

Microtechnology industry is hiring

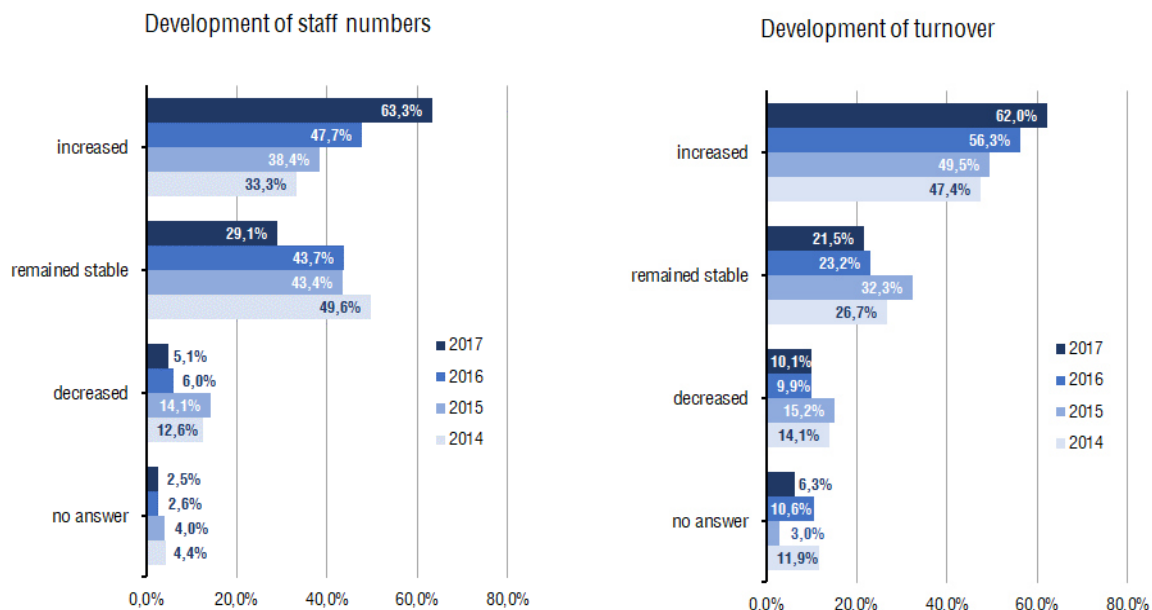
Industry defies skills shortage – trends of past few years continue

Positive developments in the European microtechnology industry that have become apparent in previous years continue this year, in some cases intensified. This has been confirmed by this year's economic data survey by the IVAM Microtechnology Network. These developments include a continued upswing in staff numbers and turnover and very good forecasts in both areas for the next three years. Export, which has increased modestly in recent years, is gaining more momentum. Regarding international markets, the tendency towards China as one of the most important business and export regions outside Europe is strengthening. Medical technology and the healthcare industry presently are and will remain the most important target markets for the microtechnology industry for the foreseeable future. The combination of miniaturization and digitalization is currently creating many new applications. However, the new Medical Device Regulation of the European Union with its increased demands on the supplying industry might put a damper on innovation in the field of medical technology.

Skills shortage does not keep microtechnology industry from hiring

Despite the acknowledged shortage of skilled workers in the STEM fields (science, technology, engineering, and mathematics), the number of employees in the microtechnology industry is steadily rising. In 2017, 63.3% of the companies in Europe involved with microtechnology have increased their workforce. This is a significantly higher proportion than in previous years. In last year's survey, the companies identified finding enough qualified staff as a major challenge.

Expectations for personnel development in the near future are also very positive: more than three quarters (77.2%) of companies intend to hire additional staff within the next three years.

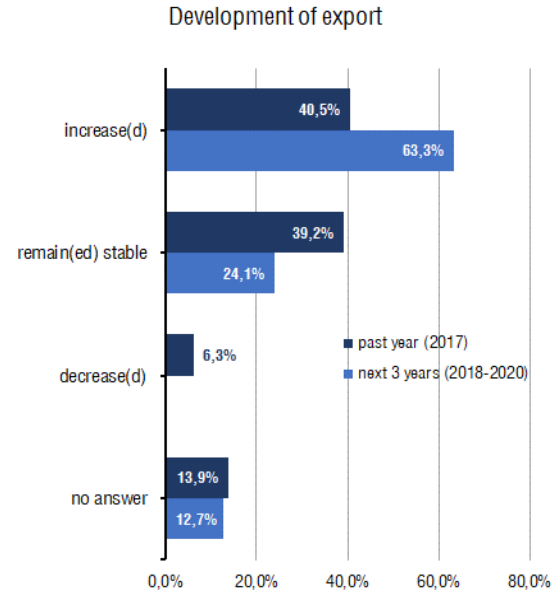


Microtechnology industry constantly increases turnover

A continuously growing proportion of the European high-tech industry has been able to increase turnover over the past four years. In 2017, well over half (62%) of the surveyed microtechnology companies have increased their turnover. Medium-term expectations are also very positive: nearly 80% of companies expect their turnover to increase over the next three years.

Microtechnology industry’s export will increase

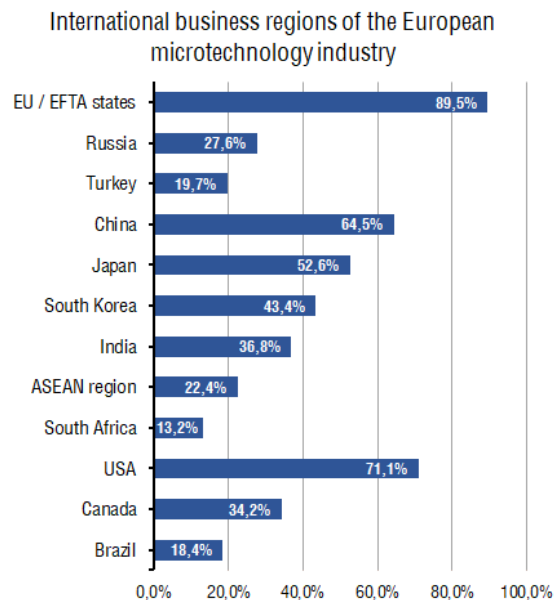
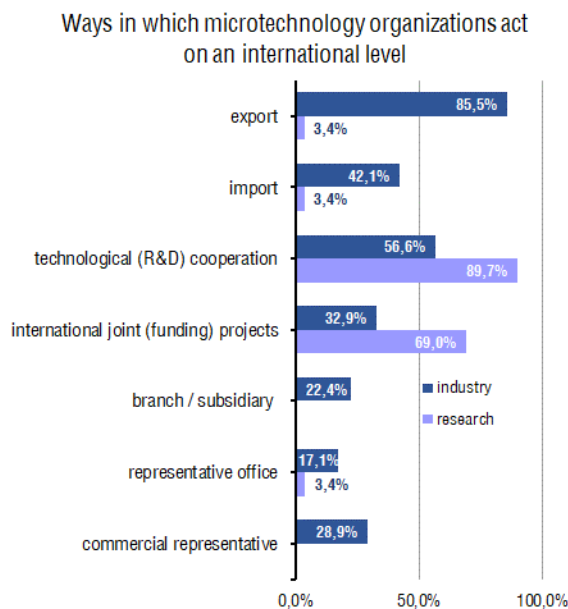
The European microtechnology industry expects to significantly increase its export activity in the medium term: 63.3% of companies expect exports to increase over the next three years. In previous years, the increase in exports was comparatively modest. On average, 35-40% of companies achieved an increase in exports between 2014 and 2017. Nonetheless, microtechnology is an export-oriented business: 45.5% of the European microtechnology companies generate more than half of their annual turnover with export; more than a quarter (27.8%) of companies generate more than 75% of their annual turnover with export.



Export and cooperation predominate in international activities

In total, 85.5% of the European microtechnology companies export. Export is the prevalent way of acting on an international level in the microtechnology industry. Most companies that do not export (almost 15%) are suppliers of components whose customers export the final product.

Research institutions are predominantly active at international level in the form of technological cooperation and joint projects: 89.7% of the microtechnology R&D institutions cooperate with international partners in technology development and 69% are involved in international joint projects.

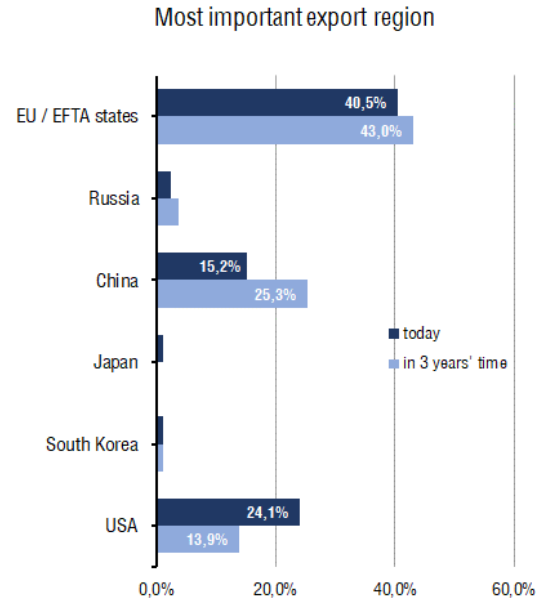


Microtechnology in Europe is a largely international business: 94% of European companies and research institutions operate internationally. Almost 90% of the organizations are active within Europe (EU and EFTA region), 71.1% in the USA, 64.5% in China, and 52.6% in Japan. The companies are also represented in Korea and the ASEAN region, in Canada and in the other BRICS countries.

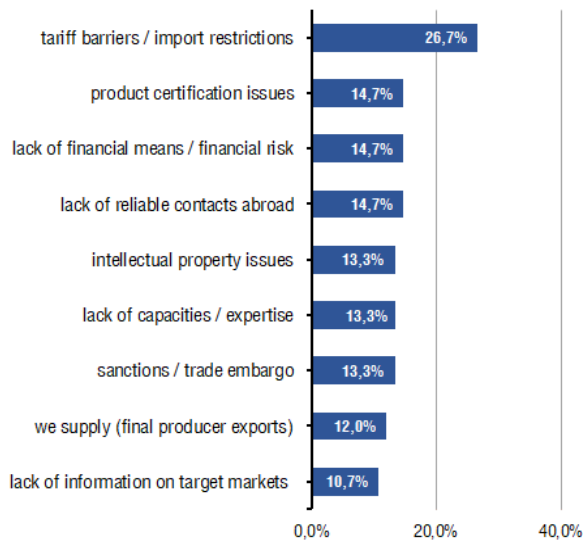
Europe is main export region – China to become second most important export market

The EU and EFTA region is and will continue to be the most important export region for the largest proportion of the European microtechnology companies. Currently, 40.5% of companies focus on exporting within Europe. This share is supposed to increase to 43% over the next three years.

In the overseas export business, the US is the leading market, being the most important export region for just under a quarter (24.1%) of companies. The US will lose ground while China becomes a more important foreign market. In three years' time, only 13.9% of the European microtechnology companies expect the US to be their most important overseas export region, while over a quarter of companies (25.3%) will export mostly to China. This trend was already evident before the presidency of Donald Trump and the import restrictions for goods from the EU to the USA which he recently announced.



Export barriers



Import restrictions are the biggest barrier to export

Since export takes place to a large extent within the EU single market, the economic barriers to export for the European microtechnology industry are relatively low. Still, import restrictions are perceived to be the major export barrier: 26.7% of companies say import restrictions are an obstacle. These companies export within the EU / EFTA region (35%), to the US (40%) and to China (15%). Another economic barrier to export is trade embargoes, which, however, obstruct only 13.3% of companies in their export activities.

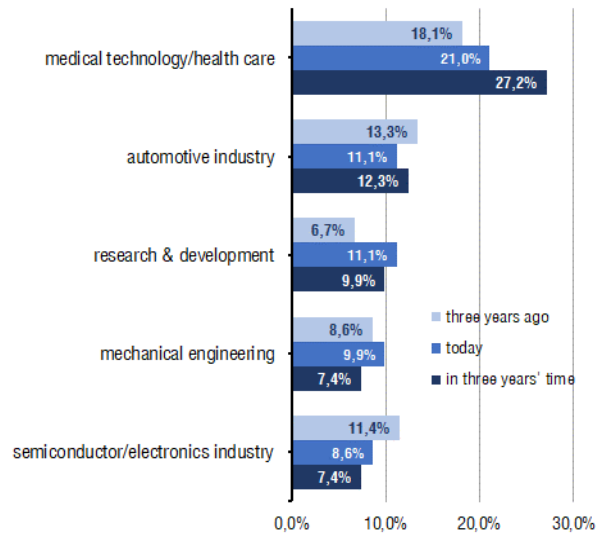
Other export barriers, which also occur only occasionally, either stem from the specific technology of the companies concerned (certification issues, IP issues or position in the value chain), or from a lack of resources in the often small companies (insufficient financial and personnel capacities, lack of knowledge regarding markets and customers).

Significance of medical technology market unflagging

The medical device and healthcare market is and remains the most important target market for the highest proportion of microtechnology companies: for 21% of companies, medical technology is currently the most important market – for 27.2% of companies, it will be the most important market in three years' time.

New impulses in medical technology and healthcare arise from the combination of miniaturization and digitalization. This combination enables portable mobile health systems that measure vital signs directly on the body and, if desired, transmit them to doctors or nursing services. Active implants use micro sensors and micro actuators to measure vital signs or release drugs, as well as concepts from the fields of deep learning or artificial intelligence in order to make neurological implants capable of learning.

The most important markets of the European microtechnology industry



EU Medical Devices Regulation impedes innovation in medical technology

The new Medical Device Regulation of the European Union, which came into force in May 2017, could put a damper on innovation in the field of medical technology. It now places high demands on certification and documentation on component manufacturers and suppliers, which previously concerned device manufacturers only. The increased administrative burden is difficult to manage for many small and medium-sized companies in the microtechnology industry. There is a risk that some of these companies will withdraw from the medical technology market.

Further information:
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About the IVAM Survey

Once a year, the IVAM Microtechnology Network collects economic data among companies and research organizations that are active in the fields of microtechnology, MEMS, nanotechnology, advanced materials, and optical technologies. In February 2018, 3,800 companies and research institutes in Europe have been asked about their economic situation and expectations, their international activities and their experience with EU regulations. The participants are mostly located in Central, Western and Northern Europe, 73% of participants come from Germany. A large proportion of the participants are representatives of small enterprises: 56% are SMEs, 6% are start-ups, 6% are major enterprises, 32% university or research institutes.