

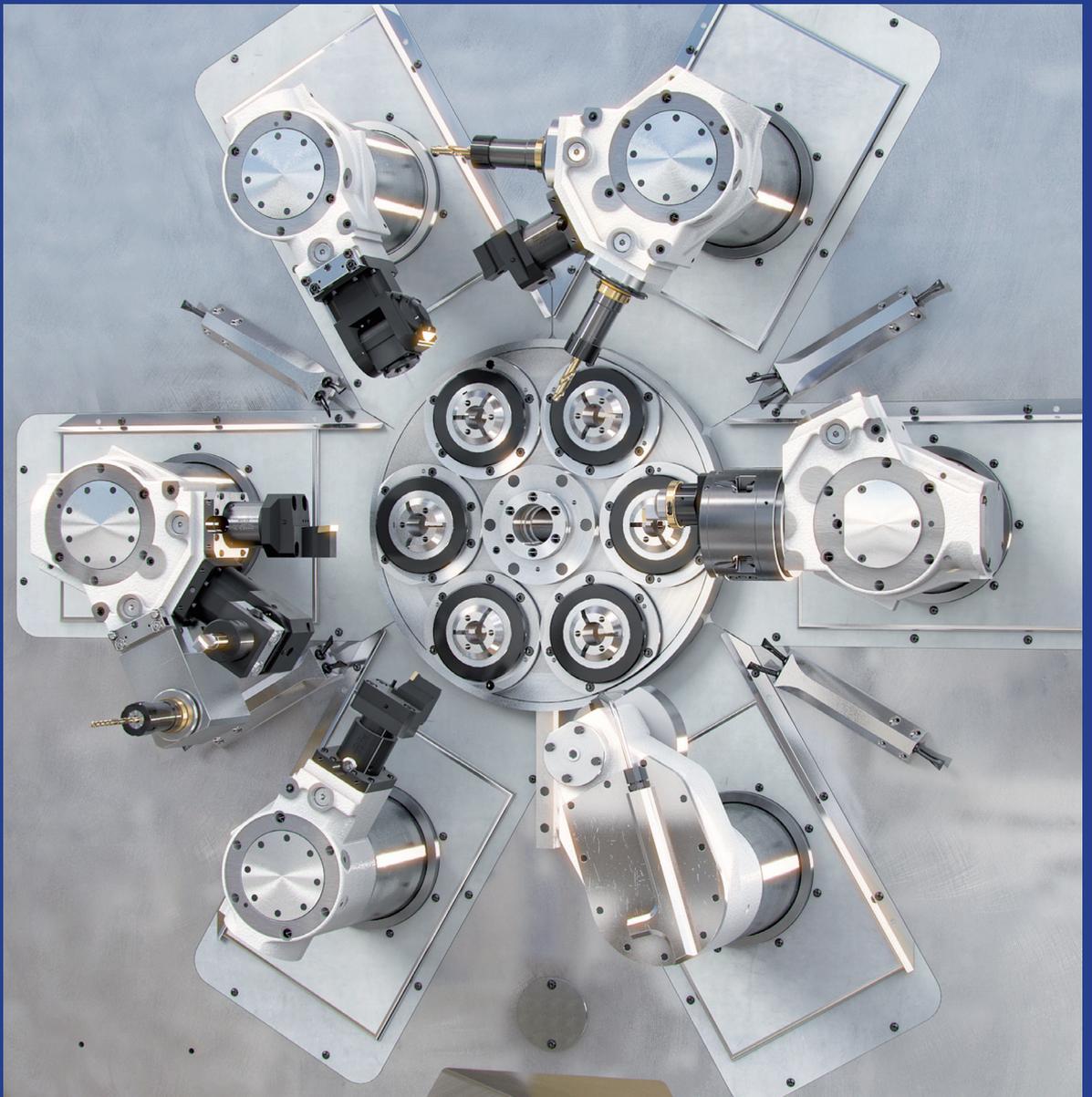


Fall 2015

cecimo

Where manufacturing begins

**Winning in a world of
Volatility, Uncertainty, Complexity, and Ambiguity
Reflections on the future by the
European machine tool industry**



CECIMO VUCA report

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CECIMO, Fall 2015

A few words from CECIMO Director General



Manufacturing is a complex and challenging business. Many manufacturers are confronted with volatilities, uncertainties, complexities and ambiguities (VUCA) in today's global business environment. In the past, challenges could take months to become real obstacles. Barriers can now arise suddenly, without any warning.

In a VUCA world, firms can go rapidly from the dominant position to bankruptcy. In the advanced manufacturing industry, much of the uncertainty is driven by financial instability, supply chain interruptions, geopolitical disputes, regulatory hurdles, changing customer needs and the pace of technological innovation. These can put the competitiveness of well-established industrial players at risk and bring them to put in question their business model.

Nowadays, companies have to operate in a world where VUCA is part of their daily business. They have to develop adaptable, flexible and innovative approaches, and retain a competitive edge in an increasingly globalized marketplace. This complex world, in constant change, also brings serious opportunities for those who are agile, innovation-driven and collaborative. It is definitely the time to steer towards a new type of planning and strategy which allows machine tool (MT) manufacturers to cope with challenging situations and tap into opportunities.

For this reason, "Winning in a world of VUCA" was chosen as the strategic theme of the CECIMO 2015 Spring Meetings held in Bordeaux, France. During these meetings, the risks specific to MT businesses were explored, and management and planning approaches that can help the sector navigate the new global business landscape were also discussed. We have concluded that to cope with VUCA, MT companies should be aware of risks and develop a management approach that handles uncertainty. They must make the right investment in terms of financial resources, organizational setup and information. It also clearly came out that the current challenges are too complex for individual actors to tackle on their own. Therefore, businesses rely on collaborative structures, such as industry associations, to help monitor and gather market intelligence, driving capacity enhancement, reaching out to global markets, embracing new technologies and business models and raising new skills. Based on the discussions during the last CECIMO Meetings, this publication provides a snapshot of the main challenges and paths for action identified by CECIMO Member National Associations and delegates.

A handwritten signature in blue ink, which appears to read "Filip Geerts". The signature is stylized and written over a set of horizontal lines.

Filip Geerts
Director General

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Background: The VUCA world

We are living in a VUCA world. Businesses can develop plans and strategies to respond to this new unstable business environment but first, they all have to understand the challenges.

Volatility is considered as turbulence. The nature, speed and volume of change are unpredictable. Volatility is not a new trend, but the speed of change is unprecedented. For instance, according to a study conducted by the Boston Consulting Group, 50 percent of the most turbulent financial quarters during the past 30 years have occurred in the last decade. In a globalized marketplace, European machine tool businesses are more exposed than ever to global trends. New market situations compel machine tool builders to ask themselves some critical questions:

- How can I remain competitive in the global marketplace whilst my competitors benefit from large currency depreciations occurring overnight?
- How can I buffer the impact of sharp changes in energy and material spikes on my cost structure?
- I made most of my investments in China, which has shown so far the brightest growth prospects. What shall I do now as the Chinese economy is slowing down?

Uncertainty is the lack of predictability in upcoming issues. It makes using past events as predictors of future outcomes difficult, and it challenges decision-making. For example, the EU sanctions against Russia may end up blocking a big part of European machine tool exports to its third largest market outside the EU. New energy-efficiency requirements could, for their part, force producers to redesign their production processes and product lines as well as change their pricing strategy. Thought-provoking questions are the following:

- How shall I compensate my market loss in Russia?
- How long will the crisis last? Am I losing my established customers to competitors from outside Europe?
- What will be the implications of the EU ecodesign legislation on my production costs?
- Do the legislative requirements correspond to the needs and wishes of my customers in different markets?

Complexity refers the causes and mitigating factors (both inside and outside the organization) involved in a problem, that are too often numerous and difficult to understand. For MT companies, moving out of their comfort zones in traditional markets to establish a supply chain in a foreign market or embracing complex digital technologies together with related business models are new multidimensional challenges. These challenges may be far too complex for some SMEs which lack resources and the know-how to adapt to the new reality. Following questions are examples of complexity for MT companies:

- As an SME, how shall I establish a production or sales & services base in Asia?
- How much would it cost me to comply with all the regulations and standards in my markets?
- How can I integrate the new digital technologies and business models in my organisation given the limited resources?
- How can I handle increasingly complex projects demanded by large customers operating on a global scale?

Ambiguity is the lack of clarity about an issue's significance or causes. It is also the inability to accurately conceptualize threats and opportunities before they become tangible. Example questions to be answered by a MT company include:

- Where will my new competitors come from? Will they challenge me in technical excellence or business models and services?
- I have strong growth perspectives for my company in the mid-term, but is the skills supply in my country able to keep the same pace? Who is taking care of the education and training of the workforce in my country?
- Am I fully responsible for generating the skills needed in my company?

Volatility

Currency fluctuations

According to the survey (hereafter “the CECIMO survey”) carried out between attendants at the CECIMO 2015 Spring Meetings (hereafter “CECIMO delegates” which include managers of 15 national trade associations and high-level managers from 35 machine tool companies operating in the EU + Switzerland and Turkey), currency fluctuations ranked the highest as a factor of volatility.

With the adoption of the euro, the manufacturing industry has benefited from greater stability than when each European country used its national currency, but it has in no way shielded European MT producers against the effects of exchange rate variations. In this sector dominated by SMEs, companies are often ill-equipped to cover the risks relative to exchange rate variation.

One example of the fluctuation in exchange rates is the recent depreciation of the Japanese yen against the euro. As the Japanese MT industry is the most important competitor to European MT businesses, this has a direct impact on the competitiveness of European MT builders both in Europe and in emerging markets. Furthermore, rapid variations in currency exchange rates may go as far as affecting the competitive position of Europe-made machines in contracts which have already been completed.

Another example is Switzerland, where the Swiss National Bank decided in December 2014 to abandon its minimum exchange rate target. This has led to a strong appreciation of the Swiss franc which caused the costs in the manufacturing industry to skyrocket whilst dealing a hard blow on the competitiveness of Swiss exports. Countries represented within CECIMO with their own national currencies, such as the Czech Republic and Turkey, have also recently suffered from ups and downs in exchange rates. The instability in currency affects the machine tool companies both in their purchases (of

material, equipment etc.) and their sales. For that reason, the Czech machine tool industry states a clear preference to become part of the eurozone to benefit from greater currency stability.

In short, although currency fluctuations have actually always been a source of volatility for the machine tool business, the pace of changes in exchange rates and involvement in various markets with different currencies have considerable impacts on European MT builders.

Slowdown in emerging markets

BRIC countries, especially China, have been the European MT industry’s engine of output growth over the past decade. During the global economic crisis of 2008-2009 and the following sovereign debt crisis, consumption in Europe first showed a deep fall, then rapid but partial recovery which has been followed by moderate growth over the last two years. Against a lack of demand in European markets, the spectacular growth of European MT exports to China helped the European output approach its pre-crisis levels. However, given the limited room for market growth in Europe, the prospects of economic growth slowdown and limited capital investments in emerging markets, in particular in China due to the country’s efforts to shift towards a consumption-based economy, create worries amongst EU MT exporters. For the first time after years, European MT exports to Asia showed a decline (-2% year-on-year) in 2014. Meanwhile, the European MT consumption recorded 5% growth, brightening the prospects for the revival of traditional markets especially for European SMEs. However, the machine tool markets have become irreversibly global; for instance, following the rise of labour costs in China, manufacturing investments show signs of a shift towards other destinations in Asia. The new reality is that European MT builders need to think globally and flexibly, and make investment decisions based on market developments taking place across the world.



“ Volatility is a phenomenon that we have to live with. The question is: how to deal with it? Due to new macro trends emerging at a global level, our business environment can change to a large extent but we can always adapt and provide better solutions than our competitors. We concentrate on the most profitable solutions and we improve them by innovating continuously. We also pay special attention to upgrade the services we deliver to our long-time customers, and attract new customers thanks to the new technologies we develop.” Roland Feichtl, Chairman of the Board of Management, Krauseco Werkzeugmaschinen GbmH



“Russia is the second-largest market for our company, and the fact that the future of the EU-Russia relations is uncertain worries us. A possible way to cope with this uncertainty for European machine tool builders is to keep being present in Russia without investing too much effort. Participating in trade exhibitions and other business platforms in Russia will help European machine tool builders prepare for the future, when the relations will be normalized.” Luigi Galdabini, Managing Director, Cesare Galdabini S.p.A.

Uncertainty

The Russian crisis

The financial and economic sanctions adopted by the European Union on Russia in the second half of 2014 include a series of prohibitions and restriction on the sale of dual-use items¹. These measures have seriously curbed the growth prospects for European MT exports to Russia, the third largest market outside Europe. Sanctions have affected European MT suppliers in different ways. The prohibition on dual use items is a straightforward ban for machines covered by this regime. There is also a black list of legal entities and persons with whom no trade or financial transaction is allowed. Furthermore, bans on financial transfers have brought customers in Russia to experience liquidity shortage. Last but not least, the purchasing power of Russian customers has eroded as a result of the country's economic crisis, linked to the drop in oil prices.

A considerable part of machine tools (high-precision cutting machine tools and machining centers) are covered by the dual-use regime, and sanctions

are mainly targeting exports destined for military users/use, and for a list of mixed civilian/defence companies. Nevertheless, rigid interpretations of the sanctions by national authorities in the EU when granting export licences coupled with Russian customers' reduced ability to finance their purchases have magnified the impact of this political crisis on European exports. Deliveries that are part of existing contracts (for non dual-use items) have been affected and many new orders are suspended or cancelled.

The success of the machine tool business relies very much on trust and close partnerships between suppliers; and customers. Therefore, as the crisis stretches in time, European producers are worried about losing their long-established partners. There are strong indications that some international competitors who are not affected by sanctions (given the stance of their country) are replacing European suppliers and taking over the market share.



Unpredictability of public policies

The manufacturing industry thrives in a stable and predictable business and regulatory environment. Manufacturing investments are made with a long term vision and companies want to guarantee the return on costly investments, so they seek long-term stability and framework conditions which are supportive of their competitiveness and growth. Therefore, domestic politics have a higher impact than one can imagine on the potential of a country/region to (re)industrialize but unfortunately, the course of domestic politics in some countries seems to take a dangerous pathway. They harm the highly sought-after legal certainty and stability by adopting overly complex rules accompanied with frequent changes with regards to the tax regime, access to finance, administrative rules or government support schemes for research and innovation. Although the world is evolving fast and policy change is also inevitable, neglecting the impact of new measures on industrial competitiveness may hurt existing industrial players.

Many companies are shifting their investment towards territories offering a highly skilled workforce pool, subsidies for R&D, legal certainty and a good infrastructure to meet the customers' demand for high-value products. As competitors from emerging economies move up the value chain to produce high-range products, it becomes crucial for the EU to ensure a favourable regulatory environment for its industry. The current European Commission has made a bid for "better regulation" and has endorsed the industrial policy agenda of its predecessor which aims at measuring the impact of policies and legislations in other policy areas on industrial competitiveness. Such an approach is positive but, to deliver results, it needs to be applied rigorously. Moreover, unless it is matched with similar ambitions and strategies in Member States, it will not be possible to achieve coherent and consistent framework conditions for the manufacturing industry in the EU.



"Uncertainty is something that we have been dealing with for long. The bottom line now is to understand how machine tool businesses can improve their services by developing market intelligence and making use of new technologies to reach the information and data available on the market. Since SMEs have limited resources to develop sophisticated intelligence systems, they need to come together and exchange information on common platforms such as national and European business associations. This gives business associations an increasingly important role as they should provide companies with up-to-date information on key issues and an outlook on future trends."
Jean-Camille Uring, Executive Board Member, FIVES Group

¹The list can be found in the Annex to the recast Council Regulation (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.



“The EU Energy Security Strategy foresees an increase of energy production in the EU including further deployment of renewable energy sources such as onshore wind power. Such EU-level ambition is also reflected at national level. As an important supplier of production equipment for energy generation systems, the energy transition provides both challenges and opportunities to machine tool builders. Therefore, we have to understand how energy will be generated in the future and respond to changes accordingly.” Antxón López Usoz, Innovation & Development Manager, Danobat Group

Energy efficiency and environmental regulations

Spikes in energy prices are a growing concern for the European MT industry. For long, the European industry has been able to keep its advantage in cost competitiveness thanks to its ability to improve energy efficiency and partly because it has been shifting away from high energy intensive industries. However, this picture can change. There is not much room for further energy-efficiency improvements in the EU industry in the near future and countries in other parts of the world are likely to catch up, given the emergence of cheap options for reducing energy intensity (for instance the US efforts to exploit shale gas). Therefore, it is crucial for the EU to limit further increase in energy prices, to promote energy efficiency and to keep policy options cost-efficient and market-driven for a competitive industry.

A political agenda pointing to more sustainable energy production may result in a higher share of alternative energy used. Being a major supplier of production equipment for energy generation systems, it will be essential for the MT industry to foresee how energy will be produced in tomorrow's world. This will allow them to assess their markets' evolution and prepare to respond to an increased demand for renewable energy, be it hydro, solar or wind. The demand for lower energy intensity in downstream industries also offers good opportunities for MT builders to sell their energy and material-efficient production solutions.

The EU is also trying to create a push force to improve the energy efficiency of MT via the ErP Directive (2009/125/EC). However, the suitability of regulation as a driver of improvements in energy use is put into question because it might not take into account the diversity and complexity of machine tools. The European MT industry, led by CECIMO, has thus proposed self-regulation measures with an approach that is flexible, tailor-made for machine tools and allows freedom of innovation. Many uncertainties remain as regards the implementation of the ErP Directive requirements for machine tools. First, the timeframe necessary for the European Commission to complete its formal process and give the official green light to the self-regulation option is uncertain. Secondly, because most European MT builders are export-driven (almost 50% of European MT production is exported outside the EU), producers are concerned about the cost implications brought by new design rules on their international competitiveness (since they cannot use separate production lines for different markets). Evidence shows that although customers appreciate machines with lower energy intensity, they are not ready to pay for it. Besides, ill-designed or overly-prescriptive mandatory measures may jeopardize the productivity of some machines and, ultimately, make Europe a less attractive place for manufacturing investments.

C

omplexity

Smart Manufacturing Technologies

Many new technologies have overcome the valley of death and reached the market over the past decades. Amongst these technological advances, the Internet of Things, mobile internet, cloud computing, big data mining, advanced robotics & automation as well as additive manufacturing have come to lay the foundations of what is known as the fourth industrial revolution. Some of these technologies have a great transformative power on current industrial practices including production, business models, distribution and sales.

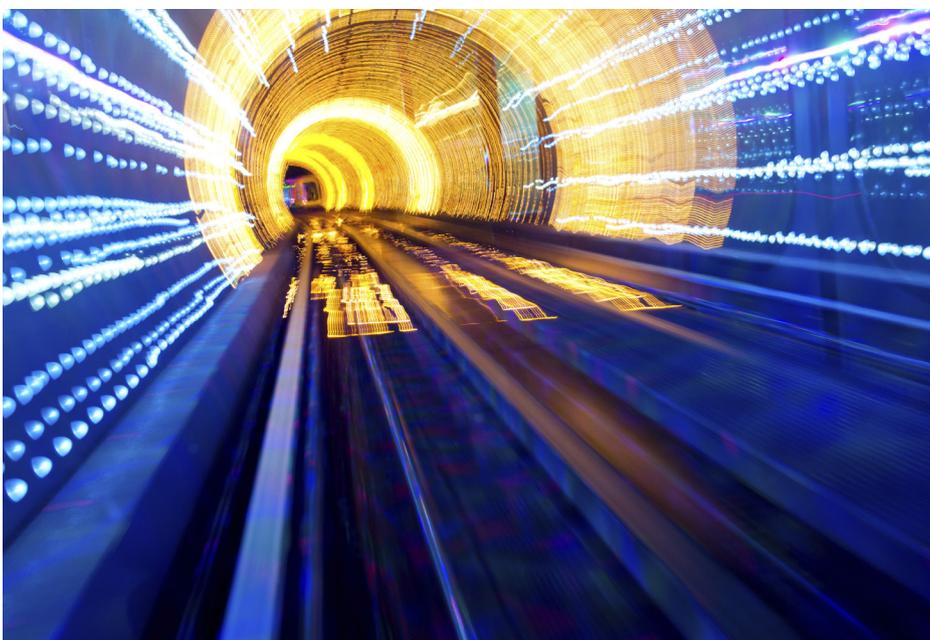
Understanding the scope and implications of technological changes occurring on different fronts and integrating them into their own business is a difficult task for European machine tool builders. They already have in-house expertise and know-how in mechanical engineering, hydraulics, mechatronics and materials. They are also used to dealing with electronics (NC/CNC) or software (CAD/CAM programmes), whose integration in production systems

actually triggered the third industrial revolution. Nevertheless, the internet technologies driving Industry 4.0 are beyond their area of expertise and are mastered mainly by large businesses based in the US. Many MT companies have limited or no connections with these actors and related technology platforms.

A good example is additive manufacturing (AM), a transformative technology which can truly boost the added value of the MT builders' offer when combined with conventional production techniques. AM allows to produce complex shapes and structures on-demand whilst saving significant amounts of resources and improving time-to-market. For the moment, Europe is lagging behind the US in terms of production and adoption of AM technologies, and Asian competitors are increasingly investing in it. European machine tool builders have a legacy in their area of expertise, but integrating additive manufacturing technologies into their business is a complex issue for them.



“Production technologies have been in constant change over the last decades, but the real transformation in the machine tool industry will happen in the near future through the increased use of ICT, big data management and additive technologies. To be part of this transformation, machine tool builders need to think beyond the mechanical engineering sector when building their workforce, and invest in people who can fully integrate digital applications into manufacturing processes.”
Tomas Hedenborg, Group CEO, Fastems OY AB





“Recently, some customers based in China have relocated their operations to other emerging countries like Vietnam, Thailand and Indonesia. This shift is something we cannot prevent, and we believe that we will see more of it in the future. As a small-sized company, we must focus on certain markets since having operations in numerous countries is very costly. To cope with the volatility and the speed of change, we do follow relocation trends and we have developed an in-house intelligence system based on concrete indicators which help us make the right investment in the right country.” Carl Martin Welcker, President and CEO, Alfred H. Schütte GmbH & Co.

Entry to foreign markets

With emerging economies in Asia and other parts of the world gaining in importance and Europe reaching a saturation point in industrial production and consumption, a shift of machine tool markets outside Europe has occurred. Whilst Europe accounted for 40% of the world machine tool consumption in the early 2000s, it consumes around one fifth today. Meanwhile, China’s share alone is around 40% and Asia’s share in total consumption is 60%. As a result of globalisation, major customers of the machine tool industry such as automotive, railway and aerospace, have become international. European MT builders have no choice but to follow their customers in the new markets where they operate to understand their new needs and to serve them effectively.

Internationalisation is a complex and difficult task, especially for small and medium-sized enterprises. To expand a machine tool business, the product has to be complemented with pre-sales and after-sales services including design, maintenance and repair. Reliable agents and distributors are to be identified in completely unknown markets and they must be entrusted with marketing and sales. Some companies prefer to establish their own organisation in foreign countries and even open their own production facilities to stay close the customer markets and serve them

better. Both options require substantial financial and human resources to handle complex regulatory, business and cultural challenges. If they manage to expand to foreign markets, companies need to protect their intellectual property rights, especially in legally compulsory joint venture and partnerships, and keep an eye on risks of expropriation of their assets by government authorities. Overcoming trade and regulatory barriers and reaching out to foreign markets is not an end game. European MT companies must build partnerships with universities and research centers in these countries to understand market needs and develop products to meet local demands. In their endeavours, they face fierce competition from state-owned or state-backed large-size local enterprises.

Overall, European MT businesses need guidance and advice as well as financial support to succeed in their internationalisation journey. Industrial investments in Europe have been stagnating due to macroeconomic conditions whilst industrialisation in China and other emerging economies is on track. Given these market growth perspectives, a higher number of European MT builders will need to turn their face towards markets in BRIC countries and develop new technologies and business models to differentiate their offer from local competitors.



Ambiguity

Securing new skills

The sector's skills challenge is not a new issue but, for several reasons, the gap between the talent needed by companies and the talent they can actually find is widening. Recent demographic trends combined with the manufacturing skills' pipeline drying up have come to put in question the sustainability of the European MT industry. The experienced workers, who form the backbone of the sector, have reached the retirement age and they are not replaced as easily as in the past.

In addition, education and training budgets show a declining trend in many European countries and industry has high concerns about the quality of the programmes. MT companies already take the large share of the burden by delivering the initial training to first-time employees, who otherwise would not be operational, but the rising complexity of technology and integration of ICT solutions increases the training cost in the sector.

In this day and age, the MT companies' working environment and new tasks require a completely different mindset and skills than before. Industry 4.0 is transforming the design, product

development process, production, and supply chains as well as marketing and sales practices. European businesses need to operate in a globalized and unpredictable marketplace in which customers have fast changing, and complex demands. With increased automation and the role of data in production technologies, the skills requirements are increasing and flexible automated production systems create a shift towards decentralized production. In this scenario, the workforce needs to increase its capacity to respond to changes and make more independent decisions, which implies that learners and workers of the sector should possess both deep technical knowledge and practical skills in different areas. This can only be achieved by improving the partnership between education providers and companies and by promoting work-based training under real business conditions.

In this context, ambiguity persists as regards the 'ownership' of education and training. It remains unclear who, from the public or private sector, will take the ambitious responsibility of delivering the complex, costly and time-consuming training and education that is needed by companies to stay competitive.



“Owing to a high level of ICT integration and globalisation, the skills requirements of machine tool builders have deeply changed in the last decades. To sustain our competitiveness, we need a flexible and multi-skilled workforce who can integrate customized solutions to the complex systems of various user industries. This requires advanced knowledge and also practical skills which can be best developed in real working conditions. This is why work-based learning should become the essential pillar of the education system in Europe and the cooperation between companies and education providers must be strengthened at all levels.”
Robert Nefkens, Managing Director, Hembrug B.V.



“The automotive industry is changing and e-mobility will become part of our daily-business in the future. The use of batteries or hydrogen fuel cells in electric cars will cause many mechanical parts used in petrol-powered cars to disappear. Although e-mobility represents new business opportunities for European machine tool producers, it also means a drastic change. To fully understand the needs of the e-mobility market, the machine tool industry must develop cross-sectorial partnerships with industries that are technically closer to the e-mobility sector, such as photovoltaics production.” Manfred Walther, Geschäftsführer, Profiroll Technologies GmbH

Threat of substitutes

The machine tool industry is a major supplier of production technologies and equipment to main industries and the threat of substitutes can come via developments in customer industries. For instance, the substitution of metals by other materials in the aerospace or automotive industry may result in a reduced demand for machine tools.

According to CECIMO delegates, the most apparent threat which may affect the MT industry is linked to electro-mobility. The automotive industry is the European machine tool industry's largest customer and consumes more than 40% of its MT production. Mechanical parts in cars such as the drivetrain and transmission components are made by machine tools. The shift to e-mobility and electric cars implies that some of the traditional mechanical parts in cars, including the combustion engine and the rotor, will be replaced by batteries.

E-mobility has climbed up on the European industry's agenda over the past decade mainly due to a political push in the framework of the fight against climate change and improving energy security. In the same vein, technological advances made by competing economies have encouraged European authorities to implement ambitious transport policies. The e-mobility trend has also started picking up pace in other parts of the world where there are mega cities, especially in China. Given the large size of these markets and the vast availability of national resources, these countries could have a transformative impact on the industrial agenda worldwide. It is now essential for European MT companies to closely monitor political and industrial developments worldwide and prepare themselves for the upcoming challenges.



Paths of action for the Industry

Embrace the fourth industrial revolution

- Keep creating value via new business models and products, and do not let ICT actors steer the added value away from manufacturing technologies. Invest in increasing the compatibility between your products and digital solutions by establishing win-win cooperation with ICT providers.
- Establish multiple and long-term partnerships with actors of the smart manufacturing transformation. Together with trade associations, generate clusters addressing ICT innovation for manufacturing SMEs. Develop cooperation with research institutes, universities, suppliers and end-users at international level to convert costly, complicated and time-consuming research efforts into commercialized results and innovations.
- Spread smart manufacturing practices, raise the corporate image of the machine tool industry and engage customers and suppliers in this transformation. Show corporate knowledge and educate customers in new technologies.
- Get involved in national and European R&D funding programmes and collaborate with researchers, suppliers and end-users on innovation.

Strengthen the skills pipeline

- Generate a flexible workforce with the 'skills of the future' to be part of the digital revolution. Increase digital literacy and ICT competences of human resources in the machine tool industry. Increase the adaptability of workforce to help ensure responsiveness to fluctuations in demands.
- Raise the awareness about "smart manufacturing" in your community and use it to revitalize the image of MT business and to attract young workforce from diverse backgrounds and disciplines. Demonstrate to students at all levels that the machine tool industry is a global business and machine tools are innovative and instrumental to tackling societal and environmental challenges.
- Develop long-term partnership with education providers at local level. Many vocational education and training providers' curricula do not cover emerging manufacturing technologies and their infrastructure are not up-to-date. Inform vocational education and training providers about future business models and skills needed. Invest continuously in apprenticeship and training programmes and promote work-based learning.

Tackle grand societal challenges

- Energy efficiency will become a determinant factor in the value chain of metalworking industries and this shift has already started. Be an early bird and invest in developing energy-efficient solutions today.
- Communicate and promote sustainable products and applications that contribute to tackling grand societal challenges and educate suppliers and customers on sustainability. Use sustainability to strengthen sectoral image in the eyes of policy-makers, regulators and the society in general.
- Participate in efforts for setting energy efficiency standards in national and international standardization organizations. Communicate effectively the fact that your products offer energy performances that match international standards.



***"We are moving towards a future where technologies that emerge beyond our sector will have a transforming effect on our companies. The European machine tool industry has been always agile and innovative. We have already shown that we can adapt to change. It should be no different this time."** Frank Brinken, Board Member of Tornos SA, Fastems Oy and Starrag Group AG, and Chairman of the Economic Committee, CECIMO*

Force into new markets

- Always keep in mind that growth is in foreign markets and therefore internationalize your SME. Get organized with other manufacturers and encourage mutual learning through sharing best practices. Use the networks developed abroad by trade associations. Benefit from free-of-charge public services and incentives provided to SMEs for foreign trade and internationalization.

Communicate the realities and the priorities of the manufacturing sector to policy-makers

- Show policy-makers at local, national and European levels that manufacturing is an unparalleled source of sustainable growth and good jobs, and that manufacturers generate spill-over effects on the economy such as advancing R&D, boosting the workforce competency, as well as indirectly creating jobs in services and generating wealth via export of goods.
- In particular, communicate that manufacturing is the basis to build collective capability and to sustain innovation. Emphasize that innovation is not just about R&D and cannot be separated from manufacturing as the ability to build complex and sophisticated manufacturing processes is innovation itself.
- Get involved in the policy-making processes at various levels to ensure the legislation affecting your business, in particular the tax regime, access to finance and R&D incentives is clear, free of unnecessary administrative burden and responsive to the needs of SMEs. Get together with other machine tool builders under national and European trade associations and raise your voice louder.



Paths of action for policy-makers

Address the needs of manufacturing SMEs in priority

- Create a stable and predictable business and regulatory environment with a long-term vision for manufacturing SMEs. Avoid introducing overly complex rules and frequent policy changes, and reduce the administrative burden in particular concerning tax regimes, access to finance and research and innovation incentives. Ensure that the European Commission's "better regulation" agenda is implemented at national and local levels. Support SMEs by developing practical guidelines and tools as well as exchanges of best practices to facilitate compliance with EU legislation. Provide training, consultation and financial tools on IP protection, finding business partners and regulatory requirements in third countries to support the internationalization efforts of European SMEs.

Support the European smart manufacturing leadership

- Strengthen the cooperation between the manufacturing and ICT industries to capitalize on the fact that innovation in the former often originates from the advances made by the latter. Provide manufacturers with incentives to capitalize on emerging technologies. With the right policies and a long-term vision, European MT builders will extensively benefit from emerging technologies, such as metallic-based additive manufacturing, and tap into global business opportunities.

Keep manufacturing and research in proximity

- Contribute to the machine tool industry's continuous innovation by keeping research and manufacturing activities together in Europe. Bear in mind that R&D alone is not sufficient to keep the innovation bar high, and that building sophisticated manufacturing processes and products is innovation itself. Improve research and development funding schemes by focusing on demonstrations, prototypes, IPs (results closer to the market). Continue to simplify the administrative procedures in public-funded R&D incentives and to encourage SMEs' participation in such programmes.

Generate an education system aligned with labour market needs

- Ensure that education and employment policies in Europe follow the transformation in the economy in general, and in manufacturing in particular. Promote an education system for the manufacturing industry which puts work-based learning in the center, since practical skills can be acquired best at work. Provide further political support and funding for promoting cooperation between education providers and industry in order to design learning programmes and curricula that correspond to actual labour market needs covering both technical and soft skills.

Consider competitiveness and think global when regulating energy consumption

- When it comes to regulating the machine tools' energy consumption, keep in mind that the European MT industry is an export-oriented B2B sector (about 50% of European MT production is exported outside the EU). Any set of measures must be aligned with user demands and not jeopardise activities of MT manufacturers who operate both in the EU and in export markets. Do not limit the productivity, accuracy and performance of machines by introducing over-prescriptive ecodesign rules which could have heavy cost implications for European MT builders. Since energy-efficiency can be best reached through continuous innovation, provide European MT builders with a flexible, cost-efficient and innovation-driven approach promoting sustainability.

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Member Associations:

Austria: FMMI

Fachverband Maschinen & Metallwaren Industrie

www.fmmi.at

Belgium: AGORIA

Federation for the technology industrie

www.agoria.be

Czech Republic: SST

Svazu Strojírenské Technologie

www.sst.cz

Denmark: The Manufacturing Industry

a part of the Confederation of Danish Industry

ffi.di.dk

Finland: Federation of Finnish Technology Industries

www.teknologiateollisuus.fi

France: SYMOP

French Association for Manufacturing Technologies

www.symop.com/fr

Germany: VDW

Verein Deutscher Werkzeugmaschinenfabriken e.V.

www.vdw.de

Italy: UCIMU - SISTEMI PER PRODURRE

Associazione dei costruttori Italiani di macchine utensili
robot e automazione

www.ucimu.it

Netherlands: VIMAG

Federatie Productie Technologie / Sectie VIMAG

www.ftp-vimag.nl

Portugal: AIMMAP

Associação dos Industriais Metalúrgicos,
Metalomecânicos e Afins de Portugal

www.aimmap.pt

Spain: AFM - Advanced Manufacturing Technologies

Advanced Manufacturing Technologies

www.afm.es

Sweden: MTAS

Machine and Tool Association of Sweden

www.mtas.se

Switzerland: SWISSMEM

Die Schweizer Maschinen-, Elektro- und Metall-Industrie

www.swissmem.ch

Turkey: MIB

Makina İmalatçıları Birliği

www.mib.org.tr

United Kingdom: MTA

The Manufacturing Technologies Association

www.mta.org.uk

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*Europe = EU + EFTA + Turkey



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