Economic Report
2014
# Table of Content

## 2 Foreword

## 4 Business Climate

## 6 Production and Trade
- 6 World
- 6 China
- 6 India
- 6 Japan
- 7 Korea
- 7 USA
- 7 Brazil
- 8 European Union
- 9 Turkey

## 10 Market and Product Trends

## 17 Regional Market Development
- 17 European Union
- 18 Germany
- 20 Poland
- 21 Romania
- 21 Croatia and Serbia
- 22 Ukraine
- 23 Russia
- 24 Kazakhstan
- 24 India
- 25 China
- 26 Brazil
- 26 USA
- 27 Africa

## 29 Charts and Tables
- 29 Agricultural Machinery in the European Union
- 30 Ex- and Imports Worldwide
- 31 Tractor Production and Markets in Selected Countries
- 31 German Market Volume for Agricultural Machinery by Segments
- 32 European Tractor Registrations
- 33 Key Facts of the Agricultural Sector in the European Union

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Condensed Version for the Public
Dear Reader,

The innovative manufacturers of agricultural machinery and tractors in Europe can look back on an unprecedented four-year upswing. The last financial and economic crisis affected our industry as severely as it did the overall economy, partially due to the lack of financing opportunities for the sometimes high investment volumes. However, following a period of recession of only five quarters, in mid-2010 a clear recovery began, which in the meantime has brought us a turnover level a good third higher than the previous record value of 2008. Beginning with a changing trend in large markets such as Germany and the USA, prospects gradually brightened in almost all of the important sales markets. The exceptions were a few agricultural locations in Southern Europe, where difficulties relating to the financial markets could scarcely be resolved and where pace of structural change in the agricultural sector remained slow.

World production grows to more than €96 billion

This Economic Report 2014 is being published at a time characterised by a reversal of the economic trend. Last year our industry increased its production worldwide by a further seven percentage points and reached a new peak level of over €96 billion. China and India have provided sustained support for their developing agricultural markets, with double-digit annual growth in investment in agricultural machinery. Latin America, with its major player Brazil, increased its agricultural production tremendously, thus satisfying the growing demand for food and feed, for instance via the export of soybeans to China. Local machinery requirements are correspondingly increasing, leading to market growth in Brazil of over 20% in 2013. Local machinery production, which as in other protected markets is esteemed by the government, expanded accordingly. In North America as well, the good agricultural yield situation resulted in outstanding development of the agricultural machinery market. With regional differences, the European market likewise remained at a peak level last year. A lower farm investment ratio occurred only in Eastern Europe, primarily due to problems originating locally.
Mainly weaker market trends in 2014

For the current year, there are already clouds on the economic horizon. In France, the second largest European sales market after Germany, a very perceptible downturn is now evident, which is not attributable solely to overall market saturation. Sales opportunities for modern agricultural machinery in Eastern Europe have been reduced to a minimum in the light of protectionist measures of the Russian government and the generally difficult political situation. In this economic climate, prospects for higher investment by farmers presently exist only for a few individual markets. Nevertheless, due to the basically persistent positive framework conditions, which are supported primarily by the continuing sound income situation in agriculture, the effects of the downturn remain limited.

Yours sincerely,

Dr.-Ing. Hermann Garbers
Chairman of the VDMA Agricultural Machinery Association

Frankfurt, May 2014
1. Business Climate

Special economic trends for the agricultural machinery branch

Modern agricultural machinery is the key to more efficient farming. In line with the continually increasing demand for food and feed and the use of renewable raw materials for energy production, sales figures for agricultural machinery and tractors have increased considerably over the past five years. Whilst overall the mechanical engineering industry depends heavily on the development of the economy as a whole, a glance at economic development in the agricultural machinery sector proves once again that different rules seem to apply here, at least in part.

A similar development for the mechanical engineering industry as a whole as for the agricultural machinery industry specifically occurred during the last economic downturn: After a considerable slump in 2009, there was a noticeable recovery in the following year, which two years further on then led in part to sales levels from the period before the financial and economic crisis of 2008/2009. From the end of 2011 onwards however, there was a weakening in demand for machinery and plant, whilst the number of orders in the agricultural machinery sector continued to rise swiftly. Last year, the European Union’s weak single market caused Germany’s mechanical engineering industry to shrink by 2%. Sales in the agricultural machinery sector however increased further still by 10%. In 2013, the global machinery industry grew by 2%, yet the agricultural machinery industry increased by 7%.

The difference between development across Europe and worldwide is due to the same reason for both the mechanical engineering and the agricultural machinery industries: China has incessantly increased its production and is now the uncontested leader in the mechanical engineering industry. This is (not yet) the case for agricultural machinery, where the EU – with its largest production locations in Germany, Italy and France – and the USA are both still one step ahead, but China is catching up fast.

In terms of 2014, forecasts for mechanical engineering and agricultural machinery also diverge: VDMA is expecting the mechanical engineering industry to grow by 3% in Germany and by 6% worldwide, but for agricultural machinery it is forecasting a drop of at least 3% both for Germany and worldwide. It seems that the economic ‘watch’ is ticking a year behind for the agricultural machinery sector.

Mood remains confident in the emerging countries – upturn for Europe expected

The VDMA Agricultural Machinery Association organises two surveys to regularly assess the business environment in the agricultural machinery sector. At European level, this is the CEMA Business Barometer, a survey of 140 selected industry representatives in the member states belonging to the European umbrella organisation. The monthly survey was set up in 2008. Based on this model, two years later a similar survey was initiated by the global alliance of associations, Agrievolution, to compare the mood and conditions at global level for the key production locations. This survey takes place twice a year; some 250 companies took part in the most recent survey. In the following, we will provide a summary of the last results.

In early 2014, the global business climate index dropped 6 points to 26 points (on a scale of plus...
100 to minus 100). Only 18% of respondents expressed dissatisfaction with their business outlook (by comparison, in 2010 the figures still stood at 40% after the crisis had abated). Compared to the survey carried out in October 2013, the number of ‘very good’ ratings has declined however, whilst the number of those expecting a drop in sales or at least no further increase, has risen.

Although according to the survey there was a slight increase in sales in the first quarter of 2014, this was regionally confined to the countries of East Asia and North America. For the coming months, manufacturers in the USA, China and also Brazil and Turkey were rather confident. This may seem surprising given the foreseeably more challenging market conditions ahead. However a lot is expected from the agricultural policy instruments, among other things, to counteract a downturn in the market. Japanese and Chinese manufacturers in particular were very satisfied with the government investment policies in their respective countries. In Turkey, manufacturers are also banking strongly on government-subsidised financing opportunities or grants; however they regularly criticised the lack of transparency and speed with which these measures are implemented.

The EU has introduced new framework conditions this year, which are to remain in force until 2020. The majority of manufacturers think that this is likely to have a negative impact, especially as this will lead to incrementally lower area-based direct payments for their customers in the large Western European markets. On the other hand, there was comparatively little discussion about the introduction and impact of the new CAP reform (Common Agricultural Policy), which is probably due to the attractive income opportunities currently on offer for farmers (aside from the usual subsidies). If the reductions had been carried out in periods of lower prices for agricultural products, it is likely that considerable protest would not have been long in coming.

Overall, the business outlook for the Western European agricultural machinery industry has significantly clouded in recent months and by global standards it is bringing up the rear. Following the record figures of 2013, manufacturers are now receiving fewer orders. As a consequence, only one in five manufacturers or importers in Western Europe is expecting an increase in sales and only one in ten is anticipating higher orders in the next six months. Companies in France are feeling particularly sobered by the fact that their home market was trending downwards in the first few months of the year. On average past downturns in Europe however have tended to be quite modest so that there have still been expanding markets alongside the declining ones. According to manufacturers’ estimates, these growth markets are currently expected to be Spain, Scandinavia and the UK. However, they will be unable to prevent the general downturn for agricultural machinery in Europe.
2. Production and Trade

Favourable industry economic situation worldwide

In the past four years, turnover in the agricultural machinery industry has risen sharply and continuously. According to VDMA Agricultural Machinery Association estimates, the worldwide volume for 2013 was €96 billion, a remarkable 50% higher than the level of the last “crisis year”, 2009. This corresponds to an average annual growth rate of 11%.

Expansion of Chinese production

As a production location, China has gained considerable market share, while the importance of Europe is slowly but steadily declining. There are world-renowned “Western” brands which organise assembly and production lines in Asia, as well as national manufacturers that are benefiting from a growing market at their front door and can constantly increase their machinery output.

For 2014, VDMA and Chinese industry representatives anticipate a slowdown in growth. However, in the light of otherwise rather recessive economic forecasts, China will continue to be one of the driving forces in the industry. In the semi-annual agricultural machinery industry economic climate survey of the global Agrievolution network, held in April, a bare majority of representatives of Chinese agricultural machinery manufacturers stated that orders from the domestic market had risen once again, however a good 25% of those surveyed reported declining orders. The current order backlog will utilise the capacity of Chinese manufacturers for approximately three months, which “only” corresponds to the worldwide average.

Indian small tractor production booms

VDMA estimates that India accounts for around 6% of global agricultural machinery production. In 2013, more than 680,000 tractors were produced; thus India continues to be the world’s largest producer of tractors. This may at first seem surprising, when one considers that the majority of local farms are as yet completely unmechanised. However, within the scope of Indian agriculture, even a mechanisation rate of 30% to 40% in the areas of soil tillage, sowing and plant protection means that machinery is used to cultivate the fields of approximately 50 million farms. In addition, the Indian tractor industry also serves a significant number of non-agricultural customers, such as companies in the construction industry, airports and private individuals who require tractors solely as a means of transport. These customers account for at least 10% to 15% of the turnover. A further 10% of the tractors sold are exported.

Difficult export conditions in Japan

For decades Japanese small tractors have played an important role even in Western markets. In 2013, for the segment over 30 hp, production in Japan rose remarkably, by 37%. The market leader Kubota is increasing its involvement in the agricultural sector and is expanding its tractor line to a higher level. The next most important manufacturers are Yanmar, Iseki and Shibaura. All of the brands are well-established in Europe, particularly for use in gardening and landscaping. Tractors account for approximately one third of total agricultural machinery production and for around 80% of Japanese agricultural machinery exports. However, the export business has suf-
ffered in recent years due to the appreciation of the yen, which the government has been vehemently wishing to counteract since mid-2013. In the calendar year 2013, exports fell once again, by 11% to USD 1.85 billion. The export ratio consequently dropped below 50%. Decisive factors in this regard were a 10% decrease in deliveries to the USA, which purchases more than 40% of the Japanese exports, and lower demand in Europe and China. For 2014, the Japanese agricultural machinery association JAMMA anticipates a decline in production and exports. Following growth in the past three years, a weaker impetus is also expected from the domestic market.

Growing demand for tractors from Korea

Tractors from Korea, which in terms of technology are comparable to those from Japan, are popular for use in small part-time agricultural operations in America and Europe. Production and export volumes are approximately one third of Japanese figures. The local association reports for 2013 that the production volume of South Korea was USD 1.2 billion, with exports amounting to USD 835 million. In the past three years, exports rose sharply. Canada and the USA purchase 60% of Korean agricultural machinery exports which, as in the case of Japan, consist primarily of small tractors. Delivery times, averaging three weeks, are comparatively short. The Korean association KAMICO anticipates a stable production volume for 2014. The production of tractor models exceeding 30 hp is expected to grow by 4% to 44,000 units.

Continued good prospects in the USA

The North American agricultural machinery industry has also developed spectacularly over the past four years. VDMA calculates that turnover climbed from USD 21 billion in the year 2009 to USD 34 billion last year. The primary driving force for this growth was the domestic market. In 2013, the value of exports was 10% below that of the previous year, and the export ratio was only 26%. Meanwhile, manufacturers relied on a good domestic market and achieved a new record turnover.

Brazil focuses on growth in agriculture

In 2013, agricultural machinery industry locations in Brazil exhibited strong expansion. VDMA estimates that the production volume of South America is equivalent to €5.8 billion, with Brazil accounting for at least three quarters of this amount. Last year, tractor production increased by 20% to 77,600 units, while the output of combine harvesters rose by one third to almost 10,000 units.

Machinery exports declined, due to more difficult conditions in the other markets. Especially Argentina, the most important purchaser of Brazilian technology, further reduced imports from the neighbouring country.
Increase of 4% in EU production

The manufacture of agricultural machinery and tractors in European locations has been stoutly maintained during the economic upswing of recent years, especially due to strong demand in the large domestic markets of Germany and France. However, with an increase of 4% to just under €30 billion, the growth rate for 2013 was below the worldwide average. This also reflects dependence on large sales markets that were comparatively weak last year: Italy, Poland, Russia and Ukraine. Above-average results were obtained by manufacturers in Germany and Austria. Also the Polish manufacturers increased their production by around 10% due to a higher demand from third countries, e.g. Turkey, Iraq and Belarus.

Germany accounts for 28% of EU production, with a good 200 companies that did well worldwide with their products last year, achieving growth of 10%. The export volume was 11% higher than in the previous year, and sales to German distribution partners rose by 6%. It was a dynamic year particularly for manufacturers of tractors and equipment for arable farming. The new record volume of machinery exports was primarily the result of record orders from France as well as from the USA. The number of regular employees was increased by 4% to 31,800, while the ratio of temporary workers was reduced from 14 to 11%. In 2014, turnover of the German agricultural machinery industry will decline slightly. Following a stable trend in the first quarter, there is now a noticeable decrease in incoming orders. However, the level still remains very high, with turnover for the year expected to be more than €8 billion. Manufacturers accordingly continue to appear satisfied: In May, every second of German executives in the industry stated that they are still well satisfied with their business situation.

Italy ranks second among European producers of agricultural machinery. The focus is on the manufacture of tractors (mainly under 100 hp) as well as soil tillage, seeding and plant protection equipment. VDMA calculates that in 2013 production stagnated at €51.1 billion. The seven top tractor manufacturers produced approximately 67,000 units, with a value of €1.88 billion. The export ratio for tractors is around 85% and increased by only 3% in 2013, analogously to total exports of Italian agricultural machinery products, which amounted to €4.1 billion. A strong increase in deliveries to the USA was offset by declines in exports to Poland, Spain, Turkey and the United Kingdom. The domestic market continues to be at a low ebb, however the first signs of recovery are apparent. Since March, figures for both incoming orders and Italian market turnover seem to be recovering slightly. Simultaneously, following years of lamentation, confidence is growing again among Italian agricultural machinery manufacturers. At present only one tenth of Italian manufacturers are dissatisfied with their situation; every third person surveyed anticipates growth in turnover in the coming half year.

The third largest European production location for agricultural machinery is France. VDMA calculates that in 2013, French production turnover amounted to €4.3 billion, an increase of 3%. In the light of strong growth of more than 10% in the domestic market, this was a surprisingly weak development. To what can this be attributed? Following two years of large increases, in 2013 the value of exports declined by one percentage point, and the export ratio fell by two percentage points to 64%. Among other things, fewer hay harvesting machines were delivered abroad. In contrast, value of tractor production slightly increased. Tractors now account for 37% of total production and 44% of exports. Thus, the Massey Ferguson factory in Beauvais and the Claas factory in Le Mans are providing a strong basis for the French agricultural machinery industry. For
the Kubota brand, a third factory is now being added in the northern part of the country.

By now the business climate is no longer particularly good for French manufacturers. More than half of the manufacturers surveyed recently in the context of the monthly CEMA Business Barometer expressed dissatisfaction with their situation. The slump in the French market is sufficiently serious that it can no longer be argued that this is merely a decline from a very high record level. In some cases incoming orders have fallen by more than 25%. Accordingly, one third of the manufacturers plan to reduce the number of temporary workers in their factories.

Diminishing growth opportunities in Turkey

In Turkey the national agricultural machinery association reports that there are 600 agricultural machinery manufacturers with a total of 20,000 employees. In fact, one can find the entire spectrum of agricultural machinery in the country. The technological level lies between that of Western European and Asian manufacturers. In Turkey, 57,000 tractors (an increase of 2%) rolled off the assembly lines in 2013; of these, just under 16,000 units were exported.

VDMA estimates that the total production volume of agricultural machinery was €2.9 billion. Since 2011, production has been at a stable high level. So far, statements for 2014 are rather cautious. On the one hand, tractor production in the first quarter once again increased considerably, but on the other hand prospects for the domestic market seem to be worsening. At the moment, a slight decline in production in the calendar year 2014 is conceivable, especially since export conditions are not becoming easier. Nevertheless, it should be recognised that Turkish manufacturers have established a good position as suppliers in many countries. Major purchasers in the year 2012 were the USA and Iraq. However, at 15%, overall the export ratio continues to be low.
3. Market and Product Trends

The members of the VDMA Agricultural Machinery Association are involved in certain divisions, which provide a product related platform for exchange and obtainment of association services. Following, we would like to give the word to the chairmen of these divisions for the explanation of the respective market and product trends.

Andreas Loewel
Tractor Division

The economic upswing in recent years was of above-average benefit to European tractor manufacturers. From 2011 to 2013, European turnover rose 18% to €10.5 billion. Export markets played an essential role, especially the United States. Within the European Union, Germany and France were solid pillars. In Germany, extraordinary volumes were attained in terms of both turnover and number of units which have not been usual since 30 years ago, when average tractor performance was still less than 70 hp.

Nevertheless, manufacturers had to deal with widely varying market conditions in Europe. In 2013, the overall European tractor market stagnated at around 180,000 units. At the same time, deliveries to other markets increased; in addition to the growth mentioned in the USA, there was also strong demand in Eastern Europe and Australia. Germany continued to play the leading role in European tractor production, with a turnover of €4.1 billion, followed by Italy with €1.9 billion and France with €1.6 billion.

For 2014, manufacturers must adjust to a decline in turnover, however this will remain manageable following the record years of 2011 to 2013. The markets in France and Poland are having the greatest influence on the current downward trend in the EU. Sales opportunities are likewise dwindling in Eastern Europe. Sound developments in the United Kingdom and Scandinavia, and signs of recovery in the Southern European markets will cushion the decline to some extent.

In recent years, technological development trends for tractors have focused on goals of performance, safety, environmental compatibility, ergonomics and the integration of information technology. The latter is a particularly significant field of innovation, permitting satellite-assisted control of tractors, and automatic communication of tractors and mounted equipment.

Meeting the requirements of the emission standards was a central issue in recent years for manufacturers of both tractors and engines. Compliance with exhaust emission stage 4 has considerably reduced emissions of carbon dioxide and nitrogen, and has brought the industry in line with the standards of the automotive industry.

In the coming years, development will be driven by the objectives of tractor compliance with exhaust emission regulation stages 4 and 5, increased efficiency of the entire vehicle, the networking of tractors and implements, and the automation and electrification of tractor-implement systems.
Since the record year of 2011, sales from German manufacturers of municipal, gardening and landscaping equipment have dropped for the second time in a row by between 5 to 10% depending on the product segment. Weather conditions over the past two years have also played a significant role. The winter of 2012/2013 arrived late, which impacted badly on sales of winter maintenance equipment. It also lingered for much longer than usual meaning that the start of spring business for 2013 was delayed by around four weeks. In addition, the relatively warm winter of 2013/2014 with its low precipitations has meant that business for winter maintenance equipment has had little chance of recovery.

Source: VDMA

In the long term, climate conditions will probably pose an ever greater challenge for the industry. In general, for the next few decades, the German Weather Service is expecting milder winters and more extreme weather situations in the summer – for example heavy rainfall and flooding like last summer or extreme heat waves.

A further decisive factor influencing the business with municipalities are the budgets of public administration. While tax revenues have been gushing in Germany, it was much more difficult in important other European countries, especially in Southern Europe. However, the crisis seems to have bottomed out by now and orders from these countries are on the increase again.

Aside from climate issues, competition from Asia – in particular China and South Korea – is increasingly considered to pose a challenge for the industry. Up to now, however, this has tended to be a bigger issue in the relatively price-sensitive domestic segment, where the majority of machinery is now produced by Asian manufacturers. In the professional segment, on the other hand, Western manufacturers are currently holding their own well against competition from the Far East with innovative and technologically advanced products. The direction of new product developments is currently being determined by automation and electrification linked to intelligent control systems. Last year at the demopark exhibition in Eisenach, Germany, customers could admire GPS-controlled gritting lorries working with centimetre-level accuracy, as well as mowing robots, capable of cutting large areas with great precision completely without any human intervention. Precision, resource efficiency and performance are currently the most important features for customers. Machinery is now being increasingly judged against measurable sustainability criteria.

The biggest challenge for the manufacturers of transport equipment is optimising costs and meeting the standards for efficiency and cost-effectiveness that the logistics of the future demands. Other focal areas in product development are environmental protection, the responsible management of resources and the safety requirements that must be met by transport equipment. Specific solutions for use on the road, in the field and in combined transport are becoming increasingly important. The transport equipment sector is reacting flexibly both to changing demands on the domestic market and in global trade. Outside Europe too, machinery built to
German standards is increasingly in demand and in use. To serve this trend and develop it further, German manufacturers have expanded their activities worldwide.

In the first quarter of 2014, demand in Germany and the euro area has risen. Exports to Russia and the former CIS States are proving more difficult due to the strong euro. Current political turbulence has led to a devaluation of the rouble with respective impact on the market. We have noted a degree of saturation in the sales of large vehicles, for example for silage transport, in Germany and the central European markets. In general, we consider the market situation to be stable; however a boom cannot be expected for the current year.

Key technological developments are taking place in particular with regard to the application of liquid manure. On the one hand, government regulations are exerting a degree of pressure, on the other, there is more awareness of the need to manage the nutrients in liquid manure responsibly, and also of technologies which ensure that the liquid manure is applied to the soil with maximum precision and minimum loss. As well as the government and users, we too – as manufacturers of transport equipment – set trends by driving forward research and development, optimising established technologies and developing new technologies to market maturity.

Only a few years ago, discussions in professional circles often led to the assumption that intensive soil tillage prior to sowing, especially tillage involving “turning” of the soil, would soon become a thing of the past. This has clearly proved not to be the case, however, as shown by sales figures for mouldboard and reversible ploughs particularly in Europe, but also in other regions of the world. Earlier expectations that active soil tillage, using a power take-off to control equipment such as a cultivator or rotary harrow, would be increasingly replaced by passive (towed) technology have also not been fulfilled. Instead, in recent years soil tillage has become more multifaceted. In addition to classic plough and mulch sowing, today strip-till procedures are being discussed and utilised in a wide range of countries.

It is currently evident that demand has become very differentiated, and that an extensive spectrum of equipment is being offered by manufacturers. Today farmers and contractors no longer rely on standard technology, but prefer machinery that is adapted to their requirements. This means that procedures vary from one location to another and, if necessary, also from season to season. In order to meet these demands, the industry is increasingly providing machinery with a modular design. In accordance with customer requests, equipment variants are added to basic modules, so that in the area of soil tillage, no two products are alike. Equipment combinations that incorporate a semi-mounted seed hopper or permit under-root fertilisation for grain are currently available. Here the challenge for engineers is to limit the weight of equipment in order to facilitate driving on arable land even in less than ideal weather conditions and to provide for soil protection. In addition, the issue of wear plays a significant role in soil tillage. Tools must be increasingly wear-resistant, so as to reduce machinery down-times and to decrease costs for wearing parts.

What else do customers demand? In the light of the structural change in agriculture, growth in the size of machinery is still continuing. Performance
per hectare is to be increased further, with larger cultivation equipment and greater driving speeds. For this purpose, of course tractors exceeding 400 hp are also required.

The mood among manufacturers of soil tillage equipment remains positive. From 2011 to 2013, new turnover records were achieved. Last year, manufacturers in the EU increased their production of soil tillage equipment by 7%, to €2.31 billion, while the European market volume rose by 6% to €1.97 billion. There was a strong demand particularly for ploughs and compact disc harrows. The expected turnover for 2014 is presently still at the level of last year, although incoming orders have weakened slightly.

Dr. Norbert Rauch
Division for Seeding, Fertilising, and Plant Protection Equipment

Current analyses of technological trends and development in the agricultural machinery sector show that precision farming methods are being intensively used for fertilisation, seeding and plant protection. These methods allow hectare yields to be optimised by taking soil quality and climate conditions into account. In addition, the precise dosage, distribution of fertiliser respectively the exact application of pesticides and placing of seeds leads to a reduction in farm inputs and helps to conserve resources and protect the environment, e.g. groundwater. Modern application and placement technologies offer huge potential for applying only as much pesticide and mineral fertiliser per m² as is needed to supply the plants with optimum levels of nutrients and active substances against diseases and pests. As regards seed drills, it is the precise placement of seed in terms of spacing and depth that facilitates optimum plant growth.

Fertilisers are still the highest cost factor in plant cultivation. Efficiency gains in metering and distributing fertiliser are therefore also an important factor in economic success. Manufacturers of fertiliser spreaders have risen to this challenge in highly innovative ways. In Germany, one in two mineral fertiliser spreaders are sold with mass flow controllers (weighing or EMC technology), which ensure fully automated and extremely precise metering of the amount of fertiliser required per subplot whilst the spreader is on the move. The dosage is controlled by sophisticated sensor and software systems which simultaneously assist the driver with automatic controls and also simplify documentation. The next generation of mineral fertiliser spreaders will be equipped with fully automated online measurement and calibration systems which not only regulate the dosage but also control the distribution of the fertiliser.

Fertiliser and plant protection machinery is subject to strict requirements to protect field margins and the headland. This has led to significant technological developments. However, environmental protection requirements conflict with the need to obtain optimum yields from fertile arable land, as this land is in short supply worldwide. Modern application techniques and further advances in technology will provide solutions which should be able to almost satisfy both sets of requirements.

Normally, the farmer sets the tramline distance to fit plant protection equipment. With the aim of reducing the number of tramlines, demand is increasing for boom widths of up to 40 metres, especially for use on flat terrain. As a result there is a trend towards combined equipment with front and rear mounting on the tractor as well as for towed (as opposed to mounted) machinery with the largest possible hopper capacities. This reduces transport routes and times, especially as...
distances to (leased) fields are becoming ever greater due to structural changes in agriculture. As with fertiliser spreaders, technological developments in plant protection are focused on individual nozzle control. Individual shut-off prevents the application of active substances over the field margins or on previously treated areas. The controls of machinery in the upper power ranges come fitted with GPS as standard to enable the precise application of operating materials both in the headland as well as in more complex field shapes without overlapping. This process is assisted by ISOBUS technology with the universal operating terminals which have been introduced into farming practice by equipment and tractor manufacturers at a brisk pace.

In recent years, outstanding innovations have been introduced for both seed drills and precision seed drills, which have significantly improved the longitudinal distribution of the seed within a row as well as increasing the effectiveness with faster driving speeds. As well as increasing hopper capacities and working widths, improvements in coulter technology allow the depth placement of the seed to be carried out with greater precision.

Due to the above-mentioned innovations of the past few years, European manufacturers of seed drills, fertiliser spreaders and sprayers have generated demand on the market and achieved above-average sales increases. In 2013, their production rose by 9% to €2.23 billion and the European sales market increased similarly to €1.79 billion. There has recently been a particularly vibrant demand for spraying equipment. In the first few months of the current year, most manufacturers managed to maintain their high sales levels. However, incoming orders indicate a slowing down in sales development for the second half of the year. The business expectations of the industry have tailed off accordingly. A third of companies from the product segment indicated that they were still very satisfied with the current business situation in the monthly CEMA survey, yet only one in five manufacturers expected a further increase in sales.

Wilhelm Voß
Forage Harvesting Division

For several years now, we have been experiencing a very welcome momentum on the markets for forage harvesting equipment and self-loading wagons. First and foremost, this has been the result of the largely positive business and income trends in the European agricultural sector. Any committed and future-oriented farmer or contractor knows how important innovative and reliable machinery is for sustainable business growth. The fact that during the current financial year there has been a noticeable decline in the market in almost all sectors of forage harvesting equipment, coupled with a slight drop in sales, should not be a cause for too much concern given the hitherto double-digit growth rates in the preceding years. For the coming 2014/15 season,
we expect a steady demand as long as the current slight drop in milk prices is kept in check.

Important investment incentives are given by rapidly advancing technological developments. Following the general trend in agricultural machinery, integrated solutions are also proving to be a major efficiency driver in the grassland machinery sector. This is due to both intelligent software and well-conceived hardware. Process chains can only be tweaked with pinpoint accuracy if mechanics, hydraulics, electronics and information technology are all intelligently and meaningfully integrated: higher area outputs thanks to greater working widths and speeds, the best possible soil protection with the help of precision instruments and high feed quality and hygiene are all the result of persistent development.

The fact that modern machinery designs can make a very significant contribution to reducing essential set-up times and maintenance intervals shows that it really is worth pursuing sustainable progress. To meet growing customer demands in terms of ease of use, the next few years will see an increase in universal ISOBUS terminals and mobile devices. Ultimately, clear, integrated operating controls are absolutely crucial if we are to control complex forage harvesting processes with maximum precision and resource efficiency.

The demand for combine harvesters is largely stable despite regional fluctuations, in particular in the larger sales markets such as England and France. According to manufacturers’ estimates, the German market is slightly weaker than in the previous year at around 2,000 units. The national implementation of the Common Agricultural Policy in the Central and Eastern European states has led to market developments which are difficult to gauge, whilst demand in Russia and the other CIS markets has been significantly affected by the crisis in Ukraine and the trade policy of the Russian Federation. Moscow’s attempts – under the guise of establishing a Eurasian Economic Community customs union – to restrict the imports of Western machinery has led to considerable difficulties in accessing the market. Following the imposition of duties last year, Western manufacturers are now being confronted with unrealistic import quotas for combine harvesters.

Continuing good grain prices and in particular the prospect of quality premiums are key factors in the demand for the highest possible level of productivity as regards threshing technology. Shorter harvest windows, which are becoming more and more difficult to plan, lead to the need for the highest possible level of effectiveness without downtimes. Manufacturers are meeting these requirements with the aid of solutions to increase the productivity of the threshing process. These include larger, variably adjustable cutter bars, automated adjustment and optimisation solutions, modern telematics systems for monitoring and maintenance and also technical solutions to improve logistics processes during the grain and maize harvests.

The demand for self-propelled forage harvesters has been considerably spurred on by the production of biogas in Germany. Due to the German government’s intention to transform the energy market, manufacturers are not currently expecting any further market growth but rather a drop in demand to less than 500 units in the current year. This sector continues to
be chiefly dominated by contractors. Nevertheless, in some regions there is a noticeable trend towards large biogas plants run by farmers with their own equipment, however there is no further growth for high-performance forage harvesters.

The market for balers in Germany is declining slightly. High milk prices and the investment in farmyard operations by livestock farms have increased the demands on contractors to provide big square balers and round balers. The current low price for straw is also preventing farmers from owning their own machinery. Given these factors, a market of around 400 big square balers and around 1800 round balers is expected in Germany for the current 2014 seasonal year. Here too, the technological trends lie in increasing productivity by using mounted choppers and the high pressing density of big square balers and in innovative unloading systems and automating processes for round balers.

Ulrich Rassenhövel  
Livestock Equipment  
Division

The business outlook for manufacturers of feed mixing wagons and milking, cooling and feeding equipment is closely linked to the economic circumstances of dairy farmers. Stable milk prices in the last year have boosted business for both sectors. In the second half of 2013 in particular, incoming orders and sales developed well.

For 2014/2015 too, companies are basing their planning on the assumption that the demand for their sales markets will remain stable. These estimates are based on a diverse range of global megatrends:

1. Continued steady growth of the world population
2. Growing worldwide demand for high-quality food products and here, in particular, milk products due to an increasing middle class
3. Increasing demand for efficient and resource-efficient production methods for dairy farms

Alongside stable business in Europe and America, the Asian/Pacific regions are particular growth drivers.

In the wage-intensive countries, the issue of ‘automation’ continues to be a buzzword. Automatic milking systems are coming increasingly to the fore. The next step for future-oriented dairy farms is the decision to invest in automatic feeding. The important thing is to provide flexible and individual solutions for dairy farmers.

In the field of feeding systems, towed feed mixing wagons continue to be favoured by farmers. With a view to cost optimisation, future innovation is likely to focus increasingly on utilising data from weighing equipment. Self-propelled feed mixing wagons tend to be used mainly by large farms with more than 200 cows.

The effect on the European market of abolishing the milk quota from 1 April 2015 remains to be seen. The professional, future-oriented dairy farms appear to be well-prepared for this event. The new situation requires acting sensitively when it comes to estimating the management risks in dairy farming.

Performance Product Group vs. Total Branch  
EU market development, Index 2005=100

Source: VDMA
4. Regional Market Development

Market value in the EU rises to €27 billion

The sales volume of agricultural machinery and tractors from manufacturers to their trade partners totalled €27 billion in the European Union in 2013. This was a new record result with an increase on the previous year of 3%. Once again, the single market in the EU performed very patchily so that overall development only shows an average trend. This trend was significantly shaped by the two biggest markets, France and Germany. Both markets together constituted more than 40% of the EU’s market volume. This share seems to be above average, given that both countries represent around one third of the EU’s agricultural value added.

An analysis of the market development within the EU shows that overall the boom was very strong. It is surprising, however, that market growth only occurred in 11 countries whilst in 17 countries sales declined. Nevertheless these tended to be chiefly smaller markets. Equally, the negative trends were not particularly pronounced in general, so that here too the above cases can still be said to be performing at a high level.

The majority of investment opportunities depend on the business environment of the customers, i.e. the farms or their service providers, the contractors. According to Eurostat, income per head in the agricultural sector fell by one percent last calendar year, although the index value remains above the average level for the past ten years. In general, income for dairy farmers and wine and fruit growers was good, whilst for arable farmers the result depended on the volume of the harvest as prices were lower. Prices and volumes for vegetable growers remained similar to those of the previous year. In terms of costs, there was slightly less pressure than in previous years as prices for fertiliser and feed dropped. In the overall balance however, this drop in prices levelled out, e.g. on account of the slightly higher use of fertilisers.

Part of farming income is made up of transfer payments from the EU. On average, the direct payments, i.e. grants related to the area farmed, constitute around a quarter of farmers’ factor income. There are other subsidies available as part of the CAP’s ‘second pillar’, consisting of programmes to develop rural areas and also national grants, e.g. diesel refunds. As a result the reform of the Common Agricultural Policy (CAP) for the period 2014 to 2020 has affected farmers’ purchasing power accordingly. Both the rules for receiving the subsidies have changed (among other things, as a result of new requirements for sustainable farming in the form of ‘greening measures’) and also how the overall budget is distributed across the individual member states of the EU. The ‘winners’ are mostly in the eastern regions of the EU, predominantly the Baltic countries, but also Romania, whilst those farmers in the Netherlands, Belgium, Italy and Denmark will have to put up with bigger cuts. Germany will lose around 3% of its direct payments compared to the previous period and will remain by far the biggest net contributor to the EU’s agricultural budget.

The CAP regulations have not changed in principle however, so that farmers’ uncertainty is kept to a minimum. For individual farms, the move away from the single farm payment scheme, which still exists in some countries, to the single area payment model is likely to have more financial influence than the new ‘greening’ rules. This kind of reallocation within the farming sector is taking place in France and Spain for example. But in
Germany too, where the single area payment has been gradually phased in since 2007, there will be a further redistribution of funding within the country due to the standardisation of the basic premium payment to €259 per hectare.

Basically, the mood in European farming remains good. The agricultural policy is not generally seen as a hindrance. Perhaps this will change in the coming year when the new greening rules are implemented. Although many farmers already have to manage with less funding due to the CAP reform, they think the reductions are bearable in view of the continued relatively high prices for agricultural products (milk products, meat, and also partly grain and oilseeds).

Regardless of this, the European agricultural machinery market will experience a downward trend. The main factors behind this development are the high level of investment over the past three years, meaning that the need for investment has decreased, and the fact that investments will be allocated to other areas such as farm buildings or renewable energy.

The industry’s expectations for the European agricultural machinery market are therefore correspondingly cautious. At the moment, a relatively sharp drop is expected for Poland, Italy and France, whilst growth rates are in sight for Spain, the UK and Scandinavia. Forecasts for Germany are currently downgraded in view of the low number of new orders.

**Slight drop in investment planning in Germany**

An ‘easy’ harvest, so to speak, is expected for Germany so far. It will probably start three to four weeks earlier than usual. Estimates of the harvest volumes are currently fluctuating between ‘stable’ and a slight drop. A slight decrease in the yield per hectare for wheat should be expected as the figure was very high in the previous year at 80 tonnes. The arable farmland dedicated to rye has been significantly reduced following the sharp price drop in the past year. In contrast, the area of maize was increased yet again.

German farmers remain in a buoyant mood. The agricultural barometer has been at a consistently high level since the end of 2010. In a similar result to the survey in France, German pig farmers also considered their situation in March to be ‘unsatisfactory’. However, prices have now recovered again. The two main reasons for optimism are currently the milk price and expectations of a good harvest. On the other hand, global milk prices have started to ease off again, so there is hope that these snapshots from the spring will last a while longer.

In the past three years, the German agricultural machinery market grew from strength to strength. In 2013, agricultural machinery companies with their German distribution partners achieved a turnover of €5.55 billion. Fleets of machinery of farmers and contractors have thus been considerably updated in recent years. The preconditions are favourable for further structural change, including growth in size with regard to area and number of livestock.

Last year tractors accounted for around 37% of the total market volume, followed by harvesting machinery with a share of 14%. Statistically
speaking, between 2011 and 2013 more than one out of three farms purchased a new tractor; during this period, total registration figures remained constant at 36,000 units per year. In the segment over 50 hp, there was also only a narrow range of fluctuation, between 28,400 and 30,200 units per year.

Manufacturers of equipment for arable farming achieved considerable growth in turnover last year. Particular mention should be made of plant protection equipment, where the market volume rose by 25%. In the last two years, milk prices benefitted the forage harvesting machinery sector, with a few exceptions such as self-loading wagons, which reached a certain degree of saturation in the past seasonal year. Prices paid to farmers for milk likewise had a direct influence on investment planning for milking and cooling equipment, so that here too there were continuing high sales levels. The combine harvester market performed comparatively well in the 2012/2013 season, with a turnover of 2,058 units. There was also a strong demand for round balers, whereas peak sales of forage harvesters diminished in the light of market saturation with regard to biogas production.

Following the high levels of investment in their machinery fleets however, German farmers announced in the VDMA survey that they will be investing less in 2014. Compared to last year’s figure of 20%, now only 16% of farmers intend to buy machinery in the coming year. The average budget is lower too. Instead there was a stable investment trend for farm buildings and also several hasty investments in photovoltaic systems. The reason behind this is the introduction of a new levy for self-produced energy from 1 August 2014 (EEG levy). Energy generated by systems set up before this period is exempt from this ruling.

In the first few months of 2014, there was no sign of a slackening-off on the German agricultural machinery market. The number of new tractor registrations remained consistently high until April. Sales of equipment for tillage, sowing, fertilising and plant protection increased again. Only harvesting machinery saw some sharp declines in demand, most notably for hay machines and combine harvesters. Balers will also be unable to maintain the level from last year in the 2013/2014 season. From the above, we can see that there will be a mixed trend in the first half of the year, although we can assume that overall there will be a small plus in terms of sales value. For the second half of the year, however, the trend is looking weaker. This is indicated in particular by tractors, for which there has now been a double-digit drop in the number of incoming orders. Demand for plant protection equipment however seems to be unbroken. The sale of self-propelled forage harvesters is also going very well at the moment. In general, prospects for classic ‘contractor machinery’ are looking better: according to the VDMA investment barometer, contractors are planning to maintain their investments for 2014 at last year’s level.

Summing up the situation in Germany, we can say that the mood in the agricultural sector remains good, but that forecasts for the machinery demand need to be adjusted slightly downwards. Sales partners’ stocks of used and new machinery have increased again. As a result the market environment will become tougher. For the calendar year 2014, we are currently expecting a drop in turnover of at least 5% on the German market. At €5.4 billion however, this would still beat the average of the past five years (€4.7 billion) by 15%.
Market decrease due to lower subsidy rates in Poland

Guest article by Aleksander Muzalewski, University of Warsaw

The situation in the Polish agricultural machinery market mainly depends on domestic demand, which is determined by farm incomes. In 2013, Polish market developments were unfavourable due to agricultural prices and reduced machinery co-financing from the EU support funds. In Poland the prices of most agricultural means of production increased, although significantly less than in 2011–2012. The downturn in the domestic market was caused by deterioration of the financial situation for farmers, resulting from unfavourable market conditions, which were worse than in 2010–2011 and comparable to 2012. The decrease in farm incomes was partially compensated for by direct payments under the Common Agricultural Policy. Such payments increasingly affect the income situation in Polish agriculture.

Poland is the fifth largest agricultural machinery market in the EU. From 2004 (the year of Polish accession to the EU) to 2013 the market value of agricultural machinery almost doubled. The country is a net importer of agricultural equipment. In the years 2004 to 2013, imports amounted to €8,550 million, while the value of exports was only €5,556 million. Thus the foreign trade balance for agricultural machinery showed a deficit of €2,994 million.

In 2013, 14,968 new tractors were registered in Poland, 23% less than the year before. Some growth was observed in the area of orchard and compact tractors, where a total of 1,875 units were sold (an increase of 23%). In addition, the market for second-hand tractors expanded by 11%. In 2013, more than 15,000 second-hand tractors were registered. In the new tractor market, the largest shares belonged to New Holland (18%), John Deere (17%) and Zetor (14%), while domestic tractors had a market share of only about 10%.

The growth and volatility of the Polish market depends largely upon the availability of preferential loans, investment subsidies from EU programmes for rural development and farm modernisation, agricultural incomes and the current price situation for agricultural products. In the years 2007 to 2013, the most important factor for the development of the agricultural machinery market in Poland was investments within the context of Measure 121 (modernisation of agricultural holdings) of the EU programmes for rural development. Under this Measure, Polish farmers received subsidies for purchases of about 270,000 units of agricultural machinery, including 40,650 tractors, 14,500 trailers, 2,260 combine harvesters, 1,880 self-propelled loaders, 250 forage wagons, 6,400 slurry spreaders, 11,330 balers, 2,620 feeder wagons, and other equipment. The total value of these purchases amounted to €3,921 million, representing 41% of the agricultural machinery market in the period 2007 to 2013.

Prospects for 2014 are unclear or moderate, mainly due to the termination of EU support (within the 2007 to 2013 framework) for farm modernisation investments. Farmers are postponing purchases of tractors and machinery until the end of the year or to the next year, while waiting for support funds to be available again. Support funds for the budget period 2014 to 2020 will not be available before the end of 2014. However, it should be noted that in the new financial framework for 2014 to 2020, the main support for farm modernisation will be focused on investment in buildings (such as pigsties and barns), with reduced support for machinery investments. This is less favourable for the agricultural machinery market.

Under these conditions, a further decline in the Polish agricultural machinery market and an increase in the purchase of second-hand tractors and machinery, including imported units, can be expected. A positive impetus to sustain the
current economic situation in the agricultural machinery market could be provided by funds from ending Measure 121 and from other measures that can be used for the purchase of tractors and agricultural machinery. The total amount of these funds is estimated to be approximately €300 million to €350 million.

**Growth perspectives for Romania**

Romania was able to overcome a brief downturn in agriculture and the agricultural machinery market as early as 2013. The downturn was caused by a strong drought in the previous year. The 2013 harvest was again well above the average of the past five years. According to information from the agricultural ministry, the country harvested 7 million tonnes of wheat in 2013 (+40%). The maize harvest was even better at 11.3 million tonnes, which was double the production of the previous year. With this harvest, Romania is the second-largest producer in Europe (after France). Approximately half of the grain is exported. Similarly, the production of sunflowers also set a "historic record" at two million tonnes. This placed Romania in first place in Europe, just in front of Bulgaria.

Romania's farmland area is estimated at 8.7 million hectares, which is the size of the Czech Republic and Hungary combined. During the last few years, the country was able to expand its exports of wheat, maize and oilseeds, and is now also becoming a competitor to the sluggish Black Sea countries of Russia and Ukraine.

In the long term, agricultural machinery manufacturers view Romania as the clear number two sales market in central and south-eastern Europe after Poland. Currently, the market size is still similar to the markets of much smaller agrarian nations such as the Czech Republic and Hungary, with an estimated volume of approximately €600 million. There is good demand for agricultural machinery "Made in Germany", although it lags somewhat behind the Italian competition at approximately 15%. Another strong contender in the market is simple and cost-effective machinery from Turkey, Belarus and now also China and India. There is still immense potential. Similar to its neighbour Bulgaria, Romania's farms have the lowest level of technical equipment in the entire EU. Some farmers in structurally weak areas are still using machinery from the 1970s and 1980s. Even larger farmers along the Danube have just enough equipment to be able to complete their work under favourable conditions. The wear and tear on the machinery is quite high, since the machines are working at the limits of their capacity. Quite often, farmers have had to conclude that the implements they purchased are too small and not effective enough. After a prescribed minimum period of five years, this machinery is sold as used machinery within the country or supplemented with high-performance implements.

Similarly, future support programmes also wish to make a contribution towards exploiting the available potential. The government wants to continue its support for agricultural this year, even if individual subsidy measures have not been defined to date. At the International Green Week 2014 in Berlin, Romania's Minister of Agriculture stated that existing measures will be released for application during the transition period with the funds from the new budget. With favourable weather conditions, Romania could be the big winner this year.

**New impulses expected in Croatia and Serbia through EU support programmes**

Croatia has been a member of the EU since 1 July 2013. However, membership in the EU has only had a limited impact on the Adriatic country in terms of being a growth driver. The Croatian economy shrunk by 1% in 2013, and thus registered another year of zero economic growth for the fifth year in a row. Government debt is high, and the loss of export markets as part of the free-trade agreement CEFTA between south-eastern European countries as a consequence of EU membership has had a negative effect on the local economy.

The Croatian agricultural machinery market has also shown weakness since the last peak in 2008. In 2013, imports of agricultural machinery, which make up almost the entire market volume, amounted to €74 million, one fifth less than the previous year. However, EU support funds, that are available to Croatia as a full member of the EU, may bring new impulses in this context. For
the 2014–2020 support period, €2.3 billion are earmarked for rural development, along with €2.6 billion in direct payments. This is many times more than Croatia received in pre-accession funds as an accession candidate. Investment projects ranging from €3,500 to €3 million would then be eligible for subsidies for 50% to 70% of the investment sum. 50% is considered a standard value in this context. 70% will be assumed for example if the farmer/investor is under 40 years old, the project is located in a disadvantaged region, or if the investment is carried out in the context of organic farming. The European Commission is expected to approve the national rural development programmes for the current support period in the summer, so that the first tenders can be expected by the end of the year.

With Serbia, the EU officially started accession negotiations in January. The accession date will be decided by the foreign and European ministers in Brussels, but that decision is not expected before 2020. Serbia is also expected to submit its programme for rural development to the European Commission by the middle of the year. However, it could last one or two more years until these subsidies can be effected for investment.

The effect of the programme on the fledgling Serbian agricultural machinery market depends on many factors. Croatia may not be the best example in this regard. In contrast to earlier Eastern European accession candidates, such as Poland or the Czech Republic, the impulses of pre-accession funds for the Croatian agricultural machinery market were limited due to a number of implementation difficulties. 1 If Serbia manages to avoid some of these problems from the beginning, then a revival of the agricultural machinery markets as of next year is not altogether improbable.

**Ukraine marked by political instability**

The situation in Ukrainian agriculture began to deteriorate in the second half of 2013. This was caused by a fall in pre-harvest grain prices. Unlike Russia, where a large proportion of home-grown grain is consumed within the country, Ukraine sells almost half its harvest on the world market. The proportion of grain maize exported is even higher. There is also strong demand from abroad for oilseeds, along with sunflowers, the traditional cash crop, and soybeans and rapeseed, both of which are rapidly expanding. Ukraine has achieved impressive results in its arable farming sector. In 2013 the harvest exceeded the 1980s average in terms of quantities for the first time. Despite the decline in acreage, yields were significantly improved to around 4 tonnes per hectare for wheat on average, with some farms achieving yields of up to 6–7 tonnes per hectare. At the same time, production costs in Ukraine are amongst the highest in the world. Most of the fertilisers, seeds and energy used are imported at high prices.

There are virtually no subsidies. The annual interest rate for debt financing is at least 20%, with horrendous sums being charged in the form of administrative expenses. As a result, the Ukrainian market has become extremely price sensitive. Nonetheless, farmers and agricultural holding companies started off 2014 with a sense of cautious optimism, which was still in evidence at the AgroAnimalShow in early February. Over the last quarter, however, orders for machinery have taken a real tumble.

1 The reasons can be found in higher administrative requirements as a consequence of the fraud cases in other countries, a limited support spectrum, a lack of communication in the industry, lack of co-financing options through the banks, and a lack of personnel in administration. At this time, only applications from the year 2011 are being reviewed. Against this background, Croatia was granted an extension to the implementation period for the pre-accession funds until 2016. Therefore it will take several months or years until it is clear which portion of the available €145 million for the 2007–2013 support period will finally be called.
With the second wave of the so-called Maidan Revolution which led to the demise of the Yanukovych government, the situation deteriorated dramatically. There are several reasons for this. Sources of financing have nearly dried up, and the agricultural holding companies, which generally have connections with the oligarchs, do not know how the political situation in the country will develop. Some of these entrepreneurs who had sided with the former government fear expropriations, while others from the west are taking their chances. Prices of fertilisers and fuel imported from Russia and Belarus have increased sharply, not least because the Ukrainian currency has lost as much as 15% of its value against the EUR and the USD. The civil war-like conditions in the country are paralysing the economy.

**Downcast mood on the Russian agricultural machinery market**

The past year was certainly one of the most successful for Russian agriculture. While the harvest was slightly below record years, it was nevertheless still very good at approximately 90 million tonnes of grain. Sunflowers and soybeans also delivered good yields. Besides higher exports, there was also strong domestic demand for Russian agricultural products, which has the effect of cushioning producer exposure to downward and upward spikes in global market prices. In 2013, Russian farmers generated a positive profit margin. Somewhat improved grain supplies with a slight decline in prices alleviated feed costs for animal husbandry farms. Only potato, fruit and vegetable growing farmers complained of the dramatic collapse in prices as a result of the high harvest volumes. Overall, farmers and agricultural holdings were able to generate good profits, since food prices have continued to rise. This development is most obvious in the case of milk and meat products.

At the same time, the agricultural machinery market declined in the past year. We believe that the causes for the decline can be found in the bad harvest of the previous year and the noticeable decline in subsidies, or the fact that machinery has become more expensive due to import duties. The decline was strongest in the case of tractors and combine harvesters, i.e. relatively expensive machines, which were purchased in previous years by accessing interest subsidies or other subsidy programmes. In the case of combine harvesters, the prohibitive import duties of 32.5% that were in effect between the end of February and the end of June also played a role. Since the introduction of import quotas effective as from 1 January 2014 was already clear by October 2013, the remaining two months were used to deliver several combine harvesters into the country as inventory.

**Agricultural Machinery Exports to Russia**

<table>
<thead>
<tr>
<th>Country</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
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</tr>
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<tbody>
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</tr>
<tr>
<td>China</td>
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</tr>
<tr>
<td>Canada</td>
<td>20</td>
<td>40</td>
<td>80</td>
<td>120</td>
</tr>
</tbody>
</table>

Source: National Statistic Agency, VDMA

Expectations by Russian manufacturers regarding their business situation are decidedly positive. They will now exclusively benefit from subsidy programmes that are tailored to specific manufacturers such as combine harvester manufacturer Rostselmash. The selected manufacturers receive a direct subsidy of 15% on the sales price. In addition, customers can apply for favourable financing or leasing conditions at banks or the government leasing company RosAgroLeasing. These initiatives are designed to motivate farmers and agricultural holdings to purchase “patriotic” machinery. No consideration is given to the question whether the machinery actually meets the requirements of the agricultural holdings. Some product segments, such as high-performance tractors, plant protection equipment as well as potato and beet harvesters, are not produced locally, with the exception of a few sample models. A revival in business activities can certainly be expected for some segments with locally-produced and usable products. But it is not expected that the market as a whole will grow significantly.
Some of the few glimmers of hope may come from beef production. Here, the government wants to provide more help to producers. For example, the Russian Ministry of Agriculture intends to co-finance 28 regional programmes this year. The federation budget provides approximately €38 million for the relevant support for beef production. The ministry expects that this move will stimulate investments, which are expected to reach a total volume of €475 million. It is still not clear which machinery will be favoured by the subsidy.

Currency devaluation worsens outlook for Kazakhstan

After a moderate market recovery in the two previous years, 2013 was the first year in which the market did not do as well in terms of arable farming machinery. There was slight growth in the forage harvesting and potato implement segments, since these were partially affected by support programmes. On the other hand, there was strong growth in the livestock equipment and processing equipment segments. After a good 2013 harvest, agricultural machinery importers were hoping for a good business year in 2014. The considerable devaluation of the currency has however squashed the hopes of importers from Europe and the USA. Manufacturers from Russia and Belarus are more hopeful in this regard, as their currencies have also devalued.

In addition, deliveries within the Customs Union are free of any restrictions. It is expected that this year the tide will turn in favour of Russian manufacturers Rostselmash and Gomselmash, particularly in the combine harvester segment. These two manufacturers already hold a strong position in the market, are not subject to any restrictions in terms of machinery deliveries, and have an advantage vis-à-vis the competition from Europe and the USA due to currency devaluation.

Most of the tractors in use consist of tractors with more than 300 hp. With respect to tilling and seeding, farmers place great emphasis on simplicity, robustness and extensive working widths. Machines from North America are becoming increasingly popular. At the same time, German manufacturers also enjoy a good reputation in this segment, and have held on to their market share in recent years by introducing new products that were developed especially for the requirements of this region. The sales outlook for this year is modest on account of the currency issues. The situation will not improve until next year. The last great wave of investments occurred in 2007 and 2008. These machines must now be replaced. But much will depend on overall economic developments and the upcoming harvest.

For now, India remains a market for small agricultural machines

The Indian economy grew last year by 4% which is relatively little for a BRICS country. Industrial production is struggling to gain momentum, the budget deficit and inflation are high and much-needed reforms have not taken place. To protect
the rupee from further devaluation, interest rates have risen, which has in turn hindered investment. Some now fear that India could be on the brink of a financial crisis similar to that of 1991.

However this has had little impact on the mood in the agricultural sector in the past few months. In 2013, the monsoon provided sufficient rainfall, which in most parts of the country led to good yields for grain, oilseeds and cotton. Food and support prices have both continued to rise. The increase in agricultural income has had an impact on the agricultural machinery market. Sales of tractors in the 2013/2014 seasonal year (April 2013 – March 2014) have risen by 20% to an impressive 633,076 units. An estimated 550,000 of those were purchased primarily for agricultural purposes.

In the long term, there is no avoiding structural change in farming, not least due to the constant growth of other sectors, which is attracting employees away from the agricultural sector. The demand for modern large-scale machinery will then increase. But it will perhaps take a little longer than had previously been expected.

**Modern Chinese farmers focus on technological efficiency and reliability**

An important finding from VDMA interviews with Chinese farmers carried out as part of the current market study is the observation that farmers in China are increasingly thinking about efficiency and reliability and therefore process stability. With arable farm sizes growing and per-hectare yields rising, ever more demands are being placed on the machinery they use. Overarching all of this is the Beijing central government’s express call on farmers to secure a supply of food of an appropriate quality for the growing population.

Generous state support programmes are available for this. They include price concessions on diesel, electricity, fertilisers and pesticides, as well as direct subsidies for modern agricultural machinery. The amount available specifically for agricultural machinery increased in 2013 by an additional €30 million to a total of €2.56 billion. Depending on the product segment, the state pays up to 60% of the purchase price. A degree of local value-added is necessary for foreign manufacturers wanting to appear in the much sought-after list of agricultural machinery eligible for state funding. Inclusion in the catalogue and the amount of funding available are determined by a Chinese testing institute; grants are approved across various levels of the regional administration. There is a cap of CNY 50,000 (approx. €5,900) per machine. Grants from the public purse of up to 50% are available on harvesting machines, subject to a ceiling of approximately €12,000. This arrangement applies to privately owned farms and machinery co-operations.

In the meantime, the dynamism in Chinese agriculture is continuing. Despite the massive harvest losses in the north-east of the country caused by long periods of rainfall and flooding, the national grain and oilseed harvest reached impressive levels in 2013. The increase in quantities was the result of higher per-hectare yields. Milk, cattle and pig production also took a significant step forwards. As the standard of living increases and consumer habits change, consumption of meat and dairy products is on the rise. National production is far from self-sufficient in these areas. Imports of dairy products from Europe play an important role in meeting this demand. Nonetheless, efforts to increase national production have been remarkably successful, not least due to the use of modern machinery in areas such as feed production, including the use of high-performance forage harvesters, and modern milking and refrigeration technology.
Good harvests in Brazil

In 2013, the Brazilian agricultural machinery market reached a new record high. More than 8,500 new combine harvesters and over 65,000 tractors were sold. This reflects a need for investment attributable to the ongoing mechanisation, not yet completed, of the mostly small-scale farms, as well as to the expansion of cultivated areas by large-scale farms in particular. Recent harvests also produced good yields, which boosted purchasing power.

Source: International Grains Council

However, Brazilian agriculture is comprised not only of the large agricultural corporations that cultivate extensive areas in the states of Mato Grosso and São Paulo. Small-scale agricultural holdings, officially estimated at five million farms, account for the vast majority of the agricultural industry and those engaged in it. It is primarily for the small farms that state subsidy programmes have been established. These essentially consist of loan subsidies, transferred via the state Brazilian Development Bank, BNDES. For the period 2014/2015 a higher volume was approved, 15% more than for the previous year. The subsidies are handled via 14 different programmes. The formerly popular Moderfrota programme has been revived. It relates specifically to the acquisition of new and used agricultural machinery, and in terms of the Brazilian real (BRL) has a volume of BRL 3.5 billion (€1.15 billion). The interest rate for loans obtained via the programme is 4.5%, which is below the current rate of inflation of around 6%. Large farms with an annual turnover exceeding BRL 90 million (€30 million) must pay a somewhat higher interest rate of 6%. The maximum duration of the loans is eight years. However, these preferential loans are available only for machinery manufactured in Brazil. This means that most domestic agricultural machinery production is likely to benefit from the cross-subsidisation, while imported goods remain correspondingly unattractive.

Economic reversal in the USA

In February, the United States Department of Agriculture (USDA) published the findings of the most recent agricultural census, held in the year 2012. The census is held once every five years. The latest results show that the number of farms in the USA declined by 4% to 2.1 million. Thus, a slight structural change is also taking place here. An analysis of the size categories indicates that the number of large farms is not increasing significantly, however presumably they are expanding in area. There continue to be approximately 800,000 farmers with less than 20 hectares of land. Of these, 220,000 are hobby farmers with 4 hectares or less, the so called “sundowners”. There are 316,000 large farms with an area of more than 200 hectares. The evaluation of ownership of land and technical equipment was one third higher in 2012 than five years previously. The total number of tractors fell 5% to 4.2 million; 12% of these were less than five years old. On the other hand, the number of tractors exceeding 100 hp rose by 7% to 1.2 million. Combine harvesters remained constant at an estimated 347,000 units, which on average were probably newer than previously.

Following a long-term upswing, the US agricultural machinery market seems to have arrived at an economic turning point. Primarily in the case of large machinery, sales have fallen sharply in the initial months of this year. Nevertheless, the findings of the Agrievolution survey still reflect a great deal of optimism on the part of industry representatives. Two thirds of agricultural machinery manufacturers indicated that they are very satisfied with their business situation, and half anticipated further growth of turnover, reporting a continuing good order situation even in the domestic market.

Whether this positive scenario will be realised will be seen in the coming months. A market decline

Acreage for Soya and Maize in Brazil

<table>
<thead>
<tr>
<th>Year</th>
<th>Soyabean Acreage</th>
<th>Maize Acreage</th>
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</thead>
<tbody>
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<td>10</td>
</tr>
<tr>
<td>2010</td>
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<tr>
<td>2011</td>
<td>15</td>
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</tr>
<tr>
<td>2012</td>
<td>20</td>
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<tr>
<td>2013</td>
<td>25</td>
<td>30</td>
</tr>
<tr>
<td>2014</td>
<td>30</td>
<td>35</td>
</tr>
</tbody>
</table>

Source: International Grains Council
seems plausible, due to saturation of the market, as experienced since the beginning of this year for professional machinery in the USA. In addition, the income of farmers decreased slightly last year. However, in comparison to arable farmers, dairy farmers earned good incomes in 2013. For 2014, the USDA anticipates further single-digit percentage declines in agricultural incomes. Following the long winter, it is not yet possible to predict arable farming yields. Except in the region of the southern Great Plains, precipitation has been adequate so far.

Optimistic mood in Africa

For many people, until recently, Africa was still uncharted territory, but now everyone seems to be talking about ‘the dark continent’. Things are definitely happening and the mood throughout the continent is buoyant: roads are being built, power grids extended and discoveries of gas and oil are firing the imagination all over the continent – Africa’s GDP is growing faster than any other, although admittedly its initial starting point was very low. This development is echoed in the agricultural machinery sector. Imports of agricultural machinery to Africa in 2012 were up 26% on the previous year. The size of the markets in sub-Saharan Africa (at around €700 million) – with the exception of the high-selling Republic of South Africa – has until recently been comparable with that of the Czech Republic. However, nowhere is the potential bigger than in Africa. 60% of the world’s uncultivated farming land is situated here. Only a quarter of potential productivity is being realised on the acreage currently cultivated. If Africa continues to develop at the same pace, the demand for agricultural machinery will soon be huge.

Even if large farms and contractors represent a growing customer segment for Western agricultural machinery manufacturers, hitherto they have remained a relatively modest segment. For the example of Ethiopia: Small farmers, cultivating between one and five hectares of land with oxen and no machinery, make up the majority of the Ethiopian agricultural sector. In the long term, however, the growth in other sectors of the economy will undoubtedly lead to structural change and thus greater demand for mechanisation in Ethiopian farming. In addition, ever more small farmers are joining industrial farms or are forming cooperatives. Up until now the latter have tended to be formed for the purpose of jointly marketing the crops they have harvested. Central investments in agricultural machinery are still relatively new but are occurring more and more frequently, and Ethiopian dealers of agricultural machinery see cooperatives as important future customers.

In many African countries, the development is currently similar to that in Ethiopia. In Zambia, for example, the number of commercial farms has risen from 400 to around 700 in the last five years. In Mozambique the number of big investors is also increasing – 100 of them alone come from South Africa and currently cultivate an area of 600,000 hectares. In Angola, on the other hand, attempts are being made to re-establish large farms that were relics from the colonial period and now belong to politicians, generals and wealthy business people. In all these countries, farming is also growing ‘from the bottom up’. There are increasing numbers of ‘emerging farmers’, i.e. small farmers who are developing out of subsistence farming towards commercialisation and who are gradually beginning with mechanisation. Frequently, they copy the new investors in the country with their modern production methods.

In principle it still remains to be seen whether the small farms, emerging farmers or cooperatives will really prove to be a significant target group for Western manufacturers of agricultural machinery or whether this relatively price-sensitive customer segment will be served by the cheaper Chinese or Indian brands. In the short term, the latter will probably be the case. Nevertheless it is
a good idea, especially in the long term, to at least keep an eye on the financially weaker target groups too, whilst in the foreseeable future the large farms and contractors are more likely to be among the more profitable customer segments. Western manufacturers can score well with their high quality products, and above all good service and the availability of spare parts. The latter in particular is one of the key reasons why farms or contractors in Africa decide to buy Western agricultural machinery. If Africa continues to grow at the same rate as it is currently and once smaller farms and cooperatives have gained enough own experience with agricultural machinery, the market potential can turn into sales opportunities for the European industry as well.
Agricultural Machinery in the European Union
Values in Million Euro, including tractors

<table>
<thead>
<tr>
<th>Country</th>
<th>Production</th>
<th></th>
<th></th>
<th></th>
<th>Exports</th>
<th></th>
<th></th>
<th></th>
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<td></td>
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<td>2012</td>
<td>2013</td>
<td>%</td>
<td>2011</td>
<td>2012</td>
<td>2013</td>
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<td>4308</td>
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<td>2511</td>
<td>2782</td>
<td>2749</td>
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<tr>
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<td>6985</td>
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<td>10%</td>
<td>5002</td>
<td>5518</td>
<td>6124</td>
<td>11%</td>
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<td>2110</td>
<td>2083</td>
<td>-1%</td>
<td>1572</td>
<td>1813</td>
<td>1791</td>
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<tr>
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<td>1%</td>
<td>3644</td>
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<tr>
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<td>1301</td>
<td>1472</td>
<td>1592</td>
<td>8%</td>
<td>1163</td>
<td>1276</td>
<td>1417</td>
<td>11%</td>
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<td>1038</td>
<td>1067</td>
<td>1087</td>
<td>2%</td>
<td>1832</td>
<td>1877</td>
<td>1899</td>
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<td>574</td>
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<td>725</td>
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<td>612</td>
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<tr>
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<td>893</td>
<td>16%</td>
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<td>66</td>
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<td>17%</td>
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<td>649</td>
<td>640</td>
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<td><strong>1662</strong></td>
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<td><strong>2070</strong></td>
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<td><strong>8315</strong></td>
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<td>1948</td>
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<tr>
<td>Austria</td>
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<td>-1%</td>
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<td>777</td>
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<td>830</td>
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<tr>
<td>Belgium-Luxembourg</td>
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<td>1341</td>
<td>1421</td>
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<td>713</td>
<td>765</td>
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<td>8%</td>
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<td>377</td>
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<td>718</td>
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<td>328</td>
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<td>364</td>
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<tr>
<td>Portugal</td>
<td>205</td>
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<td>215</td>
<td>16%</td>
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<td>255</td>
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</tr>
<tr>
<td>Greece</td>
<td>87</td>
<td>64</td>
<td>106</td>
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<td><strong>EU 15</strong></td>
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<td><strong>22481</strong></td>
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<td>-5%</td>
<td>612</td>
<td>670</td>
<td>658</td>
<td>-2%</td>
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<tr>
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<td>403</td>
<td>439</td>
<td>9%</td>
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<td>481</td>
<td>527</td>
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<td>454</td>
<td>463</td>
<td>446</td>
<td>-4%</td>
<td>444</td>
<td>453</td>
<td>430</td>
<td>-5%</td>
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<td>375</td>
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<td>334</td>
<td>368</td>
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<td>1109</td>
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<tr>
<td><strong>EU 13</strong></td>
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<td><strong>3682</strong></td>
<td><strong>3613</strong></td>
<td><strong>-2%</strong></td>
<td><strong>4120</strong></td>
<td><strong>4544</strong></td>
<td><strong>4510</strong></td>
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</tr>
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<td><strong>EU 28</strong></td>
<td><strong>3167</strong></td>
<td><strong>3472</strong></td>
<td><strong>3307</strong></td>
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<td><strong>24783</strong></td>
<td><strong>26287</strong></td>
<td><strong>26991</strong></td>
<td><strong>3%</strong></td>
</tr>
</tbody>
</table>

* excluding intra trade
Some countries including transfers (e.g. Netherlands, Belgium - reason for exports exceeding production)
Sources: Eurostat, VDMA (incl. own calculations and estimation production 2013), CEMA
Exports of Agricultural Machines and Tractors Worldwide

Share of total volume in % (2013)

Imports of Agricultural Machines and Tractors Worldwide

Share of total volume in % (2013)

Sources: official national statistics, VDMA, total of the ex- or imports from 52 countries
### Tractor Production and Markets in Selected Countries

#### in units

<table>
<thead>
<tr>
<th>Country</th>
<th>Main Manufacturers</th>
<th>Production</th>
<th>Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>India¹</td>
<td>Escorts, Mahindra&amp;Mahindra², Tafe Eicher</td>
<td>639.896</td>
<td>578.690</td>
</tr>
<tr>
<td>Japan</td>
<td>Iseki, Kubota, Yanmar</td>
<td>155.374</td>
<td>158.668</td>
</tr>
<tr>
<td>USA</td>
<td>Case New Holland, John Deere, Kubota</td>
<td>158.090</td>
<td>154.705</td>
</tr>
<tr>
<td>Italy³</td>
<td>Argo, Case New Holland, Same Deutz-Fahr</td>
<td>67.954</td>
<td>71.021</td>
</tr>
<tr>
<td>Brazil</td>
<td>Agco, Case New Holland, John Deere</td>
<td>63.427</td>
<td>64.456</td>
</tr>
<tr>
<td>Germany</td>
<td>Agco, John Deere, Same Deutz-Fahr</td>
<td>60.551</td>
<td>59.213</td>
</tr>
<tr>
<td>Belarus</td>
<td>Minsk Tractor Works</td>
<td>58.817</td>
<td>60.386</td>
</tr>
<tr>
<td>France⁴</td>
<td>Claas, Massey Ferguson</td>
<td>27.749</td>
<td>28.364</td>
</tr>
</tbody>
</table>

---

different sources, VDMA; ¹fiscal year 1.4.-31.3.; sales incl. exports and excluding imports, ² incl. Punjab,³ incl. crawler, ⁴ sales excl. telescopic handlers

### German Market Volume for Agricultural Machinery by Segments

#### Value in 1,000 Euro

<table>
<thead>
<tr>
<th>Kind of machinery</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>%-change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tractors</td>
<td>1.698.747</td>
<td>1.900.870</td>
<td>2.046.280</td>
<td>7,6%</td>
</tr>
<tr>
<td>Soil Working Equipment</td>
<td>198.888</td>
<td>252.848</td>
<td>266.173</td>
<td>5,3%</td>
</tr>
<tr>
<td>Machines for sowing, plant protection and fertilising</td>
<td>197.132</td>
<td>253.233</td>
<td>289.198</td>
<td>14,2%</td>
</tr>
<tr>
<td>Harvesting machinery</td>
<td>758.290</td>
<td>855.709</td>
<td>792.671</td>
<td>-7,4%</td>
</tr>
<tr>
<td>Equipment for husbandry</td>
<td>256.366</td>
<td>290.599</td>
<td>294.505</td>
<td>1,3%</td>
</tr>
<tr>
<td>Conveyor equipment for agriculture</td>
<td>65.114</td>
<td>95.944</td>
<td>81.251</td>
<td>-15,3%</td>
</tr>
<tr>
<td>Trailers for agricultural use</td>
<td>67.902</td>
<td>83.976</td>
<td>82.125</td>
<td>-2,2%</td>
</tr>
<tr>
<td>Other machinery*</td>
<td>1.513.795</td>
<td>1.683.531</td>
<td>1.705.261</td>
<td>1,3%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4.756.234</strong></td>
<td><strong>5.416.710</strong></td>
<td><strong>5.557.464</strong></td>
<td><strong>2,6%</strong></td>
</tr>
</tbody>
</table>

Sources: Turnover Statistics VDMA Agricultural Machinery, Federal German Statistic Agency, * incl. parts, lawn and garden maintenance, forest equipment, repair, others
## European Tractor Registrations

in units, totals for selected countries

<table>
<thead>
<tr>
<th>Country</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>2010</td>
<td>2011</td>
<td>of which:</td>
<td>of which:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&gt; 37 kW</td>
<td>&gt; 37 kW</td>
</tr>
<tr>
<td>France</td>
<td>29.123</td>
<td>35.409</td>
<td>38.764</td>
<td>34.001</td>
</tr>
<tr>
<td>Germany</td>
<td>28.587</td>
<td>35.977</td>
<td>36.264</td>
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<td>23.323</td>
<td>23.429</td>
<td>19.343</td>
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</tr>
<tr>
<td>Poland</td>
<td>14.731</td>
<td>17.035</td>
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Sources: CEMA, Systematics International, Martin & Jacobs, VDMA, Fedecom
### Key Facts for the Agricultural Sector in the European Union

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Source: Eurostat; data status 2010, wheat yields: 2011/2012
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Subject to correction.

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