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magazine



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economic overview of the machine tool industry in 2009 - 2010 ■ trends in automotive, medtech and energy industries ■ EU 2020 strategy and a new EU industrial policy ■ key enabling technologies in Europe ■ EU - India trade potential ■ EU Free Trade Agreements at a glance ■ improving energy-efficiency of machine tools

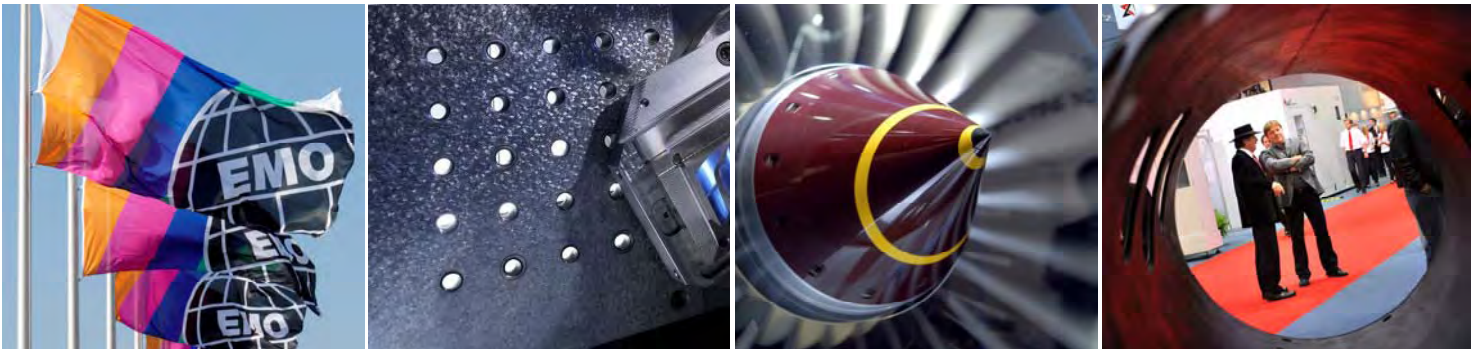
The World of Metalworking



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foreword



Dear Readers,

CECIMO figures from the first quarter of 2010 confirmed the upwards trend in machine tool orders in Europe first observed in the final quarter of 2009. Recovery is on track, however there are important conclusions to draw from the recent economic recession which need attention from European politicians.

Firstly, China continued to import machine tools from Europe in 2009 (18% increase) despite the crisis, whilst the overall order intake decreased by 50% in Europe. The OECD 2010 Economic Outlook published on 26th May 2010 revised

upwards its growth outlook for BRIC countries, whilst it forecasts a gradual recovery for Europe. Countries which owe a big share of their GDP to industrial output seem to have shown a higher resilience to the crisis and they appear to be recovering faster.

Hence, Europe needs to re-evaluate its economic model and bring real economy back into the heart of European economy. There is an urgent need to step up investment in the global industrial competitiveness of European industry, with respect to knowledge and technology innovation. A strong European industrial base which produces high-added value goods and sells to emerging markets can help ensure sustainable economic growth.

Secondly, the fast-recovering BRIC countries are becoming increasingly attractive to investors as growth markets. The current shift of industrial production and consumption in some sectors (eg. automotive) to emerging markets points to a trend towards the localisation and shift of the whole value chain to these regions. This implies some serious risks.

The machine tool industry is upstream in the manufacturing chain and supplies production technology equipment and solutions to all industry sectors. Losing the machine tool industry would equal to breaking the first ring of the entire value chain of the manufacturing activity in Europe. It risks resulting in an incremental decomposition of the European manufacturing base to be followed by the evasion of the R&D activity and jobs outside Europe. Europe should, therefore, protect its strategic industries.

Thirdly, with a gradual European recovery on the horizon, European industry will have to seek markets outside the EU. The European machine tool industry is a world leader in technological excellence which prompts an impressive level of demand for European machine tools around the globe. In 2009, CECIMO countries generated more than 40% of total world production and exported more than 50% of this production outside Europe. The EU must help maintain the flow of machine tool exports to sustain economic growth. Ensuring effective market access to emerging markets and contributing to the internationalization of small-sized companies will gain importance.

CECIMO holds high hopes for the new 'EU 2020 Strategy', the new 'European Plan for Research and Innovation' and a new 'EU Industry Policy for the Globalisation Era' for the creation of the right economic, legal and social environment that the European machine tool industry is in need of to further improve its global competitiveness and to open up to new emerging markets. The third issue of the CECIMO Magazine looks into these initiatives and provides CECIMO's opinions on the necessary steps to be taken by European policy-makers.

Filip Geerts, Director General

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Future Challenges for Manufacturing

CECIMO delegates discussed future trends in three major customer sectors of the machine tool industry at the Spring General Assembly.



The CECIMO Spring General Assembly, hosted by VDW, took place in Leipzig between 17th and 18th May 2010. Prof. Eberhard Abele, key note speaker from PTW Institute of Darmstadt Technical University, made a presentation about challenges for Production Research based on the results of a study carried out by PTW for the German Federal Ministry of Education and Research; Produktionsforschung 2020.

The production technology is a key technology with a cross-cutting character which enables production across branches of the manufacturing industry, explained Prof. Abele. He stated that the demand in production technologies will be driven in the future mainly by mega trends such as globalisation, shortage of resources, climate change, sustainable mobility and demographic change. The development of new fields, as a response to these challenges, such as future energy systems (eg. wind and solar power plants), systems for electro-mobility and resource-efficient production systems will require new production technologies.

Europe will face increased global competition in new growing fields, deriving mainly from China and India. In order to face new challenges, the study puts forward some recommendations for production (research); maintaining and reinforcing national value added chains in research, setting priorities for promising fields and key technologies and stepping up cooperation between stakeholders (associations, research institutes and industry). Maintaining the attractiveness of Europe as a location for production should be the key priority.

The PTW study highlights innovative machine tool technologies as a basis for leadership in production technology. It sets the research priorities for the machine tool sector as follows: process integration through multi-technology platforms; integrated simulation of machine and process concerning quality, time and resources and the development of innovative use interfaces.

Automotive, Energy and MedTech industries at a glance

Following the presentations given by Dr Christof Spathelf (Volkswagen), Mr. Markus Rieck (Alstom) and Dr. Andreas Sterzing (Fraunhofer IWU), *CECIMO delegates discussed new trends and opportunities in three major customer sectors of the machine tool industry in a series of workshops. Delegates considered suitable actions needed in order to meet the objective of maintaining the European leadership in market share and technology.*

Automotive Sector

Localisation challenges European SMEs

The automotive industry is the biggest customer of the MT sector (consuming approximately 1/3 of production). Critical components in cars such as powertrains, gear boxes and crankshafts are produced by machine tools.

Over the next ten years, the highest growth rates in the automotive sector will be observed in China, India, South America and Russia while European and Japanese markets will stagnate. Major original equipment manufacturers (OEMs) are moving one by one to growth markets and they expect their suppliers to follow them. OEMs' growth strategy is based on the localisation of content (production, labour, technology) to ensure cost-effectiveness. Moreover, Chinese and Indian car manufacturers will emerge as strong global players within a few years. Another trend is that the consolidation of OEMs will lead to a reduction in the number of car manufacturers around the globe.

The European machine tool industry will continue to enjoy a competitive advantage on a global level, thanks to its technological leadership. However, following the relocation of car manufacturing, European SMEs (accounting for more than 85 % of the total of MT companies) will face increased pressure from local low-cost machine tool builders. IPR protection will become more important. SMEs will need to internationalize and adjust to meet the needs of large OEMs. However, different technical and environmental regulations in emerging markets as well as tariff and non-tariff barriers may become a stumbling block to market access.

MedTech Sector

Ageing society may boost demand

Advanced machining technologies provide solutions to medical engineering sector to manufacture prostheses, ear implants, hip- and knee replacement-joints, orthopedic aid devices, sensors, measuring devices etc.

The ever-increasing aging population in Europe and the demand for higher living standards are the main drivers of growth in the medtech sector. The ageing society may require medical solutions in volumes not known in advance. The European machine tool industry has a competitive advantage in world markets given its R&D capacity and competence in process technologies. However, further investigation is needed to reveal the real market size. The establishment of better communication links between machine tool builders and medtech companies is important to ensure an ideal demand-supply match, to focus on the development of relevant technologies and to secure a sustainable growth path in this sector.

Energy Sector

More energy, cleaner energy, cheaper energy

Turbine blades and rotors, solar panels, heat pumps and many other essential components used in the construction of energy generation systems are cut, shaped and formed by machine tools. The machine tool industry, therefore, plays a key role in enabling conventional and renewable energy generation (such as solar, wind, geothermal).

Two mega trends, climate change and energy efficiency, will drive clean technologies to the forefront in both conventional and renewable energy sectors. Market deregulation (and regulation) coupled with energy and carbon prices will determine the share of conventional and renewable energies in energy provision. The overall need for energy will increase in and outside Europe. Asia will be the biggest market (especially for the construction of new plants) whilst Europe will remain a growing market, notably for the retrofitting and refurbishment of existing plants.

China is likely to emerge as the biggest competitor to Europe in the field of renewable energy generation. High R&D investment and public subsidies will stimulate the take up of Chinese manufacturers which may challenge the European machine tool industry. The emergence of Chinese competitors may increase concerns on IPR protection and create increased pressure on prices.

Conclusions from President Hauser

Michael Hauser, President of CECIMO, commented on the conclusions of the workshops and stated that EU policies could help machine tool builders address the identified challenges and opportunities. He said that competition is shifting onto an international platform due to the dual trend of globalisation and localisation. He added: "The rapid recovery and high growth rates of emerging economies indicate that the biggest markets will be outside Europe in the near future. Therefore, the EU needs to develop an effective market access strategy and an internationalisation strategy for SMEs. Exports will also help Europe to achieve sustainable economic growth."

"Small and medium-sized machine tool builders, which constitute more than 80% of European machine tool builders, need to have a level playing field when entering growth markets; protect their IPRs and have access to information about business opportunities but also about standards and the regulatory environment to be able to take the full advantage of globalisation", said Mr Hauser, highlighting expectations from EU policies.

As regards the impact of relocations on European industry, he commented: "We have to be very smart in tackling globalisation. It is inevitable that part of the supply chain in some industries will migrate from Europe to be able to cope with global competition. However, the examples of energy and medtech sectors show us that many new market opportunities may arise for manufacturers in Europe. We could also expect some migrant industries to return to Europe following the shift from competition based on low-cost to competition based on sustainability and low-carbon products. It is important to keep our know-how in key technologies and maintain our enabling industries such as the machine tool industry within the borders of Europe. This will cultivate Europe as an attractive location for high value manufacturing investments." ■





Economic Trends in the European Machine Tool Industry

Dr. Frank Brinken, CEO of the StarragHeckert Group, has been the Chairman of CECIMO Economic Committee for the last two years. He was re-appointed to this function at the CECIMO Spring General Assembly, in May 2010. He answers to our questions regarding the latest economic trends in the European machine tool industry, the depreciation of the Euro and its impact on the machine tool business, and the EU-Korea Free Trade Agreement.

Following a very difficult 2009, where is the European Machine Tool industry now?

We have been observing some emerging trends of an upturn in the orders of machine tools since the fourth quarter of 2009. This was confirmed in the first quarter of 2010, with orders up by 32% versus the same period in 2009.

Production, which dropped by 32% in 2009, is expected to turn around later this year. However, due to the order pattern and the long lead-time structure of the European Machine Tool industry, the annual rise in production will be noticeable only in 2011.

What are the particular driving forces of this recent upturn?

The first driving force is geographical. Orders are led by the increased demand from emerging markets, notably from China and other Asian countries. These countries have in common a very large population, and therefore a huge final consumer demand, but also enormous needs in infrastructure and heavy industry. Additionally, China, that used to have an export-led economy, repositioned its economy towards domestic demand since the 2009 crisis. Here clearly the stimulus plans are finally having a positive effect for the machine tool industry.

The second driving force (valid for both developed and emerging markets) is innovation. Despite the crisis, European machine tools continue to be ahead in terms of technology, precision, speed and added value. Innovation must be understood in a broader sense, from basic research and new product development to the implementation of new business models, in order to respond to the specific needs of customers. The

machine tool industry is probably the truly global industry with the same demands across all industrial nations. Even the car industry and the food industry still has to cater for specific needs in different markets. However, it is worth bearing in mind that young machine tool producers from emerging markets are moving up the value chain of manufacturing and looking for export market opportunities.

What could be the consequences of the current financial upheaval in the EU on the European machine tool industry?

In the short term, the depreciation of the euro seems positive for our exports, as more than 50% of our production is sold outside Europe. In the long term, I fear a negative impact of the credit rating, which will lead to higher interest rates. If credit volumes are shrinking, our customers might find credit lines to be more difficult and more expensive to obtain. This will directly affect further productive investments in Europe. The management of a strong Euro needs an iron hand.

Although CECIMO expects a lot from the future modernization of the European industrial base (in line with the EU 2020 strategy) and of the European plan for innovation, that will both support the shift towards an energy efficient manufacturing industry, it may take time before the ongoing structural reforms generate the sustainable, smart and inclusive growth that we are edging towards. We should realize that there will be different speeds of economic growth in different countries in the future. Again, those who keep their budgets and spending in balance should profit first from these plans.

Therefore, in the short term, CECIMO member companies must find additional sources of growth in the faster growing high-tech, such as energy (both conventional, renewable and nuclear), medical equipment and technology as well as food production and processing to name a few.

What does CECIMO expect from the EU-Korea Free Trade agreement?

With almost three quarters of the European machine tools exported, CECIMO has a very clear trade policy: every new emerging market is a further trade opportunity for the European Machine Tool industry. That being said, trade must operate on a level-playing field. For instance, CECIMO wants to have guarantees on the protection of intellectual property and the elimination of non-tariff barriers.

The South Korean manufacturing industry is very dynamic, and alongside the more traditional consumer electronics and automotive sectors, it is fast growing in the cleantech industries. A 2008 JP Morgan report said South Korea is going to be one of the fastest growing solar markets over the next four years. CECIMO exports to South Korea amounted to more than €300 million in 2009, up by 11% versus 2008. Nevertheless, currently, our manufacturers have to comply with some local Korean certification, which in addition does not make sense technically when exporting to South Korea, consuming both time and money. This new unilaterally imposed rule is a clear trade barrier, whereas Korean manufacturers enjoy free access to the biggest machine tool market, Europe. This Korean trade barrier would be removed with the EU-Korea free trade agreement, which would make the European machine tools more competitive in Korea. ■

The new Commission unveils future plans for the manufacturing industry

The recent economic crisis was a wake-up call for Europe to evaluate its economic model which had become overly dependent on services and on the financial sector in the recent decades. As soon as the new Commission took office, it issued the EU 2020 Strategy which includes a new EU Industrial Policy that aims to revitalize the growth dynamics of the European manufacturing industry.

Economic growth on centre stage

Launched in March 2010, the EU 2020 is the EU's response to the economic crisis. It replaces the Lisbon Strategy (2000-2010) and aims to transform Europe into a competitive, knowledge-base, resource-efficient and inclusive economy in the next ten years. The *motto* chosen by the European Commission, "smart, sustainable and inclusive growth", highlights the economic, ecological and social pillars of the strategy.

Smart growth refers to making innovation and knowledge transfer the drivers of economic growth. This will be achieved by upgrading the performance of Europe in education, vocational training and research. Moreover, the brand new EU Digital Agenda will focus on promoting the use of ICT among businesses as well as households. Effective and rapid access to information is expected to become a driver of innovation.

Sustainable growth will be built on 'resource-efficiency' which refers to the responsible and efficient use of natural resources and energy. The EU aims to decouple economic growth from the consumption of resources and reduce Europe's dependence on foreign sources of raw materials and commodities to achieve sustainable growth.

The EU strongly links resource-efficiency to the competitiveness of European economy. Environmental concerns, the scarcity of commodities and soaring energy prices are expected to boost demand for energy-efficient processes and products in the coming years. Europe aims to gain comparative advantage on global markets by investing in the improvement of these industrial capabilities.



Finally, inclusive growth implies creating a high employment rate and modernizing the labour market to help respond better to the needs of globalisation.

Great Expectations for manufacturing

Today, the creeping economic recovery, high unemployment rates and unsustainable public debts in Europe urge a sound exit strategy for European economy. The EU 2020 Strategy places a lot of importance on the manufacturing industry to help bring Europe out of the downturn, restore economic growth and create new jobs. Moreover, manufacturing will provide Europe with the ability to tackle 21st century challenges such as climate change, ageing population and energy security.

Firstly, the manufacturing industry, as both consumer of energy and solution provider for energy-efficient production methods, is expected to play a central role in building up a resource-efficient and low carbon economy. Secondly, the manufacturing industry will help Europe respond to competitive pressures coming from low-wage economies by the development of niche and high value processes and products (especially energy-efficient ones). Therefore, the EU will invest in the development of industries of the future. Fostering a new generation of thriving high value sectors in Europe, such as renewable energy, is expected to create hundreds of thousands of new jobs and added value for European economy. A new EU industrial policy, announced in the EU 2020 Strategy, will provide the framework for the implementation of these targets.

A new EU Industrial policy for the globalisation era

The primary objective of the new EU industrial policy is help European industrial sectors adjust to globalisation. Globalisation coupled with the economic meltdown have radically changed the public policy scene and provide new challenges to policy-makers to help maintain the manufacturing industry globally competitive.

New challenges to industry

The recent economic crisis has damaged supply chains and forced certain sectors to a radical restructuring process. At the early stages of recovery, European

manufacturers are faced with difficulties to find a skilled workforce and the capital needed to meet increased orders.

Moreover, the rapid recovery of emerging economies such as China, India and Brazil and their rise as major exporters provide additional challenges for the European industry. Increased inter-regional competition, fueled by stimulus packages and government subsidies to manufacturing, and a fierce competition between major industrial powers over scarce natural resources provide a panorama of the global scene for manufacturing in the wake of the economic downturn.

At EU level, interconnections between EU member states have become more apparent with the economic meltdown. The distortion of supply chains or problems of macro-economic imbalances in EU member states have proved to have a direct effect on the entire EU real economy.

EU response

The global EU approach to industry policy implies that the new policy framework will address issues which impact the global competitiveness of industry from the security of energy and raw material to marketing and after-sales services. Antonio Tajani, Commissioner for Industry, speaking at the 2nd High Level Conference on industrial competitiveness, which took place on 26th April in Brussels, announced some new initiatives: a raw materials strategy, a modern public procurement system, export of a modernized European standardization system outside the EU, smart regulation and impact assessment, implementation of the Small Business Act and assistance to restructuring by helping the laid-off workforce to be employed in new growth sectors.

Moreover, the EU has already started working towards the establishment of a sound European economic governance system, economic discipline and healthy financial markets, which it sees as a pre-requisite to achieve the industrial policy targets.

The European Commission has set to work immediately by identifying weaknesses and strengths of industrial sectors in Europe. Based on the results obtained, concrete policy measures will be formulated. The European Commission will present to the Council a communication on industrial policy by the end of 2010. ■

CECIMO's messages to the Commission for the new EU Industrial Policy

- The Machine tool industry is an enabling, cross-sectoral industry which provides manufacturing technology equipment and solutions to all other industrial sectors of the economy.
- The European machine tool (MT) industry is the world leader with 40 % of total production.
- The competitiveness of the European MT industry is based on its technological excellence, high R&D expenditure, rapid innovation cycles and highly skilled workforce.
- The business performance of the MT industry is highly dependent on investment cycles of its clients, which explains the downturn it suffered during the economic crisis.
- Uncertainty over the future may deter machine tool companies from investing in R&D which is crucial to avoid losing ground to new competitors in the intensified global innovation race and to ensure sustained economic growth.
- In the short term, access to finance and to public funds is crucial for MT companies (more than 80 % of SMEs) to innovate, diversify and invest in manufacturing technologies which emerge in new fields (renewable energy generation, medtech etc).
- In the long term, a sound modernization project for European industry could give the necessary signals to the MT industry to step up overall R&D investment. Meanwhile, machines with higher precision and speed would help increase the overall productivity of other European industrial sectors.
- The EU Innovation plan currently under revision should help foster the right legal, financial and social environment which will encourage and facilitate innovation. The single European patent should become a reality to encourage private investment, especially by SMEs, in R&D.
- The European regulatory regime which harmonizes health, safety and environmental standards is important to ensure a level-playing field in the single market and to stimulate innovation. However, regulation should be 'smart' and SME-friendly. Impact assessments should be extended to take into account the impact of regulation on the international competitiveness of European manufacturers.
- Lacunae in market surveillance distort competition and discourage innovation. The greatest reward to innovative machine tool builders is a level playing field in the EU Internal market. A strong collaboration between Member States is key to effective market surveillance.
- Although being an export-oriented industry, the relocation of customer industries (eg. automotive) in low-cost regions creates new challenges for MT companies. Diverse technical standards and regulatory regimes in different countries often impede market access. Internationalisation of SMEs should be supported by removing barriers to investment, minimizing risks and raising awareness of SMEs of opportunities in emerging markets.
- Fair competition on a global level should be ensured by the removal of non-tariff barriers and the internationalisation of standards. An effective cooperation between EU trade and industry policies is needed.
- Internationalisation efforts should not lead to the shift of European industrial and research bases outside Europe. The manufacturing location attracts product development, researchers, distributors and suppliers with a direct impact on economic growth and job creation.
- Manufacturing strength is built on complex skills. Europe needs to make engineering studies more attractive for young people and encourage lifelong learning programmes at corporate level. An effective cooperation in the government-academia-industry triangle should foster a well-educated and trained workforce.

CECIMO supports the bilateral Free Trade Agreements initiated by the EU Commission



The recent upturn in orders in CECIMO countries has been driven by the demand from emerging markets. Almost three quarters of European machine tools are exported. This significant statistic clearly highlights CECIMO's trade policy: every new emerging market is a new trade opportunity. However, trade must operate on a level-playing field which guarantees easy market access and the elimination of non-tariff barriers which are time and money consuming for small and medium-sized companies.

EU-Korea FTA: implementation now!

In a recent position paper, CECIMO urged the provisional implementation of the EU- South Korea free trade agreement before the final approval of the European Council. The agreement signed in October 2009 was expected to enter into force in the second half of 2010 following the approval of the Council and the ratification of the European Parliament. However, discussions at the European Parliament on some controversial issues such as the duty drawback and the safeguard clause delay the process.

Towards facilitated market access to India and Brazil

CECIMO is closely following the ongoing FTA negotiations India and Mercosur (Brazil, Argentina, Paraguay and Uruguay) which promise to open up these dynamic markets to European machine tools exports.

The agreement with India, which started in 2007, is still expected to be signed at the EU-India Summit in October 2010. Negotiations have now reached a critical phase with the finalisation of the products that will benefit from the total elimination of duties. This will concern 90% of the traded goods. CECIMO is confident that machine tools will be included in the list, given that capital equipment is an essential requirement in India in order to sustain the country's fast industrial development.

The EU and Mercosur (Argentina, Brazil, Paraguay and Uruguay) commenced negotiations for an Association Agreement in 2000. The initial discussion was aimed at reaching an agreement in three areas: political dialogue, cooperation and free trade. Due to strong divergences in the agriculture sector, talks were suspended in 2004. In 2008, both zones agreed to extend their relations into three new areas, namely science and technology, infrastructure and renewable energy. They also announced the re-launch of talks for a free trade agreement in May 2010 which are scheduled to start in early July.

Think global!

The economic growth in India and Brazil will pick up speed over the next two years, according to the OECD 2010 Economic Outlook (May 2010). For 2010 and 2011, OECD forecasts respectively 8.2% and 8.5% GDP growth rate for India and 6.5% and 5% for Brazil, whilst a gradual recovery is foreseen for the Euro zone (1.2% -1.8%). These figures should urge Europe to capitalize on an export-oriented economic growth strategy whilst sustaining a strong and competitive industrial base inside. The export of high added value industrial goods, such as high-tech production machinery, could be the engine of a sustainable growth in Europe and should be facilitated by a sound market access strategy. ■

Also see the analysis on the EU - India FTA on page. 11.

EU will support key enabling technologies



Source: Trumpf

The Commission communication on key enabling technologies (KETs) issued in September 2009 sets out to identify the key technologies which strengthen the EU's industrial and innovation capacity to achieve a competitive, low-carbon, knowledge-based economy. The Communication is aimed at improving the relevant framework conditions to foster close-to-market key enabling technologies (KETs) and to facilitate their deployment. This initiative is one of the European Innovation Partnerships announced in EU 2020 Strategy.

Advanced manufacturing: A key technology

There is no harmonized definition of the KETs in Europe yet. However, they are usually associated with intensive knowledge and R&D programs, rapid innovation cycles, high capital expenditure and skilled personnel. Machine tools are covered by "advanced manufacturing systems" which have been identified by the Commission as one of the six key enabling technologies alongside nanotechnologies, semiconductors, photonics, advanced materials, and biotechnologies.

Known as mother machines, machine tools are indispensable for the production of sophisticated high value components required by future growth sectors (such as energy and medical engineering) and strategic sectors (such as aeronautics and aerospace). Breakthrough advances in these industries are made thanks to machine tools.

What should industry expect from this initiative?

The KET initiative will provide a common platform for European policy-makers and industry to identify future challenges and

opportunities for the identified sectors. As such, it can play an important role in guiding industry by sending out concrete signals about potential growth areas and future investments.

The European Commission will cooperate with industry and address, in a holistic fashion, a broad range of issues (eg. skills, private financing, market demand etc) to remove barriers to the commercialisation of close-to-market research results in key technologies. The KET initiative is susceptible to help blossom a better understanding of the needs of strategic sectors at policy-making level and foster a long-term vision to manufacturing.

High-Level Group to steer the initiative

The Commission has created a 'High Level Group (HLG)' which will assist the EU in developing a shared long-term strategy and some concrete action plans for the industrial deployment of the identified KETs. The HLG is composed of industrial representatives, researchers, member state officers, the European Bank of Investment and a European federation. Mr. Eguren, Managing Director of Nicolas Correa and Vice-President of CECIMO, will represent the European Machine Tool sector in this group. The first meeting of the HLG is scheduled for July 2010.

How will the KET be implemented?

The European Commission in cooperation with member states will make use of a set of policy instruments. Research funding, EU financial instruments managed by the European Investment Bank, state aid, public procurement, financial levers and external policy tools will be fully mobilized to implement this initiative.

Moreover, the Communication highlights the need for a better coordination between policies and research programmes of member states to mobilize resources efficiently towards targeted areas. The Commission will work with Member States to identify and initiate a range of joint or common European research, demonstration and prototyping initiatives and infrastructures. ■

WEEE and RoHS Directives under revision

The recast of the Directive on Restriction of Hazardous Substances (RoHS) and the Waste of electrical and electronic (WEEE) Directive will affect industry globally; it applies to all electrical and electronic products put on the European market.

The RoHS directive needed to be revised in order to clarify the restriction of the use of certain hazardous substances in electrical and electronic equipment, to simplify implementation of the directive, to improve application at national level, and to make it more adaptable to scientific progress.

The MEPs will vote for the recast of the RoHS Directive during a plenary session in autumn this year. Prior to the vote, the Environmental Committee voted on 2nd June in favour of the exclusion from the scope of the future RoHS Directive of large scale stationary industrial tools, renewable energy generation, certain large-scale installations, material for military purposes and vehicles. . . Meanwhile, the MEPs voted for an “open scope” which implies that all electrical and

electronic equipment will be covered by the scope of the Directive, unless specifically excluded.

It is interesting that the majority of MEPs expect the European Commission to evaluate and decide whether further exclusions should be granted. Such exclusions would enter into force within a transitional period of 18 months after the recast of the RoHS Directive. Exclusions would be subject to a review in 2014. The EP believes that further impact assessments should be carried out for several substances such as PVC and halogenated flame retardants to name a few examples.

The Waste of electrical and electronic equipment (WEEE) directive is being revised due to several reasons: the lack of clarity about products covered by the scope of the directive and their categorisation, the unsatisfying proportion of collected waste versus uncollected waste, the collection rate, the lack of detailed enforcement requirements in the Directive to mention just

a few. The Environmental Committee will vote on the recast of the WEEE Directive on 22nd June, however, the plenary vote in Strasbourg will take place in September.

The compromised amendments issued on 15th June propose to exclude the Large Scale Stationary Industrial Tools [LSSIT] from the scope of the WEEE Directive. One of these amendments explains that “*they [LSSIT] are permanently installed and operated at a particular location, are assembled and disassembled by specialized personnel and therefore represent a controlled waste stream*”.

CECIMO welcomes the position of the Environmental Committee reflecting that machine tools never end up in a common stream and that additional regulation is not necessary. *If the European Parliament approves the compromised amendments, there is much chance that the machine tool industry will not have to comply with either the RoHS directive or the WEEE directive.* ■

Energy efficiency for future machine tools

In 2009, CECIMO decided to build up a common vision for energy-efficiency and define standards for the design and development of eco-friendly machine tools: the CECIMO Self-Regulatory Initiative. The initiative has been prompted mainly by the EU's Ecodesign legislation on energy-related products (2009/125/EC), the Ecodesign directive.

A voluntary approach to ecodesign

CECIMO SRI is aimed at finding a standard methodology to synchronise information on the ecological performance of machine tools, whilst ensuring compliance with the new EU legislation. The final objective of the initiative is to complete the voluntary agreement proposed to the European Commission last year as an alternative to regulation under the Ecodesign directive.

Industry-led solutions for energy- and resource- efficiency give the necessary flexibility to industry to easily adjust itself to rapid technological innovations and global competitive pressures, whilst ensuring maximum environmental protection. The CECIMO SRI demonstrates efforts of the European MT industry to improve the energy-efficiency of their products on a voluntary basis.

The state of play

The CECIMO Self-Regulatory Initiative (SRI) is elaborated by the CECIMO Working Groups composed of representatives from CECIMO member associations and experts from the European MT industry. The SRI seeks the most practical and efficient method to evaluate the energy improvement potentials of machine tools which will apply across Europe.

The CECIMO SRI is conducted in a transparent fashion and remains open to input from all interested European stakeholders. Information on the initiative is diffused to the public via the CECIMO website, leaflets and dissemination activities at major MT shows.

CECIMO SRI concept

The SRI is based on a modular concept. The modular approach ensures that the energy potential of individual machine tool modules is taken into account before the total energy efficiency identification is calculated. The concept allows each individual machine tool manufacturer to calculate the environmental improvements of their products without having the necessity to compare with a MT of a competitor. The environmental improvement of a MT can be described as

the improvement achieved in the energy consumption of a machine tool after the implementation of one of the environmentally-friendly solutions described in the SRI concept.

Several operations in the production scenarios (eg. standby mode) are taken into account in order to identify the most efficient machines. Moreover, the large number of industry experts involved in the study ensures that all factors in machine tool technologies are evaluated.

European Commission study

Parallel to the CECIMO SRI, the Fraunhofer Institute for Reliability and Microintegration (IZM) and Fraunhofer Institute for Production Systems and Design Technology (IPK) are conducting a study on machine tools mandated by the EC .

The study starts by the classification of MT. The final objective is to identify and recommend ways to improve the environmental performance of MT throughout their life-cycle.

Based on the final results of the study, the European Commission will evaluate different options including self-regulation and mandatory requirements for the implementation of the Ecodesign legislation. ■

The EU, CECIMO and India

EU-India FTA to boost European exports

India is CECIMO's fourth biggest client behind China, the US and Russia, with sales amounting to €450 million in 2009. India offers large opportunities for CECIMO since the country needs to import 60% of its consumption of machine tools. CECIMO is by far the first supplier of machine tools to India. Despite a rising rupee that made imports more expensive recently, CECIMO is confident that European exports will grow in 2010, prompted by a more favourable euro.

CECIMO's trade volume with India could nevertheless be higher, if access to the Indian market were facilitated for European machine tools. Even though machine tools benefit from low duty on imports,

machine tool builders face non-tariff barriers, including a licensing system as well as some heavy administrative and customs procedures.



Standards: Key to Market Access

Standards facilitate the exchange of goods and services by eliminating technical barriers. They help European machine tools to reach other markets at lower development and testing costs. Therefore, on behalf of European machine tool manufacturers, CECIMO pleads to the European Commission for better access to information on Indian standards and the standardisation system and for a convergence between European, international and Indian standards.

The involvement of India in international standardisation activities does not match its weight in the world trade of machine tools. Although India is present in the subcommittee dealing with machine tool testing as a "participating member", its presence on other subcommittees is limited to an "observer" status, and so is unable to comment.

European Standardisation Expert for India

The European Standards Organisations (the ESOs), CEN, CENELEC and ETSI have recognized the importance of the economic, political and social changes in interaction between Asia and Europe. They have decided to look for opportunities to open up further dialogue with key partners in different countries, such as India. Following the successful project of the Seconded European Standardisation Expert in China, supported by EC and EFTA, a similar position is being established in India.

The European standardisation expert appointed to India will have the task of increasing visibility of the European standardisation system and promote the use of European and international standards.

The project will allow the European standardisation organisations to better identify the standardisation system and structure in India and acquire access to information on the key organisations and ministries in charge of standardisation issues in the country. The identification of new possible partners for European standardisation organizations will help improve the dialogue between the EU and India in this area. The European Standardisation expert will also give advice on trade related issues and on how to facilitate market access to India.

CECIMO expects the reports to be produced by the Standardisation expert to include comprehensive information on the Indian market and to identify needs and potential areas for standardization. CECIMO will be introduced to the Seconded European Standardisation Expert in India during his training provided by CEN in June and will communicate key messages.

EU- India Dialogue in Research

The EU and India have been holding annual summits for a few years, and their cooperation goes beyond trade. In the research field, India is for instance the third largest recipient of R&D projects funded under the EU Seventh Framework Programme (2007-2013). The European Commission and India have also recently launched a €10 Million joint call (€5 million from each side) for proposals for research in the field of solar energy. The mobility of researchers between India and the EU is also a promising field for cooperation and should be further improved. ■

EU Market Access Database

Market Access is a key pillar of the EU's Trade Policy which aims to reduce the obstacles faced by European exporters of goods and services. The Market Access Database (www.mkacddb.eu.int) is a free, interactive, easy-to-use service providing information to exporters on tariff and non-tariff barriers per country and per product. It also contains a complaint register in order to track possible infringements to the international WTO trade agreements.

High Precision Manufacturing Technologies

The integ-micro project was launched in 2008 and aims to develop high precision manufacturing technologies for the production of complex 3D micro-devices. CECIMO interviews one of the research partners, Professor David Allen of Cranfield University in the UK, about his research on the development of a compact micro-machining system.



Professor Allen, Cranfield University is one of the important institutions in the UK known for its research in the precision sector. Can you tell us about your activities at Cranfield (technologies you specialize in, your cooperation with industry etc)?

I am the Professor of Microengineering within the Precision Engineering Centre of Cranfield University, UK. Cranfield is the only totally post-graduate University in the UK and, as such, my activities have centred on research into microengineering manufacturing techniques such as photochemical machining, electrochemical micromachining, micro electrodischarge machining, CNC micromachining and single point diamond micromachining.

In recent years, I have been working on two large projects; the UK EPSRC Grand Challenge 3D-Mintegration (£9.4m) project that finished in March 2010 and the 4-year EC FP7 Integ-micro project that commenced in October 2008. Both projects have involved considerable collaboration with both industry and other universities.

In the Integ-Micro project, Cranfield University is working with a group of Integ-Micro partners on the development of a compact 5 axis ultra-precision diamond machining centre. What are the characteristics of this machine?

The compact 5-axis machine is being designed for diamond turning, fly cutting, milling and super-abrasive machining. It will be capable of producing component parts $50 \times 50 \times 50\text{mm}^3$ with nanometre surface roughness and sub-micrometre size/form accuracy. It relies heavily on the application of novel air bearing technologies offering spindle speeds > 250,000 rpm.

What is the state-of-the-art in ultra-precision diamond machining at micro level? And what is the breakthrough that Integ-Micro aims to achieve?

Many micro machining processes such as micro-EDM leave a "rough" machined surface on the product. In precision engineering, single point diamond machining has often been used to produce superb polished surfaces on large optical components, but the technique

has been almost ignored in microengineering for manufacturing miniature components. The newly-designed machine hopes to exploit this new concept for the production of surface-specific miniature components.

Which industries will benefit from your research results? How do you plan to translate the research results into the market?

The industries that we have targeted to date include the watch-making and laser fusion energy industries. These industries require many small components with exacting surface finish specifications. Other components could be used in instrument manufacturing and biomedical engineering devices. There is an industrial need for miniature precision components with special surface finish requirements that is currently not being met.

Industrialists will be very keen to acquire a small-footprint, environment-friendly, CNC machine capable of both high precision and nanometre surface finish.

You cooperate with machine tool companies in European research projects. Can you tell us about your experience? What do you think is the added value offered to machine tool companies by these projects?

We have been involved in an excellent collaboration with our Integ-micro partners; the machine tool company, KERN, and the high-speed spindle developers, WESTWIND. We have tested the feasibility of high-speed diamond machining as part of the Integ-micro project and we have been pleased with the results obtained. These results will be published soon and will benefit our industrial partners working within Integ-micro as commercial exploitation of the technology will follow. ■

Integ-micro is funded by the European Commission under FP7 and coordinated by Scuola Superiore Sant'Anna. CECIMO is responsible for disseminating project results. Visit: www.integ-micro.eu/

Integ-μ

To find out more about European research programmes visit:
www.cecimo.eu/index.php/machine-tools/european-research.html

The Federation for the Technology Industry



Agoria is Belgium's largest employers' organisation and trade association which represents and helps more than 1,600 companies in the technology industry. Manufacturers and importers of machine tools and automation equipment are also represented within Agoria. The Machine Tool Group within Agoria embodies nearly 60 members.

Agoria maintains close relationships with CECIMO, the European Association of the Machine Tool Industries and CELIMO, the European Association of Importers of Machine Tools. By doing so, Agoria can inform its members quickly about technical and economic developments.

The Belgian Machine Tool Industry

There are 15 companies specialising in the manufacture of machine tools in Belgium. These companies have around 1000 employees. They export 67% of their production.

In 2009, the Belgian machine tool production was worth 277 million Euros, following a 26% drop with respect to 2008. The main export destinations were Germany, France, Italy, the Netherlands and the UK.

An interface between research and businesses


Agoria is the initiator of different innovation networks like Flanders Mechatronics and the Walloon cluster Mitech. Moreover, it coordinated the European coordination action Eumecha Pro which resulted in the creation of a roadmap: "European Mechatronics for a New Generation of Production Systems".

Agoria is the coordinator of the Belgian Manufacture platform and is also involved in EFFRA (European Factories of the Future Research Association), a European Association which is dedicated to putting the "Factories of the Future" initiative of the European Commission into practice. "Factories of the Future" is a PPP focused on manufacturing technologies in a broader concept, including machine and component manufacturers, users, integrators, etc.

Other parties that support the sector in their innovation process are:



Sirris, the collective research centre for the technological industry in Belgium. The mission of Sirris is to support its members in order to increase their competitive position on the international market through technological innovation. The organization carries out applied research and development in close cooperation with industry. This research centre was founded in 1949 by Agoria to support its member companies with their technological innovation.



The mechanical engineering department of the Catholic University of Leuven performs research in the field of production technologies and mechatronics and works closely with Sirris.



FMTC (Flanders' Mechatronics Technology Centre) was founded by Agoria and leading mechatronic companies in Flanders. The mission of FMTC is to jointly develop new generic mechatronic competences and technologies and improve the existing ones to strengthen the competitive edge of its member companies. To achieve its mission, the centre conducts industry-driven joint projects and contract projects in the following research clusters: ecological machines, flexible machines and intelligent machines.

Message from Agoria

Mr Peter Perremans of Agoria says "The machine tool industry was hit hard by the global economic crisis. Last year, production declined by up to 30 percent. Some companies suffered a reduction of 50% in production and sales. We have to maintain a competitive machine tool industry in Europe because as manufacturer of machines and production equipment, the sector is responsible for the performance of all industrial enterprises. The machine tool industry is a key element to sustaining the manufacturing activity in Belgium.

Agoria proposes five solutions: accelerated deduction of investments, export subsidies and improved credit insurance, investment aid for green machines, temporary secondment of R&D personnel at universities and research institutions and reduction of R&D costs." ■

Agoria's activities

Agoria supports its members of the machine tool sector in:

- Developing their international expansion strategy
- Developing a technology leadership in mechatronics
- Searching for new market segments
- World class manufacturing in a high cost country such as Belgium
- Defending their interests and assisting them with the implementation of new regulations and standards

Statistical Toolbox: Forecast the future

Updated monthly, this statistical toolbox aims to help companies forecast their activity based on macro-economic cycles. A series of macro-economic and financial indicators that are benchmarked to the quarterly machine tool orders in 8 CECIMO countries provides an overview of the performance metrics of the European Machine Tool sector.

Keep up to date with machine tool business cycles, visit www.cecimo.eu



Ecodesign: CECIMO Self Regulatory Initiative

The Ecodesign Directive of the European Parliament and Council sets the framework for adopting EU-wide measures to improve the design of machine tools. CECIMO's Self Regulatory Initiative offers a flexible, rapid and cost-effective way to reach the environmental performance targets laid down in the Ecodesign Directive.

For more information on SRI, useful links, and how to get involved, visit www.cecimo.eu/index.php/ecodesign-eup/welcome.html

Dates for your diary...

IMTS International General Managers' Meeting
15 September, Chicago

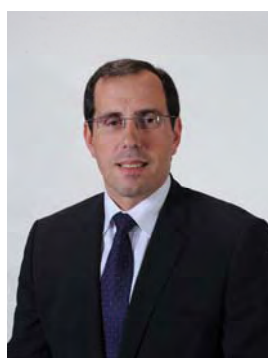
CECIMO Energy Efficiency Working Group
22 September, Prague

CECIMO Technical Manager's Meeting
23 September, Prague

CECIMO General Managers' Meeting
14 October, Spain

CECIMO General Assembly
26 – 27 November, Milan

New Delegates in CECIMO



Mr. Yves Valentin
French Delegate
General Manager
Forest-Line Albert



Mr. Hans Hellgren
Swedish Delegate
General Manager
SECO Nordic



Mr. Norbert Jungreithmayr
Austrian Delegate
Managing Director
WFL Millturn Technologies
GmbH & Co. KG



Mr. Selcuk Baydar
Turkish Delegate
General Manager
EAE Makina A.S.

CECIMO Member Associations



cecimo

Where manufacturing begins

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Belgium: AGORIA

Federatie van de Technologische Industrie

Czech Republic: SST

Svazu Strojírenské Technologie

Denmark: FDVV

Foreningen af Vaerktoejs- og Vaerktoejsmaskinfabrikanter

Finland

Federation of Finnish Technology Industries

France: SYMOP

Syndicat des Entreprises de Technologies de Production

Germany: VDW

Verein Deutscher Werkzeugmaschinenfabriken e.V.

Italy: UCIMU-SISTEMI PER PRODURRE

Associazione dei costruttori Italiani di macchine utensili robot e automazione

Netherlands: VIMAG

Federatie Productie Technologie / Sectie VIMAG

Portugal: AIMMAP

Associação dos Industriais Metalúrgicos, Metalomecânicos e Afins de Portugal

Spain: AFM

Asociación Española de Fabricantes de Maquinas-Herramienta

Sweden: FVM

Föreningen Svenska Verktygs- och Verktygsmaskintillverkare

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Die Schweizer Maschinen-, Elektro- und Metall-Industrie

Turkey: MIB

Makina Imalatçilari Birliği

United Kingdom: MTA

The Manufacturing Technologies Association

cecimo is the European Association representing the common interests of the European Machine Tool Industries. We represent 15 National Associations representing over 1600 industrial enterprises in Europe, 80% of which are SMEs. Innovation and R&D are high on our agenda to promote the development of the industry in the fields of economy, technology and science.