

*In cooperation with the Automotive Industry Association of the Slovak Republic and the Slovak Automotive Industry, PwC surveyed the current situation, key factors and the future expected development in the automotive supply segment in Slovakia.*

# ***PwC Automotive Supplier Survey 2017***



*Three quarters of the suppliers expect an increase in revenues and 50% of the companies achieved results better than in the previous year. Up to 87 % state that the biggest problem is the skilled staff shortage, 85% will increase wages, and one third of them do not employ employees from abroad. 40% of suppliers expect an increase in labour costs of 10 - 20% over the next three years. Only 8% of university graduates are considered to be well prepared for work. One third of suppliers expect to implement Industry 4.0 in their activities within the next five years.*

[pwc.com/sk/en/odvetvia/automobilovy-priemysel/pwc-automotive-survey-2017.html](http://pwc.com/sk/en/odvetvia/automobilovy-priemysel/pwc-automotive-survey-2017.html)



SLOVENSKÝ AUTOMOBILOVÝ INŠTITÚT





## ***Dear Friends and Business Partners,***

Globalisation is continuing and technological developments will certainly play an important role. Global leaders are focussing on the impact of the current trends on big data and digitalisation. Businesses that are part of a value chain are not always clear about the direction they should move in as they are dependent on the decisions of their ultimate customers. And these decisions have often not yet been made. Global leaders are also raising concerns about the increasing pace of new technologies, and that is creating challenges as regards strategic decisions and security aspects. In addition, future political decisions may create trade barriers and uncertainties in the area of taxes and customs.

All these challenges are well known to Slovak business leaders and to decision makers in the automotive industry, both OEMs and the supplier industry. In addition, Slovak automotive CEOs are searching for skilled and motivated people as the business outlook is positive. This is not only about a scarcity of labour, but also about the requirements and aspirations of the younger generation, and the implementation of new technologies.

At PwC, we expect the electrification of passenger cars to speed up significantly in the next couple of years, both hybrids and pure electric cars. By 2023, alternative powertrain production in the EU27 could gain a share of 16%, which may not sound significant, but would translate into almost 3.8 million cars. Electrification in Europe will be driven by EU regulations to further decrease emissions, and the downsizing of combustion engines alone will not help fleets to reach the limits set for 2021. Electrification will transform the automotive industry in many ways, providing opportunities and also creating challenges for suppliers, especially those focused on traditional powertrains and of course the Slovak automotive industry will also be affected.

This is the fifth Slovak Automotive Supplier Survey and the results were published in May 2017. Generally, Slovak automotive suppliers remain positive about the business environment, and the general outlook for the Slovakia automotive industry is stable and investors continue to be confident. However, nothing is guaranteed, and Slovakia needs to continuously reconfirm its ability to stay flexible and

agile with respect to changes to business and in the competitive environment, and productivity gains need to match cost increases. We hope you will find the survey interesting reading and that you will gain insights as regards supplier industry representatives. I feel certain you will find the results useful and they will add value.


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## ***A competitive automotive industry in the Slovak Republic requires an efficient supply chain***

For the Slovak Republic, an efficient supply chain is vital as in 2015 and in 2016 more than one million cars rolled off the assembly lines of Slovak final manufacturers (OEMs) and the share of Slovakia of global car production now exceeds one percent. In addition in 2016, the foundation stone of a new car manufacturing plant of Jaguar Land Rover in Nitra was officially laid. As long as there are no unpredictable changes on world markets, the Slovak Republic the number of produced cars will continue in the future.

The continuation of these trends, however, will required conditions that not only assist the current development of the automotive industry but are also part of a long-term strategy. With the arrival of the new investor and following the changes to the political and economic grouping in the EU, it can be expected that new companies will make investments in Slovakia in the subcontracting chain.

Slovakia is a major automotive country in the CEE and has a well-developed supply chain. Suppliers make essential contributions to the total results of the automotive industry. There is every reason to anticipate continued development, not only in connection with the arrival of the new OEM investor in the Nitra region, but also in connection with the launch of new types of automobiles produced by the current final manufacturers, i.e. VW, PSA and Kia in 2018.

The pressure on increasing the flexibility and efficiency of the operation of the whole value chain will result in the need for the localization of sub-deliveries, connections between suppliers and customers, streamlined material flows and a further shift of competencies to suppliers at individual levels. Applied R&D must be integrated as regards activities of all companies that want to make an impact in the automotive industry. Major investments can be expected in this area in the near future, in particular with regard to supplier companies.

The Automotive Industry Association of the Slovak Republic is ready for these changes. We know that as a professionally-oriented employer organization, we must help create the long-term sustainability and competitiveness of the automotive industry in Slovakia. Therefore, we are creating

conditions to ensure a sufficient amount of qualified manpower in line with the future needs of the industry. In addition, we also help create conditions for the cooperation of scientific and research institutions with the industrial companies with the goal of establishing a basis for the future innovation of processes, technologies and products, especially regarding supplier companies.

One of the decisive factors for the sustainable development of the automotive industry in the Slovak Republic, perhaps the most important one, is a skilled labour force. This is why intensive professional development is strategically important (the need for dual education) at all levels.

The efficiency of the automotive industry was one of the starting points of formulating the Strategy of Smart Industry in the Slovak Republic. The application of its principles and elements, such as automated systems based on comprehensive digitalization of all the information in the supply chain will require sophisticated management whose development and subsequent implementation will necessitate high-quality education. The aim is to satisfy the requirements of the end customer and this trend needs to be applied for final manufacturers, and throughout the supply chain, though not always at the same quality level.

This year's survey conducted by PwC covers all the above areas, and is also addressed by the strategy of the Automotive Industry Association for 2016 - 2020. In cooperation with its partners, the association seeks to meet the objectives of the strategy and thus help create conditions for the future of a competitive car industry, which will also mean a prosperous Slovak Republic.

**Juraj Sinay**

*President*

*Automotive Industry Association of the Slovak Republic*







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**Peter Mrnka**

Director, Automotive Specialist, PwC

## **Positive developments at suppliers expected but also under threat**

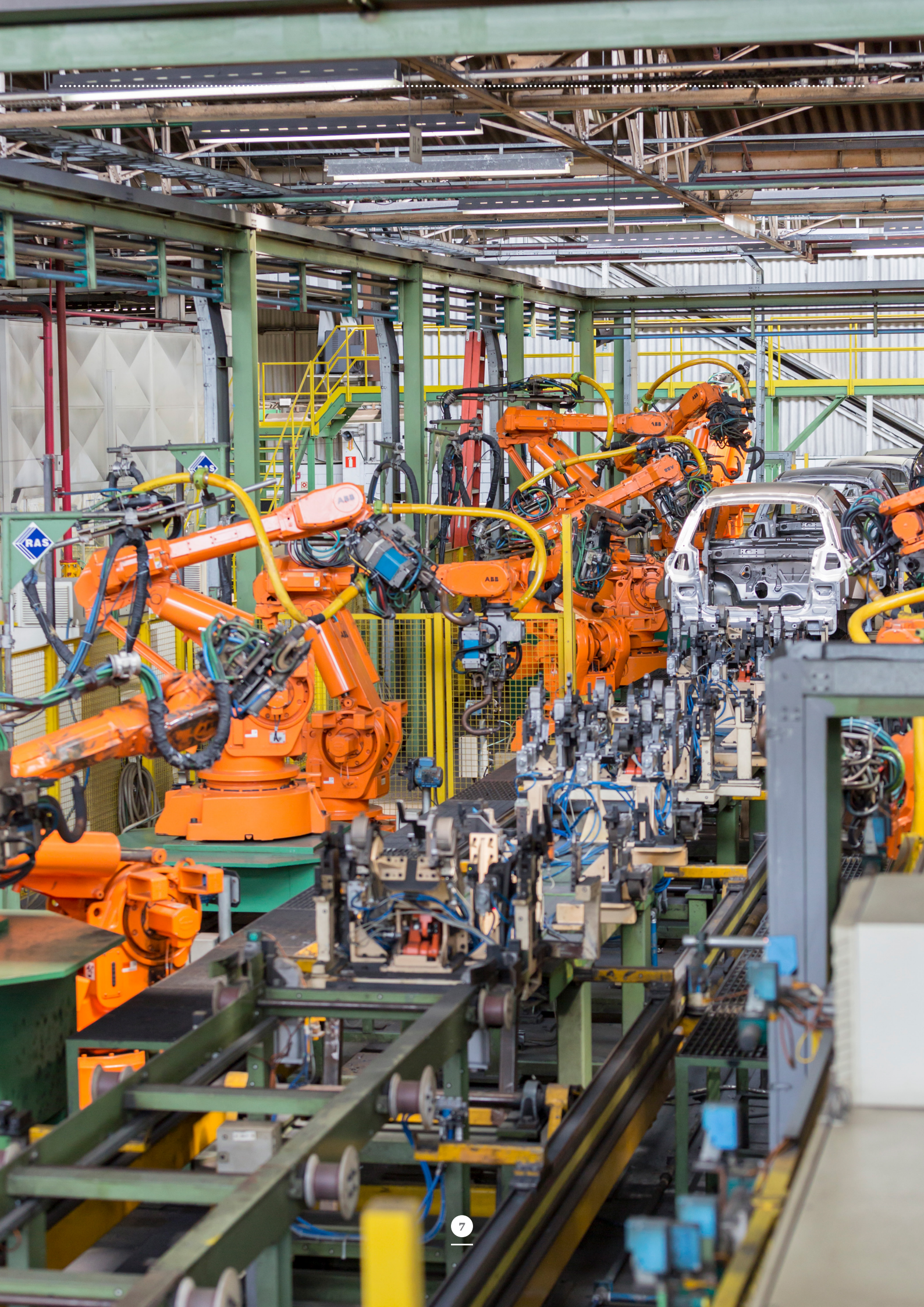
I am pleased that the fifth edition of our survey confirms the successful operation of automotive suppliers in the Slovak Republic. Their success in 2016 is visible in a number of aspects of their business. In addition to continuing growth in revenues, which is primarily driven by the volume of existing and new contracts, and improving economic results, this success is also based on the high utilization of production capacities and facilities, work productivity and, the quality of produced components. High production quality and on-time deliveries and occupational health and safety enables Slovak branches of international corporations to achieve above-average performance in comparison with other subsidiaries.

According to the majority of suppliers, developments will also be positive this year. The key factor is not only last year's successful results but also the continuing localization of the purchase and the increasing production volume of automobile manufacturers in Central Europe. The production growth of suppliers is connected with the creation of additional job opportunities and the high rate of work productivity is likely to be maintained.

The growth in the suppliers sector in Slovakia has, however, started to be reflected in a growing number of obstacles and hampers a solution, which can no longer be tackled by standard operative measures. The main challenge is a lack of staff – our survey confirms the alarming fact that nine out of ten suppliers have been facing this problem this year. As a result, suppliers have to deal with high demand for employees and close to zero immediate labour supply. This places, in the first place, enormous pressure on labour costs at almost all companies – their average level of wage costs (in addition to continuing pressure of the automobile manufacturer on costs and productivity) has become a strategic issue and will continue to be so. The suppliers facing a lack of employees, therefore, require greater labour market flexibility and openness to foreign employees. They are also struggling with the unsuitable training of school-leavers and their high salary expectations and poor work habits. Our survey indicates that a possible solution to the HR problem, which unfortunately shows an increasing trend, is rejection of other growth projects in the Slovak companies and/or even decisions at the level of multinational headquarters on locating current or future production outside of Slovakia.

Finally, our survey looks in detail at innovations and new technologies. Companies are increasingly focusing on weight reduction, new materials, and alternative drives, and particularly the last area is considered highly promising regarding the strategies of all European manufacturers to expand the share of models with alternative drives. For now, Slovak suppliers are mainly focusing on robotics, more extensive production digitalization, and in-depth data analyses as part of innovations and the emerging Industry 4.0 trend.





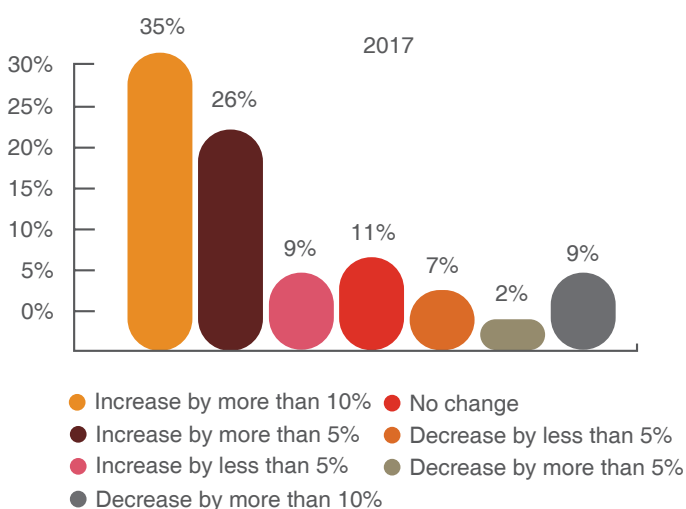


**Two thirds of suppliers achieved an increase in their revenues and one third of them recorded an increase in profitability of more than 10 %. Three fifths of them are using their capacity at over 80%.**

Annual car production has stabilized in the Slovak automotive industry at around the one million mark, which means that the share of Slovakia of global car production exceeds 1%. In financial terms the sector continues to grow, and this trend is likely to continue. This is a result of several factors. In addition to the strong position of production plants undertaking finalization that produce successful models of parent brands and which are adding additional other models to their production, a new Jaguar Land Rover plant is also

being built in Nitra. Slovak-based suppliers are sure to see continuously growing demand, which they can combine with exports. In addition to the global trend of continuing transfer of module production from carmakers to suppliers, we are also seeing relocation within the CEE to Slovakia. This leads to more new modules of local production and increasing competencies of the local branches of multinational companies. Another important factor is the growth of local players, which although not numerous, are significant.

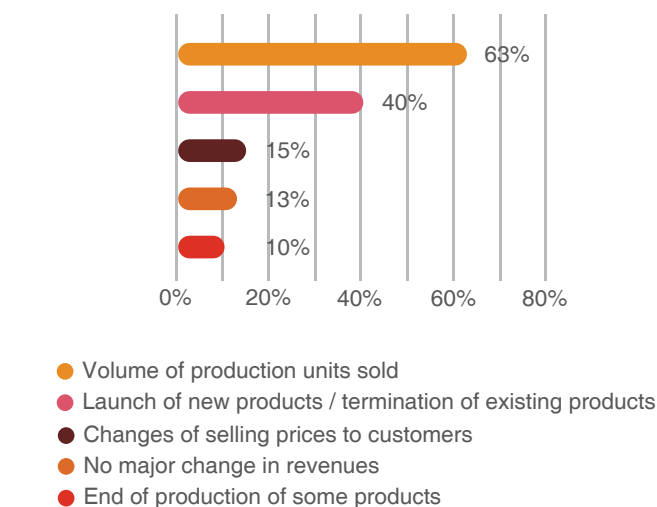
**Question No 1: What was your Y/Y increase in revenues?**



**Q1**

The good times for the Slovak automotive industry are also reflected in the results of last year's survey participants. 70% of them recorded year-to-year revenue growth for 2016 and 50% of these companies recorded double-figure growth. One quarter of all survey participants recorded 5% - 10% growth. 9% of suppliers recorded a drop in revenues by more than one tenth. PwC surveys show that more than a half of suppliers have achieved a continual growth in their revenues since the 2013 accounting year.

**Question No 2: What were the main factors behind the 2016 revenue change at your company?**

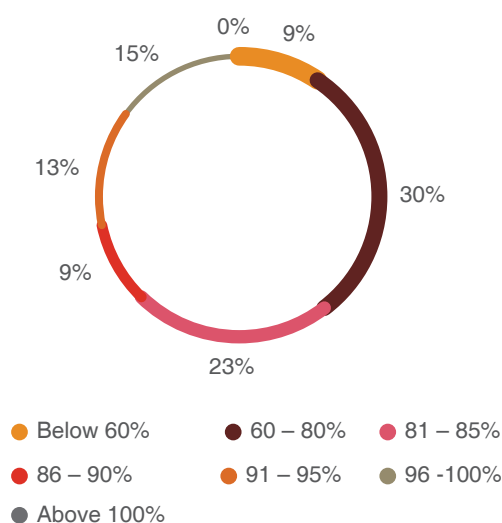


**Q2**

In 2016, the revenues of the survey participants were mainly impacted by the changes in production volumes. More than three fifths of companies participating in the survey classified this as a factor contributing to change. Most companies saw production growth. More than a 40% of increases in revenues was attributed to the introduction of new products on the market. More than a 15% weight as a factor contributing to change in revenues in 2016 was attributed to the change in sales prices.



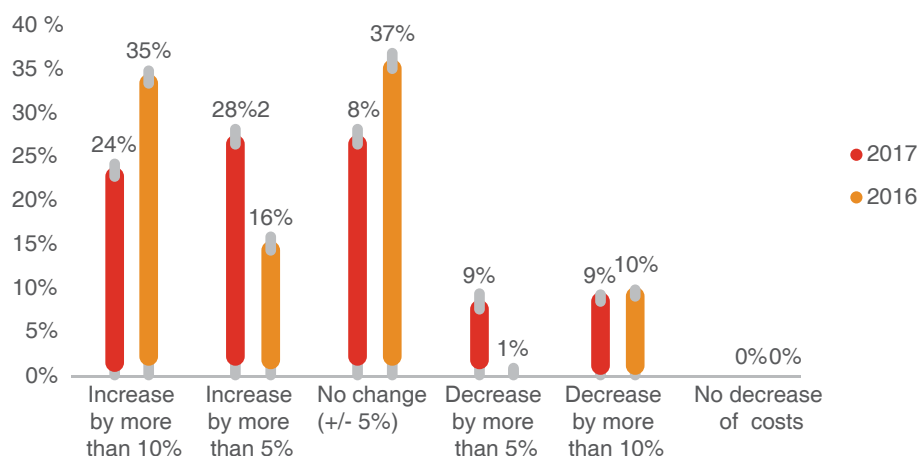
### Question No 3: What is your current production capacity utilisation



### Q3

Increasing automotive production is also reflected in the utilisation of production capacity. More than three fifths of companies in the survey reported at least an 80% rate of capacity utilisation, and around a dozen companies surveyed reported near full utilisation of their production capacity, i.e. 96% and above. 30% of the surveyed companies in 2016 recorded 60% to 80% capacity utilisation, and about one tenth of companies recorded less than 60%, but this can still be considered a success. It should be kept in mind that the growing demand of customers due to production increases at automobile plants in the region and from the construction of the new Jaguar Land Rover plant has stimulated considerable investment by suppliers in new production capacities. The result is an extension of existing plants and construction of new plants.

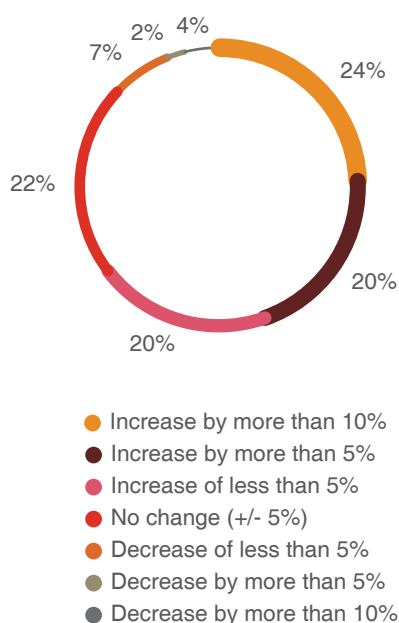
### Question No 4: How did your operating profitability change in 2016 compared to the previous year?



### Q4

With regard to profit development, the surveyed companies reported in general that they were satisfied. More than 53 % of the companies achieved better operating profitability than in the previous year. In 2016, 50% of them recorded double digit growth in the operating profitability. More than 28% of the companies reported results similar to those in the previous year. Operating profitability decreased at around 20% of surveyed companies.

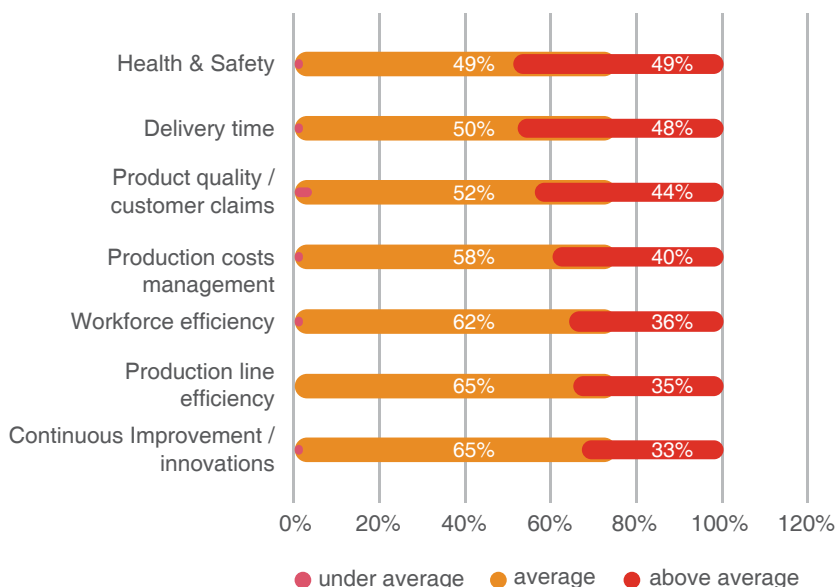
**Question No 5: How did total staff numbers (own and external) change in 2016 compared to the previous year?**



**Q5**

The increase in automobile production is also reflected in HR. Almost two thirds of the surveyed companies stated that in 2016 they increased their headcount. Almost one quarter of the companies recorded a year-to-year double digit increase in staff numbers. Around 13% of the surveyed companies recorded a decrease for 2016. Revenue growth continues to outpace increases in the headcount, and the survey found that a majority of the companies grew faster than staff numbers, similarly to previous surveys.

**Question No 6: What is the position of your Slovak plant in your group compared to your subsidiaries as regards the following parameters?**



**Q6**

The surveyed companies also confirmed the strong position of Slovak plants in their international groups. In fact, the evaluation of Slovak plants is generally better than their group averages. The best results were recorded for occupational health and safety, and the timeliness of deliveries. In these categories, nearly 50% of surveyed companies achieved above-average results. Their results are also superior as regards product quality (43.75% above average), production costs management (39.58 %) and workforce efficiency (36%). The combination of these often superior results of suppliers within their company groups, the proximity of final producers and the currently acceptable level of production costs confirm the attractiveness of Slovakia for further investments.

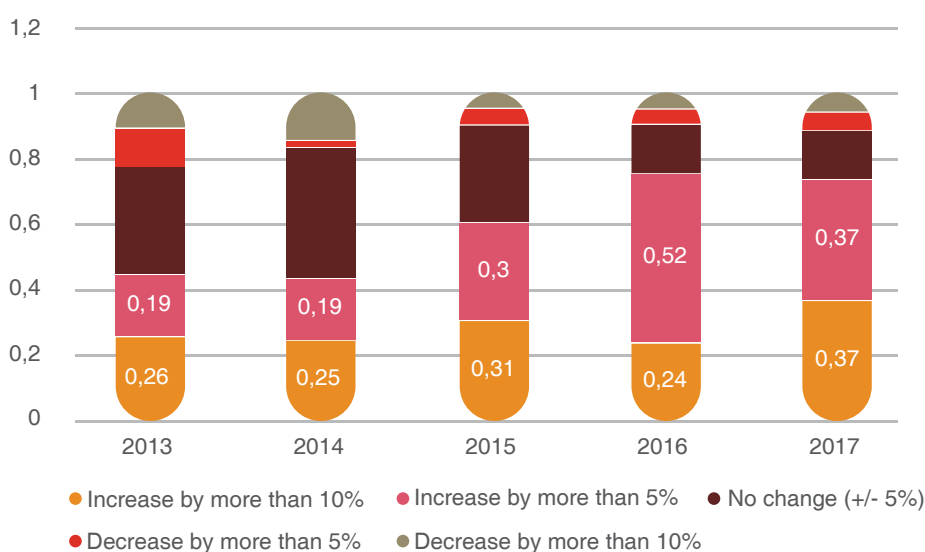


## Three quarters expect a growth in revenues and the biggest concerns are regarding the lack of qualified workforce

Increases in automobile production is making Central Europe, particularly Slovakia, into one of the best addresses in the world for auto companies. This is also supported by the arrival of new automobile finalization productions, including the complete production of the SUV Porsche Cayenne and the expected start of production of the new Audi Q8 at Volkswagen Slovakia, and the complete production of the Jaguar Land Rover plant,

which is still under construction. To succeed in coping with the increase in demand and requirements, suppliers will need to work intensively on continuous improvements to production efficiency, in particular improvements to innovation.

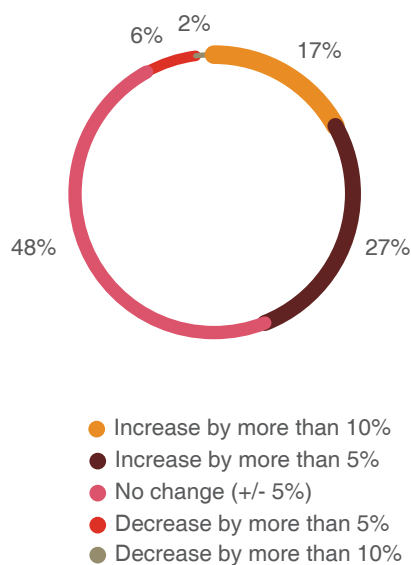
### Question No 7: What revenue changes do you expect in 2017?



### Q7

Nearly three quarters of the surveyed companies also expect revenue growth in 2017. 50% of companies expect a double digit increase in revenues. Revenues are stable or less than 5% lower at 15% of companies in comparison with 2016. A fall in revenues of more than 5% is expected by less than 12% of the survey participants.

### Question No 8: What headcount changes do you expect in 2017 – internal and employed via agencies?



### Q8

Further growth is also reflected in expectations as regards headcount changes, although it is clear that suppliers are anticipating skilled staff shortages and are aware of the necessity to make their operations more efficient. 50% of the surveyed companies do not plan to change the number of their employees, and around 14% expect to increase their headcounts by more than 10 %. One quarter expect moderate growth not exceeding 5% and some companies expect a slight drop in their headcounts.

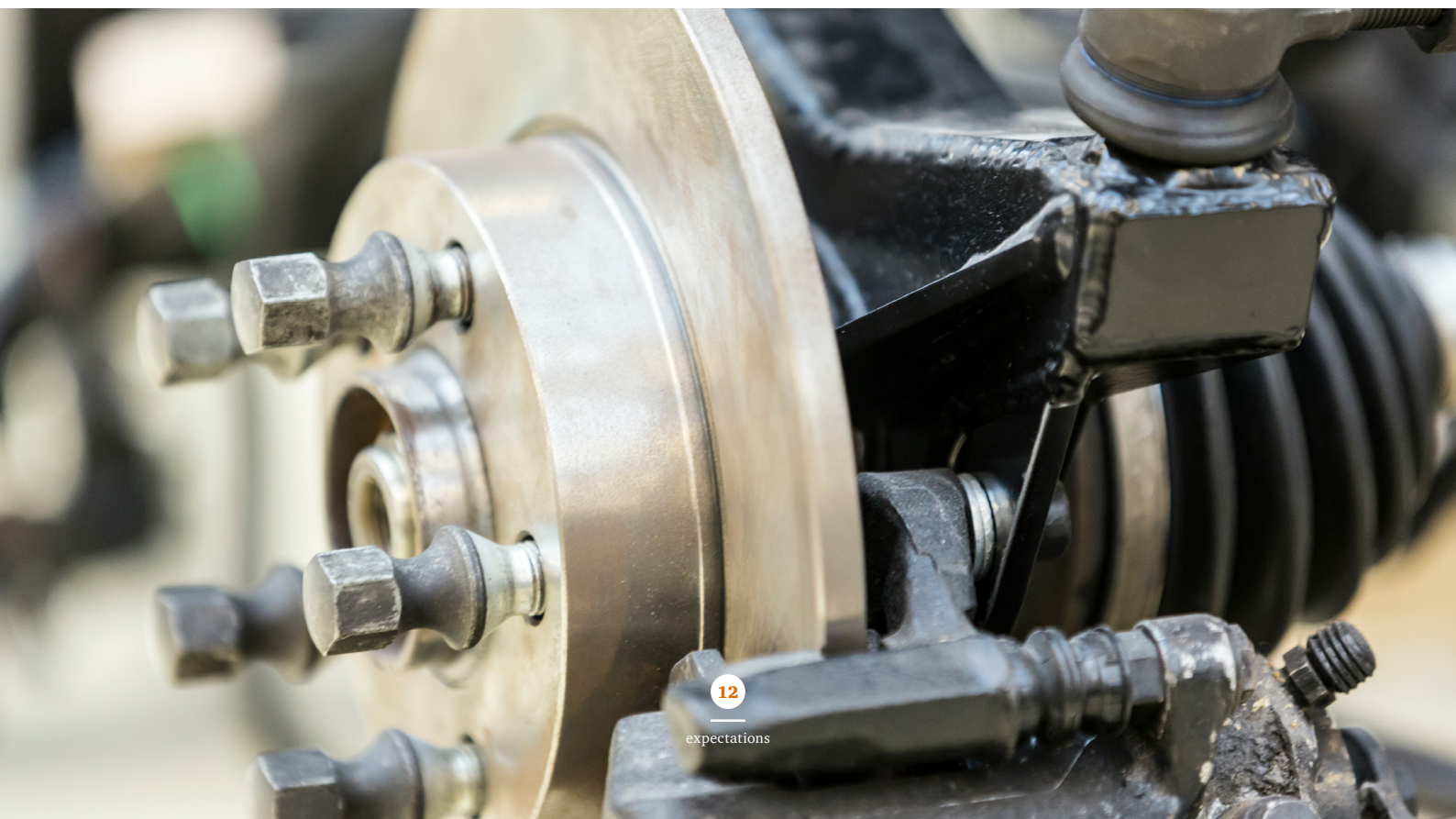
## 87% of the suppliers are concerned about a lack of qualified manpower

### Question No 9: Which of the following risk factors may affect your growth prospects?



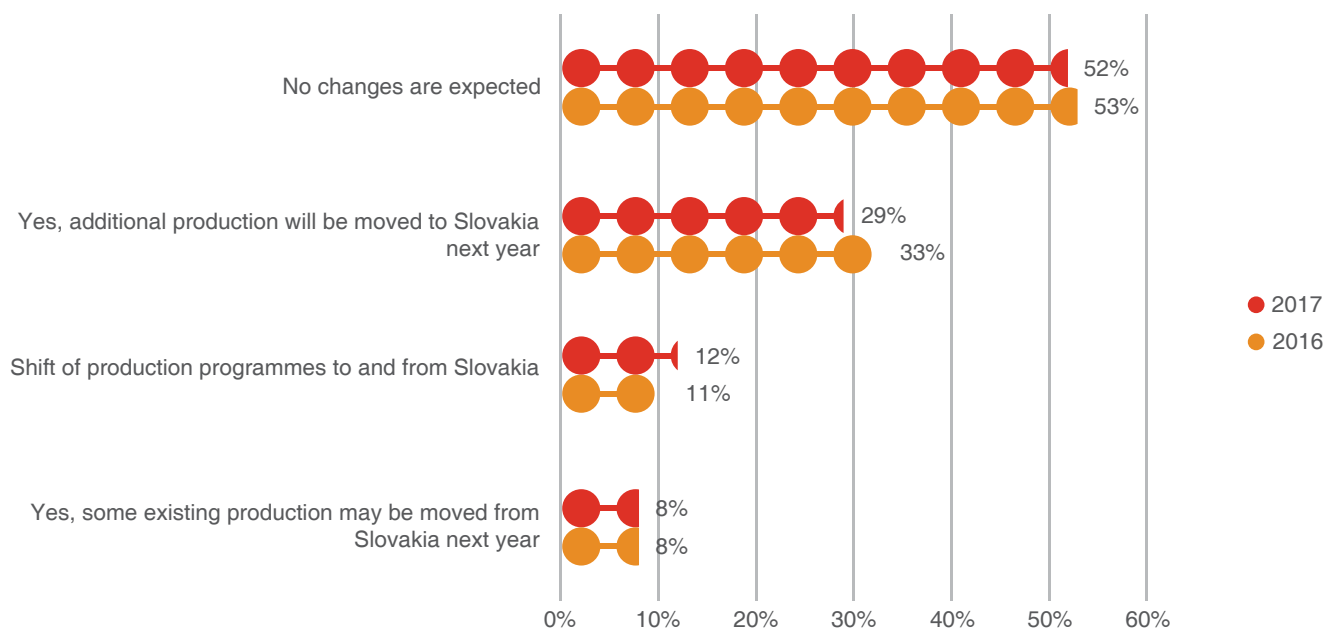
#### Q9

Staff shortages is the main concern of companies and this dominates the factors that may affect growth prospects. Almost 87% of companies consider it to be a significant risk, and it is clearly the most important risk. Slightly over 40% of companies are concerned about the permanent pressure of producers to increase productivity, and nearly one third of companies are concerned about administration costs. Almost a quarter of the companies are worried about EU or national regulation. Developments on target markets is stated as a concern less often, while the possibility of a growth slowdown in emerging markets is stated as a concern of the companies most often. Of less concern to companies is the rapidity of growth, regulation of electricity charges and increases in raw material prices.





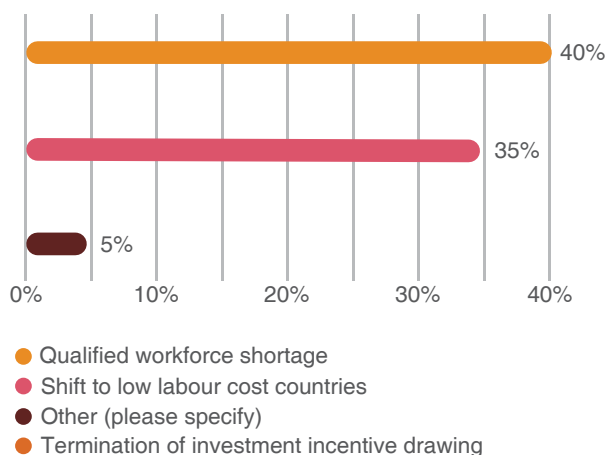
#### Question No 10: Is your group/shareholder planning to transfer production in the next 12 months?



#### Q10

In terms of geographic shifts, a number of companies expect a transfer of production to Slovakia – nearly 30%. Transfers in both directions, i.e. arrivals of new production and departures of productions from Slovakia, are expected by half a dozen companies. Few companies expect only transfer out of Slovakia. More than a half of the survey participants expect no changes.

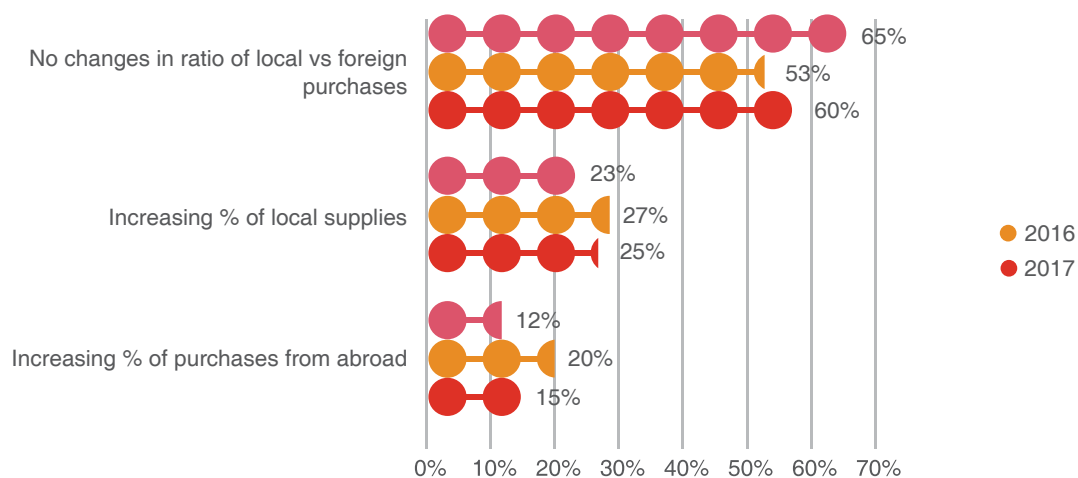
#### Question No 11: What factors lead to the transfer of manufacturing from Slovakia?



#### Q11

The surveyed companies stated operational factors as a factor leading to the departure of suppliers from Slovakia. 40% of companies stated that qualified staff shortages were a factor leading to the transfer of manufacturing out of Slovakia and other factors included lower labour costs.

## Question No 12: What is the trend as regards localisation of purchases of materials and services in Slovakia?

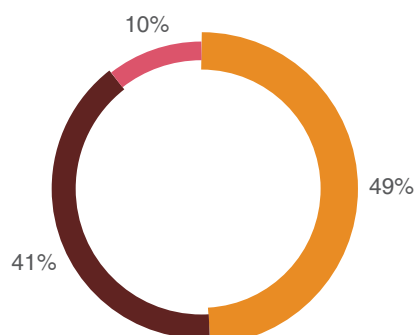


### Q12

One of the factors influencing the volume of automobile production in Slovakia is the presence of purchases of materials and services in Slovakia. Almost 60% of the surveyed companies, however, did not state any changes. A quarter of survey participants stated that they are buying more from local suppliers, and about 15% stated that the share of purchases from abroad is increasing. Due to new production by PSA and JLR, an increase of suppliers in Slovakia is expected.



**Question No 13: Do you expect electric cars (hybrids, e-mobiles) will change your strategic focus in the near future?**

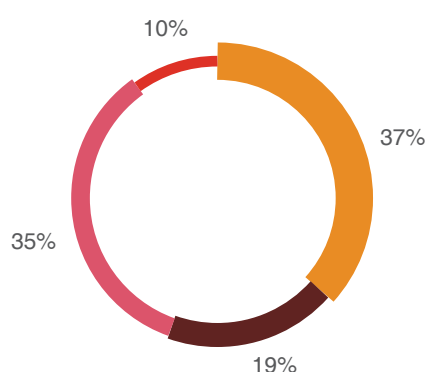


- No, we believe we are well positioned
- Yes, we are consider changing/adding segments (powertrain, interior, exterior)
- We have not yet considered this issue

**Q13**

One of the most important trends in the automotive industry is the partial or full use of electric engines. More than 40% of survey participants are considering changing their products as a result of the new engines, but the number of companies that are not considering this is slightly higher. Nevertheless, these companies are also closely following the development of new engines, and less than one tenth of surveyed companies are not considering the impact of electric engines. While this trend is undoubtedly clear and irreversible, its rate of importance in the production of Slovak suppliers will only grow very slowly.

**Question No 14: Do you expect electric engines/digitalization to have an impact on your future investments/finance needs?**

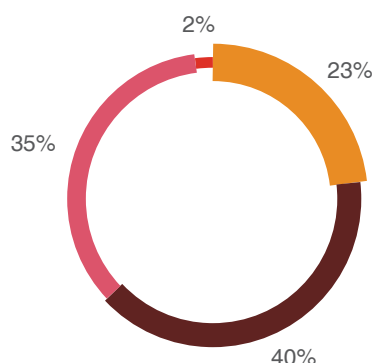


- Yes, we expect increased investment and financing will be needed
- Yes, we expect an increased need for investment and will use our own cash flow
- No, we do not expect an increased need for investment
- We have not yet considered this issue

**Q14**

More than one third of the surveyed companies believe that electric engines and digitalization will require new investments by the company, and financing from outside the company will be needed. One fifth of companies expect this will be the case, but they plan to use their own funds. One third of companies believe that the application of modern technologies will not require extra investments.

**Question No 15: If you procure locally, where are purchasing decisions for key materials and services made?**

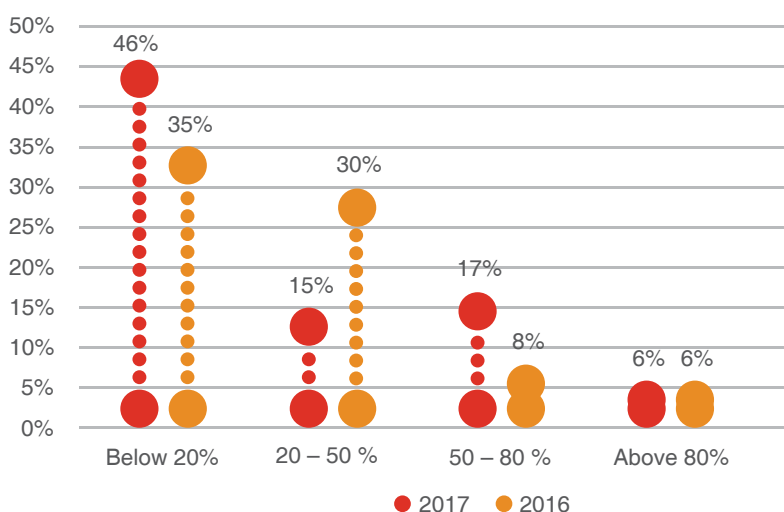


- At the local level
- At the local level, in cooperation with parent company
- At the HQ at a Group level
- Other (please specify)

**Q15**

Amongst companies which make some local purchases, companies purchasing locally but in cooperation with their parent group dominate among the survey participants. There are more than 40% of such companies. One third of the companies make central purchases at the local level, and more than 23% purchase locally. It is clear that most purchasing decisions are still made at the group level. This is confirmed by the continuous pressure of the groups to optimise purchases and to control costs as a response to the price expectations of customers of Slovak suppliers.

**Question No 16: To what extent are your component/material suppliers nominated directly by OEMs?**



**Q16**

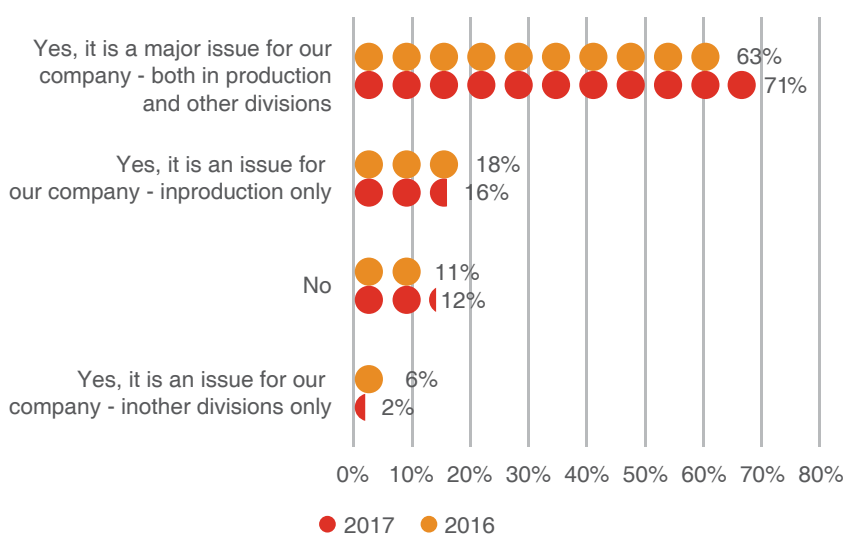
The end customers of suppliers, i.e. the automobile plants, do not have a significant direct influence on the purchase of sub-deliveries. Almost a half of the companies surveyed stated that the automobile manufacturers influence less than 20% of procurement. 20 to 50% influence and 50 to 80% influence was stated by around 16% of the companies. A strong influence of automobile manufacturers on the selection of subcontractors was only stated by a few companies.

## 50% suppliers are missing out on business opportunities due to a lack of qualified staff, and one third of the companies do not plan to employ people from abroad, and will rely on their own training programmes.

In the long run, the development of the automotive industry in the CEE region has transformed Slovak industry. In recent years, however, it has dramatically increased the demand for qualified staff. In addition to generational change, the industry must also cope with the problem of the education system that is failing to keep pace with this development. The result is huge pressure on the labour market, which is mainly reflected in

pressure on wage growth, recruitment of staff from abroad, and the demand for further streamlining. A particular test of this factor will be the transfer to production with a substantially larger inclusion of technologies which will require a number of new professions and new skills. In addition, the pressure on education as part of preparation for employment, and life-long education will continue to increase.

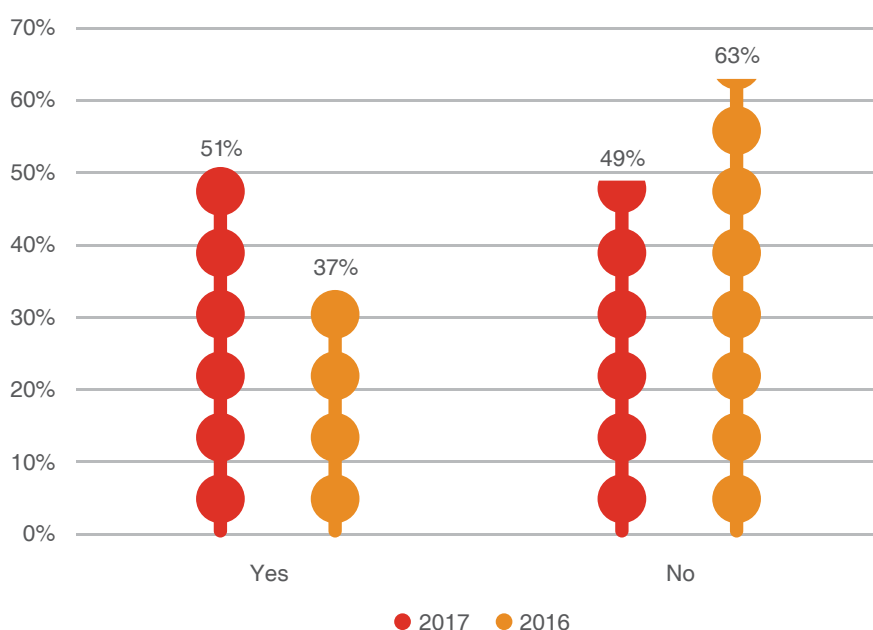
### Question No 17: Do you consider the availability and quality of skilled labour to be an issue at your company?



#### Q17

The availability of staff with the necessary skills and of less qualified staff has become the most urgent challenge of the Slovak automotive industry. In addition to the competitiveness of the whole industry, it is also impacting specific companies. This is complicating the functioning of production operations, and more than 86% of the surveyed companies are affected by this factor. A majority of companies also face staff shortages in non-production units. Based on the survey results, only a few companies are not facing skilled staff shortages.

### Question No 18: Is a lack of qualified labour restricting your opportunities to accept new projects?



#### Q18

More than a half of the surveyed companies stated that complications as regards recruiting skilled staff is already restricting the acceptance of new projects, as opposed to the previous year when 63% of survey participants stated such limitations.

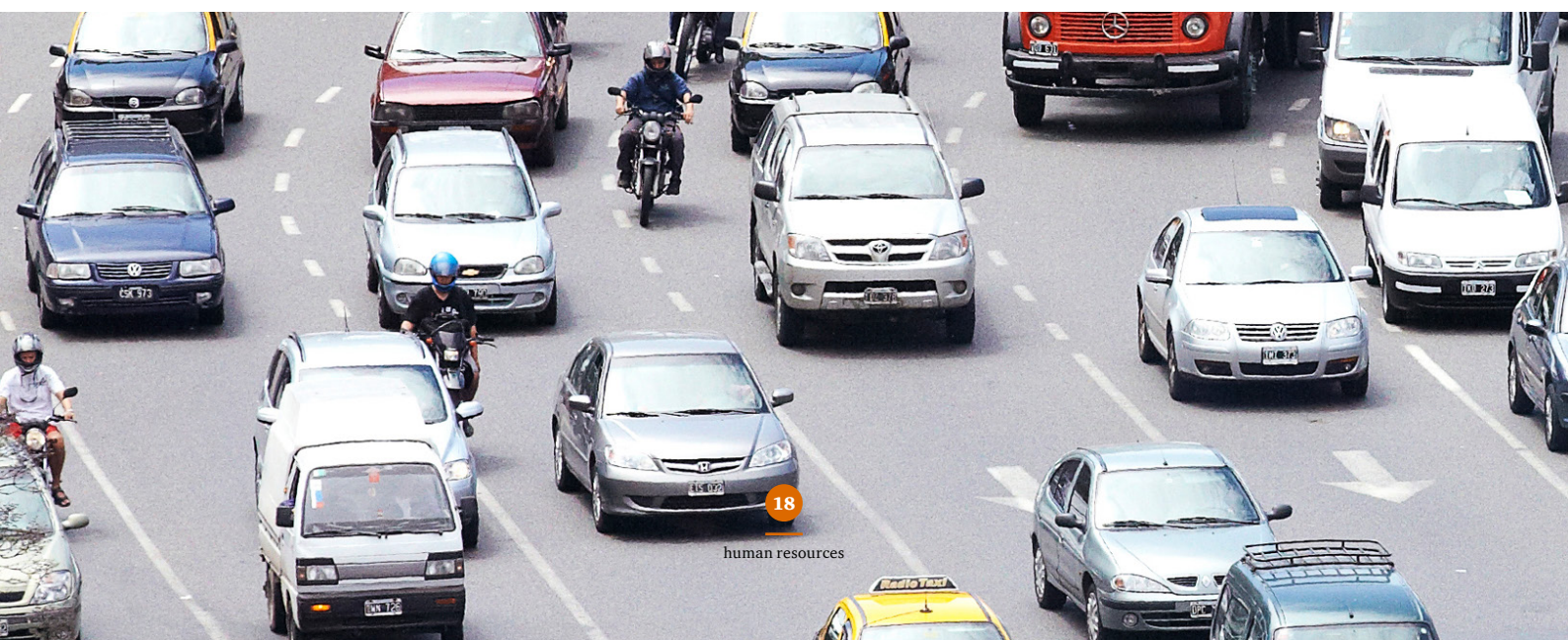


# Question No 19: What are the sources of new skilled labour – own or external?

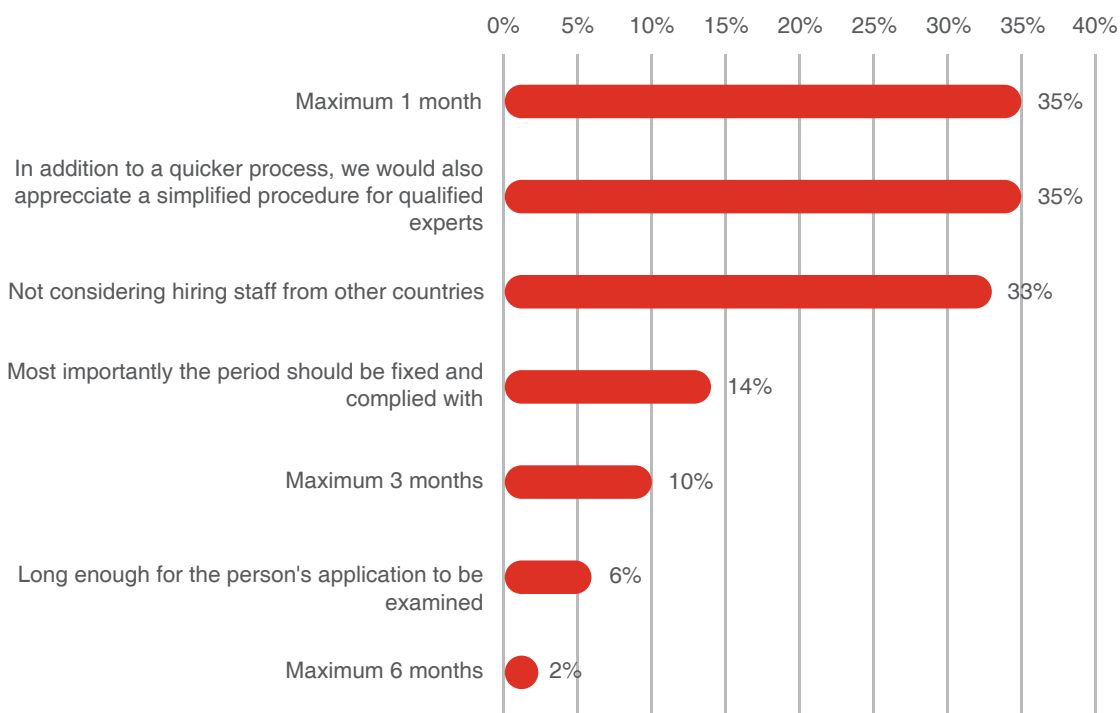


## Q19

In addition to staff shortages, Slovak industrial companies also noted the relatively poor preparedness of school leavers, particularly the lack of practical work experience. This is why, for a majority of companies, intensive internal requalification programs are the main source of staff. About one half of the surveyed companies hire new employees via labour agencies, from which they lease contract employees from Slovakia, and only a few companies stated that they lease employees from abroad. A large part of staff recruitment is accounted for by recruiting workers from competitors and other companies. The surveyed companies stated that an important source of skilled staff was schools and universities. Employing unemployed people registered at labour offices and people from disadvantaged groups is only a minor source of staff for the companies.

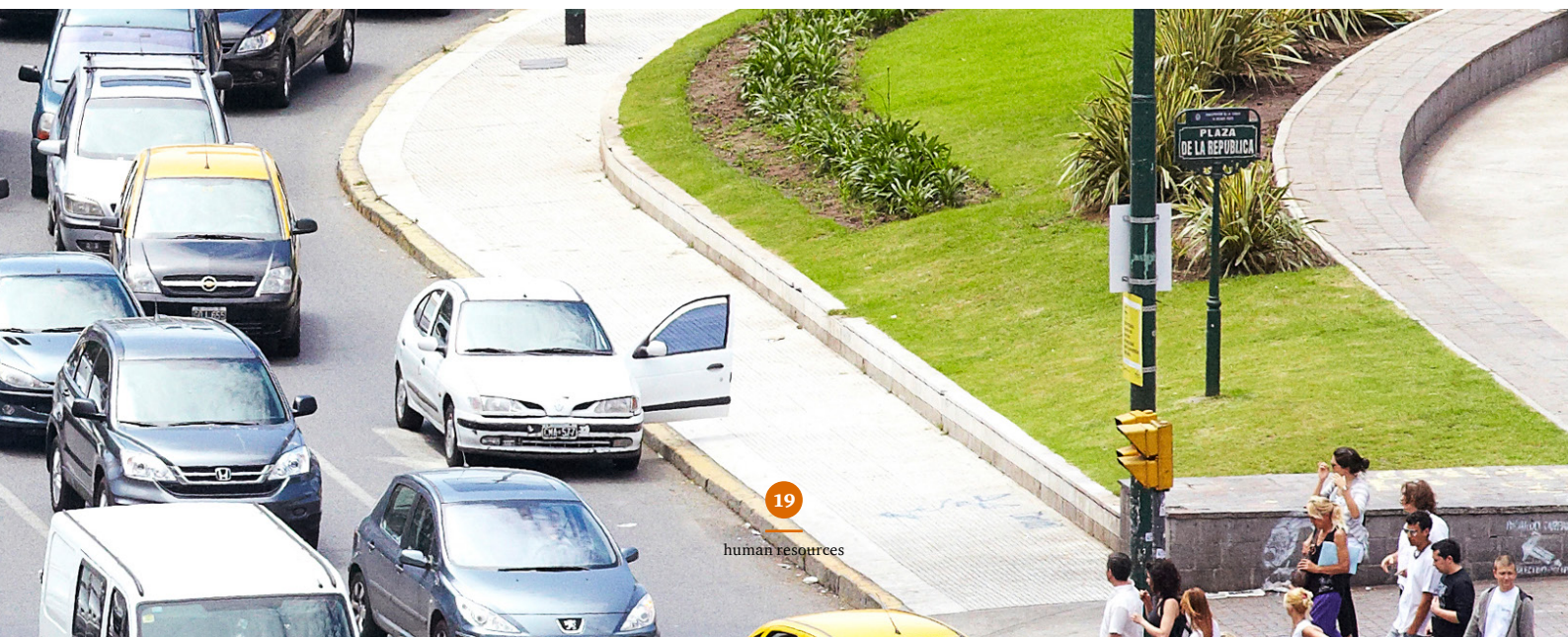


**Question No 20: How long do you think the working permit procedure for third country employees should last, so as not to negatively affecting your hiring? Mark all that apply.**



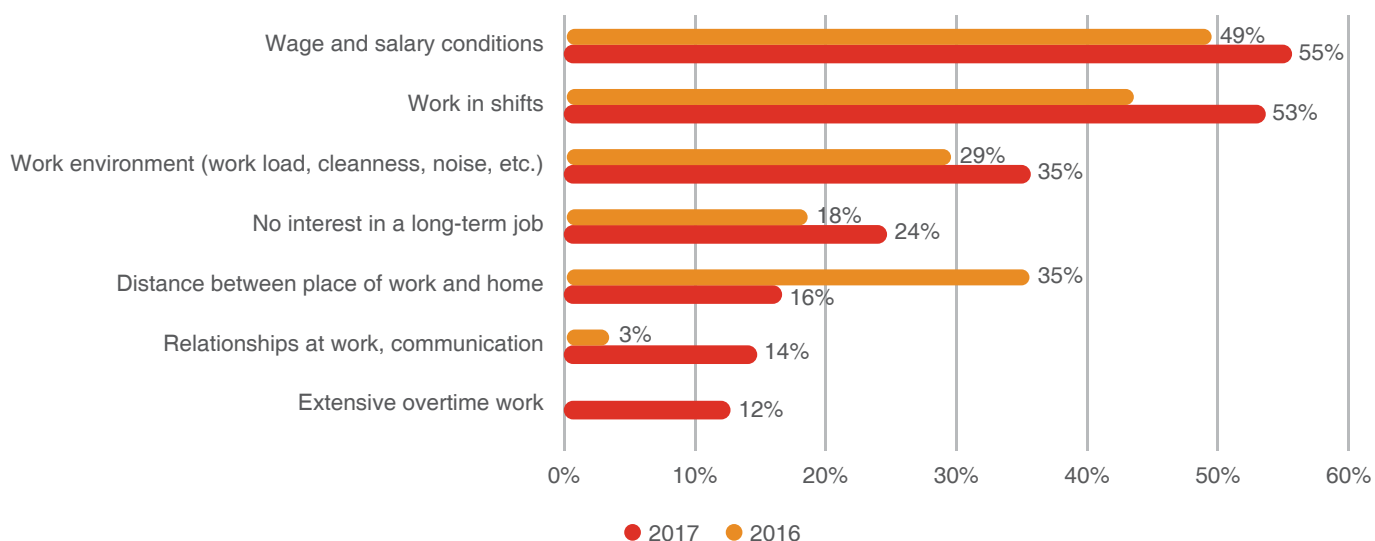
#### Q20

The need for experts from various branches and current staff shortages in Slovakia is forcing multinational companies to hire people from abroad. However, the working permit procedure for third country employees has long been perceived as a major weakness of the Slovak legal and work environment. According to 35% of the surveyed companies, the working permit procedure should last not more than one month whereas current waiting times are around six to nine months. However, the companies also state that in addition to speeding up the process, they would also like to see improvements to the arrangement for permits for qualified staff. Only a few companies consider the long waiting periods to be acceptable. Some of the companies emphasize that the periods should be fixed and adhered to. One third of the surveyed companies stated they are not considering hiring staff from third countries.





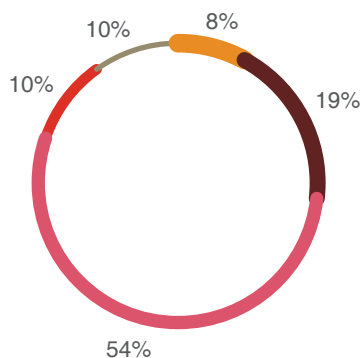
**Question No 21: What are the main reason for qualified labour fluctuation at your company? Mark all that apply.**



**Q21**

The growth ambitions of companies, led by the automotive sector, in combination with a lack of new graduates with suitable qualifications means that hiring new employees is accompanied by the necessity to retain already hired employees. Therefore, not only the rate of but also the reasons for fluctuations are indicators which must be closely monitored. Based on the survey results, salary conditions dominate in this area. Work/life balance and shift work are important fluctuation factors. More than an third of surveyed companies also identified the quality of the work environment as an important element. Of concern is that almost one quarter of the companies see a disinterest in long-term jobs as a reason behind the fluctuation. Less than 16% stated the distance between workplace and home as a reason for fluctuation.

**Question No 22: How much did you increase the wages by at your company in the past year?**



- No increase
- Up to 3 per cent
- 3 to 5 per cent
- 5 to 7 per cent
- Above 7 per cent (Please specify)

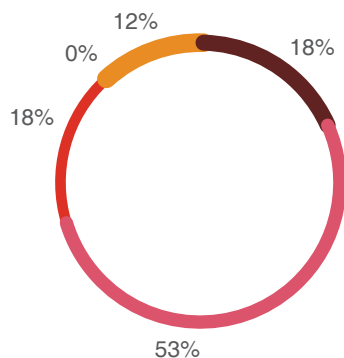
**Q22**

Due to the high importance of payment conditions as a factor for maintaining staff, and an overview of year-to-year changes in wages in 2016 is of interest. Less than 8% of companies did not increase wages. More than a half of the companies increased wages by three to five percent, while less than one fifth of the companies increased wages by less than three percent. Almost one tenth of the companies increased wages by five to seven percent, or by more than seven percent.



## 89% of the suppliers expect an increase in salaries of up to 10 % in 2017

### Question No 23: How much do you plan to increase wages by in 2017?

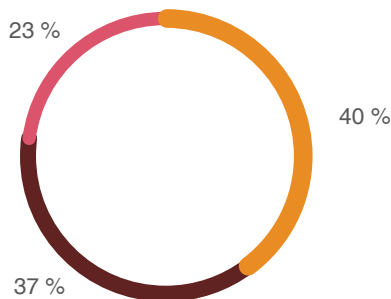


- Up to 3 per cent
- 3 to 5 per cent
- 5 to 10 per cent
- Over 10 per cent
- No increase

#### Q23

A similar development is expected by companies in 2017. More than a half of companies expect that they will increase wages by three to five percent. Less than 18% anticipate an increase below three percent, and the same number of companies anticipate an increase by five to ten percent. Due to skilled labour shortages, the wages increase is an anticipated and desirable step, even though by taking this step, companies will reduce their competitiveness in the CEE region, due to energy prices and the cumulated wages increase over several years.

### Question No 24: What is your estimate of the cumulated percentage increase in average labour costs (wages + benefits) in the next three years compared to 2016?

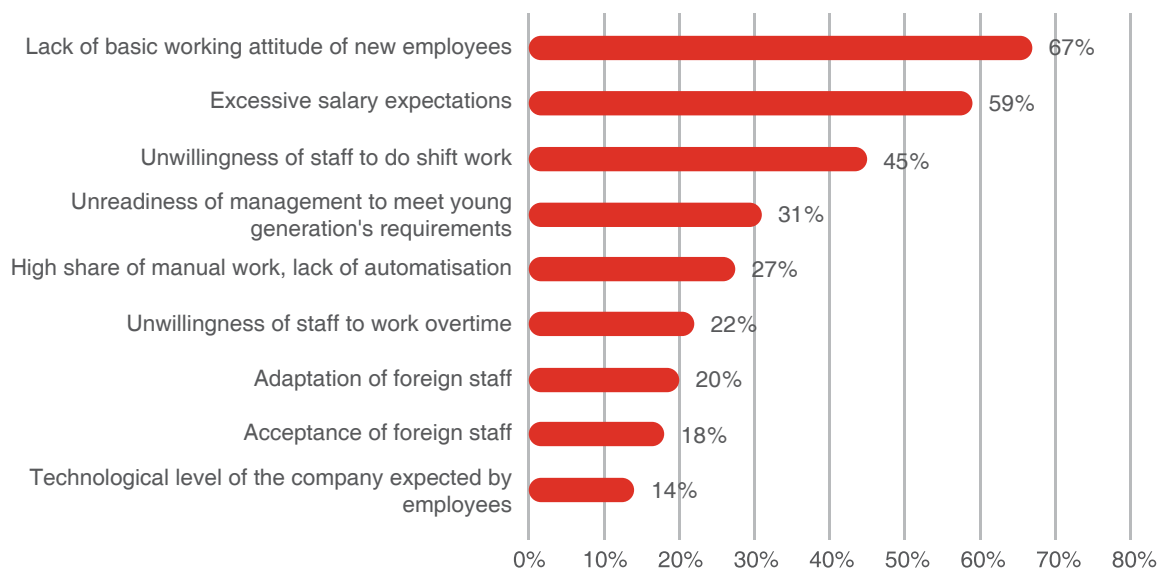


- 10 – 20 %
- 5 – 10 %
- To 5 %

#### Q24

40% of companies expect a cumulated increase in average labour costs (wages + benefits) in the next three years of 10 to 20%, compared to 2016.

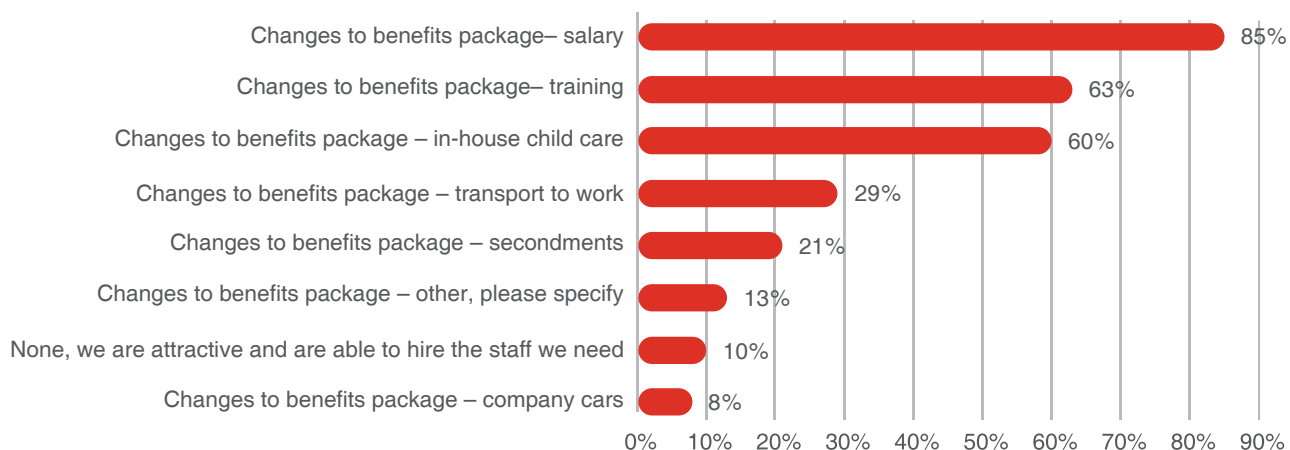
#### Question No 25: What challenges will you face or are you currently facing in terms of HR?



#### Q25

However, HR departments at automotive companies face other challenges as well as staff shortages. The critical factor for this industry is that two thirds of the survey participants claim that a major challenge is a lack of the correct working attitude of new employees. According to almost two thirds of the companies, the second biggest challenge is excessive salary expectations. A relatively large number of the companies expect to have to face the unwillingness of staff to work in shifts. The problem is not just the qualification of people in production. Almost one third of the companies perceive the unreadiness of management to meet young generation's requirements as a drawback to be an important factor.

#### Question No 26: What measures have you taken to increase the attractiveness of your company as an employer?



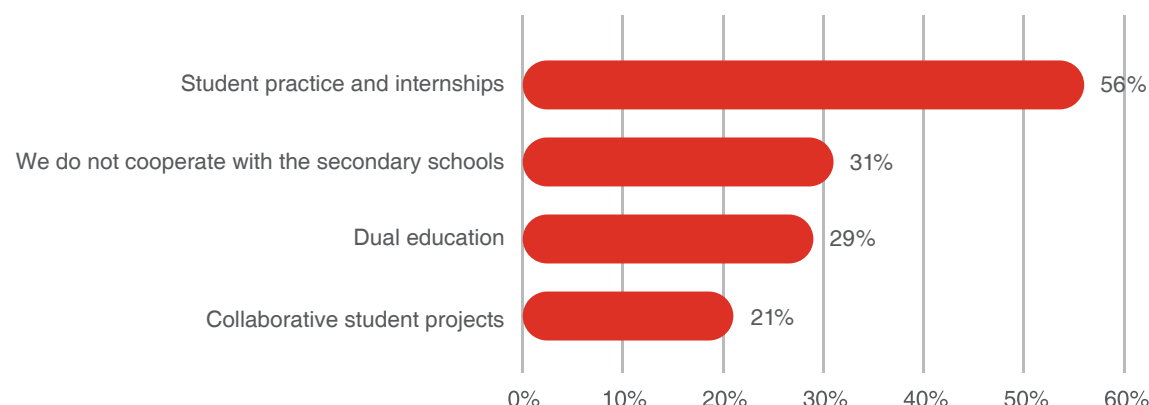
#### Q26

Companies are using various tools to increase their attractiveness as an employer. Almost 85% of them are improving their salary conditions. Almost two thirds of the companies surveyed modified their training programs for employees. Nearly 30% adjusted their transport policies for getting their employees to work. A further one fifth of the companies modified their policies for secondments.



## One third of suppliers are involved in the dual education system, and the main obstacle is uncertainty as regards the results.

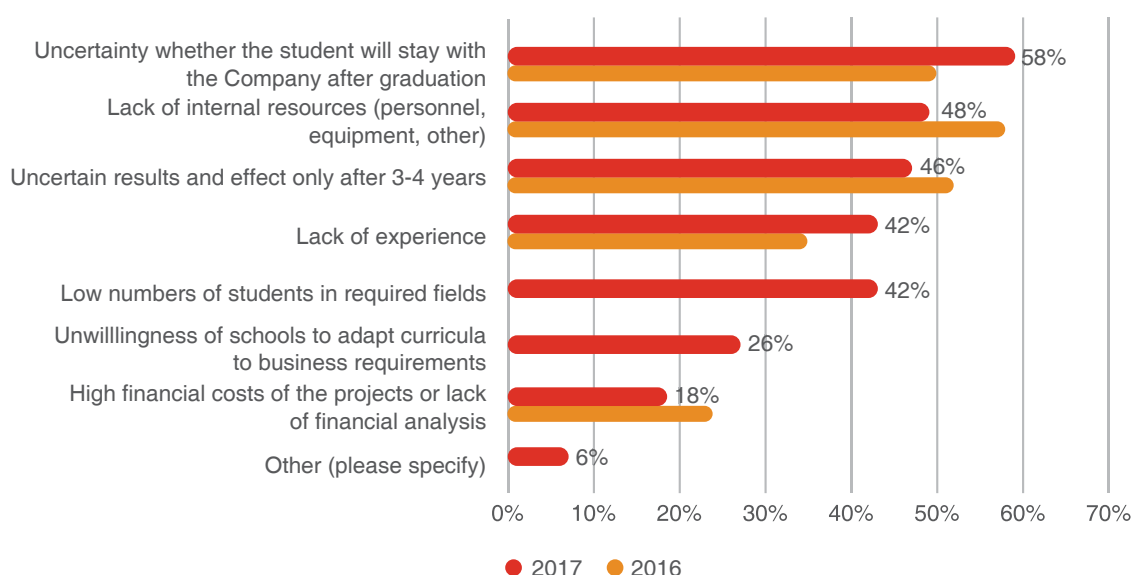
### Question No 27: What kind of collaboration with secondary schools does your company undertake?



#### Q27

A considerable percentage of the companies are undertaking active cooperation with schools. More than a half of the companies surveyed are trying to resolve the missing practical aspect of education by introducing student practice and internships. Other forms of student work at companies are also being developed as a part of dual education. More than 30% of the survey participants, however, do not cooperate with secondary schools. Some companies have begun discussions on cooperation, while others have not had a good experience with this.

### Question No 28: What in your opinion are the key barriers to participation in the dual education system for companies?

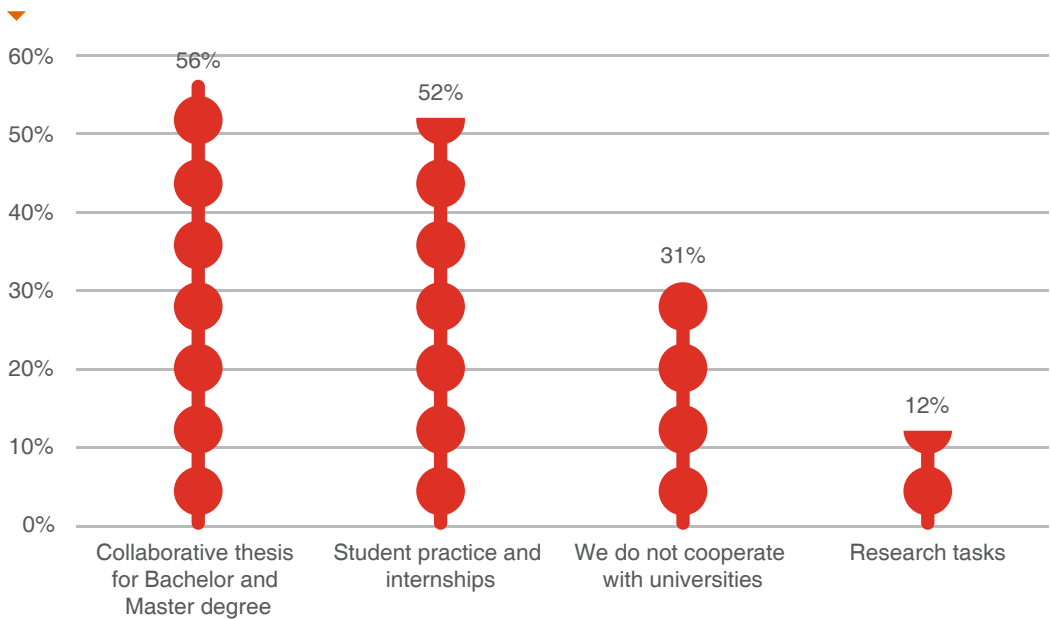


#### Q28

The goal of adding a practical aspect to secondary education can be found in the dual education system. However, more than a half of the surveyed companies stated that the biggest obstacle to development was uncertainty as to whether the students will stay with the company after graduation. A number of companies also lack internal resources, e.g. staff and equipment, to develop the dual education system. In addition, they are impacted with uncertain results and the need to wait 3 - 4 years to see results, and the low numbers of students in the required fields is also a concern.

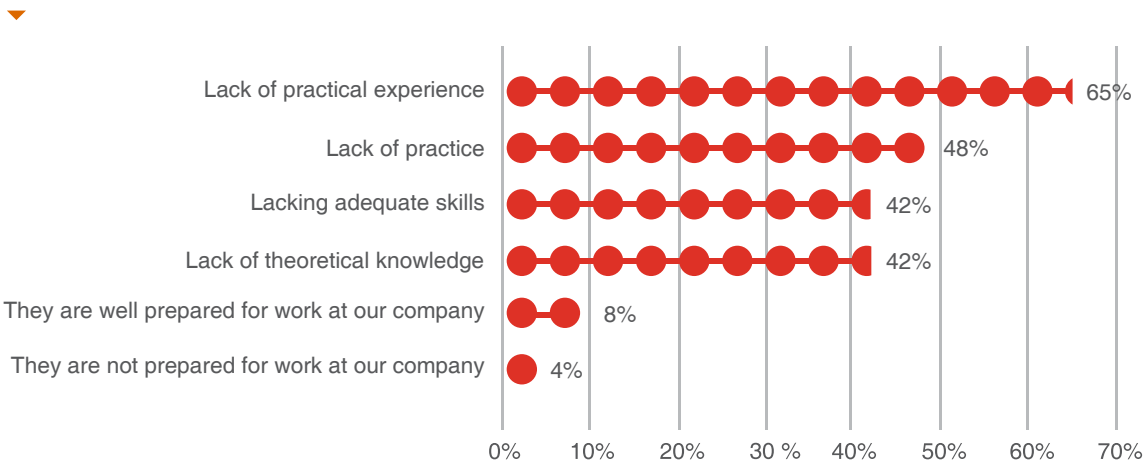
*According to suppliers, only 8% of university students are well prepared for work as they do not have the required knowledge, experience or work habits.*

**Question No 29: What kind of collaboration does your company have with universities?**



**Q29**  
Unlike cooperation with secondary schools, cooperation with universities is relatively limited and its potential is still untapped. A major part of cooperation with universities takes the form of student work experience and internships. Companies also consider collaborative theses for Bachelor and Master Degrees to be one of the most effective elements of cooperation with universities. Assignments of research tasks were also cited. Almost one third of the survey participants see no benefits in cooperating with universities and some cited a lack of information with universities.

**Question No 30: What do you think about the readiness of university graduates for work at your company?**



**Q30**  
According to the companies, a lack of readiness of university graduates is also a problem. The major shortcomings include, inter alia, a lack of experience and poor work attitudes and also a lack of knowledge and skills. Two companies stated that university graduates are completely unprepared for work at their companies. Insufficient language skills of the university graduates are also referred to as a drawback.

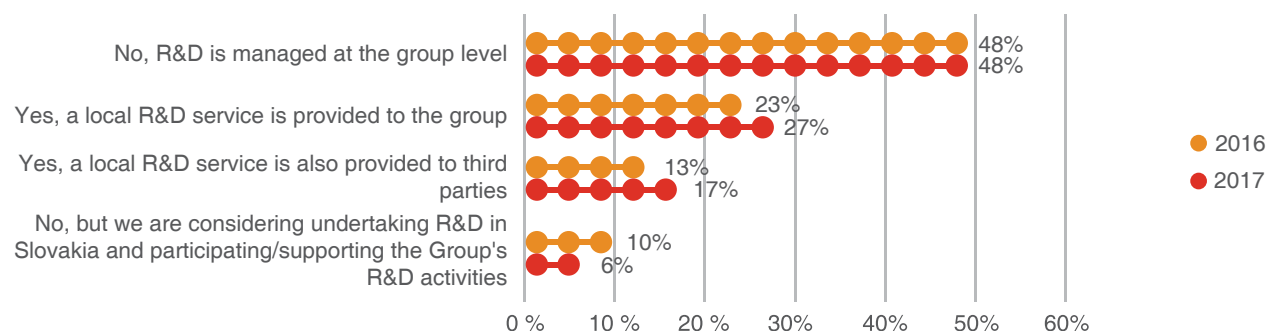


## One-third of suppliers expect to implement Industry 4.0 in their activities within five years, and the most important areas will be robotics, production digitalization and in-depth data analysis

There are several market megatrends on the automobile market that are increasing the pressure on the acceleration of the innovation cycle in this industry. This relates to both products and processes for their production and also their development. The pressures on effective production requires the use of technologies which will automate work where a higher performance exceeding human possibilities is needed, or where

work threatens safety or health. The application of automated, digitally controlled and connected technological facilities will require, not only sophisticated management and education, but also a considerable development of innovation capacities of the industry and the engagement of local scientists. This is the only way how the automobile industry in Slovakia will be able to increase its competitiveness.

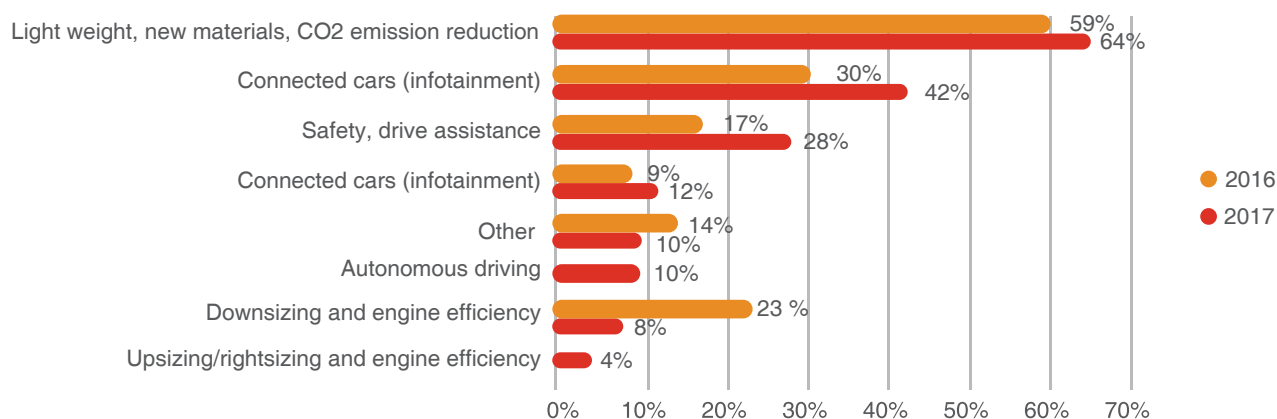
### Question No 31: Do you undertake R&D in Slovakia?



#### Q31

Cooperation with universities and local scientists is linked to the R&D of automotive suppliers in Slovakia. Almost a half of the survey participants, however, do not have R&D departments. A few of the companies are considering establishing them. Around 40% of the companies surveyed are developing R&D capacity, and most often they receive development services from the Group. Based on the survey, almost a dozen companies have R&D departments who also provide services to third parties. There was a slight y/y increase in the provision of R&D to third parties and within the Group. In total, 44% of suppliers undertake R&D, compared to 36% last year. In contrast, 48% of the suppliers are currently addressing R&D issues at the Group level.

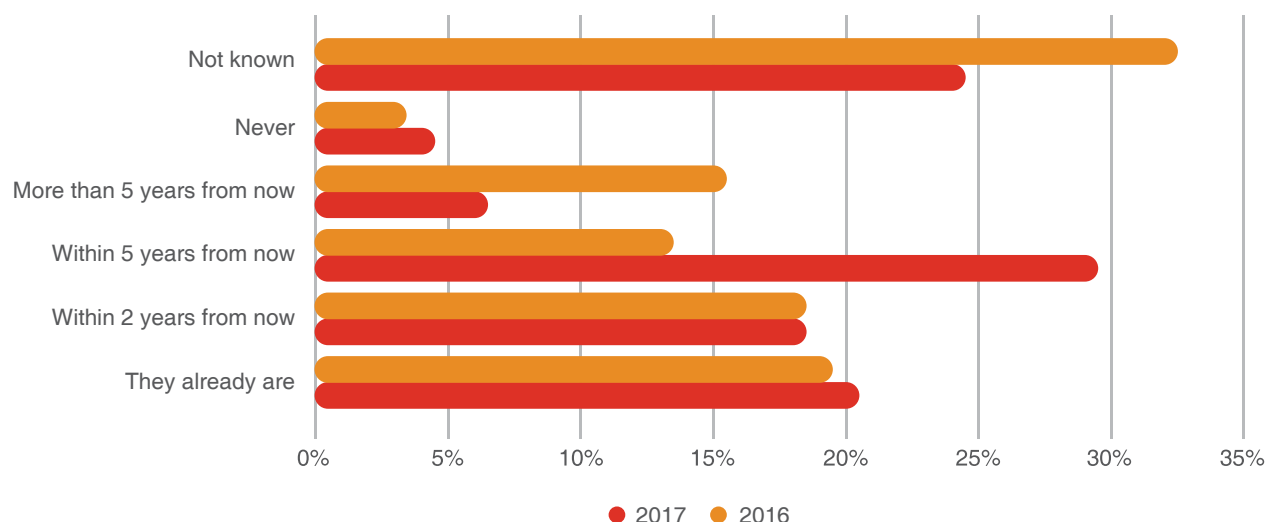
### Question No 32: What global trends does your company follow as regards product innovation?



#### Q32

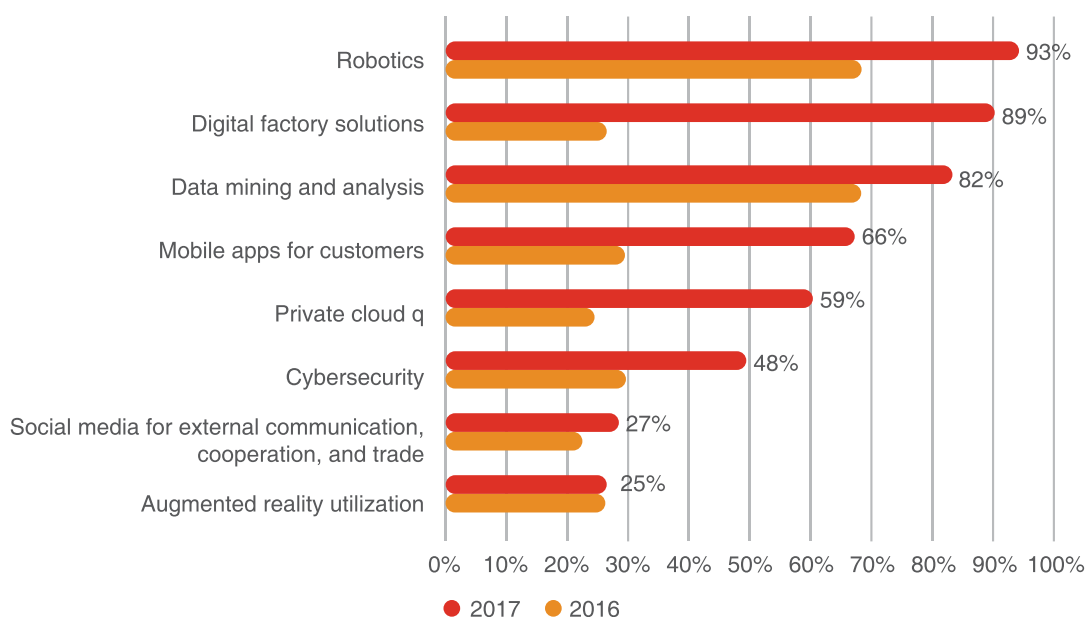
Legislative regulation and social trends influence supplier innovations in the automotive industry. Nearly two thirds of companies stated that the reduction of product weights and the application of new materials was one of the main focuses of their innovations. In addition to a direct improvement of car efficiency, companies are also seeking to reduce carbon dioxide emissions. More than 40% of the survey participants are following the ecological trend by making use of non-carbon fuel engines. Many companies are also working on improvements to driving safety, mainly by using assistance drive systems. The combination of information and entertainment (infotainment) in on-board systems and autonomous vehicle technologies are currently not of great importance.

**Question No 33: Within what timeframe do you expect solutions or components for Industry 4.0 (Smart Factory, Internet of Things, Connected Cars, etc.) to be a part of your activities?**



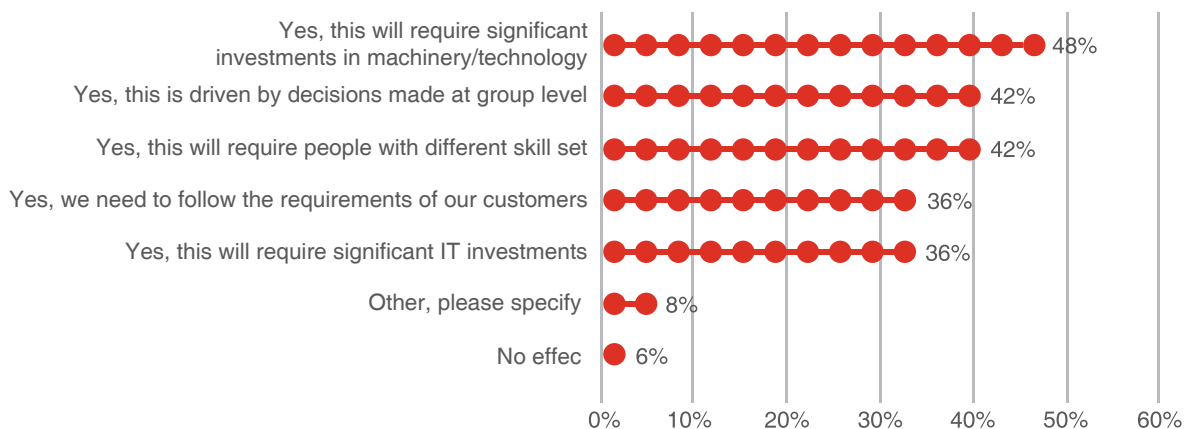
**Q33**  
With the growing number of product variations and the pressure to make production more effective, industrial companies are increasing their use of solutions known as Industry 4.0. While in the past, companies expected to use Industry 4.0 technologies in the future, now one fifth of the companies surveyed stated they are currently using them, and about the same number of companies expect to use them within two years. Less than 30% of the companies expect to use them in more than five years, while about one quarter of the companies still do not have any information about the application of this innovation.

**Question No 34: Which of these technologies will be of the highest strategic importance to your organisation over the next three to five years?**



**Q34**  
Robots are the most cited technology that will change companies over the next three to five years according to more than 93% of the survey participants. Robots were followed by the digitalisation of production and data mining and analysis including the application of cloud solutions. In this regard, cybersecurity is an issue mentioned by two thirds of the companies.

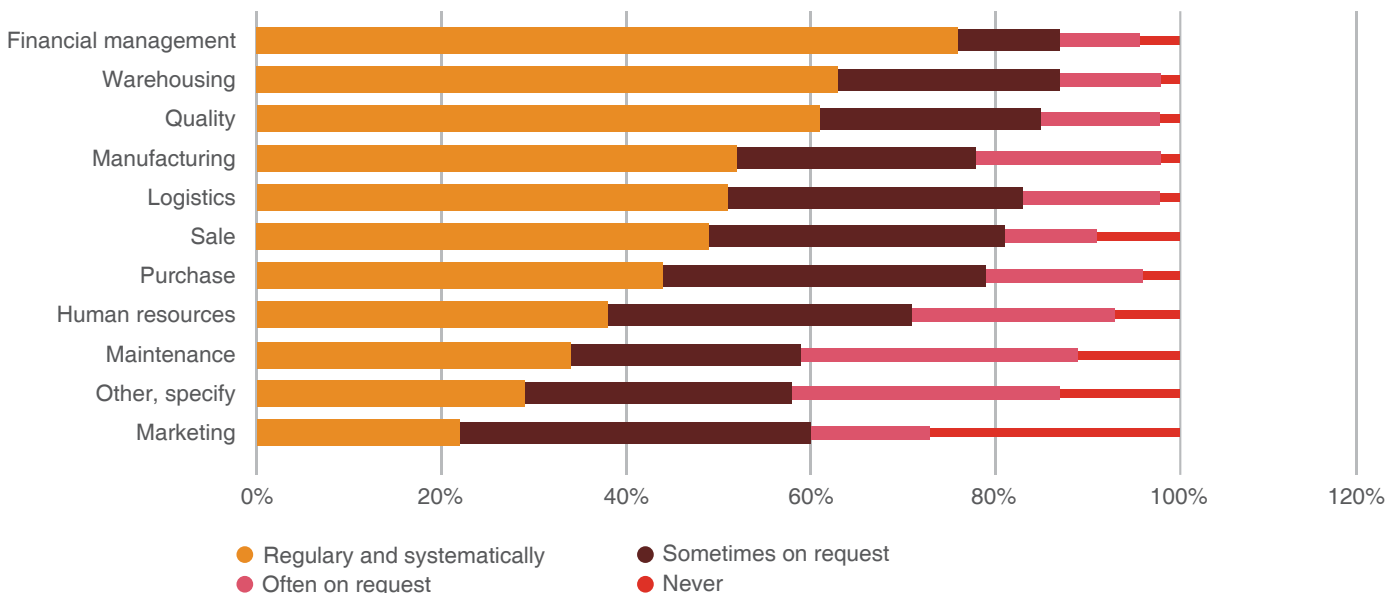
**Question No 35: Will digitalisation and the introduction of new Industry 4.0 technologies have an impact on your production processes?**



Q35

In connection with the influence of digitalisation and the introduction of Industry 4.0 technologies in the production processes, nearly a half of companies expect major investments in new facilities and technologies. More than two fifths of the companies follow decisions taken at the Group level, and the same number of companies expect they will need staff with new qualifications. More than one third of the companies expect major IT investments, and for the same amount of companies, responding to the arrival of new technologies means fulfilling customers' requirements. Some companies expect a better utilization of machine capacities, and limitations due to the impact of staff shortages.

**Question No 36: One of the key elements of the Industry 4.0 concept is data analysis. To what extent do you use data analysis for KPI assessment, trends monitoring, planning, prediction, etc?**

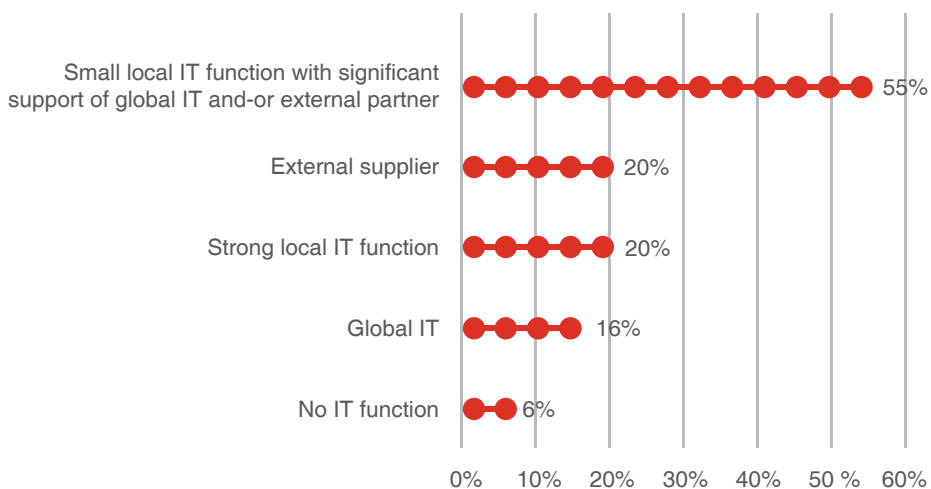


Q36

One of the key elements of the practical application of Industry 4.0 principles is data analysis. It is regularly and systematically used by surveyed companies mostly for financial management, systems of production management, and quality verification, and to a slightly smaller extent, for warehousing management and logistics. It is also used for sales and purchase, while in human resources and maintenance, it is used less often, and in marketing, mainly as required.



**Question No 37: The success of introducing new technologies is to a great extent dependent on the abilities of the IT function. How do you operate the IT function at your company?**



**Q37**

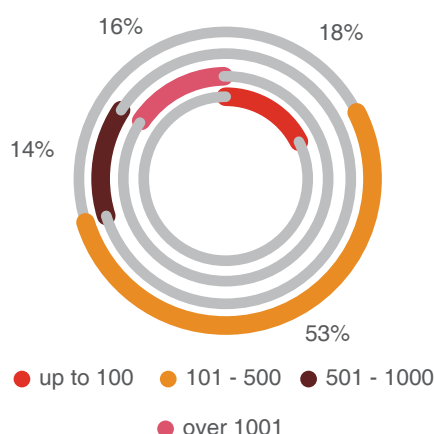
The introduction of new technologies is often a task given to a company's IT department. IT departments of the surveyed companies are most often small local departments with substantial support from their global IT departments and/or external partners. The operation of strong local IT departments or the complete utilization of external suppliers of IT services is unusual. Some companies use services from their global IT Group department.

## Structure of survey respondents

In the Slovak automotive industry, supply chain companies have, for almost two decades, accounted for an increasing share of production and a large majority of employment. Even though the aggregated revenues of automobile finalisation, i.e. of the subsidiaries of automobile manufacturers, are substantially higher, the supplier subsector is substantial with revenues of billions of euros. This subsector has developed from assembling in just-in-time regimes to the direct production of components, and in recent years further developments have been undertaken. But it should be noted

that a majority of development departments provide relatively simple development services, although some companies in Slovakia already have large engineering centres with extensive comprehensive competencies.

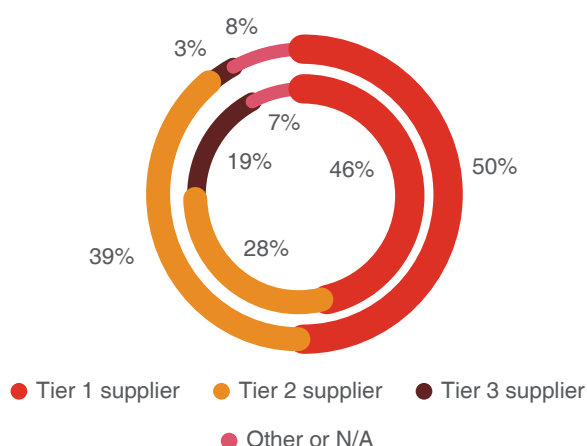
### Question No 38: How many people (own staff and external) work in your plants?



#### Q38

More than a half of the companies included in the survey are companies with between one hundred and five hundred employees. 14% of them have between five hundred and one thousand employees, and almost 16% of them employ more than one thousand people. A strong representation of medium and large companies is important, as their responses give answers regarding the situation at companies that are important for the economy. At the same time, it concerns companies that often achieve a production volume and a position within their Groups important enough to be interested in participating in development activities at least. Given the current stage of industrial development it is important that they have sufficiently ambitious managers, and that they operate in a business environment that is innovation-friendly, and they have possibilities to cooperate with local scientists. The quality of the business environment and managers and the potential of science will determine whether the automotive industry shifts from a primarily production orientation to a stage distinguished by strong innovation elements, including development.

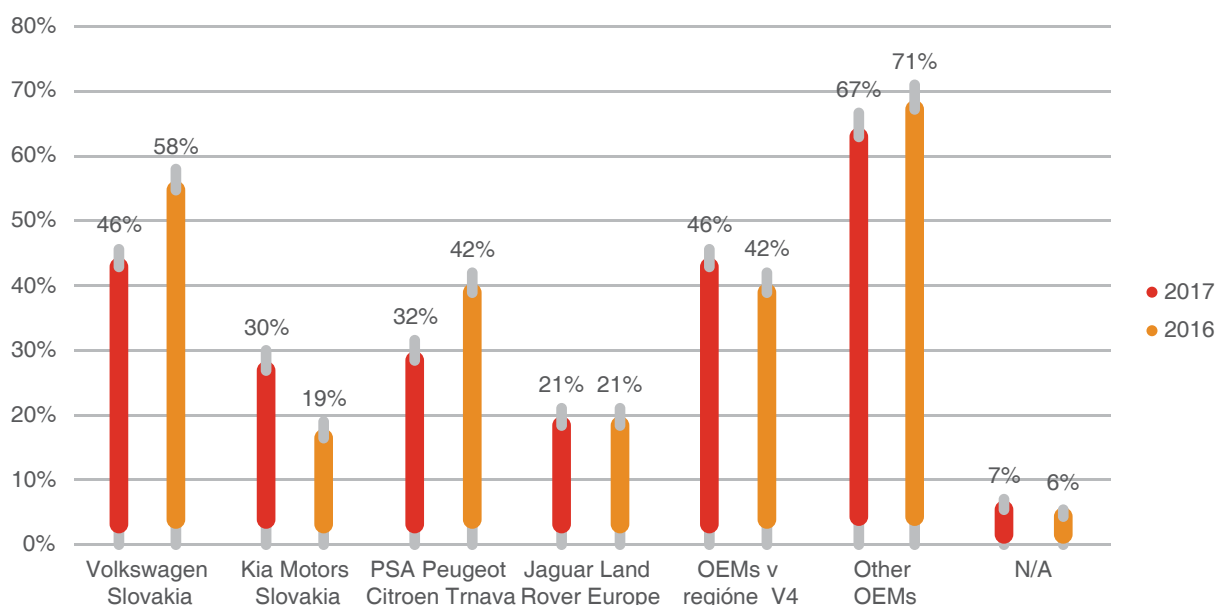
### Question No 39: What is your company's position in the supply chain with regard to the majority of your production?



#### Q39

It is confirmed also by the distribution of the respondents in the structures of the supply chains. More than 46 percent of the companies are in the Tier 1 category. These are companies that, thanks to direct contacts with automobile companies, are able to cooperate more extensively than just by delivering components or modules. As a result of global trends of specialisation and outsourcing, automobile brands are shifting their production and construction and technical development to this group of suppliers. Companies falling into this Tier 2 group, represented in the survey by approximately one fourth of the surveyed companies, and the Tier 3 group with 18.5% representation, are usually not directly engaged in development by automobile producers. Product improvements or development can help them boost their margins and also strategically move the company up to a higher level of suppliers. In this way, they can reduce the dependence of their profits on permanent savings and more effective production.

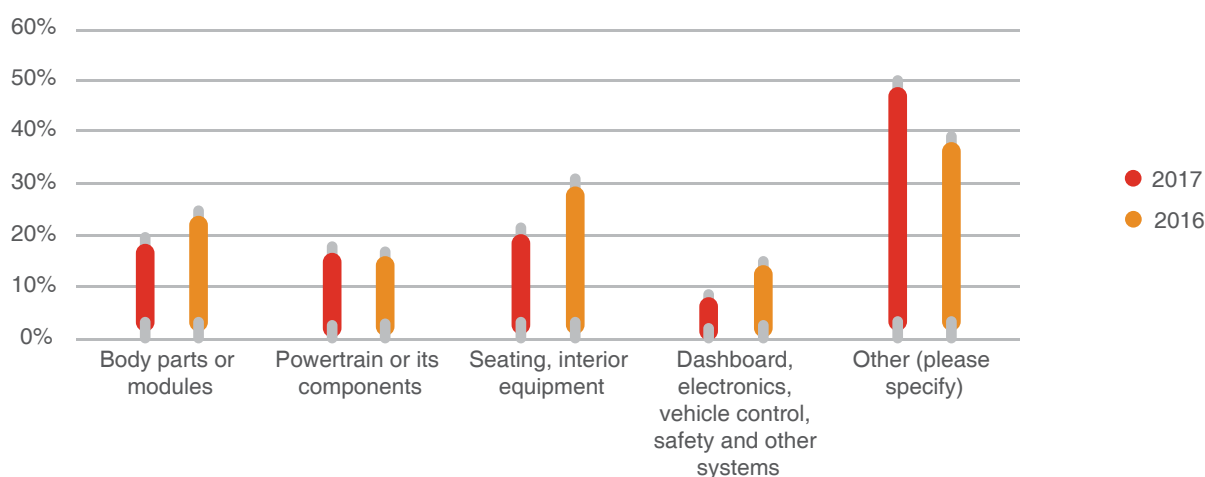
#### Question No 40: What are final OEM customers for your products?



#### Q40

The customer basis of suppliers in the automotive industry is often a focus of recommendations for diversification. The companies take such recommendations seriously, which is confirmed by the overview of suppliers' customers in the survey. Two thirds of them also have foreign customers as well as local customers. Regarding the automobile producers with production in Slovakia, the traditionally strongest company, Volkswagen, also has a strong position as a customer of the companies included in the survey. More than 45% of them deliver to Volkswagen Slovakia. Approximately 30% deliver to Kia Motors Slovakia and to the Trnava plant of the PSA Group. The survey contains encouraging information on deliveries for Jaguar Land Rover. Even though the plant in Nitra is still under construction, a number of companies which deliver for this car manufacturer are represented in the survey.

#### Question No 41: What type of products do you manufacture/supply to the automotive industry?

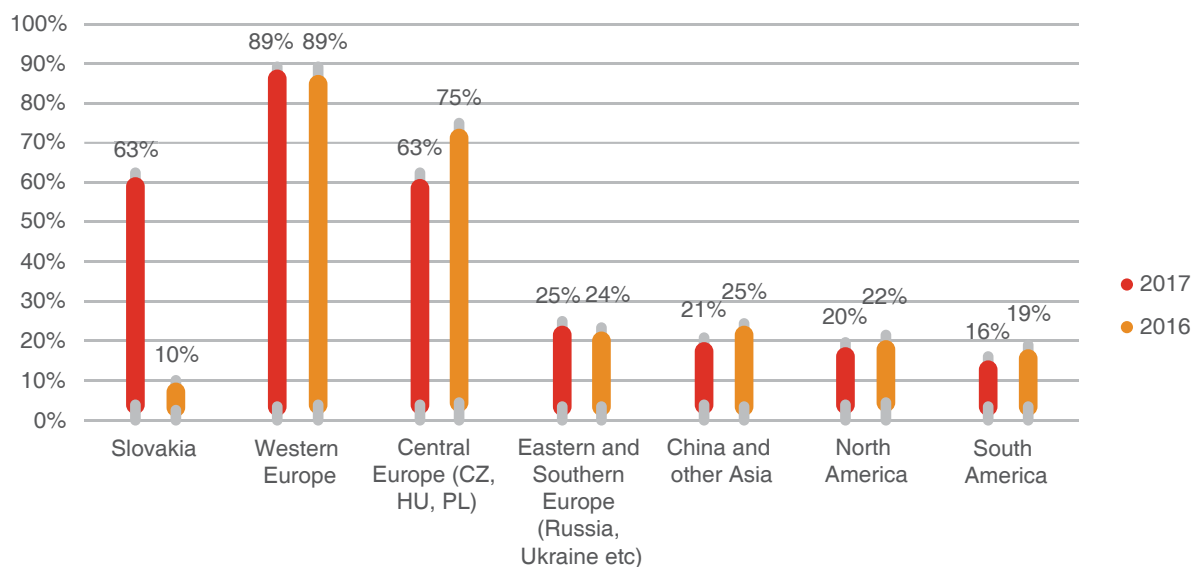


#### Q41

In terms of the product structure, the producers of three key car parts – body parts and modules, seating and interior equipment, and the powertrain and its components – were most heavily represented in the survey. Producers of dashboards, vehicle control equipment and assistance and safety systems were represented in the survey to a lesser extent.



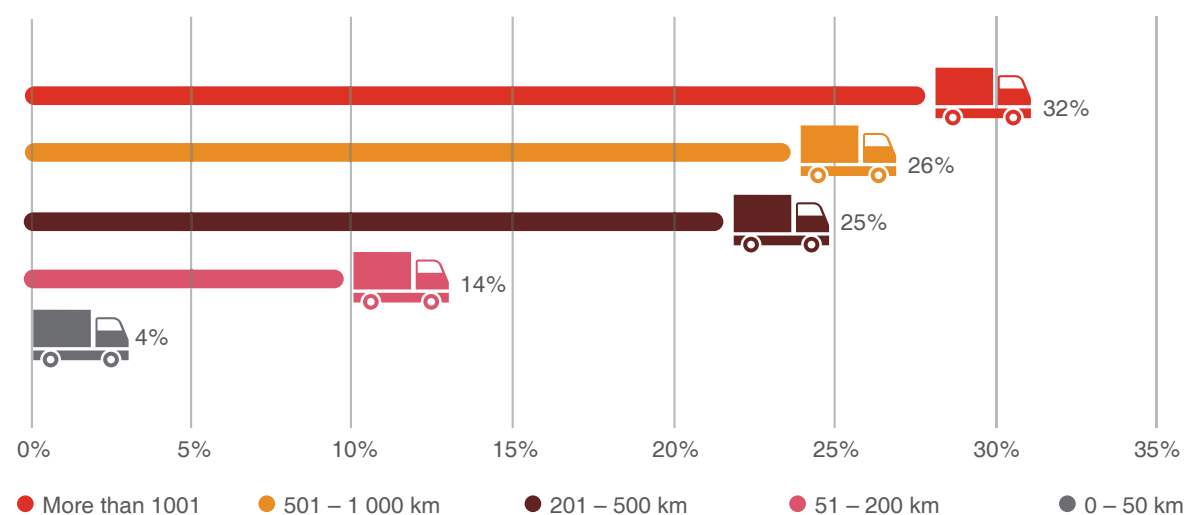
#### Question No 42: What are the key final foreign markets for your outputs?



#### Q42

In terms of the geographic structure of sales, surveyed companies sell, in addition to their domestic customers, mainly to customers in Western Europe and surrounding countries. Three fifths of the surveyed companies sell to customers in Slovakia and other countries of the Visegrad Four Group, and almost 90% of the survey participants sell to customers in the western parts of the continent. The companies with customers in Eastern and Southern Europe, China and other countries of Asia and North America account for 20 to 25%. Less than a dozen of companies also have customers in South America.

#### Question No 43: What is the average distance that you deliver your products?



#### Q43

As regards the distance suppliers deliver their products to the customers only two companies stated a distance below 50 km, which in the automotive industry is considered to be the basic limit of just-in-time deliveries. 14% of the survey participants have their production facilities up to 200 km from their customers. About one quarter of the companies deliver their production 200 to 500 km, or to a distance of more than 1000 km. More than 30% is accounted for by producers whose production is delivered to their customers that are more than 1,000 km away.

## About the survey

The survey was carried out by the consultancy firm, PwC, in cooperation with the Automotive Industry Association of the Slovak Republic and the Slovak Automotive Institute. The addressed suppliers responded via an on-line questionnaires, or printed versions of the questionnaire from 1 March to 30 April 2017. The survey included 56 suppliers of the automotive industry in Slovakia. Our report includes the key findings regarding the automotive suppliers market, assessments of the results in 2016 and their main factors, and the future outlook.

## About PwC

At PwC, our purpose is to build trust in society and solve important problems. We are a network of firms in 157 countries with more than 223,000 people committed to delivering quality in assurance, advisory and tax services. Find out more and tell us what matters to you by visiting us at: [www.pwc.com/sk](http://www.pwc.com/sk).

## About the Automotive Industry Association of the Slovak Republic

The Automotive Industry Association of the Slovak Republic is a voluntary association of legal entities acting in and contributing to automotive and associated industries. The main mission of the Association is to support the sustainability and competitiveness of the automotive industry in Slovakia. Its strategic objectives for 2017 include improving quality and shaping the business environment, supporting and creating an R&D base for the automotive industry; improving cooperation between final producers and sub-contractors, and developing environmental legislation. For more information visit: [www.zapsr.sk](http://www.zapsr.sk).

## About the Slovak Automotive Institute

The Slovak Automotive Institute is an independent industrial think-tank providing information services and analyses in fields relating to the automotive industry and industrial and transport sectors.

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