The future of the European industrial base in the new global era

- Successful strategies for global competition
- SPECIAL REPORT ON BRAZIL
  The machine tool market, EU-Brazil relations and more...
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The European Association of the Machine Tool Industries
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Dear Readers,

Europe is enjoying a sharp rise in machine tool orders which is driven by a strong demand in third markets and the output is forecast to grow by 20% in 2011. As European machine tool production is climbing to pre-crisis levels, Europe is consolidating its position as the world’s leading machine tool manufacturer on the cutting edge of technology.

Nevertheless, today, global markets are more challenging than ever. The geographical shift eastward in machine tool markets has been a salient trend over the past decade. At the turn of the new century, Europe and the Americas accounted for three quarters of the world machine tool consumption. However, since then Asian consumption has experienced a spectacular growth and the Asian share has increased from one quarter to more than two-thirds of the world consumption today. The weight of the BRIC countries, especially that of China, is increasing in the machine tool business, a trend which is in line with the rapid industrialization process they are going through.

This situation suggests that European machine tool manufacturers are faced with a two-fold challenge in the new global business environment. Firstly, they need to expand their reach to new emerging markets outside Europe. This requires them to adapt their products to local demands and establish an effective distribution and services network to serve customers. Small and medium-sized companies, which constitute the majority of machine tool manufacturers in Europe, are likely to hit cost barriers as well as market entry barriers whilst they strive to internationalize.

Secondly, European manufacturers are exposed to fiercer competition in third markets deriving from an increasingly strengthening domestic manufacturing base and/or competitive manufacturers in the near neighbourhood, especially in Asia. Geographical distance to markets may easily turn into a disadvantage for European companies. The strength of the European machine tool industry is built on its ability to provide engineered, customized solutions. Manufacturers which are far from customers face difficulties in understanding changing customer needs and they miss out on opportunities to co-operate in joint technology development.

As President Barroso highlighted in his message to the last CECIMO General Assembly in Porto, the machine tool industry is a ‘key enabling sector’ and the driver of industrial competitiveness in virtually all sectors. Indeed, every industrializing country is keen on acquiring domestic capability to produce machine tools. Competitive pressures on the European machine tool industry are likely to increase further in the foreseeable future. European manufacturers need to penetrate new growth markets and secure their market share to be able to finance their innovations. Europe should maintain its leadership position in this strategic sector.

We continue to discuss ‘market access’ and ‘global competitiveness’ in this issue of the CECIMO magazine, hoping that it will provide food for thought both for policy-makers and businesses. This time Brazil is in the spotlight.

Filip Geerts, Director General
In the aftermath of the global economic meltdown, entry into emerging markets is a high priority for European machine tool manufacturers as consumption remains sluggish in the domestic markets. Machine tool builders from fifteen European countries met at the CECIMO General Assembly in Porto, on 4-7 June, to discuss global competitiveness, South America, Brazil and more.

What lies ahead for the European machine tool industry in Brazil?

Recognized as one of the four up-and-coming global economic superpowers, Brazil is forecasted to expand by another 4.5% in 2011, following on from last year’s 8% growth in GDP. As the largest and most dynamic economy in South America, Brazil stands out as an important destination for European exports.

“We see Brazil as a strategic partner and we want to further improve relations through trade, investment, business partnerships and technology transfer”

[Michael Hauser, President of CECIMO and CEO of TORNOS Group]

General Assembly, Mr Pinto’s company exports to Brazil and he says that soon they will be ready to tap investment opportunities.

During the meetings, distinguished guest speakers Mr. André Luis Romi, Legal Corporate and Institutional Relations Manager of Industrias Romi SA; Ambassador Carlos Augusto R. Santos-Neves, Consul General of Brazil in Porto; Professor Jorge Braga de Macedo of the Nova University and ex-finance minister and Mr. Adriano Aureli, Vice President of SCM Group delivered speeches. They delved deep into the Brazilian machine tool market.

The main conclusion of the session was that a strong local currency and the need to satisfy a high installed manufacturing capacity (such as in automotive industry) provide positive prospects for machine tool companies which want to export to Brazil. It was concluded that the rising star of
South America is positioned as a strategic manufacturing base backed by a secure energy and raw material supply, which makes it an attractive location also for investments.

**Smoothing out barriers to trade and investments**

During the workshops at the General Assembly, some machine tool companies raised concerns about high duties applied on machine imports which are produced domestically in Brazil. Market access is further complicated due to a complex taxation system and an import licenses regime, European exporters complain. A striking allegation on the subject was that some Brazil-based foreign manufacturing companies lobby the government to raise barriers to market access for importers to protect their market share.

Michael Hauser, CECIMO President, commented on the issue by saying “Currently, business is running pretty smoothly between Brazil and Europe. More than half of Brazilian machine tool imports come from the EU whereas Europe is the second biggest market for Brazilian machine tool exports. However, protectionism is a threat to the future of this fruitful exchange.” He stated that the European industry sees Brazil as a strategic partner and wants to further improve relations through trade, investment, business partnerships and technology transfer. President Hauser thinks that governments have an important role to play to this end. “We want government authorities to devise policies to promote business and cooperation, and we hope that they will remain indifferent to adverse suggestions.”, he said.

Frank Brinken, chairman of CECIMO’s Economic Committee stressed that he understands Brazil’s legitimate ambitions to develop the domestic industry; however, he thinks that protectionism is not the right way to reach this goal. “Our machines contribute to building a modern competitive Brazilian economy. Machine tools are the major driver of productivity in virtually all industrial sectors. Free trade is all about mutual benefits. Putting obstacles to trade with the rest of the world could hamper European exports and slow down the development of the economy in Brazil. Why should we both lose whilst we both have chance to win at the same time?” he affirmed. Mr. Brinken added that he sees the EU - Mercosur free trade negotiations as an opportunity to prepare the framework for developing economic relations between Europe and Brazil in an open, free and fair trade environment.

**Machine tools are a key enabling sector**

José Manuel Barroso, President of the European Commission, addressed the CECIMO Spring General Assembly through a video message. President Barroso stated that the Europe 2020 Strategy for smart, sustainable and inclusive growth, which addresses industry directly, has introduced a new approach to innovation. Recognizing the ‘key enabling’ role of the machine tool industry for Europe, he stated: “Innovation is key for the competitiveness and the development of Europe’s machine tool industry which, in turn, enables Europe’s manufacturing industry to reboot”. “As a major exporting sector, the machine tools industry will profit from our international trade negotiations aimed at easier access to foreign and the newly emerging markets”, he said.

Highlighting the role of industrial associations in tackling Europe’s unprecedented challenges, President Barroso stated that “CECIMO is vital for the strategic direction of a key enabling sector in Europe and its leading positioning at global level”. He underlined that he is aware of the importance of the machine tool industry for Europe and he encouraged European machine tool builders to stay ahead of competitors by investing their energy in measures which will boost their global competitiveness.

“**Free trade is all about mutual benefits**. **Our machines contribute to building a modern competitive Brazilian economy.**”

[Jose Manuel Barroso, President of the European Commission]

[Frank Brinken, Chairman of CECIMO’s Economic Committee and CEO of StarragHeckert Group]
Machine tool industry and the new global challenges

The machine tool industry is a cyclical business and downturns are inherent to the sector. However, the last economic downturn was an earthquake for European manufacturers as it resulted in the collapse of order intake. The European machine tool industry is now rapidly climbing out of the doldrums. Nevertheless, the new global business environment is an important challenge to its competitiveness. CECIMO interviewed Mr. Jan Klingelnberg, CEO of Klingelnberg AG, about the new global challenges to the sector and how Europe should respond to them.
CECIMO: Mr. Klingelnberg, what is the situation in the MT industry after the economic meltdown?

J.K: Following a shock drop in orders during 2008-2009, the European machine tool industry is back on the growth track. However, some structural changes have occurred in markets. One of them is the shift of machine tool consumption towards emerging markets, especially towards East Asia. This is followed by a shift of production as domestic producers have ramped up production to meet increasing demand in these countries. Another important trend is the diversification of markets. Globalisation is accompanied by a regionalization trend, meaning that you cannot sell a product, which has been designed for the European market with the same technical features in China or Brazil. Local customers needs vary. This is also to a large extent due to divergences in government regulations related to health, safety and the environment.

CECIMO: How has the competitiveness of the MT industry been affected by the structural changes in markets?

J.K: If you look at production figures, you can see that Europe’s share in global machine tool production has dropped by almost 25% during the recession, falling to 33% in 2010. This is a significant lost. Nevertheless, it does not mean that there is a proportional loss of competitiveness. While Asia was able to go quickly out of the recession and kept growing over 2009, Europe’s output shrunk substantially. This is attributable to Europe’s specialization on highly advanced and customized manufacturing systems unlike Asia which is more oriented towards series production. Nonetheless the shift in consumption of machine tools to Asia is a reality and impacts on European sales.

Co-design and cooperation with customers are an intrinsic part of supplier-customer relations in our industry, especially in the design of customized machines. Geographical distance stands out as a barrier to the usual way business has been done up to present. There is also another layer of portfolio which has become apparent in recent years. European products which are highly technological and complex overshoot the technical requirements of customers in developing Asian countries. The growing domestic market demand in China is satisfied by domestically produced mid-range machines which can do some basic machining operations. Lastly, European SMEs are missing out on some opportunities in third countries as they lack capacity and resources to penetrate geographically and culturally remote markets. Additional obstacles stem from protectionist measures affecting trade flows.

CECIMO: With a 33% share in global production, Europe is the world’s biggest manufacturing base for machine tools. What are Europe’s strengths and how could they be used to respond to new challenges?

J.K: European manufacturers have a clear advantage vis-à-vis competitors given the strength of their products in terms of productivity, precision, accuracy, quality, reliability. They also provide superior cost of ownership. European machine tool builders offer production and application solutions rather than standard machines. This service ability is a major strength in relation to competitors. In the face of globalisation, European companies will need to open up to new markets and they need to maintain the same service quality in third markets. This requires setting up a global services network and developing relations with new customers and partners in third countries. European machine tool builders need to understand the new markets and learn to cope with cultural differences. As well as new product and process development, they will need to invest a substantial amount of resources in marketing, branding, managerial and business organization. This will be particularly challenging for SMEs.

CECIMO: If you were asked to provide a roadmap for Europe to maintain the competitiveness of the machine tool industry, what would the key actions in your list be?

J.K: For manufacturers, my recommendations would be to invest in innovation to tap new avenues of business opportunities well in advance of competitors, for example in energy- and resource-efficient technologies, new materials and new applications. The EU and national governments should support this process by adopting an industry-driven and market-oriented approach to research funding. This is necessary to unleash our innovation potential and to make an impact on economic growth and grand challenges. I would recommend all public and private actors to pay special attention to the protection of know-how. Intellectual property is a strategic asset of the European machine tool industry as products have a high knowledge content. Finally, innovative SMEs need new markets to sell their new products. Governments need to step up efforts to facilitate market access for SMEs.

“European manufacturers have a clear advantage vis-à-vis competitors given the strength of their products in terms of productivity, precision, accuracy, quality, reliability. They have a high service ability and provide superior cost of ownership.”

Klingelnberg AG was founded in 1863. The company has three product lines: bevel gear machinery, gear measuring machines and high quality bevel gears. Klingelnberg AG has more than 1000 employees and generates annual sales of around 200 million Euros.
European machine tool industry: fastest runner on a rocky road

Geographical shift of consumption continues

The European machine tool industry is among the most export-oriented industries in Europe. Last year’s statistics show that on average every three out of four machine tools produced in a CECIMO country was shipped abroad. Half of the total CECIMO production was sold in 2010 outside the block of 15 countries.

Export is an everyday job for the European machine tool builders. In order to be able to compete on the overseas markets they have to deal with customs procedures and different regulations in the destination countries. The complexity of these administrative obstacles sometimes effectively keeps the small and medium size European producers outside the market concerned, even though their product may be the best available.

Bumpy road for global markets

During the CECIMO General Assembly, which took place in Porto in Portugal in June this year, machine tool producers identified several trade and market access barriers. A complicated customs system in Russia, burdensome certification requirements in China and Argentina, and import licences in Brazil are only a few mentioned during the meeting.

Trade obstacles are not limited to customs. Once sold, the machine requires after sales services. Only qualified personnel can assure this. In India, China or even in the US the visa regime is burdensome and in some cases effectively prevents Europeans from serving their customers properly.

Trade agreements and market access

The European Commission recognizes the problem and is pushing through bilateral trade agreements with several trading partners. This seems to be the only way for trade facilitation in the third markets, since the multilateral trade negotiations are stuck. Additionally Europe’s major competitors in Asia have recently signed free trade agreements with emerging countries, which gave them important comparative advantages in market access.

Access to third markets is a top priority for European manufacturing and in particular for machine tool builders. The negotiations with our trading partners are slow, partly because Europe is huge and the decision-making system is complex. Trade negotiations should be focused solely on trade and trade related issues. Mushrooming the exchange of goods and services is the foundation on which the other aspects of the cooperation are fostered.

Industry asks for free and fair trade

Signing a Free Trade Agreement with India will ensure the elimination of duties and non tariff barriers, which will be a great success of the European Union. India is a huge and growing market and the pact will certainly be mutually beneficial. Nevertheless, ensuring market access for European goods and services in emerging countries is usually a lengthy and painful process for the EU. Why?

On one hand Europe, as the biggest trading block in the world, is very open to foreign suppliers. The import regime is clear, duties are low; nothing is left to offer in exchange for opening the third markets. On the other hand, the regulation that exists in Europe is poorly enforced. Taking machine tools as an example, while European machines wait in a customs warehouse in Asia for certificates, Asian machines are flowing into Europe, even though at times they do not conform to European regulations and are dangerous when in use.

An uneven playing field is a consequence of generally higher conformity requirements in Europe than in other regions alongside weak market surveillance. Consequently, European machine tool builders are put at a disadvantage. Yet quality, performance and technological excellence still keep Europe at the top of the list of the machine tool builders in the world.
Countdown to EMO Hannover 2011

EMO is the most important trade fair for metalworking across the globe. Exhibitors coming from five continents and customers from automotive aerospace, shipbuilding, railways, energy, general machinery and other industries, will meet this September in Hannover for the occasion of the 19th edition of the show.

A truly European and globally successful show

EMO is the world’s premier exhibition in metalworking technologies. Dating back to the 1950s when European machine tool builders under the umbrella of CECIMO came up with the common initiative to launch a European exhibition, EMO opened its doors to international exhibitors for the first time in 1975. Since then, the show has been an international showcase for innovations in machine tool technologies and a meeting point for the entire sector.

Positive economic prospects reflect on registrations

The current economic upturn which is on track in Europe and in the rest of the world is reflected in the European machine tool sector as a sharp increase in order intake and production. CECIMO output which is forecasted to exceed 20 billion euros in 2011, will get the industry one step closer to 2008 levels.

In line with these positive prospects in the markets, the rate of registrations is at a high level. Figures recorded in early June pointed out that the net exhibition space booked by a total number of 1929 companies had reached 171,128 square metres. This is close to the peak rate recorded in the last EMO prior to the global financial crisis.

EMO will host a roundtable discussion on EU policies

CECIMO is preparing to organize at EMO, the second edition of the “EU Day”, a roundtable discussion that takes place between industrialist and European decision-makers. The discussion topics include: raising skills for the European manufacturing industry, innovation and market surveillance within the context of fair competition.

Moreover, a guided tour organized by CECIMO will introduce EU officials to the latest innovations in the sector and will give them the chance to discuss about industrial needs and problems with manufacturers.

Mr. Jarmo Hyvonen, chairman of CECIMO’s EMO Working Group (CEO, Fastems AB) states “The collective ownership of the show is a major strength as it testifies that EMO is industry-driven.

CECIMO member associations ensure that views of machine tool builders across Europe are taken on board in the design of the event to best meet expectations of customers. Moreover, CECIMO maintains close relations with international associations in other regions of the world and makes sure that the global event also addresses local tastes.”

For more information about EMO, visit www.emo-hannover.de/

“EMO® is a registered trademark of CECIMO“
New Horizons for Brazil

Being one of the major emerging economies of the world within the BRICS Group, Brazil is an up-and-coming super power. The Brazilian economy is forecasted to expand by another 4.5% in 2011, following on from last year’s 8% growth in GDP. The government is heavily investing especially in infrastructure and industry to sustain this trend, which makes Brazil an attractive market and investment destination for European machine tool builders. A well-established Brazilian machine tool manufacturing base provides further opportunities for European companies which want to excel in strategic alliances, joint investments and technology transfer. Our two host authors provide a broad picture of economic developments in Brazil, the present situation and future of EU-Brazil relations and the Brazilian machine tool industry.
The strength of the Brazil-EU Relationship

When the 5th Brazil-EU Summit takes place in Brussels, next October, Brazilian and European leaders will be well positioned to renew a traditional and mature relationship that grows stronger every day. From education to energy, or from science and technology to industrial issues, cooperation between Brazil and the EU spans a wide and diversified range of topics. The multiplication of missions, meetings and contacts between our representatives, in different configurations and settings, has injected additional impetus into our relationship.

EU-Brazil trade is booming

The increasingly close cooperation between Brazil and the EU finds solid support in the healthy expanding flows of trade and investment between both sides. Taken together, the EU remains Brazil’s main trading partner. In 2010, Brazilian exports to the EU totalled US$ 43.1 billion, an increase of 26.7% from 2009. In the same year, Brazil imported US$ 39.1 billion of EU goods, a growth of 33.8% when compared to 2009. Industrial machinery and equipment are among the main products imported by Brazil from the European block. In the current year, bilateral trade flows have been equally dynamic. Brazilian exports to the EU grew by 31.4% in the first six months of 2011, reaching a record US$ 25.5 billion for this period. Imports from the EU added to an unprecedented US$ 21.4 billion in the same period, an increase of 22.2%.

FDI flows to reach a record level

Whereas European companies have been traditional investors in the Brazilian economy, a significant trend that has taken shape in recent years is the transformation of Brazil into an important source of direct investments in the EU. According to preliminary data, Brazilian companies invested € 3.77 billion in the EU area, in spite of the financial crisis of 2010. Total stocks of Brazilian investments in the EU reached € 56.30 billion in 2009 (the most recent data available). These numbers rank Brazil as the sixth biggest investor in the EU and the first among developing countries. Between 2006 and 2009, stocks of Brazilian FDI in the EU increased 280%, the highest rate among the main investors in the continent.

In 2010, EU companies invested € 6.21 billion in Brazil. In a period when outward EU FDI contracted in general, Brazil was the second most important destination for European FDI. The stocks of EU FDI in Brazil totalled € 132.21 billion in 2009, keeping the country as the fourth main destination of European FDI. In the first semester of 2011, overall flows of FDI to Brazil reached US$ 32.5 billion - an all time record – and, for the whole year, it is expected to reach US$ 55 billion.

Major Investments on the horizon

Infrastructure

Although European investments already have a strong presence in many different sectors of the Brazilian economy, future prospects look very positive. The Brazilian economy has been growing fast (7.5% in 2010 and a forecast above 4.0% in 2011), due to both domestic demand and export performance. All indications point to the sustainability of this trend in the years ahead. In addition to the overall performance of the economy, some specific factors will further enhance the attractiveness of Brazil as an investment destination. Brazil will organize the World Cup in 2014 and the Olympic Games in Rio de Janeiro in 2016. These two major events will require robust investments, in particular in the field of infrastructure, including telecommunications, energy and transportation.

Government programmes

Similarly important investment opportunities can be expected from the implementation of the second phase of the “Growth Acceleration Program”, launched by the Brazilian Federal Government in March 2010. The Program provides for investments estimated at US$ 542.6 billion for the period from 2011 to 2014. The sectors covered by this program are deemed instrumental for ensuring fast and sustainable growth. They include transportation, energy, sanitation, housing and water resources.

Oil and gas industries

Another area that is worthy of special attention from foreign investors is oil and gas. The findings in the pre-salt layer have spurred new investments in the Brazilian oil and gas industry. The combination of vast and unexplored potential resources of oil and natural gas, and a favorable regulatory structure, currently makes Brazil one of the world’s most attractive oil producers. It is estimated that US$ 320 billion in investments will be made in the oil and gas industry in Brazil by 2020.

EU–Brazil trade negotiations: slow but robust progress

Bilateral trade and investments will also be positively affected by the conclusion of the free trade negotiations between Mercosur and the EU. The future agreement will reshape the institutional framework of our relationship in the trade sector. Since the negotiating process was relaunched in May 2010, six technical meetings have taken place in a very constructive and pragmatic spirit. Up to now, negotiations have concentrated on the normative side of the future agreement and, in parallel, work has been carried out by the parties in preparation for an exchange of offers in market access. Although the challenges that lie ahead are significant, there is renewed confidence that a balanced and mutually beneficial agreement is within our reach.

The relationship between Brazil and the EU continues to show its strength. Our task is to build on what has already been achieved and to reinforce it even further. In this process investors, producers and exporters have a crucial role to play.
Brazil, still seeking for competitiveness

Despite the consistent evolution of the economy and its positive social consequences during the last decade, we cannot ignore that Brazil still upholds competitive indexes below those which should be adequate to support long-term sustainable growth which ends up hardly burdening local manufacturing. In addition, the country has an appreciation of about 40% of the Real (R$) currency exchange rate in the last two years, resulting in a deterioration of local competitiveness, which mainly impacts the manufacturing industry with adverse results for the machine tool sector. Therefore, we must continue to monitor the increase of local costs and exchange rate trends in order to make our plans for future growth.

A young machine tool industry

The machine tool industry in Brazil may be considered young compared to other pears. In 1972, the first machine tool assisted by NC - Numerical Control was produced in the country with local technology. Nowadays, a wide range of machine tools is still produced in the country, but to a lesser extent when compared with the past, mainly because local manufacturers have chosen to focus on specific ranges and types of machines to meet market demand.

On the technological side, the machine tool industry in Brazil is positioned in a solid middle range; the intermediate level of price, complete domain on mechatronics, highly trained technical staff, know-how and industry experience give autonomy to the local manufactures in the key fields and application. In addition, the country counts on a number of universities and research institutes to support the specific needs of the machine tools manufactures. But aside from this model, some companies add capacity and speed up the process of development through partnerships with leading companies abroad.

Machine tool production in Brazil is concentrated in the South and most southern part of the country, with about 85% of all production. There is no prevailing pattern of production structure going from more to less integrated, depending on the type of product, service and size of the company. Besides domestic manufacturers, European companies have manufacturing facilities on the Brazilian soil, German companies, for example, which began operations in the 60's were attracted by the nascent automotive industry and policies of import substitution in force at that time.

Brazil is in the world top 10

In 2010, the sector invoiced USD 837 million, placing it among the top ten producing countries in the world of machine tools. In recent years, around 15% to 20% of local production has been exported annually. Major export destinations were Germany (21%), France
CECIMO sales to Brazil jumped last year by over two thirds to over 400 million Euros. Brazil made up 5% of CECIMO exports in 2010 which placed the country at the fifth position on the list of the major exports destinations. At the same time machine tool imports from the country remain modest. From a Brazilian perspective CECIMO remains the most important source of machine tool purchases. Last year, over half of South American imports originated in Europe. The amount of imports from Europe to Brazil is five times more than the next importer on the list.

The vast majority of machine tools originating in Europe is subject to 14% import duty in Brazil. Brazilian machine tools enjoy preferential treatment in Europe and are exempt from duties.
In the future, products will be different in all sectors and will have to demonstrate three major features. They will have to guarantee better performance, cost less and be eco-compatible. Forms of distribution and marketing will also change.

Small companies will be forced to join together if they wish to achieve a stable market presence. They will need to develop R&D projects, produce and purchase components and develop other activities to reduce costs. They will also have to develop attack and defence strategies in the face of up-and-coming manufacturers who are larger than themselves.

Globalisation calls for revisiting business strategies

In Europe there are approximately 800 woodworking machine manufacturers of whom only 4 are large companies. This means that size may also become a limit in terms of competition and globalisation. China has become the 3rd largest producer worldwide and today this is seen by many as a threat. I would like to remind you that in the 1980s it looked as if Japan would sweep aside its European competitors, but this did not happen. The European markets have been challenged many times but they have always reacted in the right way and overcome global competition.

The situation in China is already changing. The cost of labour has risen by 15-20%, and these workers are currently demanding higher safety standards and more respect for the environment. Moreover, the lack of a specialized work force has pushed companies to install “automated production lines” and this is currently reducing the country’s cheap labour advantage. That said, to pull out of this recession, European companies must use their leverage to the full in the six areas they excel in; namely, advanced technology, know-how, reliability, safety, experience and efficiency.

They must also bring into play a series of strategies to ensure they are competitive. One of these is to launch production for the local market in the BRIC countries. Take for example, the Scm Group’s takeover of Brazil’s leading woodworking machine manufacturer. Today this company has 223 employees, 50 of whom speak Italian. The factory has grown from 7 to 12000m², turnover in the last two years has increased by 40%, and now our target there is to double this in terms of both local production and imports. This takeover is the group’s eighteenth since its first in 1985.

Innovation enables you to set the trend

In 2010 the Scm Group also launched a total “Reengineering” process. As demonstrated by Jack Welch at General Electric, “Reengineering” means redesigning and producing products that are more reliable, guaranteeing better performance and costing less. This is what Gemmani did at Scm in the 1960s. He developed concepts that revolutionised the
construction of classic machines in a way that still leads the field today. Scm was the first company in the woodworking machine sector to adopt modular components and mass production and the group’s innovations have always set new benchmarks for the sector to follow. The first CNC working centre was produced in 1975 and the first 90 controlled axes, window production line in 1982.

In 2010 the Scm Group created its latest generation of work centres by adopting the engineering of platforms formed by functional modules and by implementing a PLM (product lifecycle management) system to manage and classify documents, product technical information and components, providing at the same time know-how shared amongst design, production, after sales service and purchase departments. And we are already noting the results! One example for everyone is the electro-spindle where we have succeeded in reducing components by 30%, increasing performance from 18 to 24,000 revs and lengthening average lifespan from 2 to 6000 hours.

Build future with a rich knowledge base

All this is the result of 40 million euros invested in the development of new products and processes and the concentration of existing production plants with increased efficiency and lower costs thanks to the adoption of lean production principles. This operation has enabled us to establish the largest production plant for the production of woodworking machine components in the world while at the same time reducing overall production areas by 60,000m². We have also invested in employee training schemes, in IT, in reorganised distribution and empowered marketing.

Our success is founded on know-how, expert customer management processes, imaginative thinking, and the desire and “courage to change the rules”. The Scm Group has shown that we can be competitive in a global market. In the past we have always accepted the challenge and won, and now, the future is in our hands!

“European companies must use their leverage to the full in the six areas they excel in; namely advanced technology, know-how, reliability, safety, experience and efficiency.” [Adriano Aureli, Vice-President of the SCM Group]
Better market surveillance for fair competition!

Effective, uniform enforcement of EU directives holds the most important key to establishing confidence in the Internal Market and to boosting industry’s competitiveness and development.

The establishment of an internal market based upon the free movement of goods critically depends upon an adequate level of technical harmonization. The New Approach, since its introduction in 1985, has provided a flexible and effective regulatory framework for the accomplishment of the Internal Market by helping eliminate obstacles to trade between member states.

Market surveillance is an essential tool for the enforcement of New Approach directives. The purpose of market surveillance is to ensure that the provisions of applicable directives are complied with across the EU. Effective and uniform enforcement allows users to enjoy an equivalent level of protection and safety throughout the single market, regardless of the origin of the product. Moreover, market surveillance is important for the interest of economic operators, because it helps to eliminate unfair competition.

New market conditions call for changes in enforcement regime

The enforcement regime for EU directives has been largely challenged by changing global market conditions over the last decade. Today, the imports of industrial products which flood into the internal market is much bigger in volume than what it was a decade ago; supply chains are increasingly globalized and competition at the international level is much fiercer.

Against this background, market surveillance in the EU remains weak when it comes to imports. Non-compliant industrial goods can easily enter the single market in the absence of comprehensive compliance checks on the borders. Moreover, weak cooperation between different member state authorities makes it difficult to identify and track non-conforming import goods in Europe once they cross the border. Capital goods, in particular, have suffered thus far from a lack of attention, especially when compared to consumer goods which are monitored under a Europe-wide rapid alert system.

Machinery which is destined for the European market have to comply with an increasing number of regulations which have an important impact on cost structures. If manufacturers based outside Europe attempt to escape fulfilling essential requirements laid down in EU directives, this can be an easy way to acquire a cost advantage over competitors in the absence of effective enforcement regimes. Therefore, the failure to prevent the entry of non-compliant products in Europe ironically penalizes European manufacturers who play by the rules, by leaving them exposed to unfair competition.

For competitiveness, workplace safety and jobs

The Europe 2020 Strategy calls for an integrated industry policy which will contribute to the competitiveness of the European industry in the face of globalisation. Capital goods, especially machinery, underpin the competitiveness and the efficiency of the entire manufacturing industry. Establishing an effective market surveillance system should, therefore, be an integral part of the new industrial policy given its role in creating a level playing field. Competition based on quality and performance is key to stimulate innovation in the European machinery industry and to boost competitiveness.

Non-compliant products threaten to diminish a high level of safety
The machine tool industry is aware that improving the enforcement of EU regulations requires more than rules-making and the enforcement of rules. Equally important is raising awareness about the use and meaning of CE marking among market operators and government enforcement authorities. Therefore, CECIMO has recently embarked on an initiative to increase and improve the information available to public and private stakeholders about the application of CE marking on machine tools. CECIMO has published the first guide on CE marking for band-sawing machines. Dag Jacobson, Chairman of the CECIMO Technical Committee, answered our questions about the initiative.

CECIMO: Mr. Jacobson, can you explain us the motivation behind this initiative?

DJ: CECIMO believes that industry has a role to play in ensuring the effective enforcement of internal market legislations. Therefore, we have set out to develop guidelines designed to help economic operators and public authorities to verify that the machines which they purchase, sell or check at customs comply with essential health, safety and environmental requirements laid down in EU directives. We have started by preparing a guide on the band-sawing machine as it is one of the most common products on the market.

CECIMO: Can manufacturers make use of these guidelines for affixing CE marking on their products?

DJ: No, these guidelines do not provide instructions on how to comply with EU directives. They provide a quick check-list to verify the conformity of products to EU directives and standards which apply to them.

CECIMO: Can you give us an example?

DJ: The CE marking guide for band-sawing machines will allow, for example, to verify the validity of the declaration of conformity and CE marking; to check whether instructions and warnings are correctly fixed and if the machine is equipped with the necessary safety components (e.g. emergency stop, guarding systems etc) as laid down in harmonized standards.

CECIMO: What do you think will be the impact of this guide on business and society?

DJ: Our guides will help close a knowledge gap by providing private and public stakeholders with product-specific information on CE marking. They will help consumers of machine tools make conscious choices in their purchases. We aim to help increase the awareness and knowledge of economic operators about the correct application of CE marking, which is essential to ensure that our working environments are safe, healthy and respectful of the environment.

Moreover, market surveillance or customs authorities can make use of CECIMO guidelines for compliance checks, thus it will contribute to the enforcement of EU rules. Better enforcement of EU regulations will lead to a level playing field in the internal market. Fair competition is the driving force of innovation which, in turn, boosts competitiveness and growth.
Common Strategic Framework for EU Research and Innovation Funding:

“Horizon 2020”

Every year, the EU allocates millions of euros from its budget to fund research and innovation. EU funding programmes are only complementary to national support provided by member states, which make up the bulk of euros spent on research in Europe. The overall sum is high, however, Europe is still outperformed by its major competitors measured both in terms of R&D spending/GDP ratio and the added value generation from research activity. The European Commission shows firm determination to live up to this challenge by launching a new integrated funding system:

“Horizon 2020” was selected the new name of the new EU-funding programme for research and innovation through an online vote. The programme will start as from 2013 and it covers all research and innovation funding currently provided through the Framework Programme for Research and Technical Development, the Competitiveness and Innovation Framework Programme (CIP) and the European Institute of Innovation and Technology (EIT).

The Commission aims with Horizon 2020 to achieve a better linkage between research and innovation and a clearer focus on excellence, competitiveness and societal objectives. The Europe 2020 Strategy describes innovation as the key driver to meet objectives of smart, sustainable and inclusive growth.

Streamlining EU research programmes

The Commission is seeking to find a remedy to improve the efficiency of research spending at EU. Máire Geoghegan-Quinn, Commissioner for Research, Innovation and Science has recently declared the intention to bring together the existing full range of EU research and innovation instruments in a common framework. An online consultation “Common Strategic Framework for Research and Innovation Funding (CSFR)” was launched to gauge public opinion and the outcome of the consultation was announced in June.

“What is the future for manufacturing research in Europe?”

The European manufacturing industry has largely benefited from EU research and innovation funding up to present. The cooperation programme under the FP7 has provided funding support for cross-border research, technological development and demonstration activities. A pan-European approach to research has helped industry develop the scale and capacity to compete globally in R&D. Strategic roadmaps and innovation agendas were developed by European Technology Platforms with the participation of stakeholders from across Europe. The Factories of the Future public-private partnership has boosted industrial participation in projects and stimulated industry-driven research.

The manufacturing industry sees Horizon 2020 as an opportunity to further improve the existing research programmes and amplify their impact on industrial competitiveness. “Manufacturing has answers to all major questions stated in Europe 2020 including climate change, resource efficiency, energy security, competitiveness, digital society and fighting poverty. Therefore, this reform initiative can help maximize the role of manufacturing in addressing the economic and societal challenges we are faced with.” states Mr. Koldo Arandia, General Manager IBARMIA GESTINVER, S.L., manufacturer of machining centers in Guipuzkoa.
in the north of Spain.

Mr. Wolfgang Rathner, CEO of FILL Gesellschaft m.b.H., a leading mechanical engineering and plant construction company from Austria points out: “Environmental degradation and the depletion of natural resources increasingly force people to change their life styles. This calls for the development of new products and services. Research and innovation in manufacturing will contribute towards building a clean and viable future in Europe. Moreover, innovation will support industrial competitiveness with a direct impact on exports and wealth generation.”

The manufacturing industry has responded to the consultation on the future framework for EU research and innovation funding through a position paper issued by the ManuFuture European Technology Platform.

**Expectations of Industry**

The ManuFuture position paper supported by CECIMO welcomes the plans to create a one-stop-shop to apply for EU funding through the integration of the existing diverse range of instruments and procedures. It underlines that industrial participation in European research programmes, especially SME participation rate, is not at the desired level yet.

Complexity of rules and paperwork are the major obstacle to access research programmes. The position paper suggests that the harmonization of rules and procedures governing different funding programmes and the simplification of administrative rules regarding submission and selection could help attract more companies. Much emphasis is placed on the need for speeding up the selection process and shortening time-to-contract. Furthermore, it is suggested that small targeted projects are more appealing to SMEs. These projects provide lighter and more flexible structures whilst addressing interests and needs to develop specific technologies and solutions.

A major expectation from the CFSRI is that it puts forward an industry-driven approach to research. Companies are interested in joining projects whereby they can generate results that have a market value. Therefore, industry is keen on assuming an active role in the identification of research priorities. Industrial involvement in agenda-setting can ensure that strategic sectors and innovation needs are addressed in work programmes. When it comes to implementation, the participation of actors from the entire supply chain should be promoted in projects. This could provide a platform where the research work is geared at solving user problems and the proposed solutions are subject to instant feedback from industrial users during the technology development phase.

There are many barriers to the commercial exploitation of research results which are not surmountable without public support. Thus, industry pleads for funding the full innovation cycle, including basic research, applied research, industrial pilots and large-scale demonstration. ManuFuture recommends using structural funds at national and regional level to support activities throughout the innovation cycle which build on results generated in EU R&D projects. Such activities should comprise technology transfer and integration, product, service, process development and commercial exploitation.

**Strong industrial support for public-private partnerships**

Public-private partnerships (PPPs) have been developed as an effective solution to optimize the use of available scarce resources in public and private sectors. Factories of the Future PPP was launched in the EU Economic recovery package with the objective of mitigating the negative impact of the economic crisis on research and innovation. PPPs offer an ideal model to address both economic and societal challenges at the same time. The existence of private partners in FoF ensures that investments are guided to projects which respond to market needs whereas public partners oversee societal interests in the research agenda.

Factories of the Future is an industry-driven programme. Wolfgang Rathner expresses full satisfaction about it. “We, in industry, have a say over the identification of research priorities. Industrial needs and technological trends are fully taken into account in the research agenda. We feel more confident to dedicate our resources to research activity when we see that calls for proposals are in line with market trends and there is a potential for high return on investment.” he states.

Koldo Arandia, comments “The EU offers mid-long term, stable research programmes which are free from political changes or financial problems at national or regional level. A pre-determined budget, multi-annual roadmaps and the public partners in Factories of Future provides industry with the much needed certainty and guarantee to invest euros in research. This is the right model to stimulate industry’s interest in European research and it works very well.”
CECIMO: Professor Dario, could you please explain to us the importance of micro-manufacturing in machine tool technologies today? What was the motivation to launch the Integ-Micro project?

P.D: Micro mechanical machining is important for several aspects. Firstly, it answers the need for smaller products, more precise and more complex shaped components, whilst at the same time providing a flexibility that cannot be reached with other microfabrication technologies. Secondly, we are addressing an emerging sector, in continuous and fast growth, with expected massive diffusion. This area is foreseen to produce a strong economic impact on the machine tool market, as well as support and spur on academic research in the field and encourage collaboration between companies and universities.

As scientists, we have the responsibility to respond to the needs of society, and considering that available technologies do not satisfy current and near-future needs, we devised and implemented the Integ-Micro project.

CECIMO: What is the technological breakthrough that Integ-Micro promises to achieve?

P.D: The project mainly aims at developing a technological bridge between silicon-based micro-technologies and macro machining, with the ambitious goal to fill this dimensional gap by addressing at the same time the following main requirements: a complex 3D shape, high precision features, a variety of structural materials, production in large series and high throughput, mass customization (i.e. continuously-varying fabrication), miniaturization down to the micro/ meso-scale level (1 ÷ 1,000 µm range), a reduction in costs, energy consumption, plant area, handling, waste material and pollution. Five new platforms have been developed to demonstrate such a goal, based on the integration of heterogeneous processes like cutting, laser, ultrasound, EDM and grinding.

CECIMO: Which industries will benefit from the research results? How?

P.D: The enabling technologies and multi-tasking machines developed in the project cover a broad spectrum of applications. The project therefore addresses most European industries and research institutions where machining processes are used or could effectively integrate current manufacturing processes. The platforms have been designed in particular to be adopted in the following: watches, consumer electronics, biomedical products, MEMS and optical devices, moulds and dies, hydraulic systems, components for the energy field, in the automotive and aerospace sectors, measurement instruments and micro-tools.

Over the past few years, product miniaturisation has been a strong driver of technological change with a significant impact on the manufacturing industry. Critical macro-components in the automotive, aerospace and other industrial fields increasingly depend on high geometric accuracy and micro-structuring of surfaces. This is an essential requirement also to meet the growing need for improved performance and reliability.

Professor Paolo Dario from Scuola Superiore Sant'Anna, coordinator of the Integ-Micro project, explains which solutions the consortium has developed during the first three years of the project to tackle current technological challenges.
We have identified thirty exploitable results in the project, including both platforms and related enabling technologies, and for each of those items a business plan has been defined in order to assure that the products will reach the market in an effective way.

CECIMO: What is the "Integ-Micro co-located demonstration facility"?

P.D: With this term we mean a facility that groups most of the Integ-Micro platforms in one site. This has been done in order to give more visibility to the project results, and to demonstrate critical mass creation. The facility will allow visitors to see several platforms working, also synergistically by exchanging parts. Videos and other documentations will be available in the facility as well. Demonstrations to all interested people, companies and institutions will be given and educational courses in the form of summer schools/seminars will be provided.

CECIMO: An Integ-Micro Conference will take place at EMO in September. What should participants expect from this event?

P.D: Participants will receive new information regarding precise and ultra precise micro-machining and will see practical examples on how enabling technologies have been developed and implemented in five brand new machines and stand-alone products. Participants will be able to meet the developers of such technical products, in an informal way, giving them the possibility to express their observations, needs and expectations.

CECIMO: How do you assess EU research programs and what are your expectations from EU research policies?

P.D: We consider EU research programs very important for European competitiveness and we acknowledge that they have been crucial in supporting innovation, in a period in which economy was at a standstill and there was need to invest for future development. Now, as times are changing, our expectation is that the EC pursues targeted funding in strategic fields, by selectively financing the best ideas for new processes and products, in order to promote European leadership in strategic fields. We especially expect support for multidisciplinary projects, in which industry and research institutions invest jointly in disruptive ideas and not in incremental ones.

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The Integ-Micro Project aims to respond to the current challenges in micro-machining.

New hybrid, reconfigurable, multitasking machines developed within the project offer breakthrough solutions to enable the production of complex shape 3D micro parts, faster and with greater accuracy.

The conference will host distinguished speakers from: the European Commission, the BioRobotics Institute - Scuola Superiore Sant'Anna, Ce.S.I (Centro Studi Industriali), Fraunhofer IPT (Institute for Production Technology), WZL (Laboratory for Machine Tools and Production Engineering) - RWTH Aachen University, Fundación Tekniker, and Cranfield University.

FREE Registration online!

www.cecimo.eu

Visit the Integ-Micro booth at EMO Hannover 2011
19 - 24 September 2011
Hall 16, Stand C13

The Integ-Micro Project is funded under the NMP theme of the EU’s Seventh Framework Programme for research and technological development and coordinated by the Scuola Superiore Sant'Anna.
Inside the Association of the Austrian Machinery & Metalware Industries

Profile
The Association MACHINERY & METALWARE Industry (FMMI) is an autonomous organization within the framework of the Austrian Federal Economic Chamber and represents all Austrian industrial enterprises active in mechanical and plant engineering, steel construction and metalware production.

The machinery and metalware branch, predominantly characterized by medium-sized companies, comprises over 1,200 manufacturers with more than 150,000 employees which makes it the backbone of the Austrian industry. Most of the companies are family-owned.

One of FMMI’s core tasks involves representing their member companies during the negotiations for the collective wage agreement each year. The FMMI is among the most important industrial and employers’ associations in Austria. FMMI works on the legal and technical framework of the industry as well as providing support for individual questions.

The machine-tool manufacturers are organized as a sectoral group within the Association. At present, FMMI counts about 22 machine-tool manufacturers among its members, with more than 3,200 employees.

Austrian Machine Tool Industry
During the last few years, the Austrian machine-tool branch has seen an impressive development. The export value increased by 170% between 1999 and 2008. In 2009, however, it suffered a hard knock with exports dropping nearly 40%.

Now, what has caused the boom of the last decade? On the one hand, the whole Austrian mechanical engineering industry succeeded in boosting its productivity during this period. The branch also enjoys worldwide renown for offering customized solutions, always providing the most efficient solution on the market. The competitiveness of the Austrian companies is based on quality rather than price.

In international comparison, the machine-tool manufacturers are clearly “overrepresented” within the Austrian industry. Currently the branch ranks 4th in Europe together with Spain. For the small Austrian economy this is a great sectoral success.

Germany is by far the most important export market with a share of 28%. China already ranks second and is still gaining ground as an essential buyer of Austrian machine-tools. The USA, Italy and Brasil rank next in the order of important export markets.

Best Practices: Building the workforce of the future
An important success factor for Austria has turned out to be the internationally renowned dual education system which provides the industry with a qualified workforce. This education scheme is similar to the German and Swiss model. Apprentices receive not only school education but are also “trained on the job” and employed afterwards as skilled workers, mostly by the same company. This not only improves the practical orientation of their training but also strengthens their commitment to the employer. These young people soon get the chance to earn their own money. Work in the company teaches them values often neglected in a purely academic education, such as teamwork and social skills; the best preparation for professional life.

“To remain competitive in the global context, the EU has to further boost investments in industrial research so as to increase productivity in European manufacturing. The industry driven EFFRA Initiative is a good example of a strategic partnership to promote pre-competitive research on production technologies within the European Research Area by engaging in a public-private partnership with the European Union. Comparing this initiative to the US American SBIR (Small Business Innovation Research Programme) we realise that there is still a long way ahead of us in terms of the amount and efficiency of research financing specially for small and medium sized businesses. The EU must be willing to further invest in European Technology and Research Initiatives in order to keep up with our global competitors.” [Thomas Kraft, General Manager of FMMI]
CECIMO ‘Guidelines for CE marking for metalworking band sawing machines’ is the first in a series of guidelines aimed at providing information about the application of CE marking on machine tools.

These informative guides have been prepared to help customs and market surveillance authorities, as well as machine tool manufacturers, distributors and users find the answers to the most commonly asked questions regarding the implementation of CE marking.

CECIMO guides include useful information, relevant references and detailed checklists for verifying the conformity of machines with EU health and safety standards.

For further information and to request an online copy of the guide, please contact CECIMO at magdalena.garczynska@cecimo.eu
CECIMO Member Associations

Austria: FMMI
Fachverband Maschinen & Metallwaren Industrie

Belgium: AGORIA
Federatie van de Technologische Industrie

Czech Republic: SST
Svazu Strojírenské Technologie

Denmark: FDVV
Foreningen af Værktøjs- og Værktøjsmaskinfabrikanter

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 machine 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: MTAS
Machine and Tool Association of Sweden

Switzerland: SWISSMEM
Die Schweizer Maschinen-, Elektro- und Metall-Industrie

Turkey: MIB
Makina İmalatcuları Birliği

United Kingdom: MTA
The Manufacturing Technologies Association

CECIMO is the European Association representing the common interests of the Machine Tool Industries globally and at EU level. We bring together 15 national Associations of Machine Tool Builders, which represent approximately 1500 industrial enterprises in Europe*, over 80% of which are SMEs. CECIMO covers more than 97% of total Machine Tool production in Europe and more than one third worldwide. CECIMO assumes a key role in determining the strategic direction of the European machine tool industry and promotes the development of the sector in the fields of economy, technology and science.

* Europe = EU + EFTA + Turkey