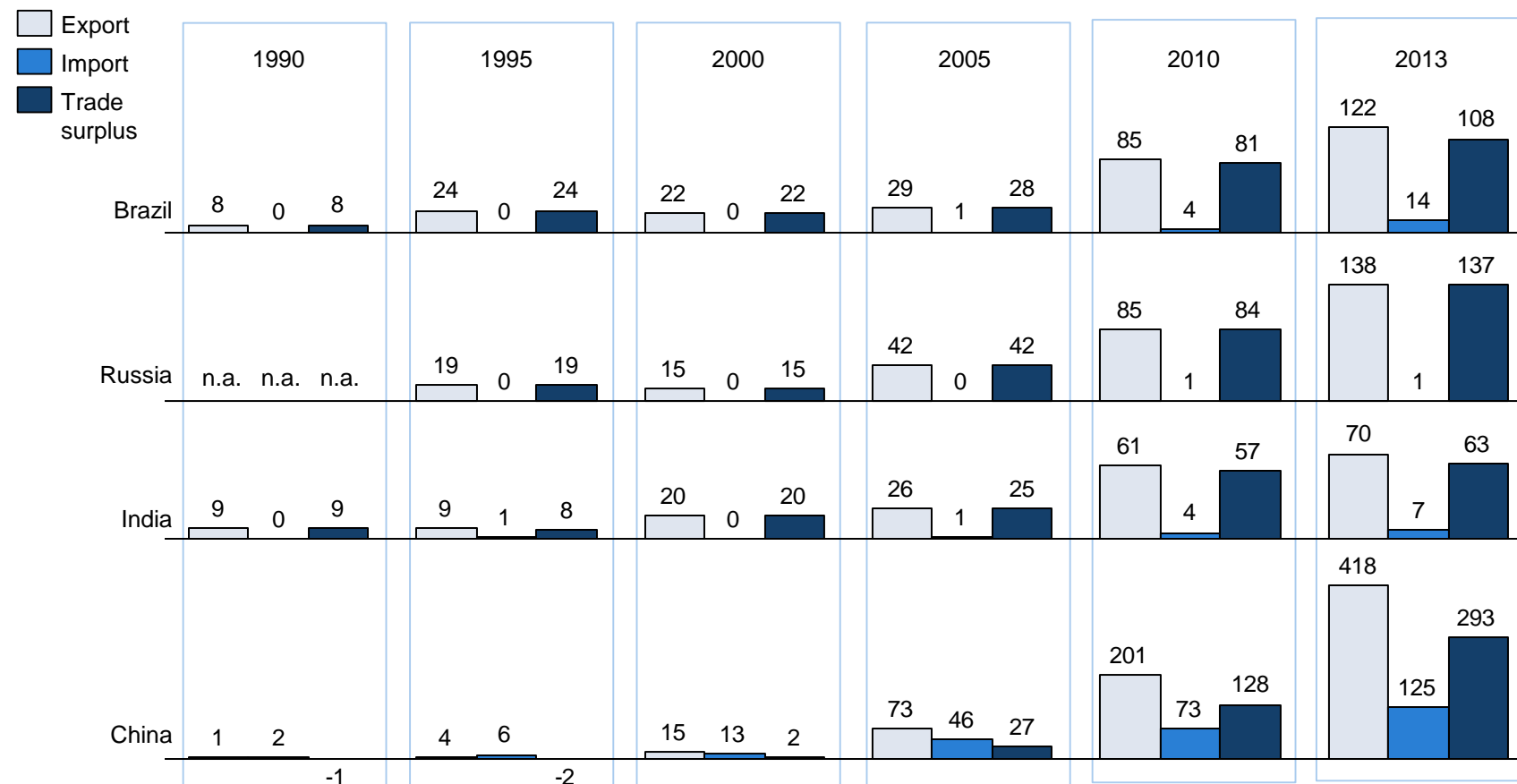
TWO MAIN MEDTECH TRADE PARTNERS [CHF m]



- Exports from Switzerland to the USA multiplied more than 16x whereas imports grew more than 7x, showing the high competitiveness of Swiss medtech devices
- Medtech trade relations between Switzerland and Germany also grew substantially but at a slower rate than with the USA (exports x4 / imports x3)

Swiss medtech trade relations with the BRIC states are rapidly growing but still show a significant potential

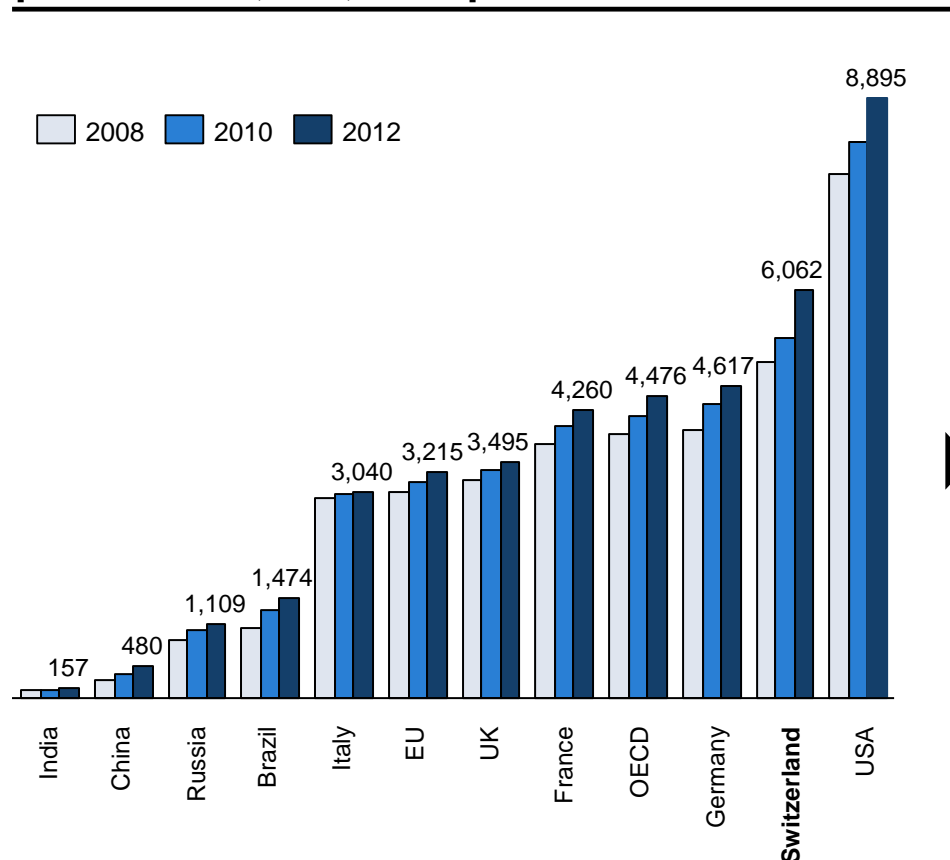
BRIC MEDTECH TRADE PARTNERS [CHF m]



Data: Swiss Federal Customs Administration; own calculations

Globally, Switzerland has the second highest per capita healthcare spending

HEALTHCARE EXPENDITURE PER CAPITA
[in constant USD, 2005, as PPP]



COMMENTS

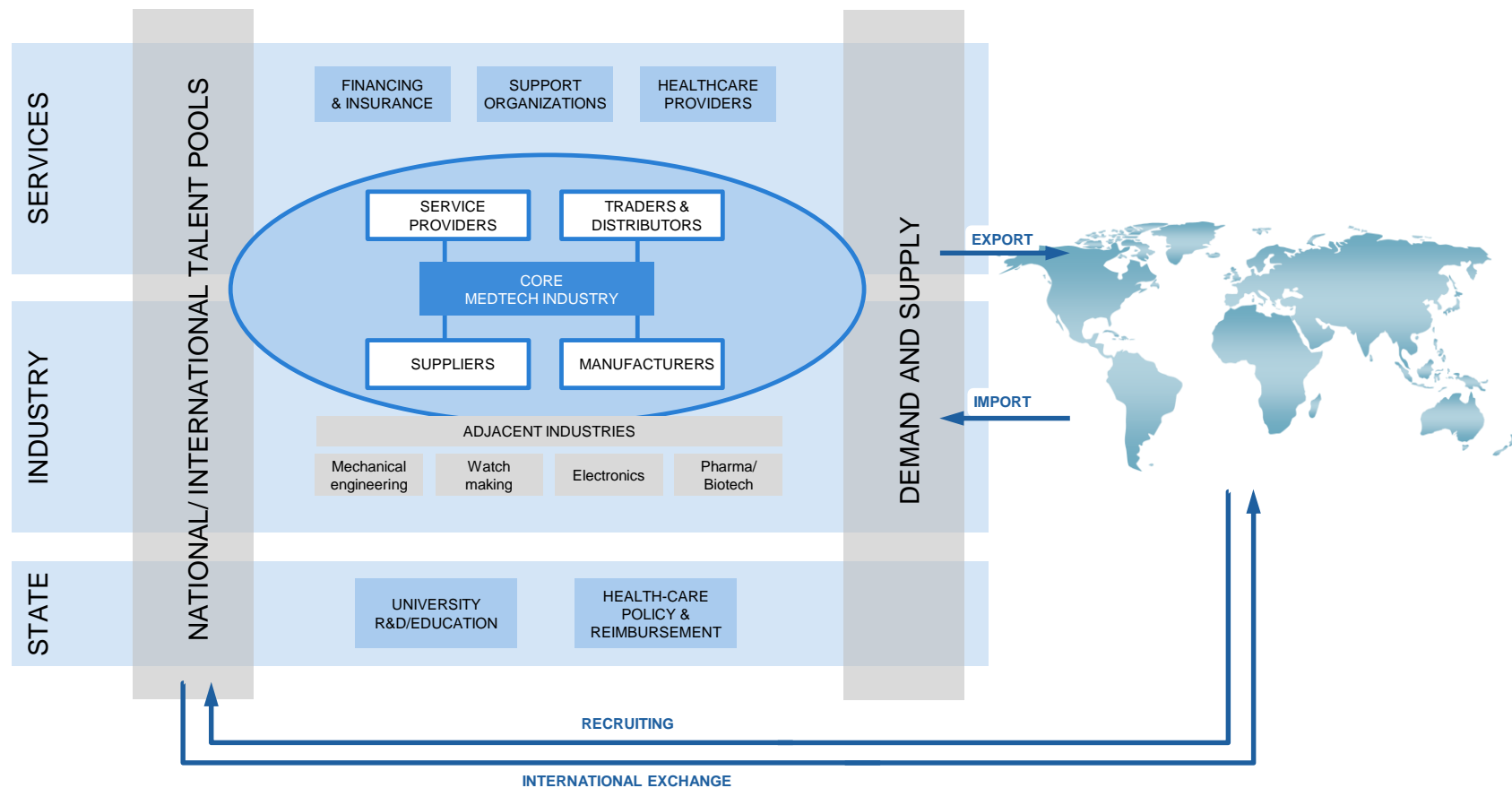
- The Swiss per capita healthcare expenditures are still among the highest in the world, making Switzerland an attractive market for medical devices
- Between 2008 and 2012 the CAGR of China was highest with 14.3%, followed by Russia (9.4%), India (8.3%), and Brazil (6.5%)
- Developed healthcare markets grew at a CAGR between 0.5% (Italy) and 5.1% (Switzerland)
- BRIC countries are catching up but from a still low level

FURTHER OBSERVATIONS

- In relation to the GDP Swiss healthcare expenditures are high: Following the USA (18%) come France, Switzerland, and Germany each ~11%. The world average is 10.2%
- The BRIC countries all have healthcare expenditures of less than 10%: Brazil (9%), Russia (6%), China (5%), and India (4%)

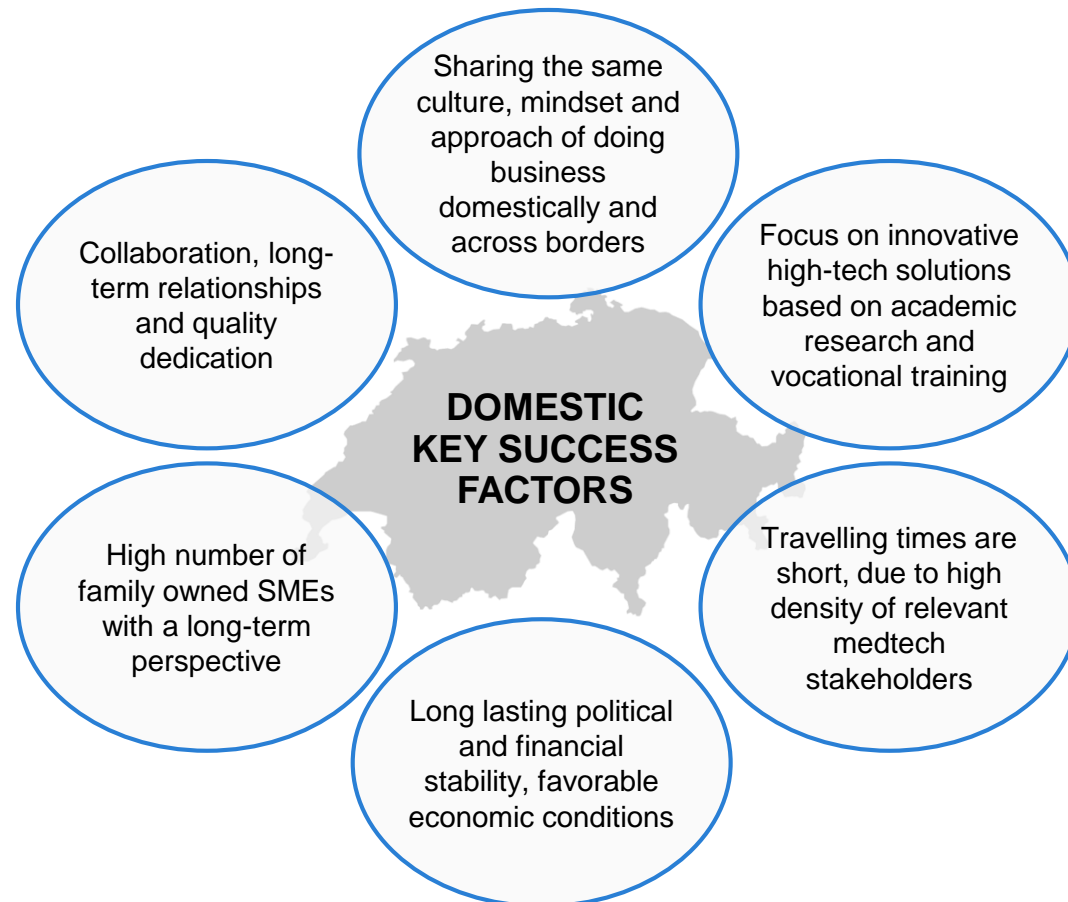
The SMTI is embedded in a well developed national and international network

SWISS MEDTECH “ECOSYSTEM” [illustrative]



The SMTI is based upon six domestic key success factors

KEY SUCCESS FACTORS IN SWITZERLAND FOR SMTI



COMMENTS

- There are six key regional success factors that boost the growth of the SMTI
- Like the global medtech industry, the Swiss medtech industry is under increasing pressure from:
 - Increasing regulatory requirements that put an administrative burden on medtech SMEs
 - Cost pressure of healthcare policy and thus healthcare providers
- The critical size for medtech companies is increasing. Many of the Swiss SMEs risk being too small to successfully master the upcoming challenges

Switzerland's 10 biggest medtech manufacturers¹⁾

No.	Company	Core manufacturing activities in Switzerland	Head-quarters	Employees in Switzerland	Global sales [CHF m]	1 year global sales growth [%]	R&D expenses [CHF m]	R&D/ sales [%]
1	J&J Medical	Orthopedics, neurosurgery, cardiology, surgery	USA	4,500 ²⁾	25,160	6	1,574	6.3
2	Roche Diagnostics	In-vitro diagnostics	CH	2,110	10,476	4	1,000	9.5
3	Sonova	Hearing systems	CH	1,200	1,951	9	126	6.4
4	Biotronik ³⁾	Cardiovascular diseases	GER	1,068	n.a.	n.a.	n.a.	n.a.
5	Medtronic	Implants to treat cardiac rhythm, cardiovascular and neurological diseases; treatments for spinal disorder	USA	1,000	17,005	3	1,477	8.7
6	Zimmer	Orthopedics	USA	934	4,116	3	182	4.4
7	B. Braun	Consumables for hospitals	GER	890	6,299	2	266	4.2
8	Dentsply	Dental products	USA	880	2,633	2	76	2.9
9	Straumann	Dental implants	CH	725	700	4	35	5.0
10	Ypsomed	Injection systems	CH	710	276	13	24	8.5
				Σ 14,017		Ø 5.1		Ø 6.2

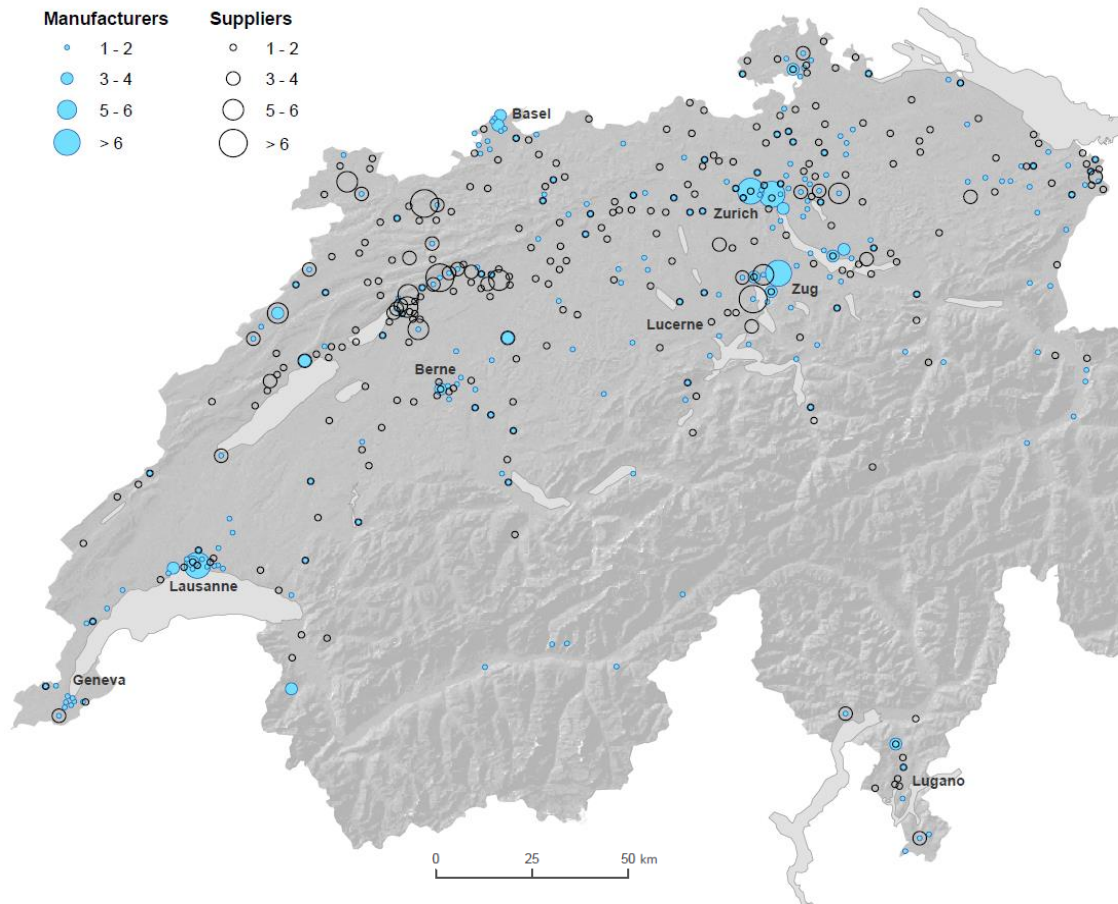
1) Approximately, manufacturers only, figures for reporting year 2012/13, exchange rates used: 0.8902 USD/CHF (31.12.2013)

2) Data not publicly available therefore based on authors estimation

3) Biotronik is not a public listed company, therefore no more data is available

Data: Annual company reports and press offices

Switzerland has one of the highest densities of medtech companies globally



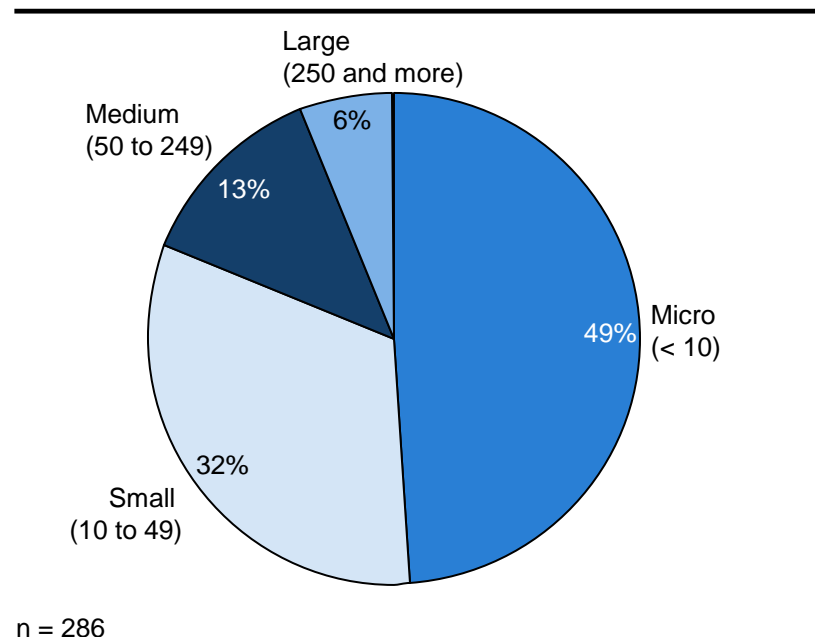
COMMENTS

Switzerland has a strong medical technology network which creates a unique environment for the industry

- Several leading universities like the ETH Zurich and the EPF Lausanne, Universities of Zurich, Berne, Basel, Geneva and others generate medtech spin-offs
- The Geneva-Lausanne-Berne region reflects the industrial heritage of the watch making industry. Many suppliers to the medtech industry are located in this region and have specialized know-how such as micro technology and automation
- The Zurich-Basel-Lucerne region is based on the heritage of the machine engineering and manufacturing industry as well as the pharmaceutical industry which is a fruitful basis for many medtech manufacturers
- Regions close to the border could benefit from the relocation of foreign companies to Switzerland

The SMTI is dominated by smaller and mid-sized manufacturers and suppliers

SIZE OF COMPANIES BY NUMBER OF EMPLOYEES¹⁾



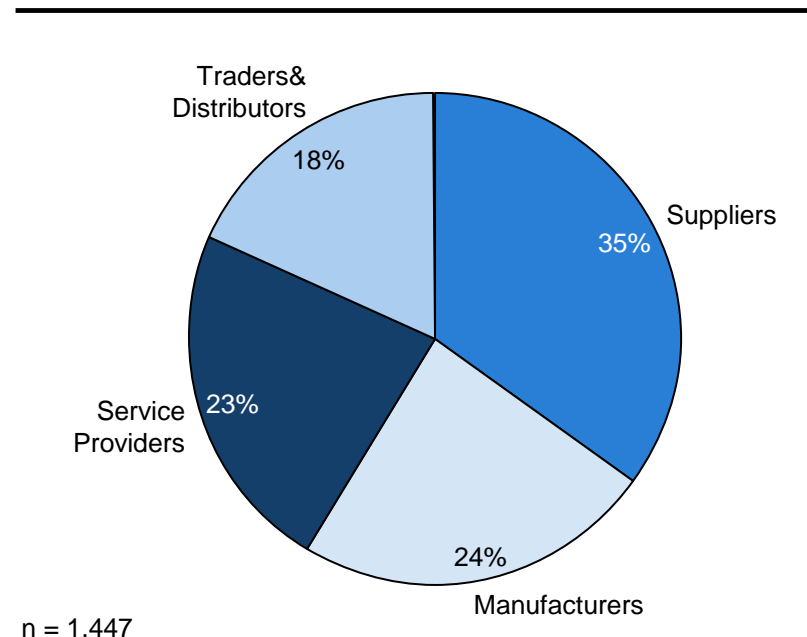
- The SMTI is dominated by SMEs: 94% of all companies have less than 250 employees
- The SMTI has a greater proportion of large companies compared to the average of the whole Swiss industry (99.5% SMEs)

1) Number of employees in Switzerland only

2) Medical Cluster database

Data: SMTI Survey results, Federal Statistical Office

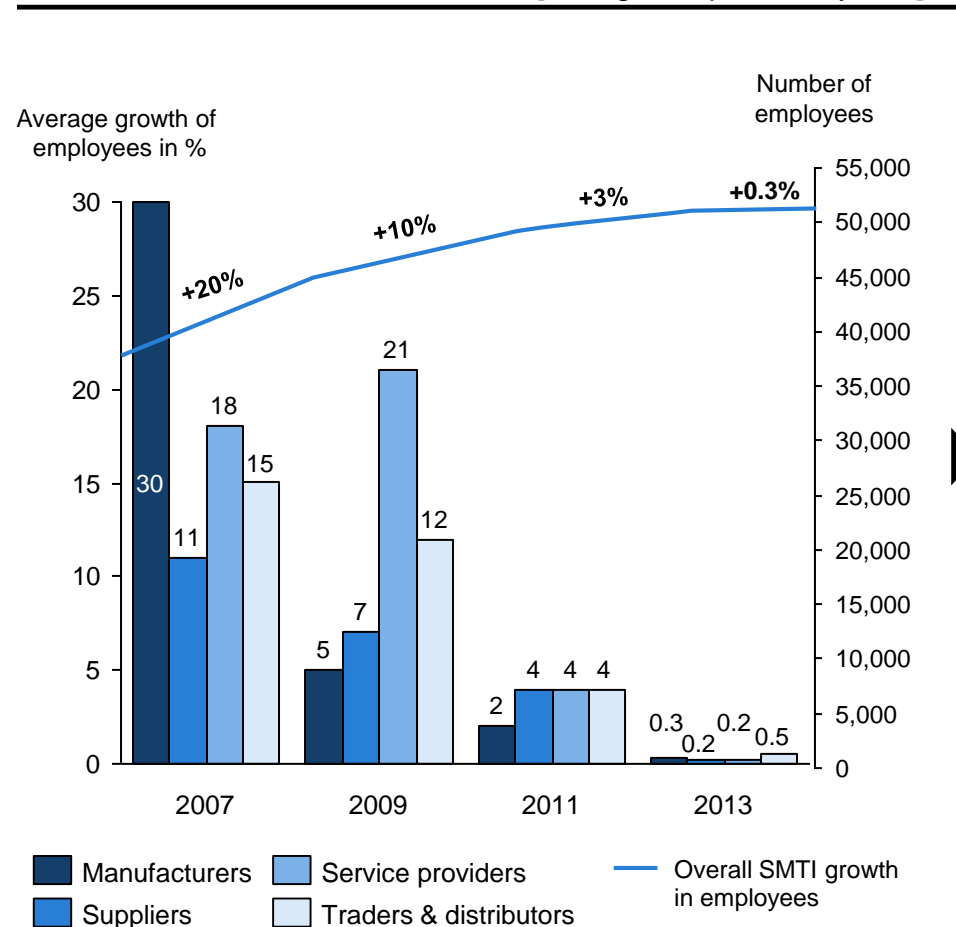
SHARE OF COMPANIES BY CATEGORY²⁾



- The majority of Swiss medtech companies are manufacturing either components or finished medical devices
- Specialized service providers, like contract engineering companies, support the industry. Traders and distributors facilitate sales to customers abroad and in Switzerland

The current SMTI employee growth rate is above other Swiss industries

GROWTH IN NO. OF EMPLOYEES [change vs. previous years]



COMMENTS

- Average growth in the number of employees significantly slowed from two digit numbers to less than 1% in 2013
- For 2013 the total number of employees working in the medtech industry is estimated to be almost 52,000
- Differences of growth rates between medtech categories diminished

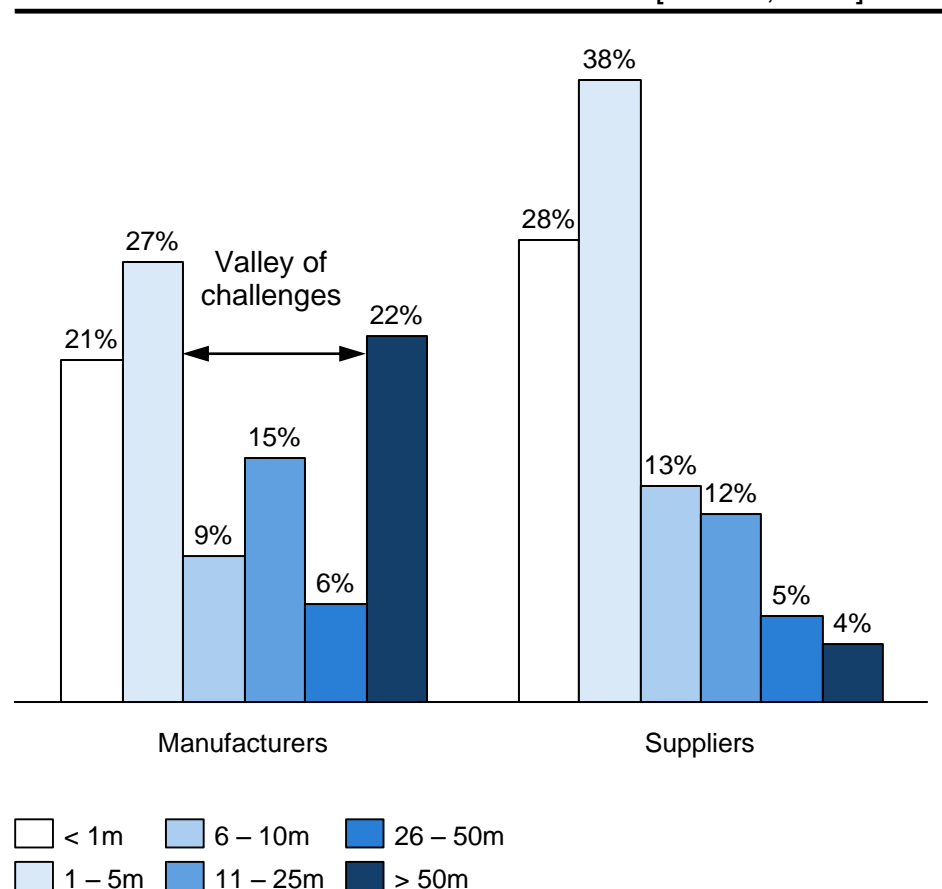
FURTHER OBSERVATIONS

- Compared 2013 with 2012 the number of employees changed in
 - Machine engineering¹⁾ -2.4%
 - Overall industry sector -0.2%
 - Watch making +0.1%
 - Pharma/ biotech industry +2.1%
- Compared to the machine engineering industry, the SMTI still grew but much less then the booming pharma industry

1) Data: Federal Statistical Office

Mid-size manufacturers struggle to grow due to steep competition

COMPANY DISTRIBUTION BY TURNOVER [CHF m, 2013]



Manufacturers n = 67, suppliers n = 113

COMMENTS

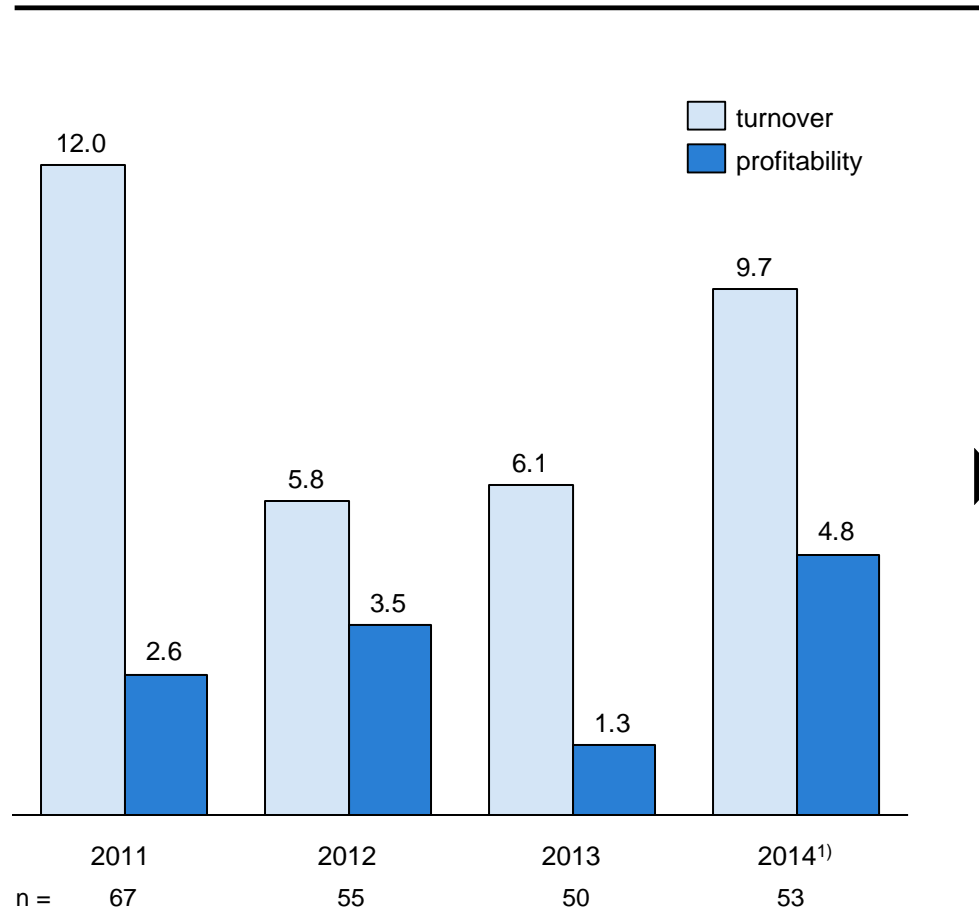
- On average manufacturers suggest a higher turnover than suppliers. The majority of manufacturers have a turnover of CHF 6m or more
- The vast majority of suppliers have less than CHF 5m turnover
- As in previous years the data suggest that manufacturers have difficulties crossing the “valley of challenges”, i.e. growing the company from a turnover of CHF 10m or less to CHF 50m or more

FURTHER OBSERVATIONS

- The average size (turnover and number of employees) of SMTI suppliers is smaller than the average size of a medtech manufacturer
- In order to meet regulatory and legal requirements and be cost effective, the critical size of a medtech manufacturer is higher than that of its suppliers
- Regulatory and legal requirements plus the need to be cost effective makes it difficult to cross the “valley of challenges”. The start-up days are gone and the need to export to additional markets increases complexity in relation to the additional turnover

SMTI companies predict near double-digit growth of 9.7% in 2014

GROWTH OF PROFITABILITY AND GROWTH OF TURNOVER [%]



1) Estimated prediction only, based on the SMTI Survey sample that contains a lions share of SMEs that usually grow faster than larger companies

Data: SMTI 2010, SMTI 2012, SMTI 2014

COMMENTS

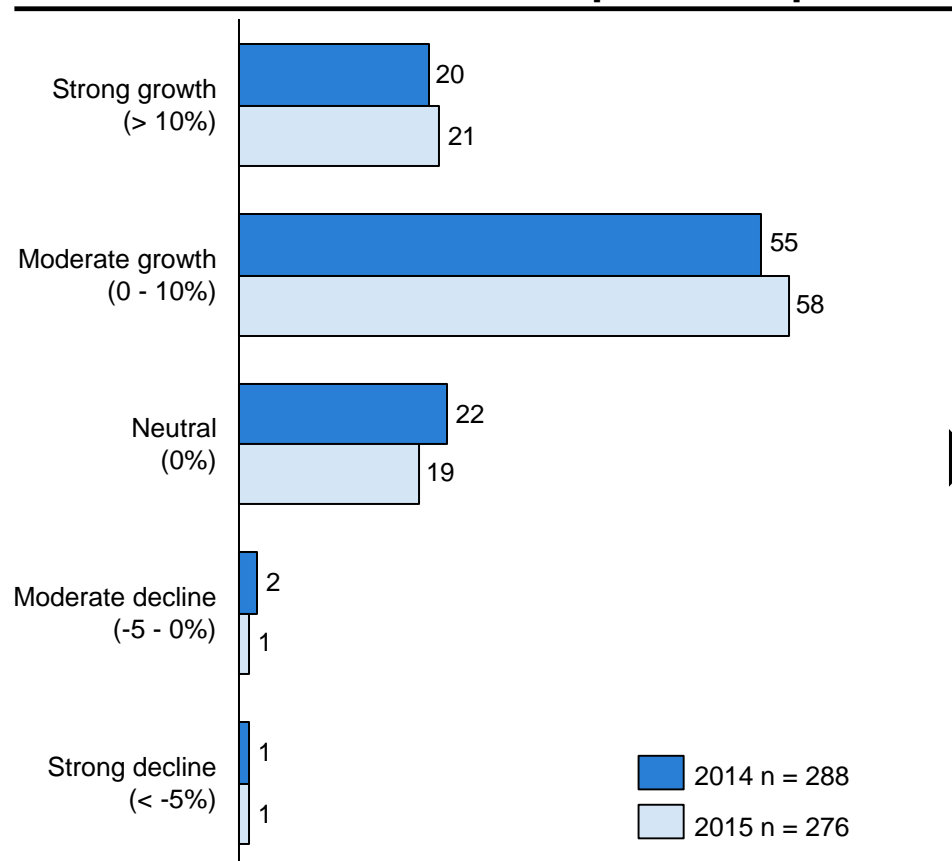
- The expectation for average turnover growth rate for 2014 is 9.7%¹⁾
- Most companies expect a positive profitability or growth in turnover
- Companies seem to have focused on improving their profitability – more companies expect a higher profitability than in 2012

FURTHER OBSERVATIONS

- SMTI companies tend to reinvest most of their profits in comparison to listed companies.
- Compared with the 2012 survey, Swiss medtech companies express a more positive outlook with higher growth and profitability
- Based on the 2012 SMTI Report, turnover growth rates were accurately estimated:
 - The growth rate of 5.9% was predicted for 2012 (5.8% achieved)
 - The growth rate of 6.6% was predicted for 2013 (6.1% was achieved)

The majority of Swiss companies predict growth in 2014/ 15

EXPECTED GROWTH OF TURNOVER [% of answers]



COMMENTS

High to moderate growth expectations expressed by the surveyed companies

Average growth expectations¹⁾:

- 2014: 9.7%
- 2015: 9.7%

Manufacturers expect the biggest growth:

- 2014: 12.5%
- 2015: 12.4%

Suppliers are more moderate in their expectations:

- 2014: 6.6%
- 2015: 7.6%

Growth expectations depends highly on the company size (2014):

- revenue <1m: 15.7%
- revenue >250m: 4.4%

FURTHER OBSERVATIONS

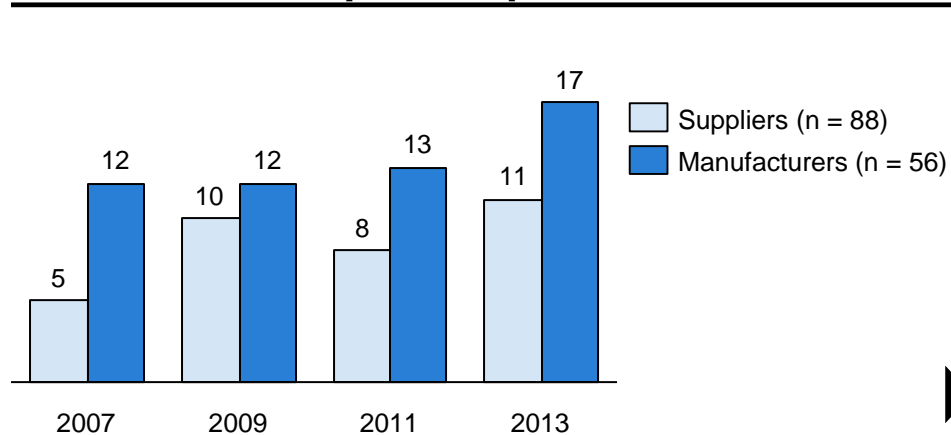
- Overall Swiss GDP growth in 2013 is 2.0%²⁾

1) Estimated prediction only, based on the SMTI Survey sample that contains a lions share of SMEs that usually grow faster than larger companies

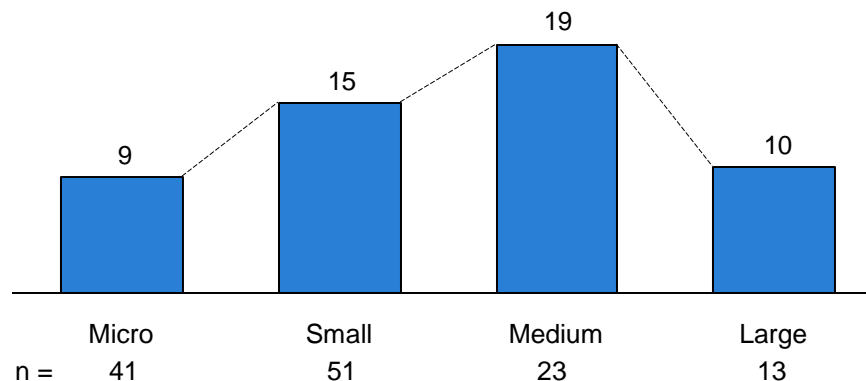
2) Data: Federal Statistical Office

Investments in R&D are rising – especially for mid-sized companies

R&D EXPENDITURES [% turnover]



R&D EXPENDITURES BY COMPANY SIZE¹⁾ [% turnover, 2013]



1) Only manufacturers and suppliers

2) Estimated prediction only, based on the SMTI Survey sample that contains a lions share of SMEs that usually grow faster than larger companies

COMMENTS

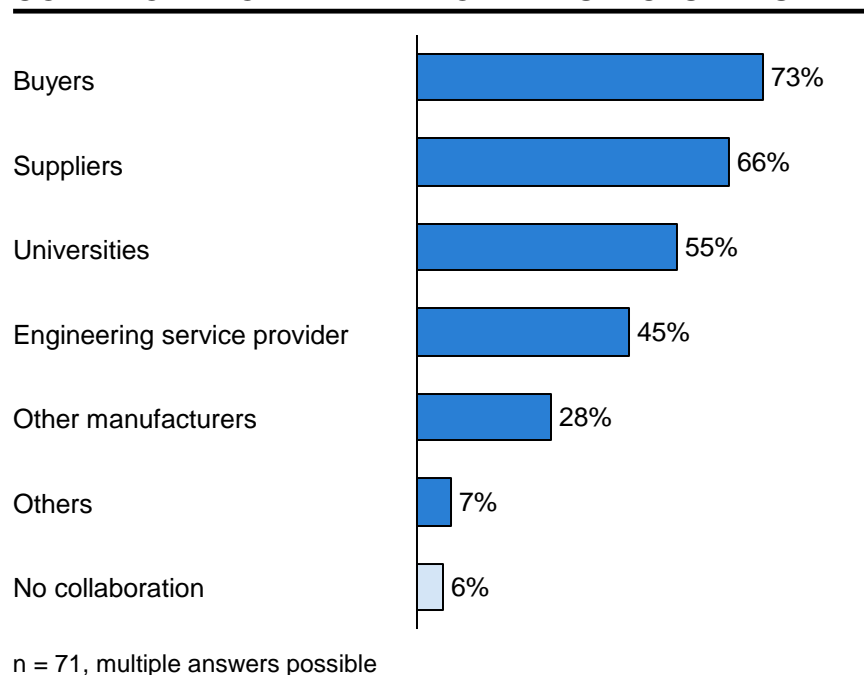
- Manufacturers invest a growing share of their turnover into R&D, reaching 17% in 2013²⁾
- Staying ahead of competitors with novel and innovative products is increasingly important for manufacturers from Switzerland
- Suppliers spend significantly less on R&D, reflecting their role in offering tailor-made solutions
- Unlike in the 2012 survey, micro companies did not spend more on R&D in relation to their turnover than large companies
- Within companies surveyed, small and medium sized companies spent significantly more than in 2012. One reason might be the drive to overcome the *valley of challenges* and grow into a large company by launching novel products

FURTHER OBSERVATIONS

- Pharmaceutical companies (2013) spend about 18.3% (Roche) and 17.1% (Novartis) on R&D, thus more than the average medtech company
- However, SMTI companies spend significantly more on R&D than the machine engineering industry (6.2%)

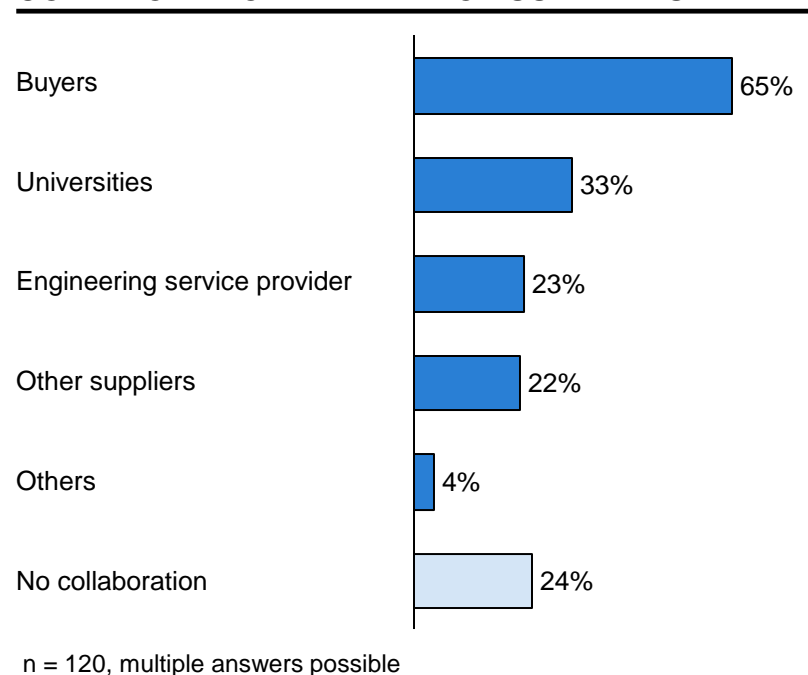
SMTI companies prefer to collaborate with buyers

COLLABORATION PARTNER OF MANUFACTURERS



- Compared to 2012, more manufacturers engaged in collaborations; only 6% of the sample does not have any collaboration (2012: 9%)
- Of note, the collaboration with clients/users has increased (from 55%), thus strengthening the idea of only launching products that will immediately satisfy a market need

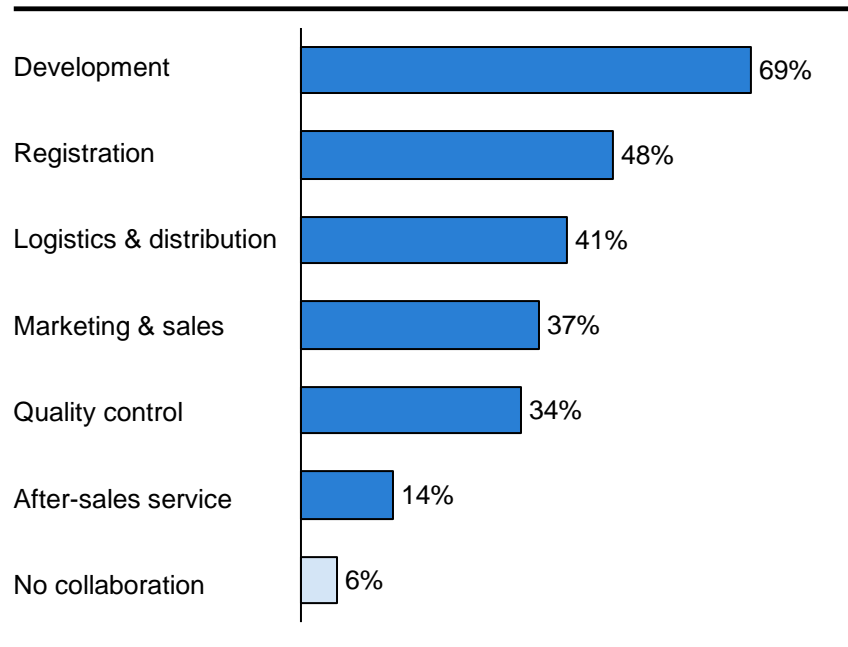
COLLABORATION PARTNER OF SUPPLIERS



- Suppliers engaged in collaboration less often (24% currently vs 13% in 2012)
- As in 2012, suppliers still collaborate most with manufacturers/clients though currently even this collaboration was less common than in previous years

The SMTI focuses strongly on development to be close to market needs

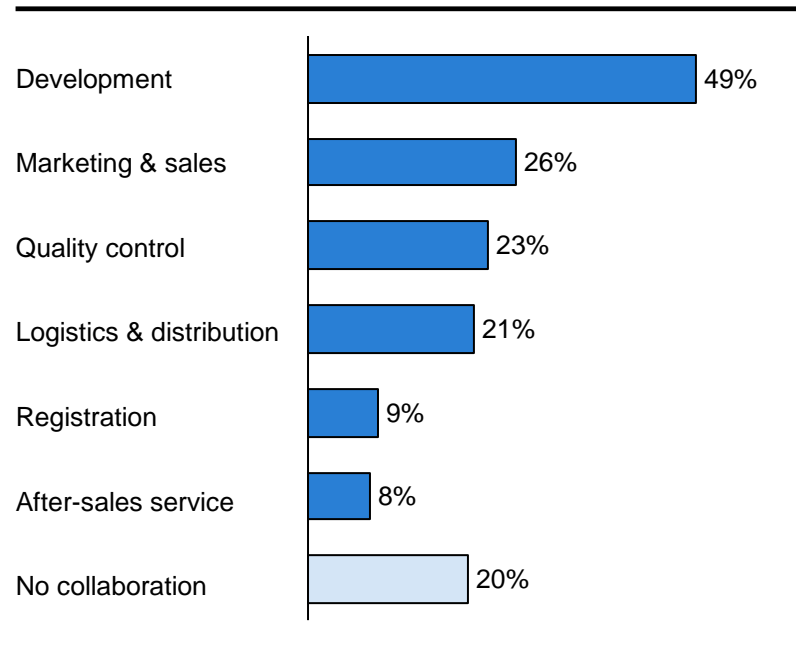
FUNCTIONAL COLLABORATION OF MANUFACTURERS



n = 71, multiple answers possible

- For the development of new products, manufacturers often engage in a collaboration (consistent with 2012 results)
- Functional collaboration is often seen for the registration of products, reflecting the increasing complexity that is difficult to handle by a small and medium sized company

FUNCTIONAL COLLABORATION OF SUPPLIERS

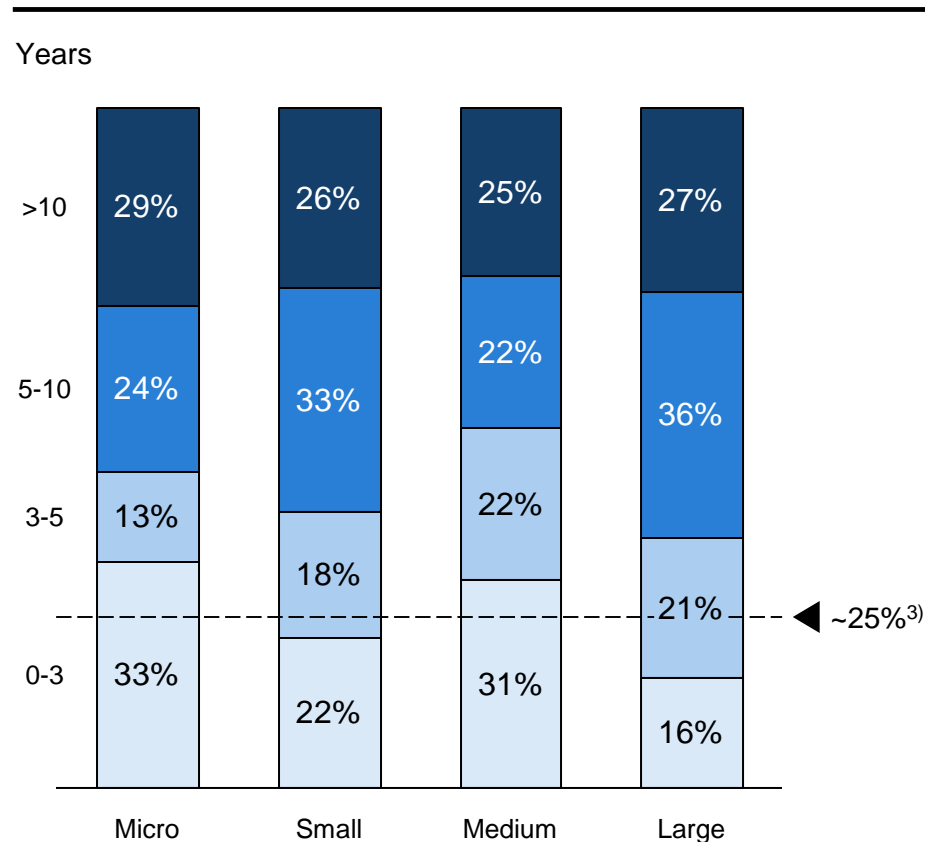


n = 115, multiple answers possible

- Like for manufacturers, suppliers prefer to engage in collaboration for product development
- However, unlike manufacturers, product registration is not a key topic for collaboration
- Main reason is that components usually do not need to be registered as a medical device

The product portfolio of SMTI companies is ageing

AGE OF PRODUCT PORTFOLIO BY COMPANY SIZE^{1,2)}



n = 46, multiple answers possible

Company size: micro companies = 0-10 employees, small = 11-50, medium = 51-250, large > 250

1) Only manufacturers

2) In proportion of their product portfolio

3) Necessary threshold for young portfolios with disruptive innovation (see SMTI 2010)

COMMENTS

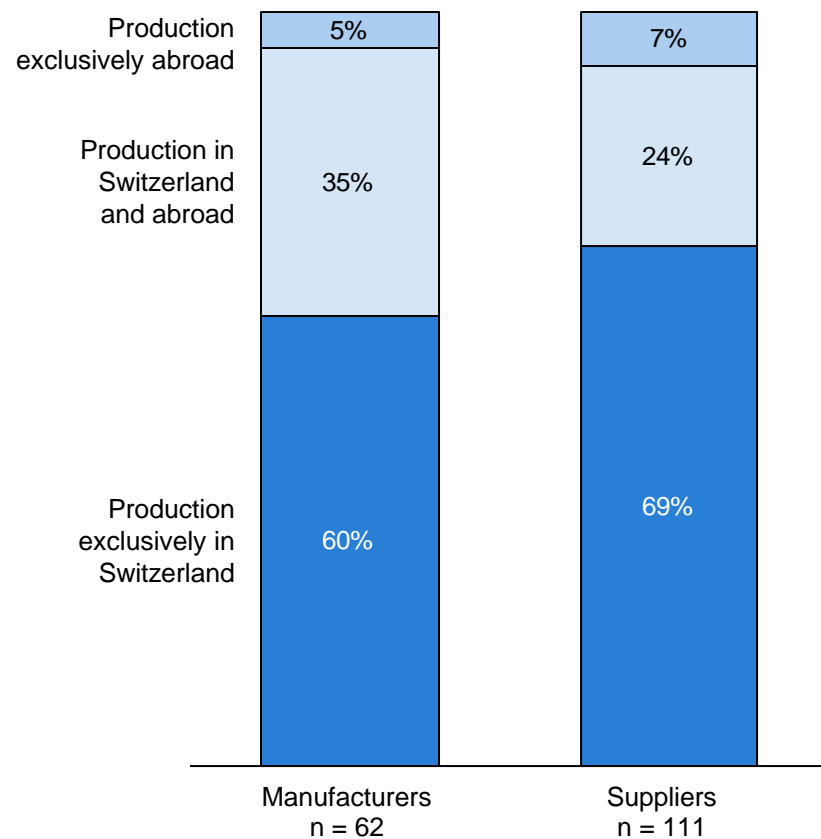
- The average product portfolio is older than in 2012
- On average, more than half of the product portfolio is > 5 years old, reflecting the SMTI's battle to remain competitive by rationalizing and cutting costs
- Companies must aim for a portfolio with 25% of product younger than 3 years in order to compete successfully in the future (see also SMTI 2010)

FURTHER OBSERVATIONS

- Medium sized companies benefit from their R&D spending of +7% since 2012
- A steep reduction of portfolio age signals troubling times ahead for micro companies (-50% since 2012)

A vast majority of SMTI companies exclusively manufacture in Switzerland...

PRODUCTION LOCATION [2013]

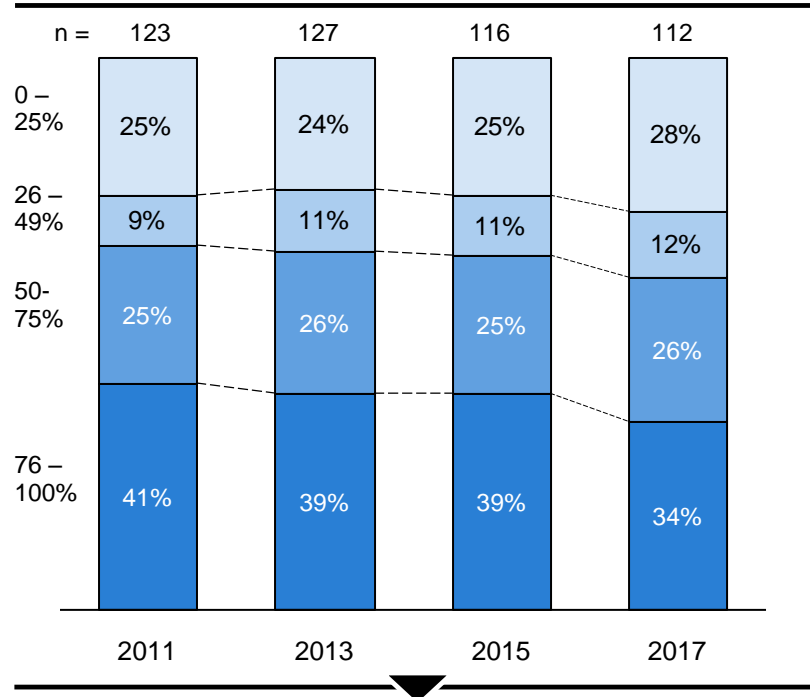


COMMENTS

- Compared to the 2012 survey, SMTI companies have increased manufacturing abroad
- The absolute change is still small but reflects the strategy of medium and large companies to benefit from cost advantages abroad, e.g. shifting production to countries with a more favorable x-rate (natural hedging)
- Suppliers still largely maintain a domestic production focus. This is closely connected to the average size of a supplier in that it may be difficult to have enough capacity to initiate a project which strengthens manufacturing abroad

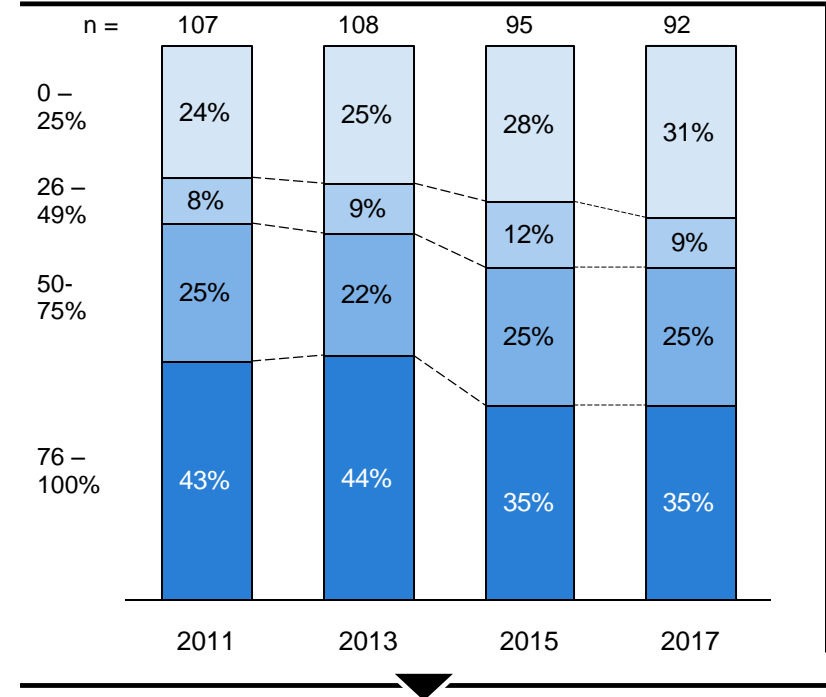
...but the share of goods being sourced abroad is increasing

SHARE OF INTERMEDIATE GOODS FROM CH



- The majority of intermediate goods (e.g. components, consulting) are still sourced from other Swiss companies
- But this share is declining, more intermediate goods are being sourced abroad

SHARE OF CAPITAL INVESTMENT GOODS FROM CH



- The picture for capital investment goods (e.g. machines, equipment) is very similar
- Still the majority of capital investment goods comes from other Swiss sources but again, the share is slowly declining
- To sum up the situation for Swiss suppliers to the medtech industry becomes more challenging

The SMTIs competitiveness abroad is weakened by current exchange rates

COMPARISON EUR, USD, AND BIC CURRENCY TO CHF (06/2012 – 06/2014) [in %]



Data: www.oanda.com; June 12th, 2014; rates are shown as weekly average rate; based on SMTI 2011 & 2012

Historical development:

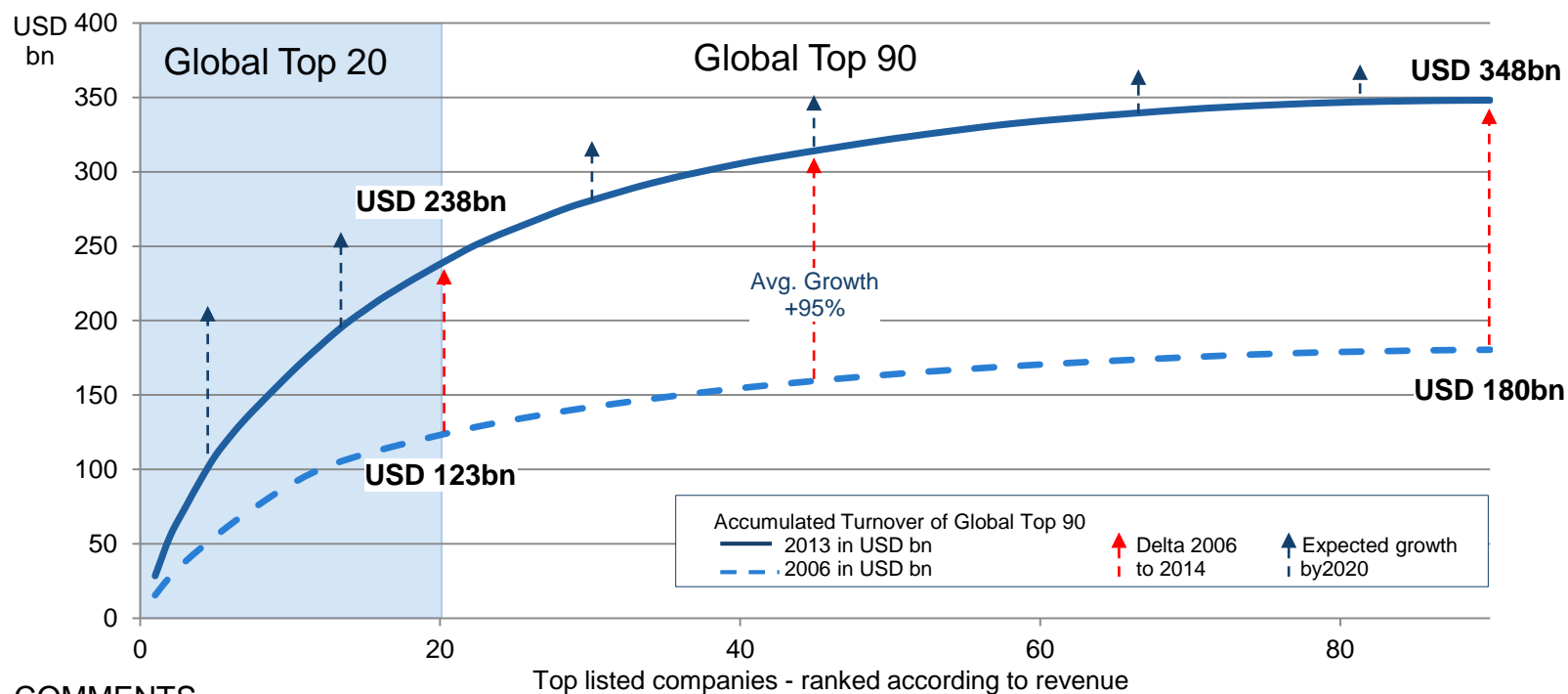
- 1 Q2/2012: Euro fixing stabilized at CHF 1.20 mark; SNB policy succeeded
- 2 Feb/2013: USA & EU initial talks on mutual free trade agreement leads to stronger USD
- 3 May/2013: Brazilian growth forecast dropped by 1.6% and the inflation breached their own set bandwidth; Indian economic growth was lower than expected and inflation at +10%
- 4 Q3/2013: China net growth is predicted to 7.5% for 2013 and 6.5%-7.0% for 2014
- 5 Q2/2014: Growth recovery in Brazil expected; tightening of monetary policy in India occurred

COMMENTS

- Stable average exchange rate of EUR/CHF (-1.59%) over the last two years
- In the past 12 months, the EUR/CHF valuation was weakened (+0.79%)
- SMTI firms remain weak competitors against US companies; since June 2012, the USD/CHF valuation increased by 7.9%
- Since October 2010, the CNY/CHF x-rate has faced moderate fluctuations of +3.3%
- Since last June, Brazilian and Indian currencies have been exposed to strong fluctuations (16.9% and 13.0% respectively), severely eroding Swiss export margins

Since 2006 the average turnover of top medtech companies doubled

ACCUMULATED TURNOVER OF GLOBAL TOP 90 FIRMS 2013 VS. 2006 [in USD bn]



COMMENTS

Turnover of the top 90 global medtech companies rose to USD 348bn (+avg. 95% since 2006). Growth is based on:

- Portfolio and geographic footprint expansion, particularly in emerging markets
- Vertical/ forward integration along the strategic focus within/ across a companies' value chain
- Local market exchange rate fluctuations and/ or USD erosion

Further market consolidation is expected – this will increase the turnover of the top 20 companies by 2020

Data: 2013 annual reports of selected 90 listed global medtech firms

8 SMTI manufacturers fall within the top 90 global medtech companies

Ranking	Company	Country	Turnover 2013 in USD bn
1	JNJ MD&D	USA	28.500
2	Fresenius Kabi & Medical Care	Germany	26.697
3	Siemens	Germany	18.991
4	GE Healthcare	USA	18.200
5	Medtronic	USA	16.590
6	Roche Diagnostics	Switzerland	11.685
7	Alcon - Novartis	Switzerland	10.496
8	Covidien	Ireland	10.235
9	Abbott Laboratories	USA	10.028
10	Philips AG	Netherlands	9.575
11	Stryker	USA	9.021
12	Danaher (Beckman Coulter)	USA	8.900
14	Boston Scientifics	USA	7.143
15	B.Braun	Germany	7.046
16	Baxter	USA	6.200
17	Essilor Intl.	France	6.128
18	Olympus	Japan	5.770
19	Carl Zeiss	Germany	5.703
20	St. Jude	USA	5.501
36	Sonova	Switzerland	2.176
64	Nobel Biocare	Switzerland	0.771
66	Institute Straumann	Switzerland	0.758
76	Tecan	Switzerland	0.432
80	Ypsomed AG	Switzerland	0.307
83	Coltene	Switzerland	0.176

COMMENTS

- Roche Diagnostic and Novartis (Alcon) are within the top 10 leading global medtech companies
- Nobel Biocare to Coltene (ranked 36 and 83 respectively) are strong mid-field players
- Swiss companies have a strong representation in the main medical disciplines (e.g. orthopedics, dental, diabetes)

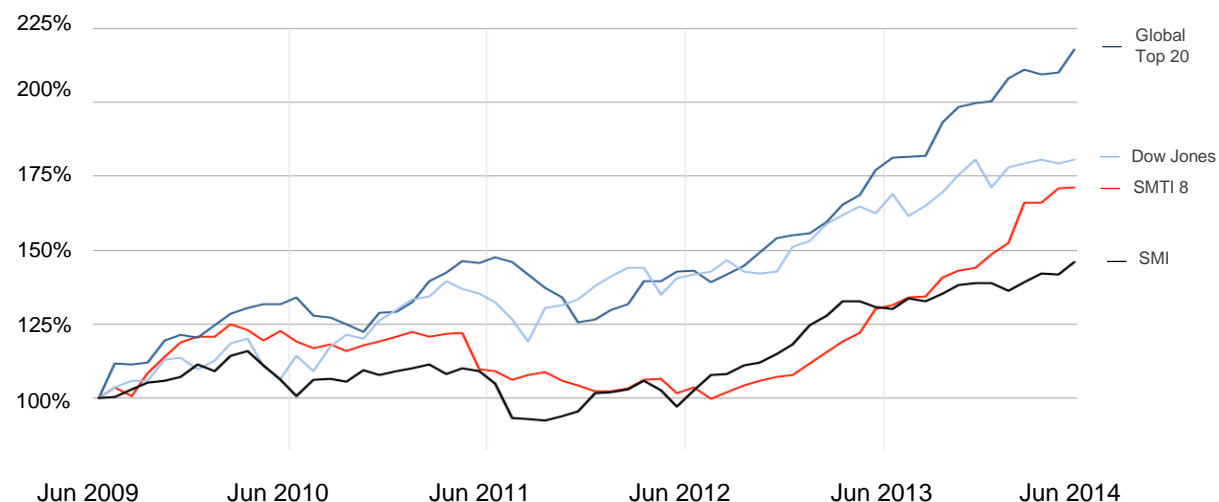
FURTHER OBSERVATIONS

- The top 10 firms have risen to USD +10bn
- It is expected that a class of USD +20bn is taking shape in the ongoing consolidation wave
- Swiss firms could become takeover targets due to solid performance and well established (sub-) segment leadership positions

Ranking is based on listed companies' 2013 annual reports; it does not reflect latest M&A activities, e.g. Zimmer/ Biomet or Medtronic/ Covidien

The 8 SMTI listed firms¹⁾ are catching up to the global top 20

COMPARISON SWISS LISTED COMPANIES vs. GLOBAL PLAYERS²⁾ IN % REVENUE



Data: www.oanda.com; June 12th, 2014; rates are shown as weekly average rate; based on SMTI 2011 & 2012

COMMENTS

- The 8 listed SMTI manufacturers have gained increasing momentum since Q3 2012
- These firms recently outperformed the SMI index
- The top 20 listed firms outperformed the top 8 SMTI
+3.4% in Y-2-Y net sales growth
- The global top 20 (incl. Roche Diagnostics and Novartis) are also winning on scale
3.5 : 1 Net sales ratio
2.3 : 1 Growth region revenue contributions
4.4 : 1 Headcount ratio

Performance FY 2013	Net Sales USD (Avg)	Y-2-Y Growth	EBIT (Avg)	R&D (Avg)	Growth regions ³⁾	Headcount (Avg)
GMTI Top 20	11.9bn	3.7%	13.3%	8.4%	24.5%	41.940
SMTI 8	3.4bn	7.1%	13.3%	8.1%	10.7%	9.470

1) Roche Diagnostics, Novartis (Alcon), Sonova, Institute Straumann, Nobel Biocare, Ypsomed, Tecan and Coltene

2) Global top 20 are based on companies' reported FY 2013 revenue and includes JnJ, Fresenius, Siemens, GE Health, Medtronic, Roche Diagnostics, Novartis (Alcon), Covidien, Abbott Labs., Philips Healthcare, Stryker, Danaher, Becton Dickinson, Boston Scientifics, B.Braun, Baxter, Essilor, Olympus, Carl Zeiss, St. Jude, and 3M

3) Growth regions reflect revenue share generated in companies emerging market, e.g. BRIC, EMEA and/ or "Next 11" markets; based on companies FY 13 annual reports



B. Results of the survey

Key Points

Top Challenges

- Since 2012, the market has become continuously tougher for SMTI firms
- The new “double challenges” are price pressure and regulatory requirements affecting 81- 91% of all SMTI firms
- Global competition is now becoming more aggressive among large, globally operating players; recent M&As reveal the need for focused portfolio consolidations

Critical Observations

- Small to mid-sized companies find themselves pushed out of market access
- Companies are having trouble staffing highly skill positions in management and technical expertise, regulatory and legal affairs
- Since 2013, growth in emerging markets has been limited by local adverse economic and developmental issues as well as by highly fluctuating exchange rates
- Patent disputes and infringement are felt by both small and large companies
- 71% of manufacturers state a growing concern of rising competition from within the non-premium product segment

Neutral challenges

- Today the supplier-manufacturer relationship is exposed to more ambiguity. The trend: short-term, competitive upstream value chain pricing while engaging long-term interdisciplinary product development projects
- The SNB policy on the EUR/CHF 1.20 ceiling supported a sound budgeting in key markets is easing the pressure for about a third of all firms
- Only 27% of SMTI firms believe in a rise of new competition for adjacent segments, i.e. ICT

On today's mind of the SMTI executive community

"Our local industry has managed the past crisis years well. Today we are still highly innovative, grow in export markets and produce excellence in new business models. Now we must capitalize on our consolidated strength."

"Future winners are highly competent in identifying market indications, treating them smarter, and demonstrating improved outcomes early on."

"International competition is getting more aggressive - long-term loyalties are under threat."

"The proportion of out-of-pocket spending is steadily rising. However, the reimbursement focused marketing model continues to play a major role in the future."

"If companies fail to establish brand superiority they are doomed to face price wars in established markets."

"Price pressure and regulation are eroding our growth dividend in export markets."

"Companies need to expand their regulatory affairs know-how in order to remain an insider. Those who lag behind will become drop-outs."

"We (manufacturer) believe the innovation lead in China, Japan, and South Korean companies is currently approximately 10 years."

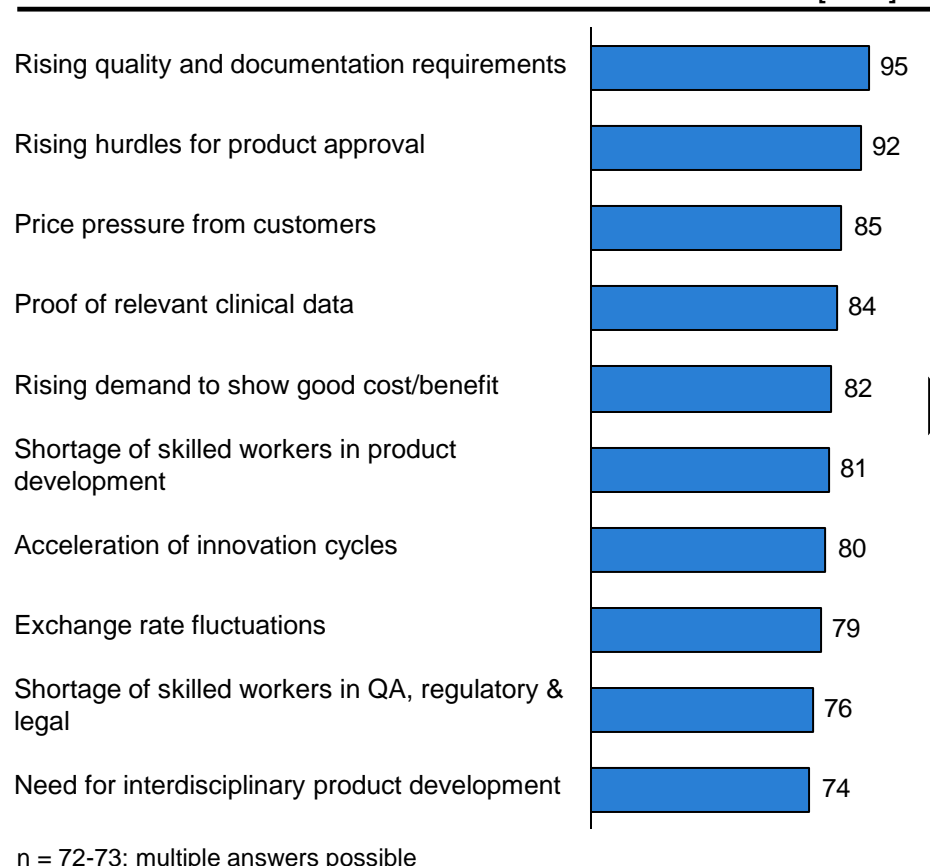
"China is a "must win" in our growth market strategy."

"International regulations create market entry barriers for SMEs"



Top 10 challenges for manufacturers in 2014

RANKING OF CHALLENGES FOR MANUFACTURERS [in %]¹⁾



COMMENTS

- Compared with 2012, more manufacturers are exposed to multiple challenges²⁾
- Overall, soaring regulatory requirements across the globe are a major concern to companies
- Price pressure continues to be very high and appears to be increasing

FURTHER OBSERVATIONS

- Despite the high regulatory requirements, manufacturers indicated less expertise in this area
- 80% of manufacturers lack the relevant skill set to maintain the rising momentum of product innovation
- The formerly strong Swiss Franc was successfully buffered by the SNB. Today, exposure to currency fluctuation in emerging markets is an issue
- Manufacturers face stiffer competition through:
 - Non-premium products (71%)
 - Broader range of products from larger manufacturers (67%)

1) Challenge is of "high relevance" or "average relevance" to SMTI companies

2) See also SMTI 2012

Top 10 challenges for suppliers in 2014

RANKING OF CHALLENGES FOR SUPPLIERS [in %]¹⁾



COMMENTS

- Since 2012, suppliers report a slight increase in exposure to challenges
- Overall, competition based pressures remain strong
- Regulatory requirements continue to be of very high concern²⁾

FURTHER OBSERVATIONS

- Suppliers are more exposed in collaborations and inter-disciplinary product capabilities
- More than 70% of suppliers are negatively impacted by:
 - Accelerating innovation cycles
 - New competitors entering established markets
 - Declining commitment by clients
 - Shortage of skilled workers in production

(The latter correlates with the rising demand of larger manufacturers to source complete components)

1) Challenge is of "high relevance" or "average relevance" to SMTI companies

2) See also SMTI 2012

All SMTI companies overwhelmed by cost and regulatory requirements

Company size	Challenge # 1	Challenge #2	Challenge #3	Challenge #4	Challenge #5
>50 FTEs	Rising quality and documentation requirements	Cost pressure	Availability of specialized resources	Declining loyalty of customer/supplier	Rising regulatory requirements
11-50 FTEs	Cost Pressure	Rising quality and documentation requirements	Rising regulatory requirements	Availability of specialized resources	Demand to supply clinical data
<10 FTEs	Cost pressure	Rising quality and documentation requirements	Need to demonstrate outcome data	Demand to supply clinical data	Rising barriers for product approval

n = 21-185

1) Subset of core SMTI 2014 challenge

COMMENTS

- All companies regardless of their size are faced with regulatory requirements and cost pressures
- Large to mid-sized medtech companies must address a more globalized value chain:
 - Specialist know-how to compete efficiently is lacking
 - existing customer relationships are being scrutinized
- Small medtech companies express that ongoing mergers of their customers are eroding their market position towards becoming a tier-II manufacturer
- Micro medtech companies particularly struggle even stronger with these cost and regulatory pressures, due to
 - Lack of Know-how and networks
 - Lack of financial resources for external support
 - Focus on innovation build-up

Key Points

Top Priorities

- The crisis years are past - SMTI firms have regained a strong strategic focus; operational measurements are still internally monitored but no longer of highest priority
- Three top strategic priorities of SMTI firms: investing in product portfolio rejuvenation, in product innovation and in developing the skills of the employees
- Additional focus on access to new markets and enhancing offerings including services

Growth

- Manufacturers with revenue >50 m and <10 m CHF p.a. focus on portfolio optimization outside their traditional segments
- Manufacturers with revenues 11-49 m CHF p.a. seek growth in international markets in the coming years and pursue acquisitions of upstream value chain partners to control eroding margins
- Companies with a high growth expectation will focus on new service development
- Companies with the highest growth expectations will not be revamping the portfolio, investing in innovation or in niche positioning

Observations

- 76% of SMTI companies plan strategic investments with an emphasis on the home market
- Most firms plan to strengthen their Swiss production capabilities through insourcing
- The licensing of products is rising as medtech opts towards pharma-like business models
- Strengthening of regulatory know-how, IT capabilities and engineering capacities continues to be important to SMTI firms
- About 20% of firms seek proactive downstream oriented collaborations or joint ventures either with payers or providers in the near future in order to improve market access and market shares

Top 10 strategic actions for manufacturers in 2014

RANKING OF STRATEGIC ACTIONS OF MANUFACTURERS [in %]



n range = 60-69; multiple answers possible

COMMENTS

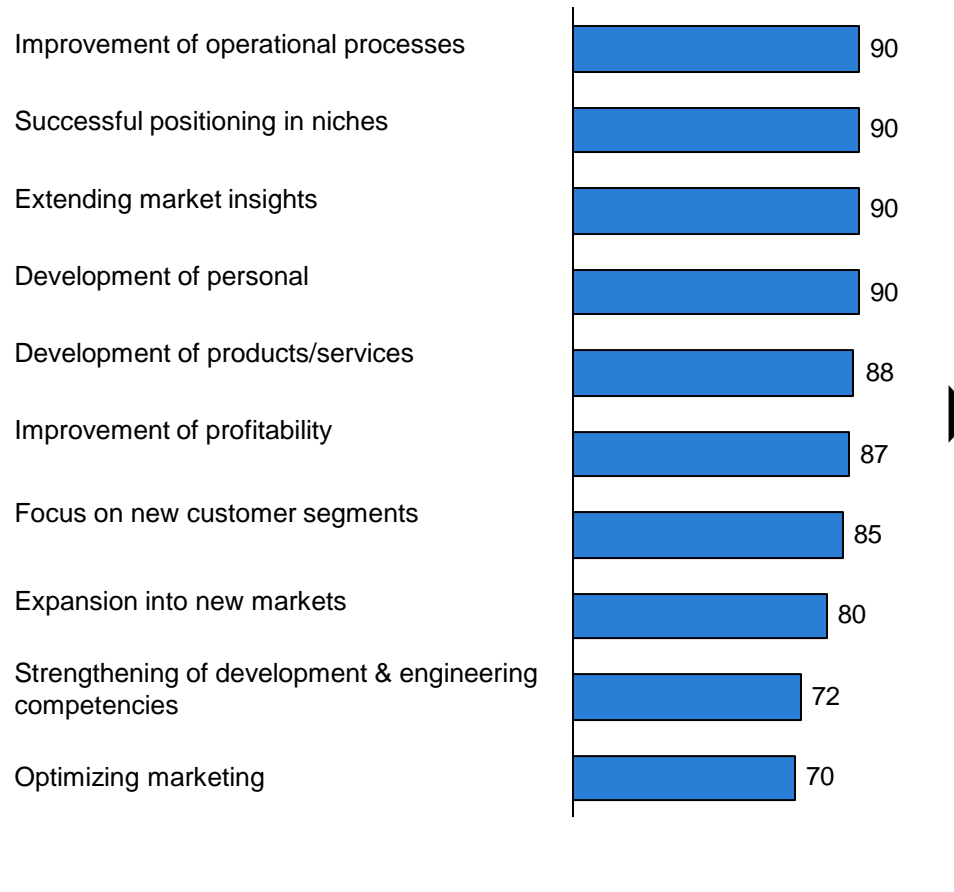
- In 2014, the three top priorities for manufacturers are to strengthen:
 - Skill set of employees
 - Market access i.e. local distribution
 - Competitiveness through higher profitability
- SMTI companies continue to build on their reputation of being highly focused on innovation and having a young product portfolio

FURTHER STRATEGIC CONSIDERATIONS

- Overall, SMTI firms are focusing on expanding/capturing new markets and obtaining operational excellence in order to counter:
 - Soaring regulatory requirements
 - Growing price pressure
- 86% of manufacturers seek successful niche positioning for their product

Top 10 strategic actions for suppliers in 2014

RANKING OF STRATEGIC ACTIONS OF SUPPLIERS [in %]



n range = 106-126; multiple answers possible

COMMENTS

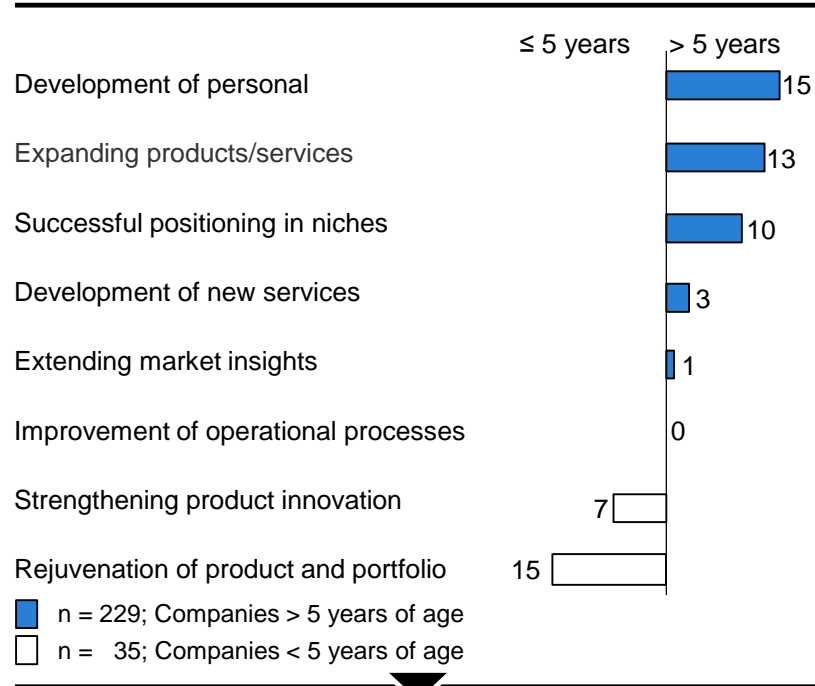
- The four top focus priorities of suppliers are:
 - Improving operational processes and the development of employees
 - Niche positioning and market insights
- This broad spectrum of top priorities reflects the attempt to overcome the current challenges at hand

FURTHER STRATEGIC CONSIDERATIONS

- SMTI suppliers are moving into new markets as they now focus on a new customer segment, market expansion and optimizing marketing to:
 - Meet the internationalization need of manufacturers (existing relations)
 - Improve global competitiveness against rising local suppliers in growth markets
 - Seek untapped business opportunities abroad

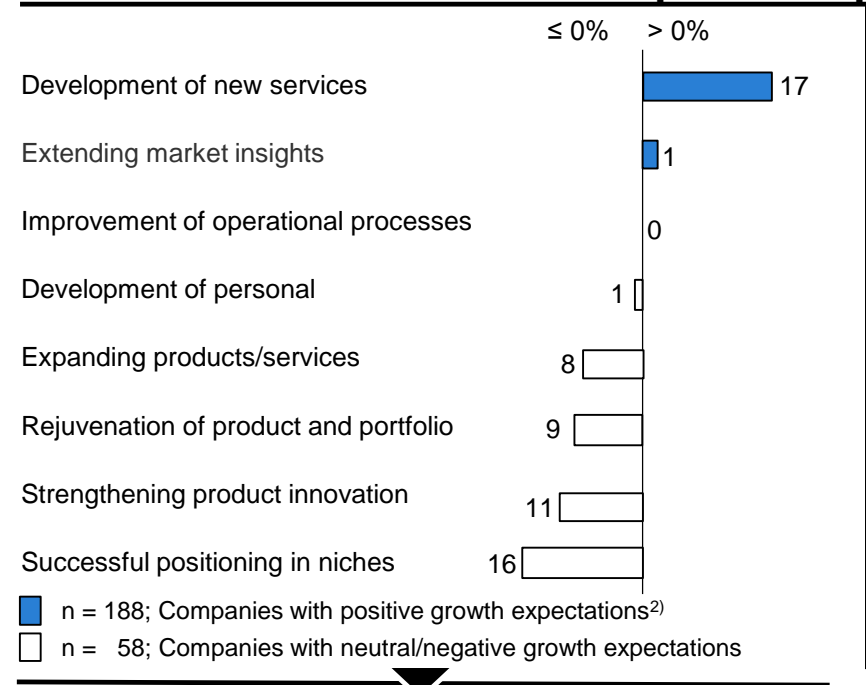
Growth priorities and expectations

PRIORITIES AS A FUNCTION OF COMPANY AGE¹⁾...



- Mature firms tend to invest more in their staff, their current products/services and in niche positioning
- Mature firms are more in favor of the core priorities than younger firms
- Innovation and rejuvenation of product portfolio is lowest ranked priority of older firms

...AND GROWTH EXPECTATIONS IN 2013 [% of answers]

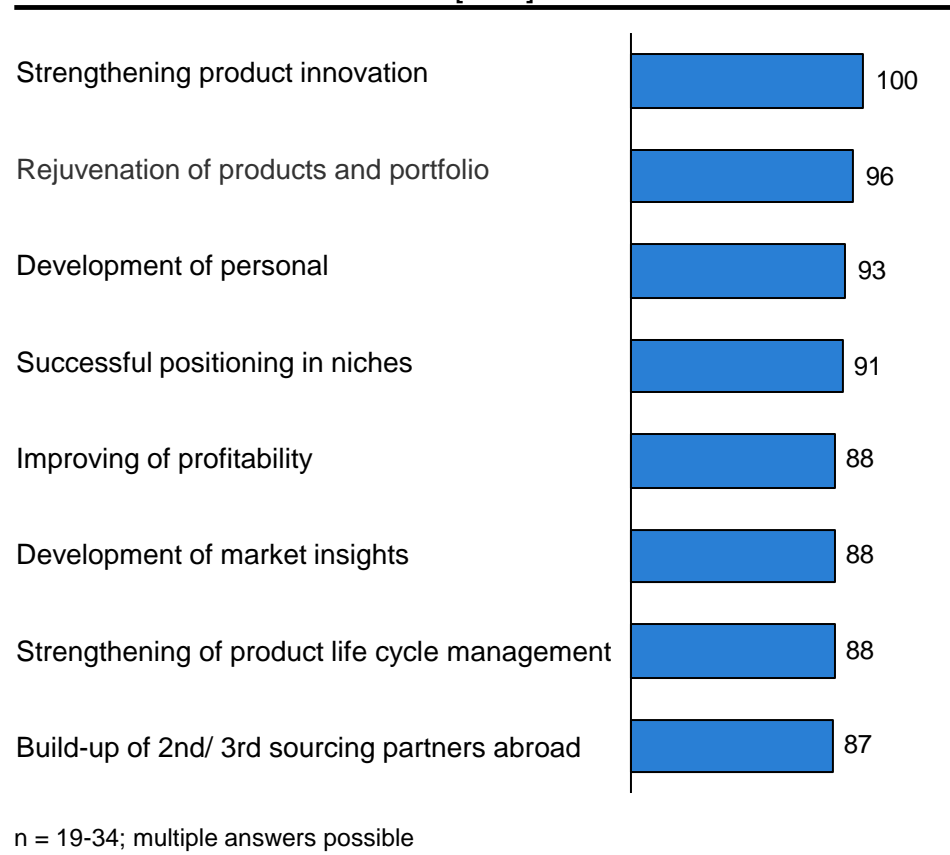


- Focus on development of new services is highly in favored in companies with a high growth expectation
- Companies expecting high growth are not concentrating as much on core priorities
- Revamping the portfolio, investing in innovation and in niche positioning scored low on growth expectation

1) Older – younger companies for total reported change per question
 Remark: for these analysis multiple answers possible

Aspiring firms¹⁾ boost their growth through innovation and portfolio optimization

RANKING OF STRATEGIC ACTIONS OF TOMORROWS WINNERS [in %]



COMMENTS

- Tomorrows winners continue with the traditional SMTI strengths, i.e. product innovation as the core driver for growth
- More than 90% of aspiring firms invest in a younger portfolio, skill development and niche positioning
- New sourcing partners are seen as a means to leverage COGS price pressures and to globalize one's supplier base
- These management actions are the current tactics to overcome the key challenges

FURTHER OBSERVATIONS

- The choice of strategic actions of the winners embrace the proven growth strategies
- However, approaches to overcome soaring consolidation, rising international competition, tomorrows holistic integration offerings, or new convergence models are not of top priority

1) 10% firms expecting highest turnover growth rates for 2014, adjusted for number of FTEs

Company size determines necessary strategic actions in the coming two years

	Priority #1	Priority #2	Priority #3	Priority #4	Priority #5
>50 FTEs	Development of new services	Rejuvenation of products and product portfolio	Development of personal	Focus on new customer segments	Strengthen R&D capabilities
11-50 FTEs	Development of personal	Optimization of operational/organisational processes	Successful positioning in niches	Enhancing current offering with new services	Strengthen product innovation
<10 FTEs	Rejuvenation of products and product portfolio	Successful positioning in niches	Enhancing current offering with new services	Strengthen product innovation	Development of personal

n = 7-164

COMMENTS

- Mid-size to larger companies have more offerings and are more customer focused
- Small to micro companies are product and technology focused
 - Small companies tend towards product optimization and maintaining niche positions, while micro companies develop a stronger product push
- New on the radar of management is:
 - Development of new services
 - Rejuvenation of products/ product portfolio

FURTHER OBSERVATIONS

- Firms with >50 FTEs focus on enhance commercial capabilities; more than 80% work on holistic offerings
- Firms below 50 FTEs focus on strengthening their marketing competencies and invest into services

1) Subset of core SMTI 2014 challenge

Key points

International investments

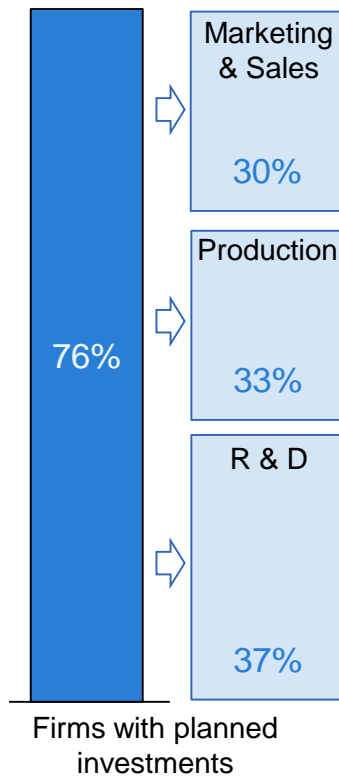
- Switzerland is by far still the major destination of SMTI companies investments, followed by Germany, the USA/Canada and China. In contrast to 2012 planned investments in Russia, Brazil and India declined, partly reflecting the high hurdles to overcome in these countries
- In general a trend to focus investments in countries that were already leading the chart has increased. SMTI companies seem to rather invest into market penetration than actually investing into new markets
- The leading reason for investments abroad is the closeness to customers; a local presence seems to be an important prerequisite to successfully do business in a market
- The strength of the Swiss franc and high labor costs are less important reasons for investments abroad
- Investments abroad concentrate on marketing & sales. Apart from Germany and the USA/Canada no major investment of SMTI companies into production or R&D can be observed

Opportunities and challenges

- SMTI companies have highest growth prospects for Switzerland and Germany, followed by the USA/Canada
- Impulses from the BRIC states – with the exception of China – are expected to be very low, a little higher are growth impulses from European countries with the exception of southern European states
- Entry barriers are a major topic for SMTI companies. No so much in Europe (with the exception of France) but in many of the emerging economies, especially Brazil, India, Russia, China
- But also Japan is perceived as having very high entry barriers, making it for SMTI companies unattractive to invest
- The USA creates more entry difficulties for many companies compared to the last survey; the national healthcare policy and budget deficits make it not easier to attract SMTI companies investments

76% of companies plan strategic investments in the next two years

INVESTMENTS PLANNED 2014

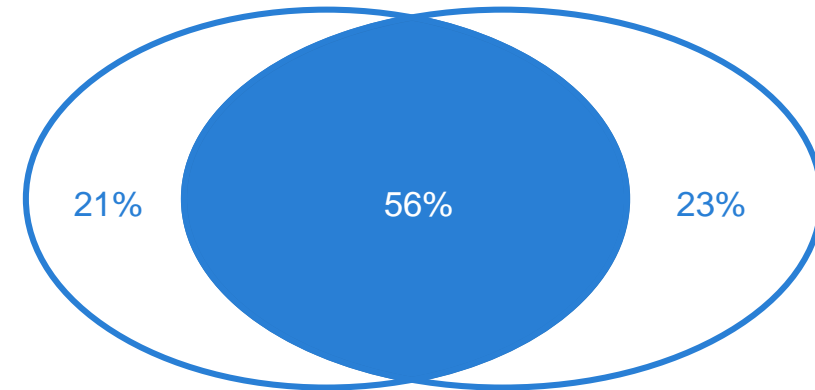


n = 338; multiple answers possible

OVERVIEW OF PLANNED INVESTMENTS BY LOCATION

Proportion of companies with planned investments in ...

Switzerland only **CH & Abroad** **Abroad only**



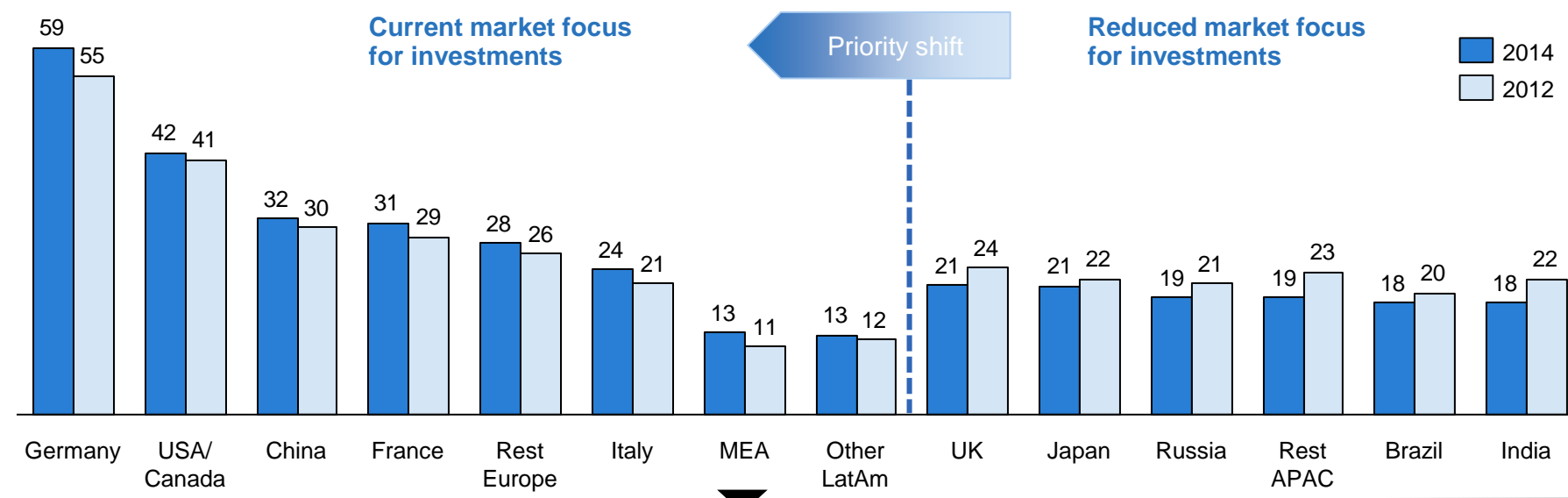
COMMENTS

- 76% of SMTI firms plan strategic investments
- Investments in R&D and production account for 70%
- Investments in marketing & sales increased in importance
- Local investments are bound to increase by a factor of two in the coming two years

n = 257; multiple answers possible

In 2014 investment shift toward established markets and China

PLANNED INVESTMENTS ABROAD 2014 vs. 2012 [in %]



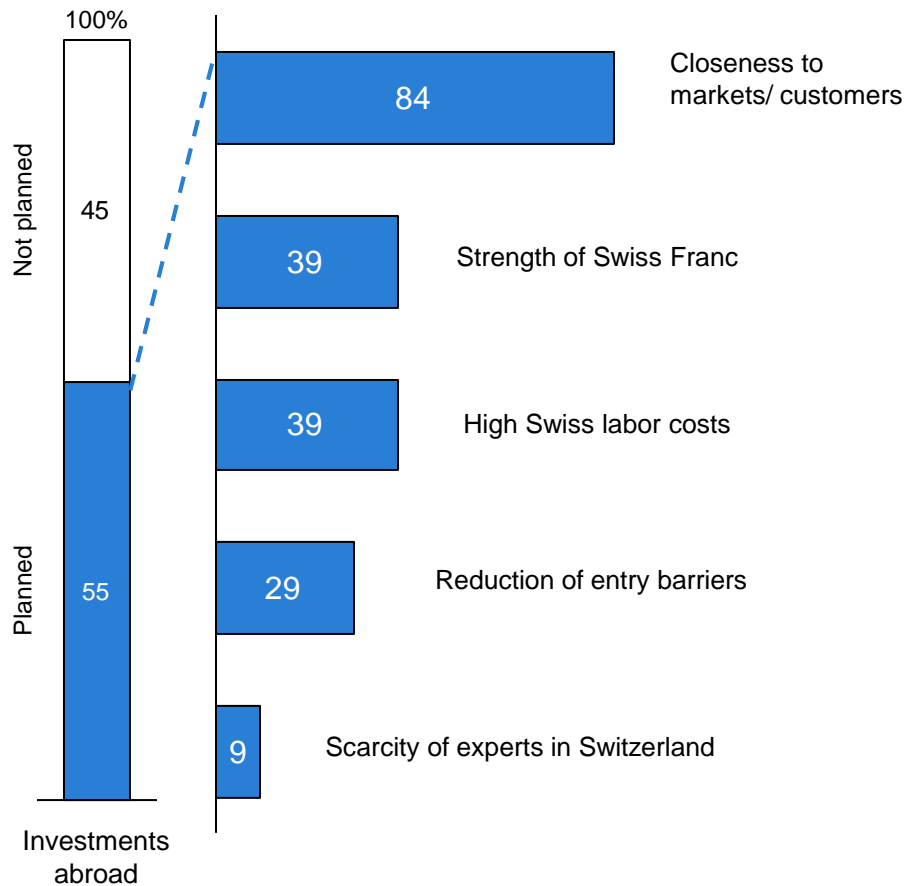
- Compared to the 2012 SMTI survey, Germany and the USA/Canada are still the biggest targets for Swiss medtech company investments. Germany could become an even bigger focus as it acts as the main entry point into the EU market for the majority of the SMTI firms
- Among the BRIC countries, China is clearly the leading destination of SMTI investments, being preferred even over most of the European countries
- In 2014, other BRIC countries lost part of their attractiveness. These countries are now mentioned by only 19% or less of participating companies

2014 n = 204, 2012 n = 188, i.e. only manufacturers and suppliers that invest abroad; multiple answers possible

Remark: Corrections were applied in the methods leading to altered, lower % levels within the sample

SMTI companies primarily invest abroad to be closer to their customers

TOP 5 REASONS FOR INVESTMENTS ABROAD [% of answers]



n = 176, multiple answers possible

COMMENTS

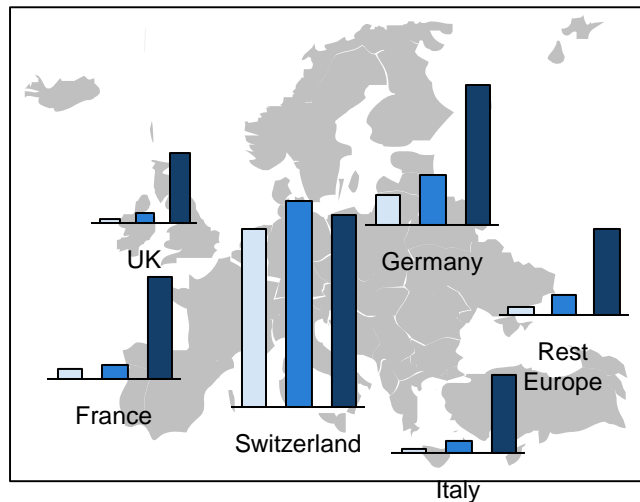
- Until 2017 around 55% of SMTI companies plan to invest abroad, this is a little more (51%) than in 2012
- Again, closeness to markets and customers drives investments abroad. Most SMTI companies think a local presence is important in successfully market entry

FURTHER OBSERVATIONS

- As in 2012, the strength of the Swiss Franc and high Swiss labor costs drive investments abroad
- The cost of Swiss manufacturing is an issue for many companies but establishing a second manufacturing base outside of Switzerland helps. Companies can then naturally hedge, (i.e. in case of further exchange rate distortions companies are then capable of shifting production quickly between countries)
- Usually only big and mid-sized companies have the resources to invest abroad. Small companies have to find other solutions

Switzerland, Germany and the US are still the dominant markets for Swiss investments

PLANNED INVESTMENTS IN EUROPE 2015 - 2017



Companies planning to invest in...

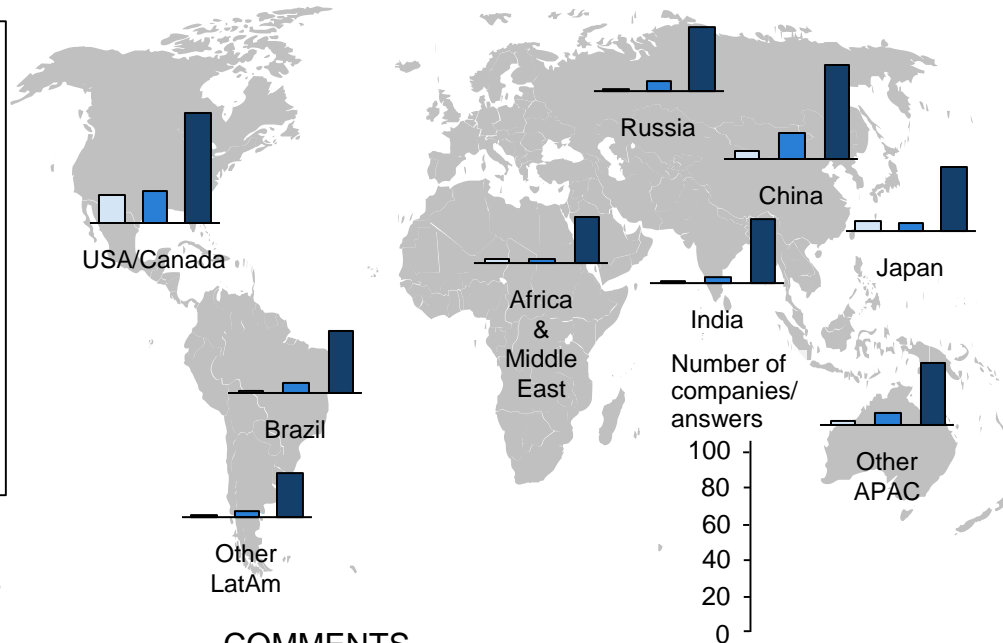
■ R&D ■ Production ■ Marketing & sales

COMMENTS

- For a majority of companies further investments into R&D and production are to be carried out in Switzerland. This strengthens the excellent position of the Swiss medtech ecosystem
- Investments in M&S are clearly dominating, promising the best way to efficiently enter local markets and boost sales

n = 23-140, only manufacturers and suppliers

PLANNED INVESTMENTS WORLDWIDE 2015 - 2017



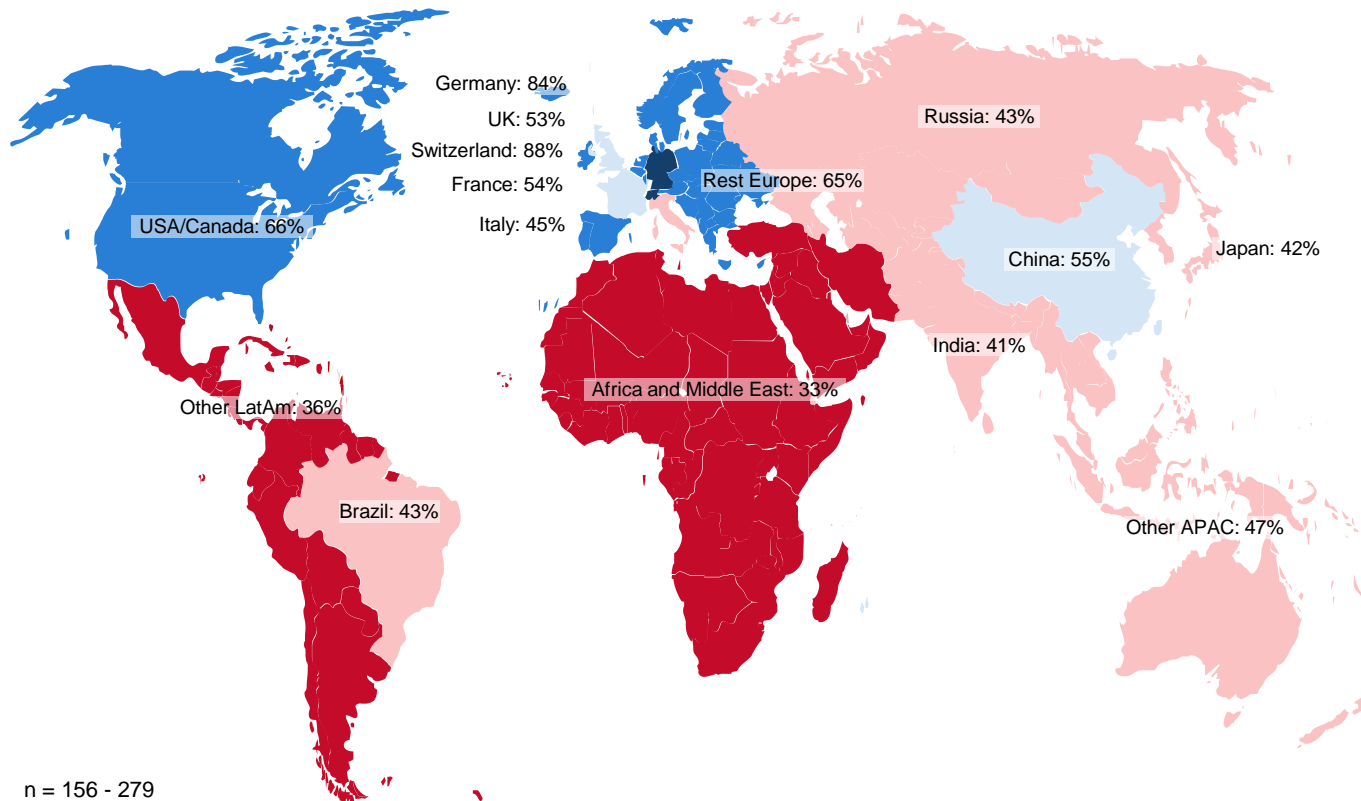
COMMENTS

- For SMTI companies Germany is clearly the number one investment target followed by the USA
- Apart from Germany, the USA/Canada and China are the target of investments in production
- All other markets play a minor role in the production strategies of SMTI companies. Entering new markets by investing locally into M&S helps

Growth prospects of SMTI companies are highest in Switzerland and Germany

COMMENTS

- The biggest contribution of SMTI growth is expected to come from Switzerland and Germany
- These two markets are familiar to Swiss companies
- The second most important growth contributors are the USA and Canada
- Contribution from the BRIC – with the exception of China – are expected to be very low
- This is mainly due to the fact that entering these markets needs persistence



n = 156 - 279

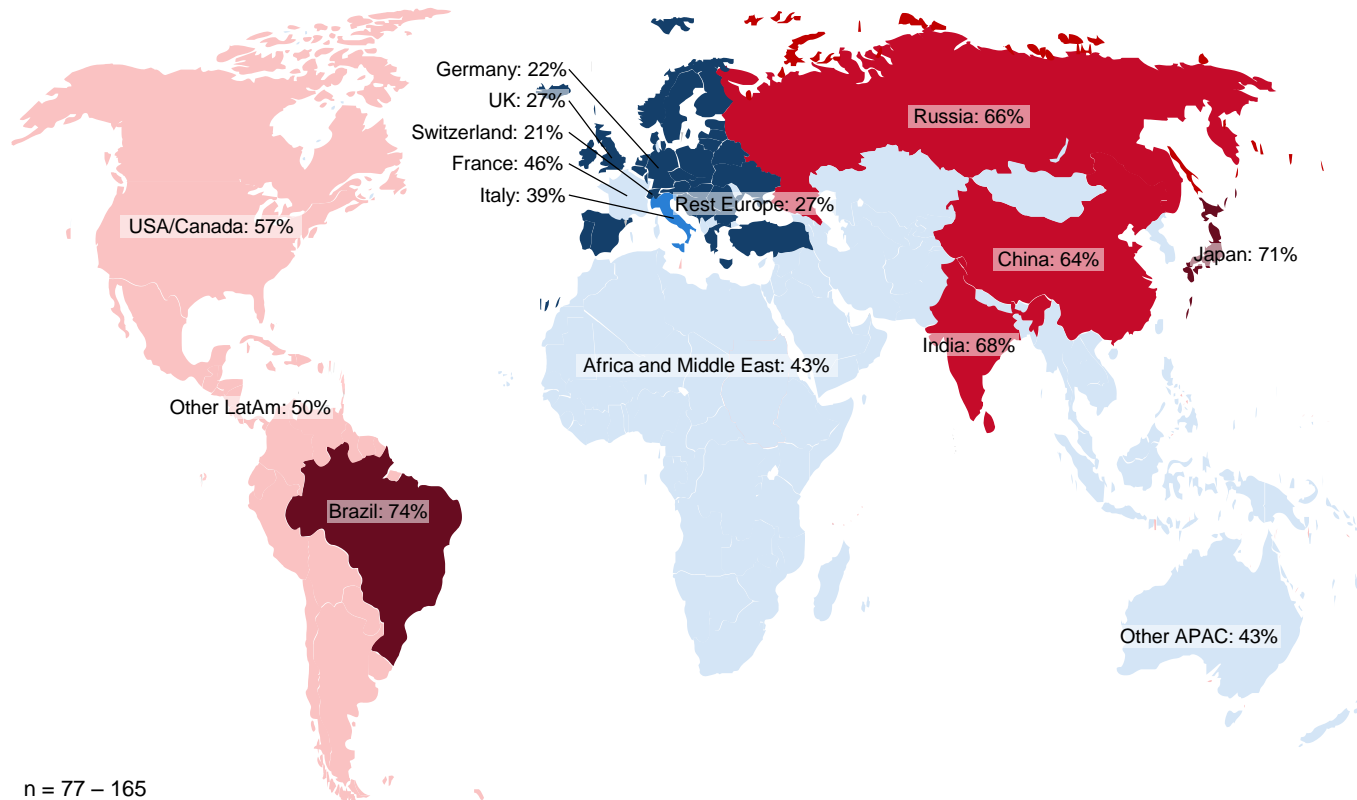
Companies that expect a positive growth in the respective markets/regions [% of answers]:

■ >70%
 ■ 60-70%
 ■ 50-60%
 ■ 40-50%
 ■ 30-40%
 ■ <30%

SMTI companies face the highest entry barriers in Brazil, Japan and India

COMMENTS

- As in the 2012 Study, SMTI companies see few entry barriers in Europe
- On the other end of the scale are the BRIC countries and Japan with their very restrictive and difficult registration and import processes
- The USA is increasingly recognized as a difficult market, latest healthcare policy decisions make it harder for foreign companies to sell to US customers

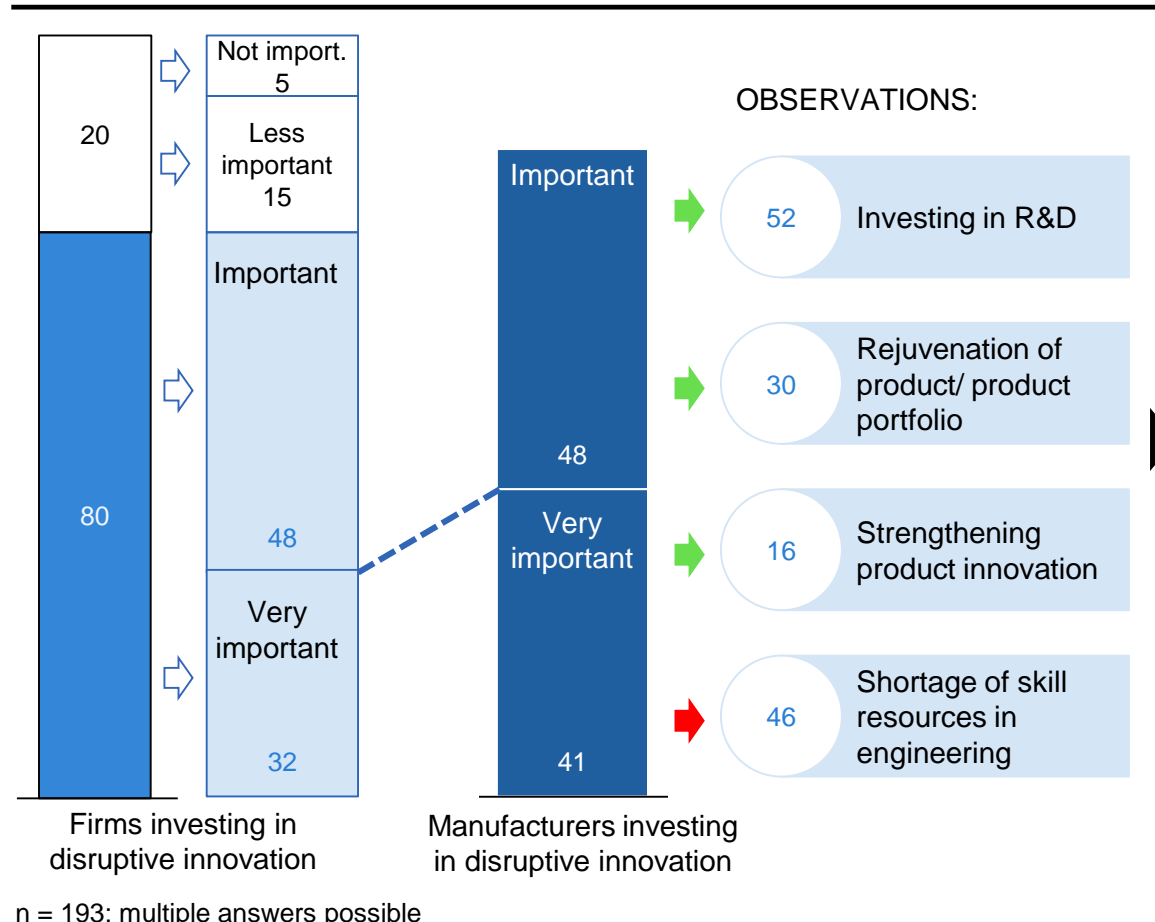


Companies that experience high entry barriers or difficulties in attracting customers from these markets/regions [% of answers]:

■ >70%
 ■ 60-70%
 ■ 50-60%
 ■ 40-50%
 ■ 30-40%
 ■ <30%

Disruptive innovation is important for the long-term development of SMTI¹⁾

IMPORTANCE OF DISRUPTIVE INNOVATION in 2014 [in %]



COMMENTS

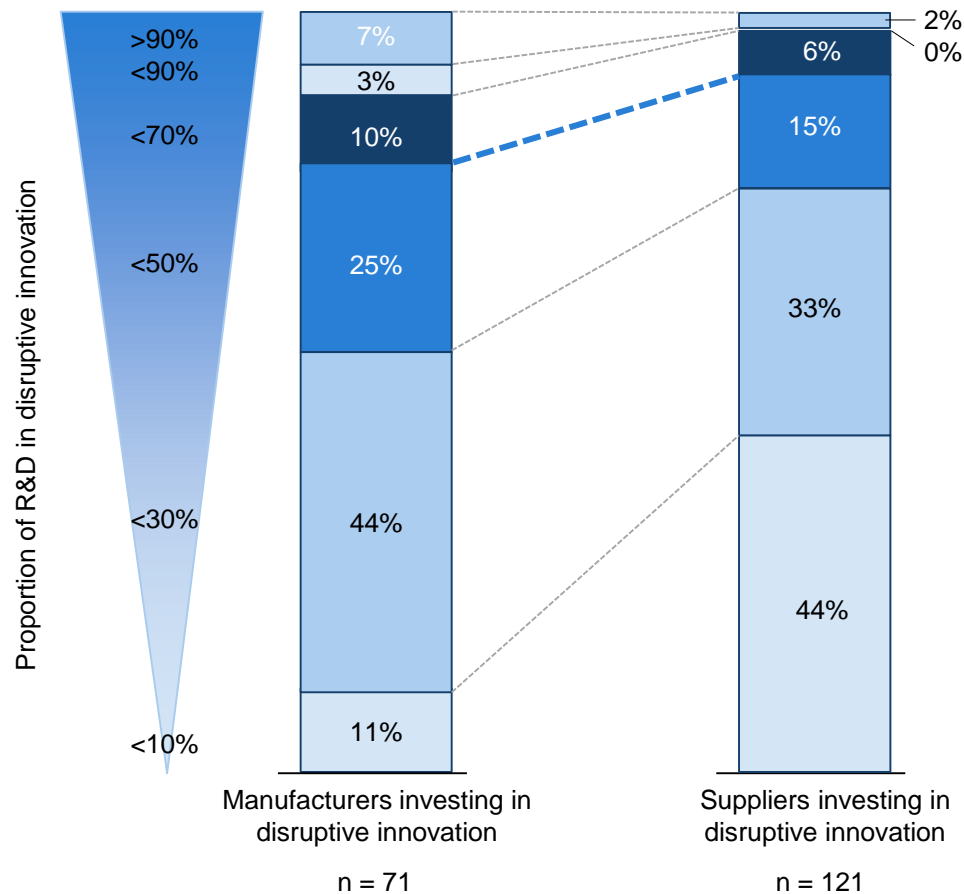
- 80% of SMTI firms in production understand the mid- to long-term importance of disruptive innovation to maintain competitiveness
- +9% of manufacturers emphasize the high importance of disruptive innovation
- This innovation behavior is reflected in their current strategic focus on:
 - Investing in R&D
 - Rejuvenation of product portfolio
 - Strengthening product innovation
- However, 46% of manufacturers expressed a shortage of skilled engineers to engage in future innovation projects

* This chapter is sponsored by the main partner CTI

1) Manufacturers and suppliers only

Manufacturers and suppliers invest in projects of disruptive innovation

PROPORTION OF R&D ON DISRUPTIVE INNOVATION 2014

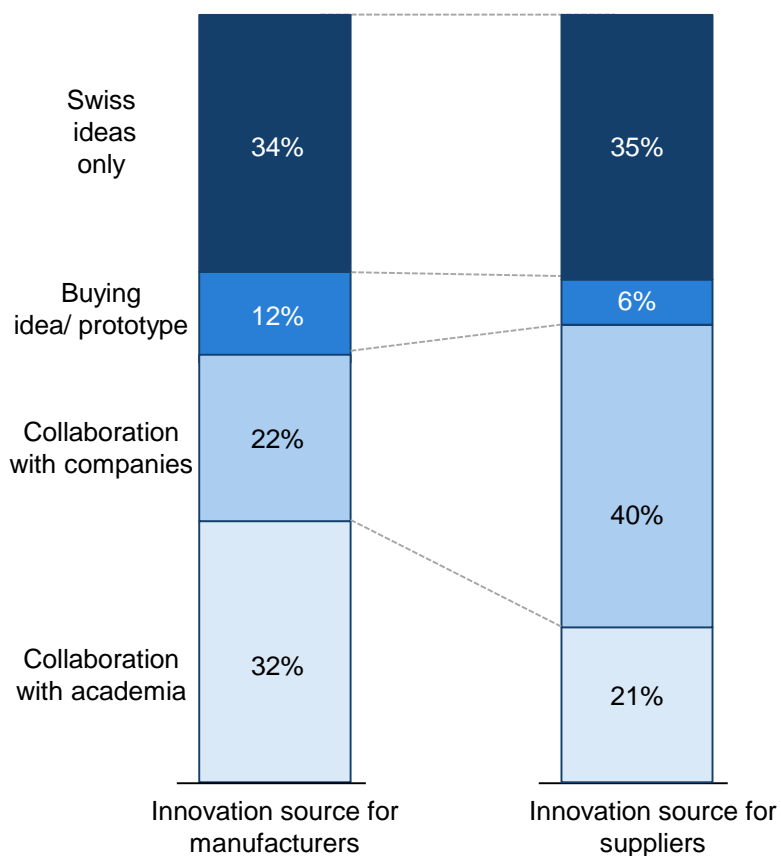


COMMENTS

- Both manufacturers and suppliers invest in disruptive innovation
- 20% of manufacturers invest more than 50% of their R&D spending on disruptive innovation
- 8% of these suppliers invest heavily (more than 50%) in disruptive innovation
- In general manufacturers invest more of their R&D spending on disruptive innovation

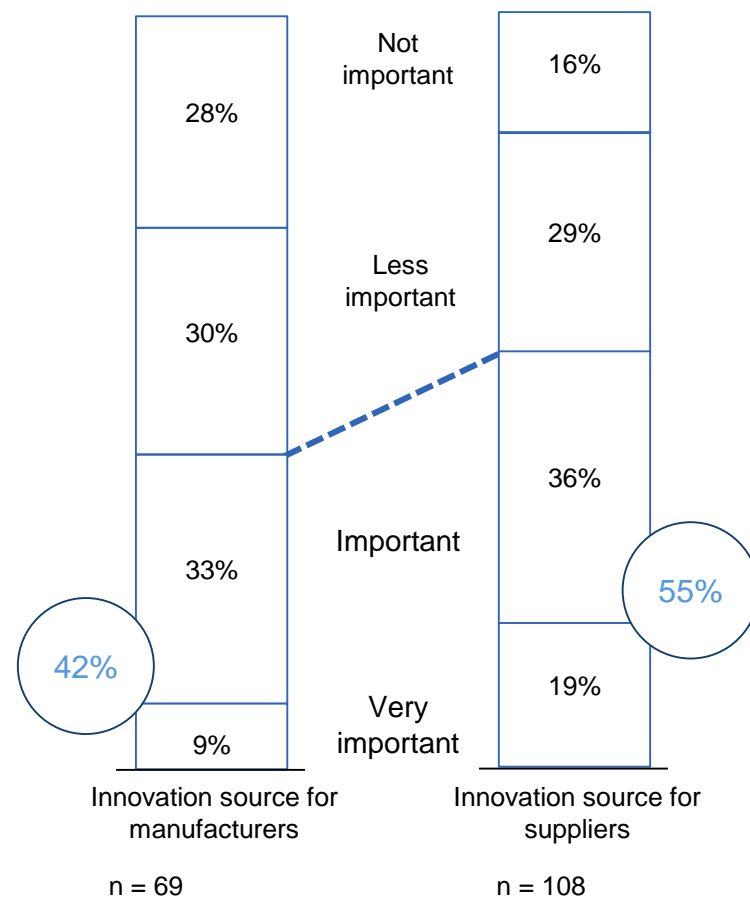
Domestic idea generation is highly important to SMTI firms

INNOVATION SOURCE BY PROPORTION - 2014



n = 45 - 64; multiple answers possible

IMPORTANCE OF SWISS ACADEMIC COLLABORATION

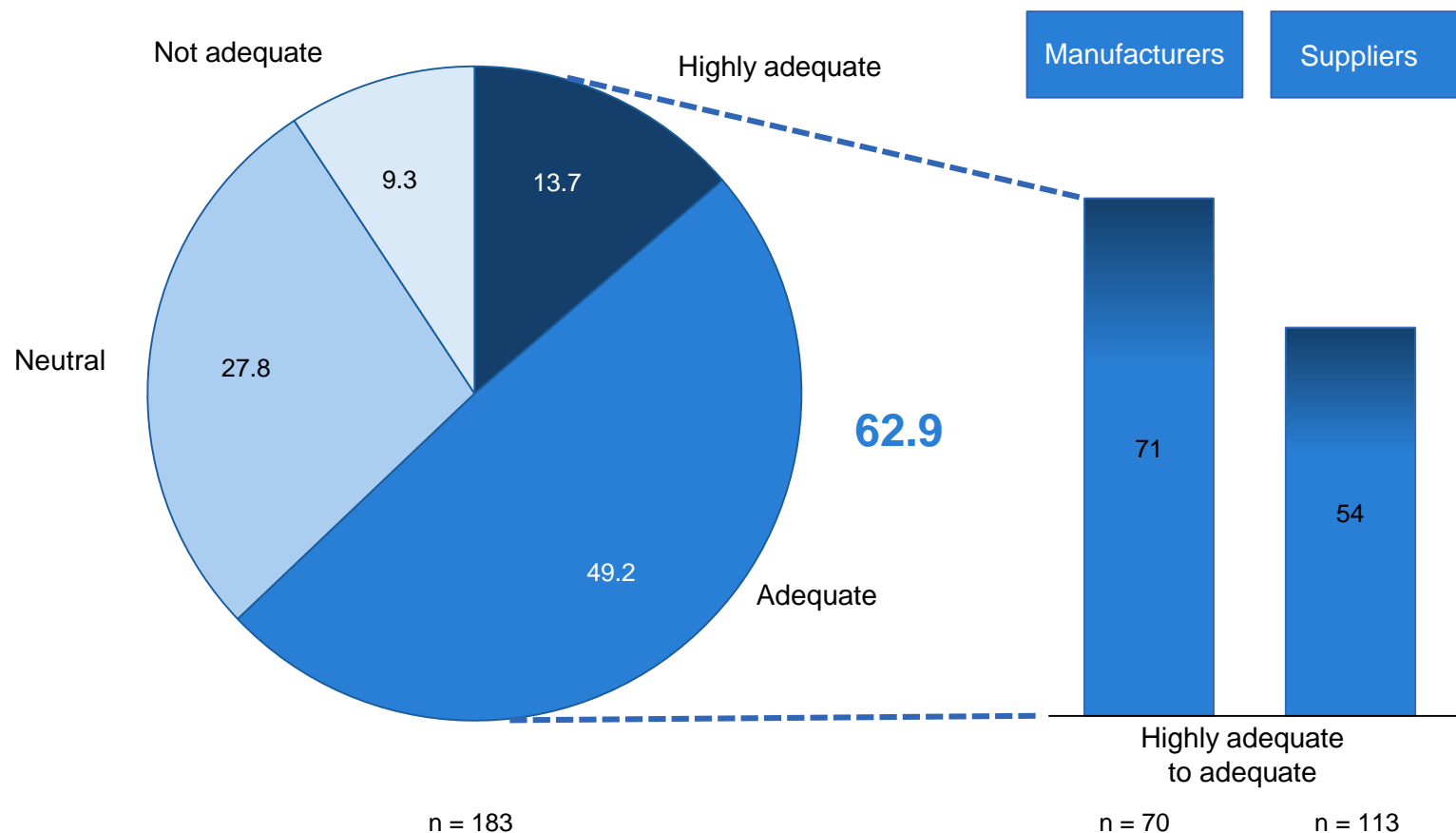


n = 69

n = 108

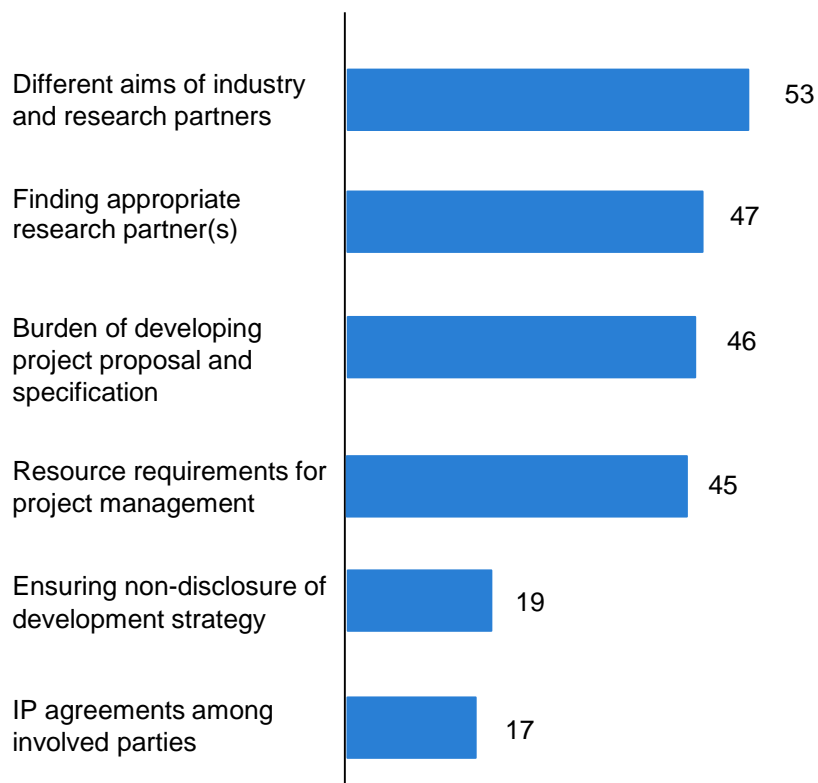
The CTI R&D support framework is highly important for Swiss companies

RELEVANCE OF CTI R&D SUPPORT FRAMEWORK in 2014 [in %]



Project management and negotiation is challenging the SMTI

PROPORTION OF PROJECT BARRIERS in 2014 [in %]



n = 76 - 126; multiple answers possible

COMMENTS

SMTI firms have a balanced perspective on CTI R&D supported joint projects. Focus centered on:

- Joint setting of aims
- finding adequate partners
- pre-/ project administrative tasks

Most surveyed firms were not concerned with IP and patent protections or non-disclosure agreements

FURTHER OBSERVATIONS

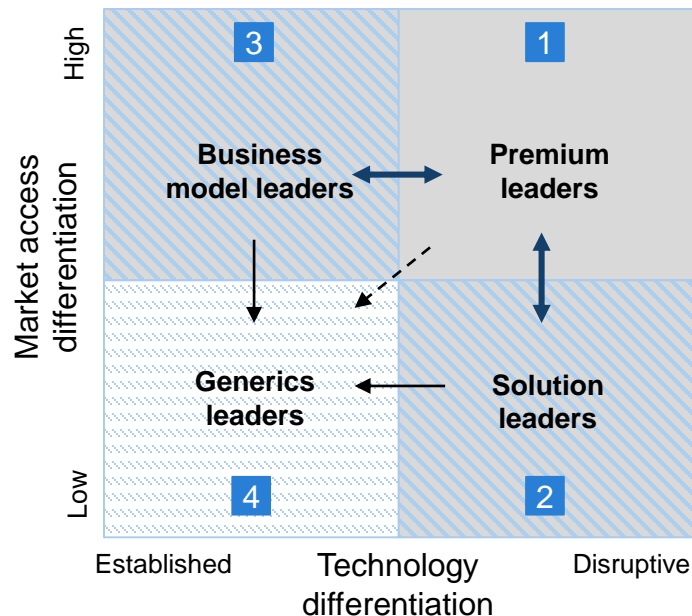
- 48% of manufacturers stated that finding the right partner is important
- 64% of suppliers are concerned with pre-/ project administrative tasks



C. Outlook: Trends and new opportunities

SMTI companies rethink their strategic positioning to optimize competitiveness

Current vs. potential positioning of SMTI firms



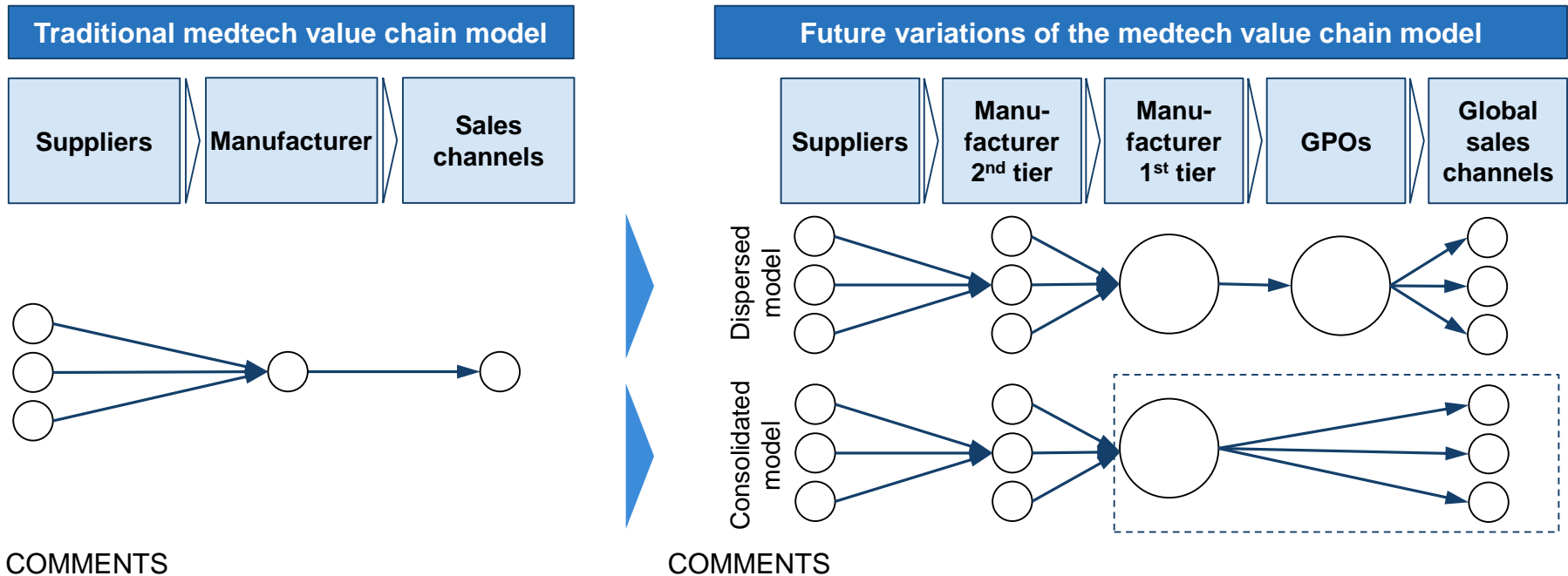
CHARACTERISTIC OF POSITIONING

- 1 Highly unique product features and quality products paired with broad market access helped manufacturers to establish premium/ segment niche leadership (i.e. established Swiss manufacturers)
- 2 A positioning solely based on highly unique features and quality products in a sub-segment may drive companies towards technology leadership (i.e. Swiss start-ups)
- 3 Applying broad market access paired with proven/ data supported solutions may help to establish business model leadership (i.e. "own the disease" models)
- 4 Poor market access paired with established solutions may drive companies towards a *generics leadership* position (i.e. international me-too competition)

COMMENTS

- Rising global competition may affect premium or preferred technology positioning of many SMTI firms
- A *beyond premium leaders* positioning strategy can improve competitiveness depending on the technology/solutions in the market and chosen business models
- Turning to *generics leadership* may be a far stretch yet it could be a viable option if based on high volume efficiencies and the Swiss reputation of quality

Changes in the traditional medtech value chain model



COMMENTS

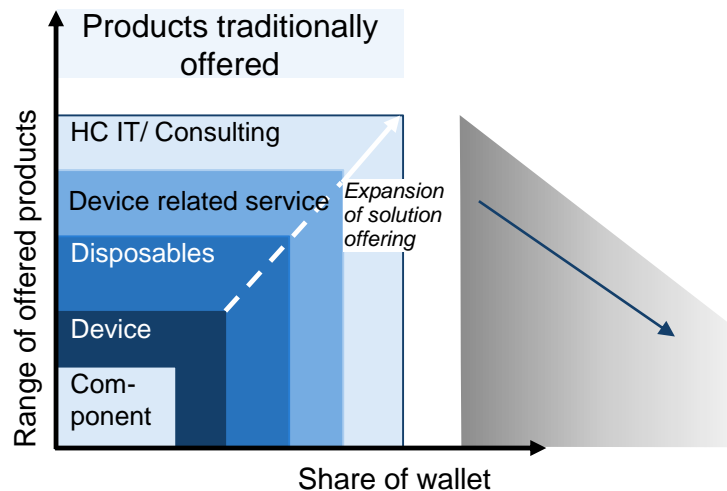
- In the traditional medtech value chain model a manufacturer directly sources components from suppliers
- The manufacturer directly negotiates on an individual basis with the hospital/ sales channel
- This model is under pressure by the consolidation of medtech manufacturers and the rise of group purchasing organizations (GPOs)

COMMENTS

- Market access becomes the dominant element in the medtech value chain. It shifts manufacturers into 2nd tier companies
- 2nd tier companies no longer have direct market access. Large 1st tier manufacturers dominate with broad and smart products/ services, catering directly to healthcare provider needs
- Manufacturers apply consolidated models (by acquiring sales channels) to secure margins and market share
- For medtech suppliers, size becomes a critical advantage in the future 1st tier medtech manufacturer dominated game (see the consolidation among automotive suppliers two decades ago)

Large manufacturers move towards owning disease areas

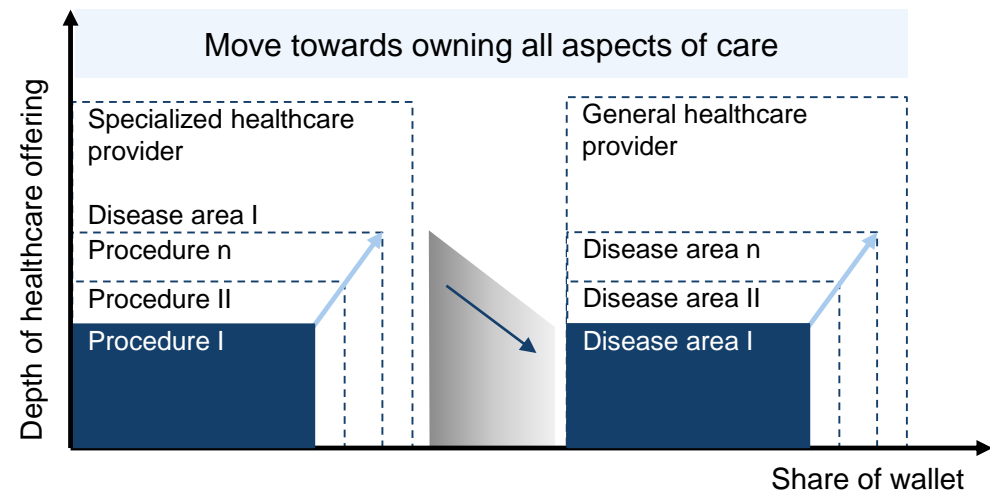
Drive to dominate the whole market for one medical procedure...



COMMENTS

- The traditional medtech value chain model is centered around the component and/ or device
- Today, companies offer solutions that include disposables, related services, healthcare IT, process consulting and more
- Next steps may lead manufacturers to target entire medical procedures

...contributes towards an own the disease model providing a firm with direct access to healthcare providers



COMMENTS

- Expanding the portfolio to include healthcare services must start with a procedure and outcome focus. This requires a strategic alliance mindset
- Capturing one procedure as a market leader allows the addition of other procedures for a single disease
- The goal is to own one or several disease areas. Expect only a few large companies can accomplish this. Some large companies have already achieved success with this approach.

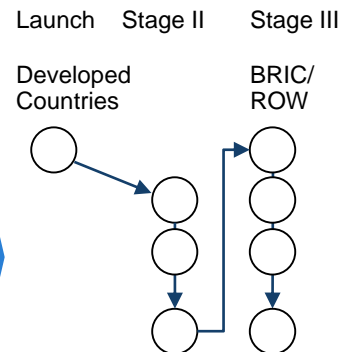
Multi-gear channel management will ensure future competitiveness

Focus questions prior market entry

- In which channels do we realize the best market potential?
- How best to establish outcome data within patient flow?
- Which networks improve segment positioning?
- What smart offerings will support optimal market impact?
- ...

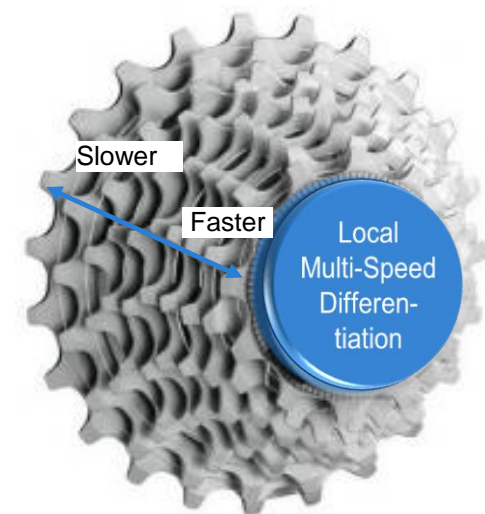
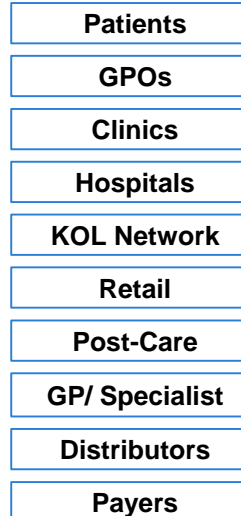
Traditional expansion staged approach

Single Markets



Resource efficient multi-speed localized channel management

Channels



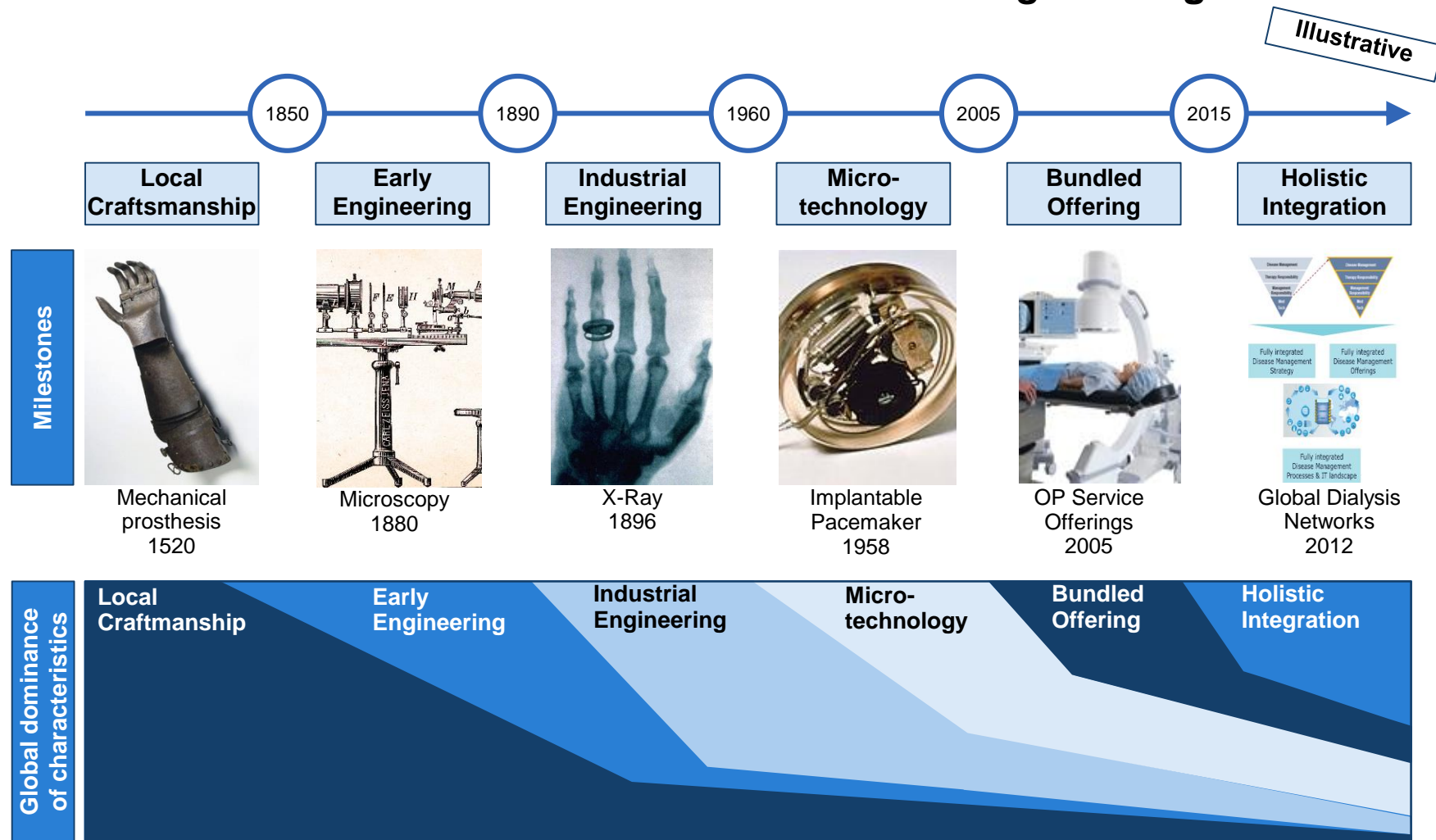
COMMENTS

- Traditional geographical expansion model is commonly applied
- Today, most companies choose Switzerland, Germany and/or the US as launch markets
- According to business plan, they gradually expand market by market before taking Stage III

COMMENTS

- Tomorrow, a multi-gear local differentiation beyond premium positioning will drive competitiveness
- The speed is dependent on competency, readiness and availability of each channel
- Selection of “right” speed is the current challenge in achieving best progress

The future of medtech: At the dawn of the *holistic integration* age



Duration, transition and adaptation of ages is based on technology readiness, socio-economical development/ wealth of nations, education, and demography

Images: Google images, Carl Zeiss, GE, Siemens and Fresenius

Future success of SMTI is dependent upon seven key factors

- Traditional positioning can no longer be taken for granted in tomorrow's market environment
- Larger manufacturers are in a powerful position to direct market access which they can exploit extensively in the future
- Increasing regulatory requirements burden small firms to comply without direct top-line benefits; market launches will become more resource intensive and consuming
- International competition will soar in established SMTI markets, questioning today's business models and their current products and services

SEVEN WINNING FACTORS FOR SMTI FIRMS

- 1 Revisit business models to meet local stakeholder objectives
- 2 Revisit portfolio and offering strategy
- 3 Develop holistic, outcome based healthcare solutions
- 4 Focus on holistic business innovation
- 5 Enhance value chain models/ collaboration capabilities
- 6 Understand and introduce channel management to strengthen global competitiveness
- 7 Apply a speed-differentiation strategy to maximize market access

“All business is local – efficient market access is becoming a critical mission”



Appendix

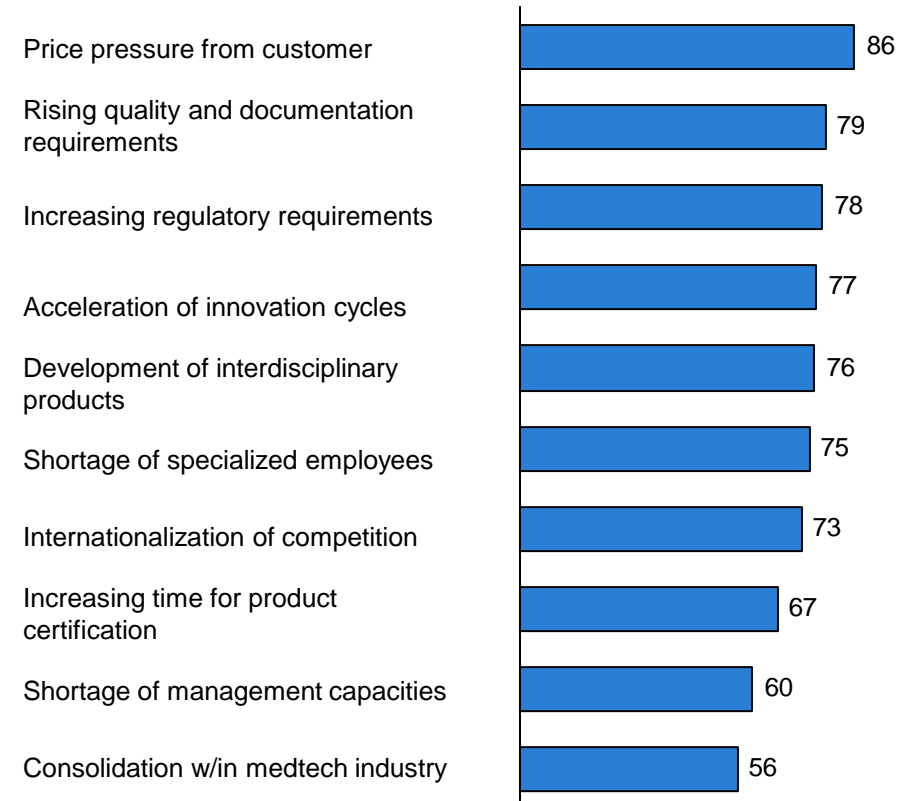
Top 10 challenges for traders & distributors and service providers

RANKING OF TOP 10 CHALLENGES FOR TRADERS&DISTRIBUTORS [in %]



n = 41 - 43; multiple answers possible

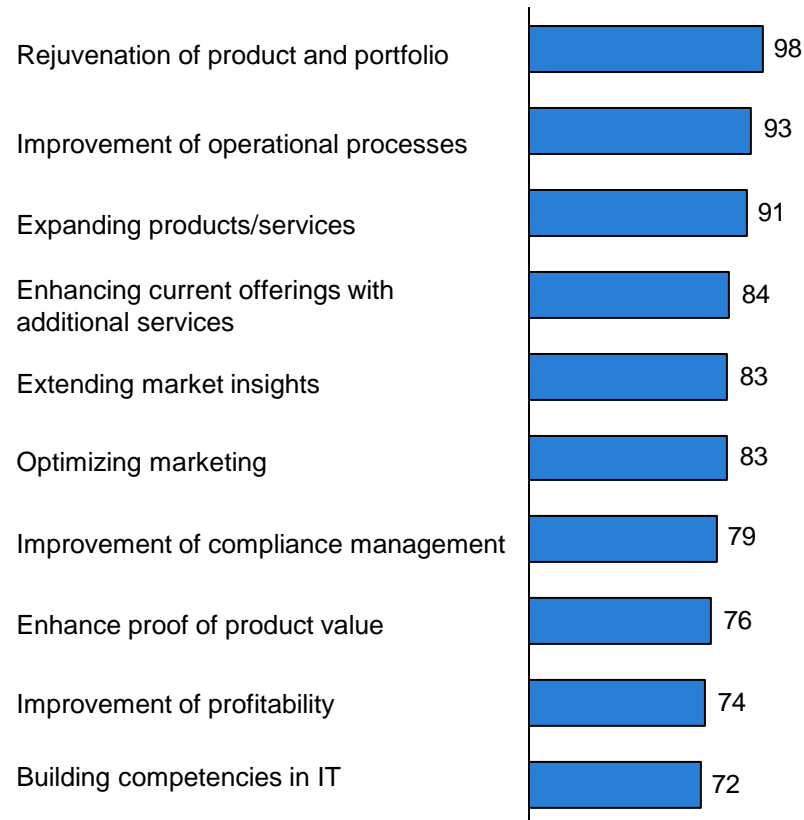
...AND SERVICE PROVIDERS [in %]



n = 89-92; multiple answers possible

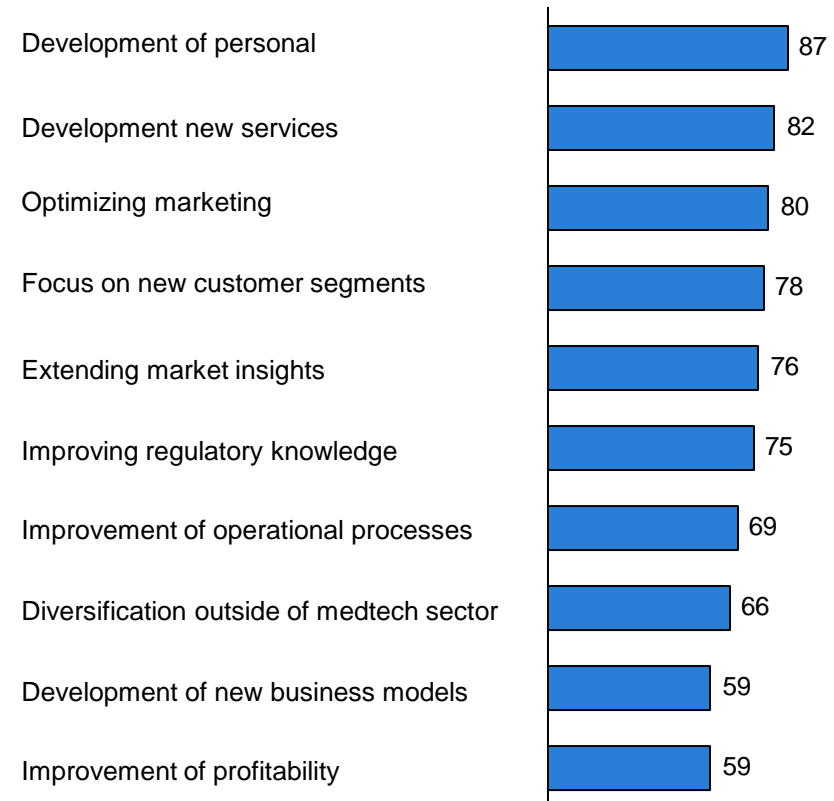
Top 10 strategic priorities for traders & distributors (t&d) and service providers

RANKING OF STRATEGIC ACTIONS FOR T&D [in %]



n range = 40-43; multiple answers possible

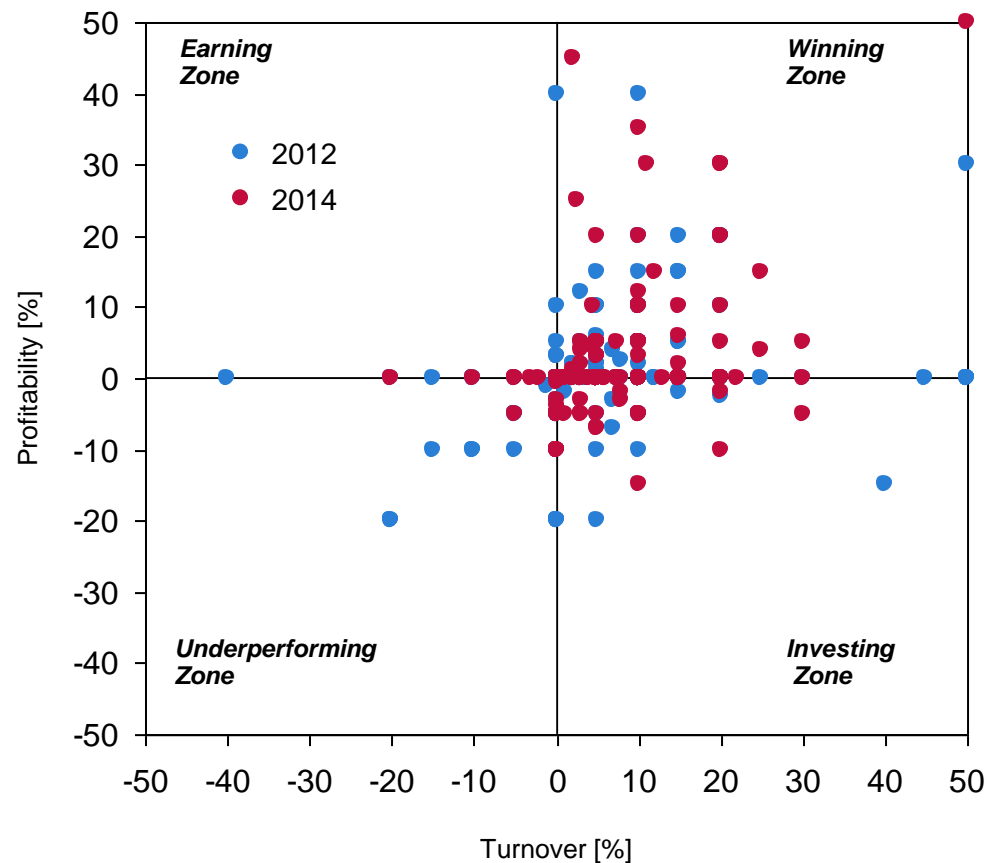
... AND FOR SERVICE PROVIDERS [in %]



n range = 87-91; multiple answers possible

On average SMTI companies are more positive about their outlook than in 2012

GROWTH EXPECTATIONS [2014 vs. 2012]

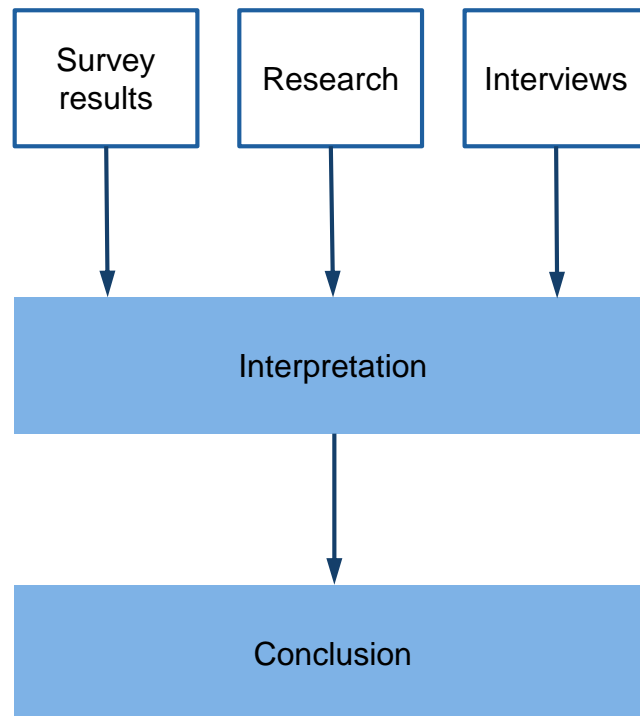


n (2012) = 217; n (2014) = 237

Note: In 2014 eight and in 2012 six outliers have been omitted for clarity

The results of this report are derived and interpreted from two main sources

BASIC METHODOLOGY

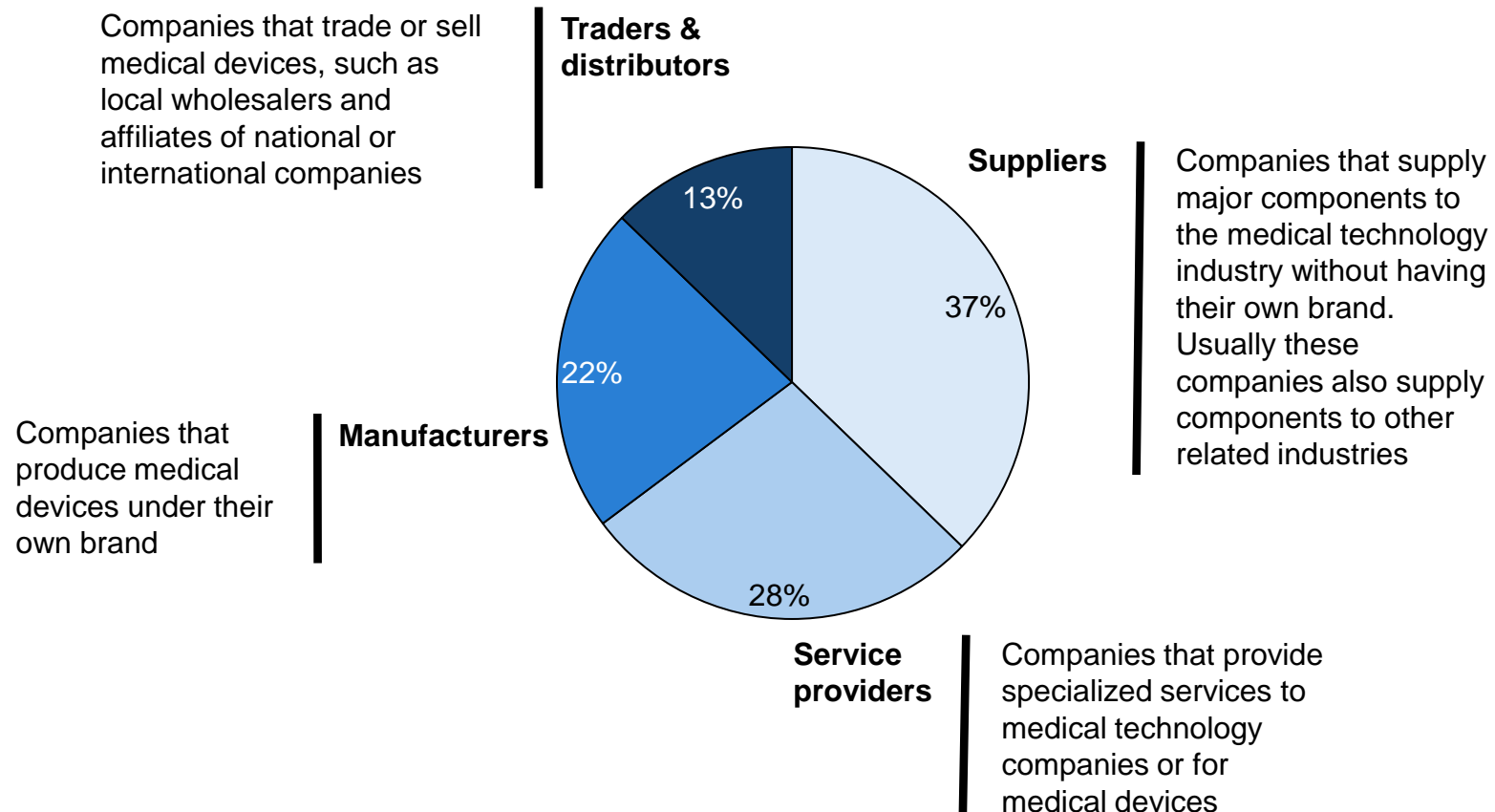


COMMENTS

- The SMTI report is based on three main sources:
 - The results of a 4 page questionnaire answered by 341 medtech companies operating in Switzerland. The survey was conducted in spring 2014
 - Research – using previous SMTI studies, the Medical Cluster database, public databases and other sources available on the internet
 - Interviews with selected industry leaders and experts were conducted by the authors in Switzerland during Q1 2014
- The results of the survey and research are combined, compared, discussed and interpreted. Key figures of the SMTI are derived from current and previous survey results
- Together with the advisory board and additional external experts the derived conclusions were discussed and validated

Results are based on 341 participating companies

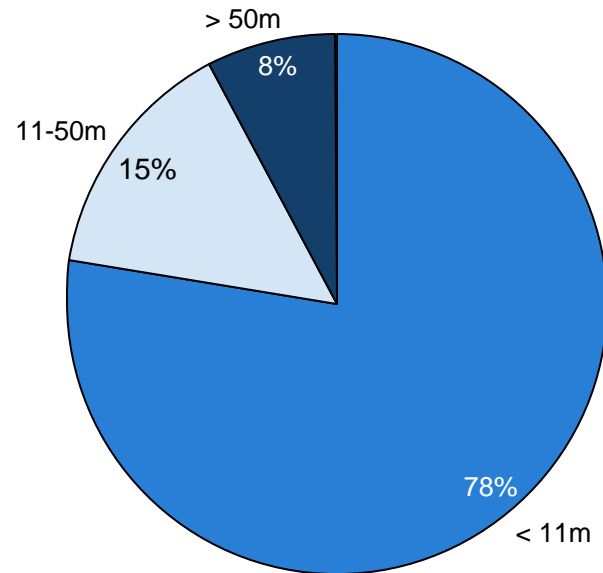
DISTRIBUTION OF PARTICIPATING COMPANIES ACCORDING TO CATEGORY



n = 341

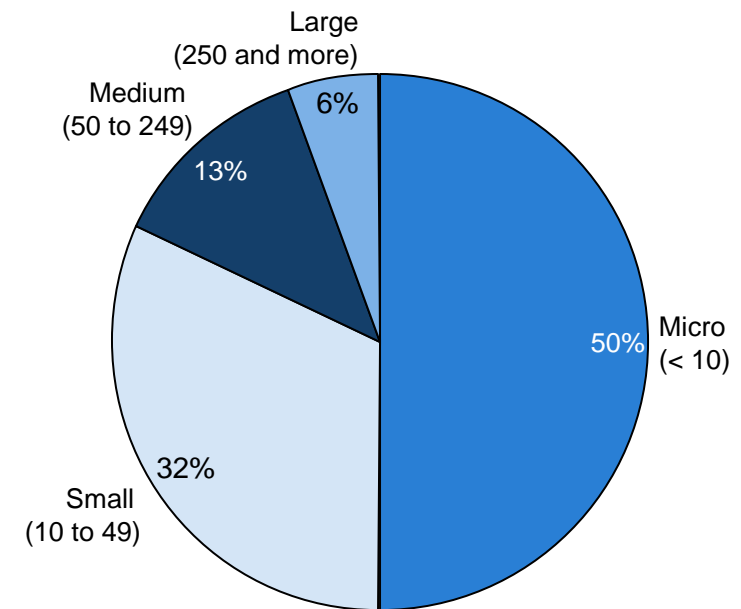
The SMTI 2014 survey sample represents the whole industry

ACCORDING TO COMPANY TURNOVER [CHF]



n = 295

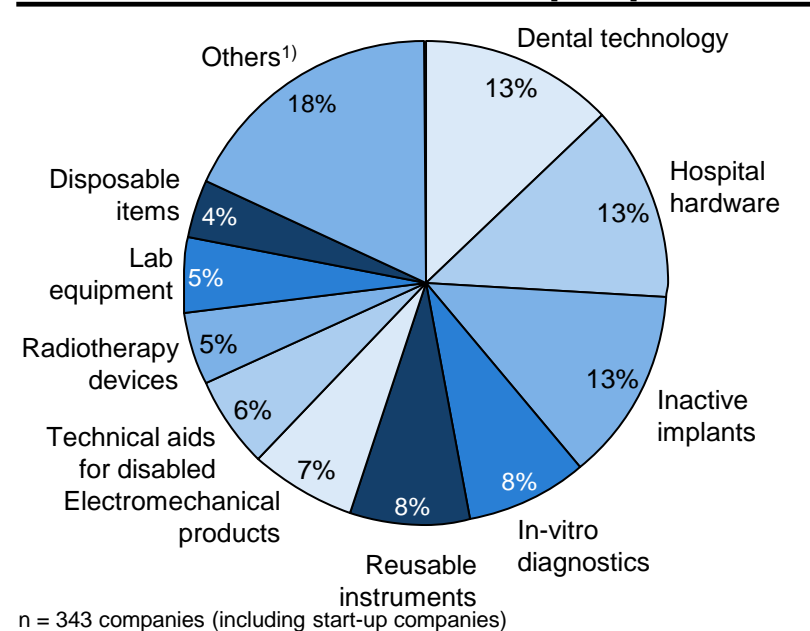
ACCORDING TO COMPANY SIZE [number of employees]



n = 286

Manufacturers and suppliers are highly segmented

MANUFACTURERS BY CATEGORY [2014]



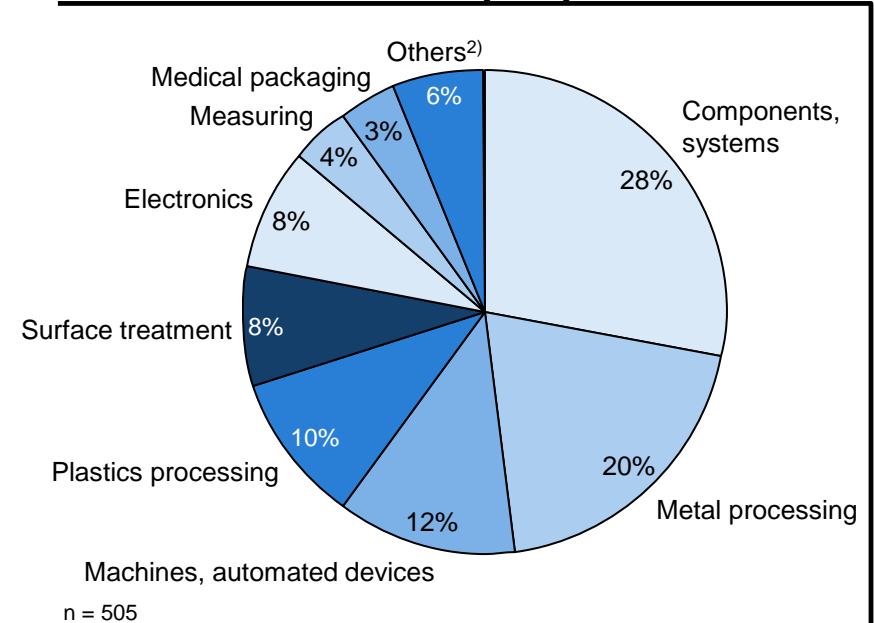
- More than 340 medtech manufacturers in Switzerland specialized across multiple high-tech product categories
- The leading segments in Switzerland are dental, inactive implants and hospital hardware

1) Others include (in descending order): ophthalmology, patient aids, anaesthetic and respiratory technology, biological products, active implants, biologically produced products and complementary therapy products

2) Others include (in descending order): auxiliary material and green ware, ceramics and sterilization

Data: Medical Cluster database

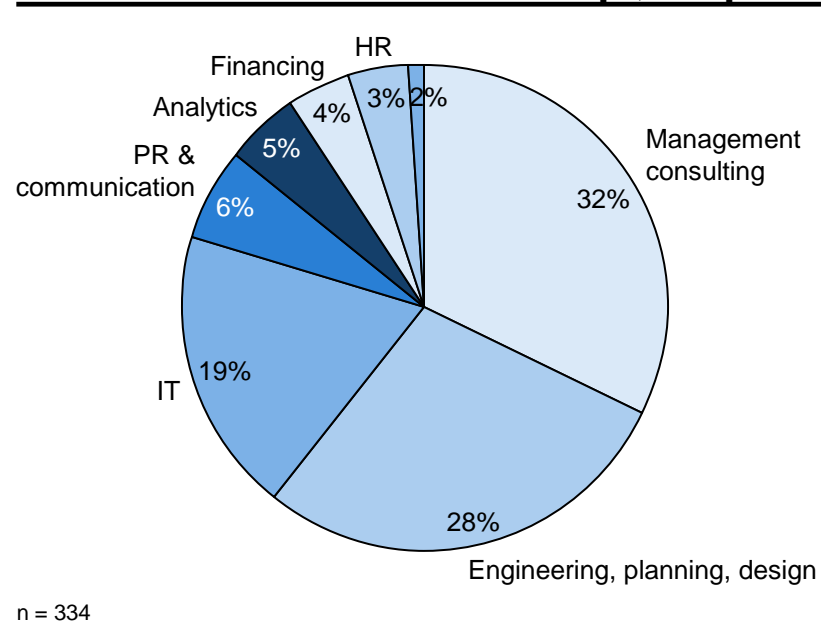
SUPPLIERS BY CATEGORY [2014]



- Over 500 suppliers form the backbone of the Swiss medtech industry and support it with strong heritage in precision tooling and machine engineering
- Components and systems suppliers are the largest category among the vast number of niche specialist

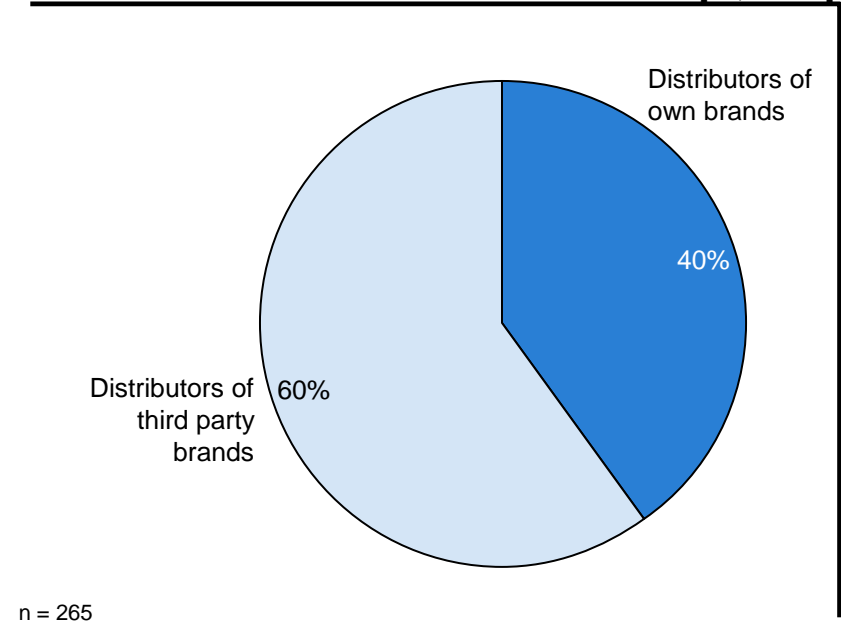
Service providers cover the whole value chain

SERVICE PROVIDERS BY CATEGORY [%, 2014]



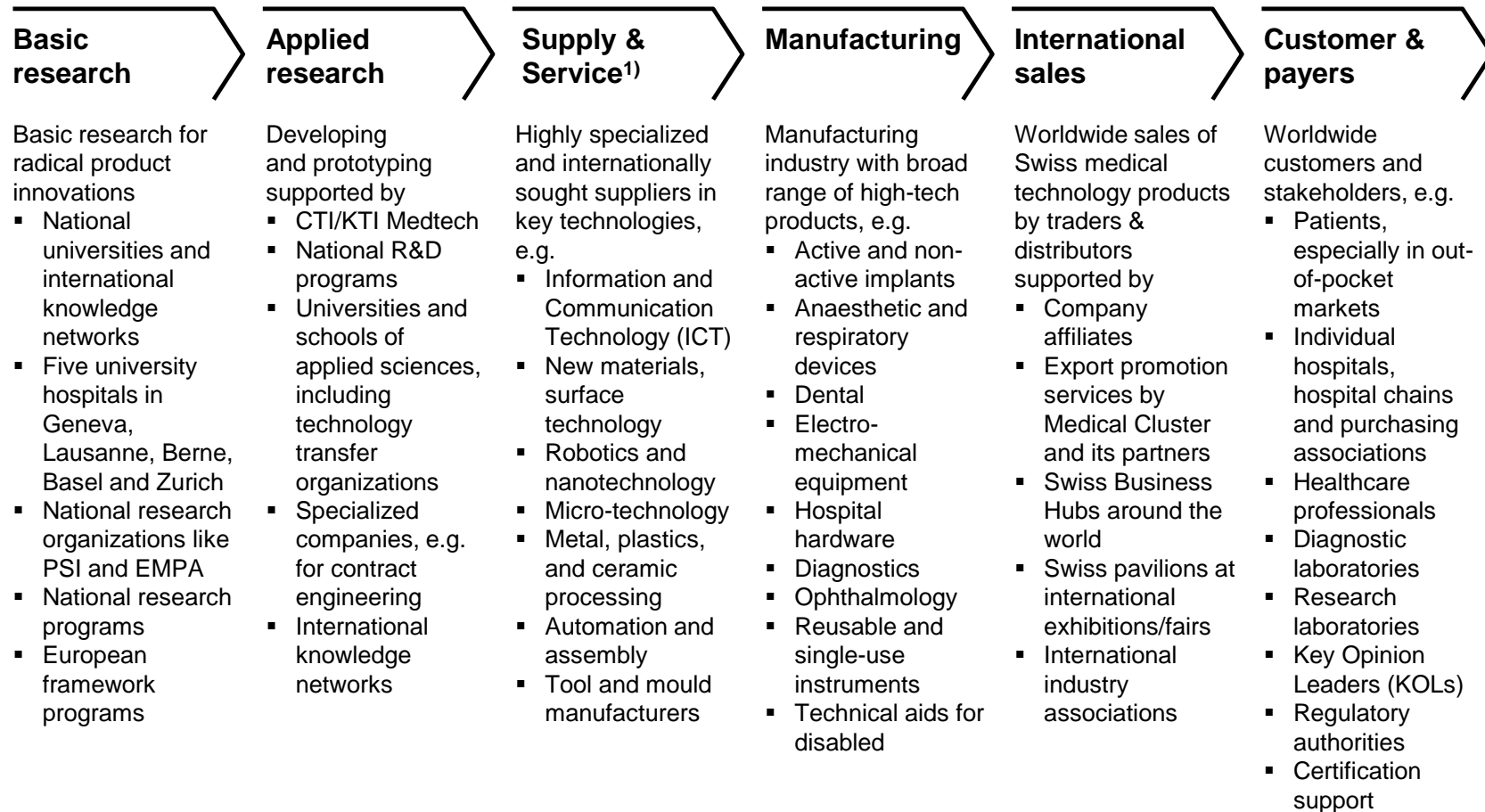
- More than 330 service providers support the medtech industry
- The lion's share of service providers consists of consulting, engineering and IT services; the former growing significantly since 2012

TRADERS & DISTRIBUTORS BY CATEGORY [%, 2014]



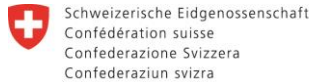
- Today, +260 traders & distributors are active in Switzerland; 40% are distributing their own brands
- Traders & distributors are the smallest category, representing 18% of all companies operating in Switzerland

The well established Swiss medtech value chain is a key success factor



1) Service providers, depending on their specialization are part of any of the value chain building blocks

The Innovation Promotion Agency CTI – From Science to Market



Innovation Promotion Agency CTI

The CTI is the Confederation's Innovation Promotion Agency

CTI lends support to:

- R&D projects relating to scientific innovations in all disciplines
- Coaching and the development of start-up companies
- Optimization of knowledge and technology transfer

Key Figures

- In 2013, the CTI assessed a total of 643 R&D funding applications
- Experts from science and industry approved 331 projects
- Nearly 10% of projects approved were in medtech
- 30 entrepreneurs received the CTI Start-up Label in 2013.
- 13% of start-up companies enrolled in the CTI Start-up and Entrepreneurship program are in medtech
- Successfully implemented in 2013, the CTI now operates with 13 innovation mentors that inform SMEs about innovation funding opportunities in Switzerland
- The CTI has received CHF 72 million for establishing the Swiss Competence Centers for Energy Research (SCCER) in seven action areas.



FASMED is the umbrella organisation of the Swiss medical technology industry and has around 230 members

Aims: FASMED works toward maintaining and promoting market-based structures in the national healthcare in order to enable the medical technology sector to contribute to high-quality care.

Range of services:

- Representation of political interests through statements, position papers and PR work, highlighting of issues and cultivation of contacts with authorities, administration and partners, media and the public
- Information and advice on health- and sector-specific issues, economic policy as well as legal and regulatory matters
- Platform for the exchange of ideas and experiences and further training

helbling

Helbling Technik, Innovation, together we do it.

We believe that innovation is key to success. Our innovations secure clients a lasting competitive advantage and enable them to adapt to the ever-changing business environment. Loyal clients trust our entrepreneurial culture and ability to combine business acumen, deep technical expertise, creativity and passion for high-quality work. Our broad industry expertise coupled with specialized skills are crucial elements for every successful product and technology development project.

- 5+ decades of bringing innovation to a broad range of industries and technology fields.
- Our 3330 engineers and scientists compose our skilled cross-functional development teams.
- We support clients from the inception of the idea through to the market launch.
- The intellectual property rights for our innovations are assigned to clients.
- Creativity and strong project execution enable clients to move into uncharted territory.
- Our development centers utilize cutting-edge engineering tools and state-of-the-art infrastructure.



Switzerland Global Enterprise

Switzerland Global Enterprise (S-GE) works all over the world to support entrepreneurs and promote Switzerland as a business location. Its role as a center of excellence for internationalization is to foster exports, imports and investments, to help clients develop new potential for their international businesses and to strengthen Switzerland as an economic hub. S-GE is a strong and trusted partner for its clients, the cantons and the Swiss government, with a global network of experienced advisers and experts.

S-GE is represented abroad by Swiss Business Hubs. The majority of these local teams are based at a Swiss Embassy or Swiss Consulate-General. Following an initial consulting session in Switzerland, the Swiss Business Hubs are the next point of contact with S-GE in the export country concerned. All hubs have a first-rate network of contacts abroad on account of their official status. In addition, these hubs are responsible for promoting Switzerland as a business location abroad.

This is the 4th SMTI report on the Swiss Medical Technology Industry



2006



2008



2010



2012



2014

Title	Herausforderungen und Chancen der Schweizer MedTech Branche	The Swiss Medical Technology Industry 2008	The Swiss Medical Technology Industry 2010 Report – “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”
Authors	Dr. Patrick Dümmler Beatus Hofrichter	Dr. Patrick Dümmler Beatus Hofrichter René Willhalm Peter Biedermann	Dr. Patrick Dümmler Beatus Hofrichter	Dr. Patrick Dümmler Beatus Hofrichter	Dr. Patrick Dümmler Beatus Hofrichter
Publisher	Helbling	Medical Cluster	Medical Cluster	Medical Cluster	Medical Cluster
Partners	Helbling	Helbling Roland Berger	Roland Berger Deloitte KTI/CTI	Medtech Switzerland FASMED IMS Consulting Group KTI/CTI	Medtech Switzerland FASMED Switzerland Global Enterprise Helbling KTI/CTI

Initial survey:

- “Wissensbasierte Cluster in der Schweiz: Realität oder Fiktion? – Das Beispiel der Medizinaltechnikbranche”. Author: Patrick Dümmler; PhD thesis, ETH Zürich, 2005

Abridged surveys on the SMTI were conducted in:

- “Schweiz – weiterhin führend in Medizintechnik - Quick-Check on SMTI 2008”. Authors: Beatus Hofrichter, René Willhalm; Publisher: Helbling; Zürich, 2009
- 2011: “State of the Swiss Medical Technology Industry 2011 – Stormy times ahead?”. Authors: Beatus Hofrichter, Dr. Patrick Dümmler; Publisher: Deloitte Consulting AG, Medtech Switzerland; Partners: Medical Cluster, FASMED; Zürich, 2011

Renowned industry leaders and subject matter experts supported the SMTI 2014 Report

SMTI 2014 – ADVISORY BOARD



Dr. Daniel Bühler

CEO & President
Biotronik VI



Dr. Gery Colombo

CEO Hocoma



Christoph Eigenmann

Marketing Director EMEA,
DePuy Synthes Spine



Richard Fritschi

Director Biodenta Group



Eduardo Stadelmann

Board member of Fasmед
& General Manager
Zimmer Switzerland



Prof. Dr. Gabor Székely

Head of the CTI MedTech
Initiative



EXTENDED NETWORK PARTNERS

Eric Perucco, MedBrain Tec AG

Dr. Urban Schnell, Helbling Technik AG

Fabian Stadler, FASMED

The authors and publisher of the 2014 SMTI survey



Dr. Patrick Dümmler, author



- Dr. Patrick Dümmler is Co-Founder and Partner of ConCepus. He also holds a senior management position in Swiss based medtech manufacturer Hocoma
- He has published over +80 articles and books, including numerous reports about the medical devices industry, and co-authored the SMTI survey since 2006
- He has 5 years consulting experience and headed the export promotion association Medtech Switzerland until 2013
- Dr. Patrick Dümmler studied economics at the University of Zurich and completed his PhD at the ETH. His PhD thesis was entitled "Knowledge-based clusters in Switzerland: reality or fiction? The example of the Medical Devices Industry" (2005)

Mail: pduemmler@conceplus.com

Tel.: +41 76 532 53 16

www.conceplus.com



Beatus Hofrichter, author



- Beatus Hofrichter is Founder and Managing Director of ConCepus, a medtech & healthcare value chain think tank and strategy consultant, located in Weggis, Switzerland
- He has published various articles on the medtech sector, published the Global Medtech Industry Report in 2013 and 2014 and has been co-author of the SMTI surveys since 2006
- He has more than 14 years of consulting experience in the medical devices and pharmaceutical industries, focusing on strategy, business modelling, transformation and operational excellence
- He holds an MBA in Management and International Business

Mail: bhofrichter@conceplus.com

Tel.: +41 79 254 09 68

www.conceplus.com

The Medical Cluster is publisher of the Swiss Medical Technology Industry Survey 2014. For information on the Medical Cluster please go to www.medical-cluster.ch.

Contact: Peter Biedermann, peter.biedermann@medical-cluster.ch, Tel.: +41 31 330 97 79

Glossary and abbreviations

APAC	Asia and Pacific Countries	ITC	Information and Communications Technology
bn	Billion	k	Thousand
BRIC	Brazil, Russia, India, China	KOL	Key Opinion Leader
CAGR	Compound Annual Growth Rate	LatAm	Latin America
CE	Conformité Européenne, standardized guidelines	LS	Life Sciences
CH	Switzerland	m	Million
COGS	Cost of Goods Sold	m.a.p.	multiple answers possible
CTI/KTI	Innovation Promotion Agency CTI	n	Sample size
DRG	Diagnosis Related Group	n.a.	not available
E	Expected	no.	Number
EMEA	Europe, Middle East and Africa	Natural hedging	Reducing risk using currency advantages through local production
EMPA	Swiss Federal Laboratories for Materials Testing and Research	OECD	Organization for Economic Cooperation and Development
ETH/EPF	Swiss Federal Institute of Technology	OEM	Original equipment manufacturer
EUCOMED	European Medical Technology Industry Association	Osec	Osec Business Network Switzerland; an association under private law supporting Swiss foreign trade
F	Forecast	p.a.	per annum, per year
FOREX	Foreign Exchange rate	PPP	Purchasing Power Parity
FTE	Full-time equivalent	PSI	Paul Scherrer Institut
GDP	Gross Domestic Product	R&D	Research & Development
GPO	Group purchasing organization	SME	Small- and Middle-sized Enterprise
HC	Healthcare	SMTI	Swiss Medical Technology Industry
HEOR	Health Economics and Outcomes Research	SNB	Swiss National Bank
HTA	Health Technology Assessment	VC	Venture Capital
HQ	Headquarter	WTT	Knowledge- and technology transfer
INSEAD	Institut Européen d'Administration des Affaires, business school	WZW	Effectiveness, appropriateness and cost-effectiveness

Disclaimer

No part of this publication may be reprinted, sold, redistributed, stored in a retrieval system or transmitted in any form by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the publisher and the authors.

This report was written in the summer of 2014 involving 341 companies in the field of medical technology in Switzerland. It makes use of the database of the Medical Cluster, Advisory Board input, additional expert interviews and desk research. The statistical data presented reflects the opinion of the participating companies at the time of the data gathering (March to May 2014) and may therefore not reflect the current market environment at the time of reading.

The pictures in this report have been used with the kind permission of Matthias Peterhans, CAScination AG (p. 1), Jonas Frey (p. 4), Medartis AG (p. 8 and 67), ALPGIS AG (p. 19), Forteq Nidau AG (p. 35).

The parties involved in the study confirm that the collection, analysis and interpretation of all data was carried out carefully and anonymously. This publication contains information in summary form and is therefore intended for general guidance only. The publisher and the authors cannot accept any responsibility for loss occasioned to any person acting or refraining from action as a result of any material in this publication

© All rights relating to this publication are the exclusive property of the publisher, authors and their respective companies (Medical Cluster, Dr. Patrick Dümmler, Beatus Hofrichter)

Publisher of the SMTI 2014



Authors of the SMTI 2014

Beatus Hofrichter
Dr. Patrick Dümmler



Sponsors of the SMTI 2014

