

P R E S S R E L E A S E

**Oliver Wyman study “Car Innovation 2015”
Cars for the next decade**

- **Global megatrends are shaping the automotive technologies of tomorrow**
- **Too much innovation can run counter to customers’ true wishes**
- **Despite cost-intensive R&D, cars need to be affordable in the future as well**
- **“Car Innovation 2015” identifies the levers that automotive manufacturers and suppliers need to activate in order to become innovation leaders**

Munich, September 27, 2007 – **Barring significant innovations in automobile design, the concept of individual mobility for all will be endangered. Such innovations are needed to meet the challenges facing the worldwide automotive industry. Auto makers need to practice carefully balanced innovation management, in order to ensure that tomorrow’s cars are not only attractive to customers, but also affordable to broad segments of the population and compliant with the increasingly strict statutory requirements. If they succeed in this, the automobile will continue to be the world’s preferred means of transportation in the future as well. The study entitled “Car Innovation 2015” that has just been published by the management consultancy Oliver Wyman (formerly Mercer Management Consulting) identifies the levers that automotive manufacturers and suppliers will need to activate in order to be among the innovation leaders of the future. Key success factors include long-term innovation visions, intelligent business models, customer-centered innovation marketing and low-cost development processes.**

Innovations are the fuel of the automotive industry. They serve to differentiate brands, adapt cars to changing customer preferences, provide answers to global challenges and so ensure the continued success of the industry. In the face of ever stricter emissions limits and increasingly scarce commodities, the entire concept of individual mobility is at risk. It will take innovative and affordable technologies, especially with regard to drive systems and materials, to realize the full growth potential of 100 million motor vehicles by the year 2020.

In 2006, the EBIT margins of the ten most innovative automotive suppliers were 16% higher than the industry average. These days, the automotive industry invests about 68 billion euros a year in R&D and employs 800,000 engineers worldwide. But 40% of all R&D expenditures are spent on projects that never even make it to serial production or that are never produced in adequate volumes, due to inadequate customer acceptance. Another 40% of R&D expenditures are required for serial production development and to satisfy statutory requirements. “To date, only one fifth of all R&D expenditures have served the purpose of

brand differentiation,” comments Dr. Jan Dannenberg, Director at Oliver Wyman. “All automotive manufacturers and suppliers should seek to increase this proportion to 30% or more.” By the year 2015, the entire automotive industry will have spent about 800 billion euros on R&D, of which roughly 40% will be wasted.

As part of the study, all factors relevant to automotive innovations, including global megatrends, current automotive innovations, customer attitudes and general economic conditions, structural changes affecting the industry and the best practices of automotive manufacturers and suppliers, were taken into consideration. The goal of the study was to identify the most important factors of successful innovators. Ultimately, the study identified five areas for action to improve innovation management: Orienting R&D activities to customer needs and market developments, actively realigning the innovation portfolio, continuously improving the cost-effectiveness and risk management of R&D activities, promoting an organization and culture of openness, so as to adopt trends from other industry sectors, and continually reassessing the innovation strategy to confirm that it is up-to-date and in tune with market developments.

Tomorrow’s needs are being shaped by global megatrends

The all-important foundation of any innovation strategy is represented by the company’s development goals: What types of cars, equipped with what features, will be needed in ten years and more? In answering this question, it helps to analyze the megatrends that are shaping the world of tomorrow. One such megatrend is that of urbanization, leading to the growth of megacities. By the year 2015, 40% of the world’s population will live in cities comprising more than one million inhabitants. Most of these cities will experience a serious shortage of parking spaces, problems with traffic jams and limits on emissions. Accordingly, the so-called “city cars,” which have until now commanded only limited interest in the automotive industry, will likely become a serious development goal in the future. With this in mind, new technologies could be focused on infotainment, added comfort in gridlock situations, adjustable window tinting and heightened security against robberies and carjackings.

Another key megatrend is the widening income gap. As a result of this trend, a significant portion of growth in the automotive industry by the year 2015 will be experienced in the lower-end vehicle segments. All together, the study identifies 27 megatrends, which affect the entire automotive industry. “By analyzing the performance of automotive companies over many years, we concluded that clearly defined, consistently pursued R&D visions are a critical success factor,” says Jan Burgard, automotive expert and co-author of the study. “Companies that changed their strategies or cut their budgets in mid-stream incurred substantially higher costs for research and development, but came out with less successful innovations.”

The most important automotive innovations by the year 2015

The Oliver Wyman study reveals that the big challenges facing the automotive industry are already being met, for the most part, by the innovations which are currently in the pipeline. However, an exhaustive analysis of more than 300 automotive technologies being developed or refined found that only about 10% of them have the potential to become “blockbuster” innovations. Although they exhibit the required market potential and a high level of innovation, they are also fraught with serious risks. The more innovative they are, in fact, the higher the risk that new developments will be too expensive or otherwise unsuited for day-to-day use.

The most successful technologies, those that will experience a growth rate of 8% or more, will be software, semiconductors, displays and drive systems. As in the past, electrical and electronic components will continue to be the most important enablers and drivers, accounting for 60% of all innovations. The market for these types of products will grow at an annual rate of 6%. To optimize costs, automotive companies will follow a clear trend of integrating, combining and further standardizing various functions. By intelligently linking existing components and modules, automotive companies will increasingly shift their emphasis from individual applications to system applications that combine more than one component.

Too much innovation can be lost on the customer

The customer survey conducted in connection with the “Car Innovation 2015” study revealed that automotive manufacturers and suppliers do not always understand the needs and wishes of the final consumer. Customers are overwhelmed by the sheer volume of complicated innovations that first need to be explained in order to be understood, and by the proliferation of brand-specific names and abbreviations. Many customers are not even familiar with all the new features. Furthermore, a test evaluation of 50 car dealerships, to determine their ability to explain innovative new features to car buyers, found that very few are interested in selling such features, and even fewer are knowledgeable of the operation and uses of specific technologies. On average, only one of six innovative technologies available today is actually sold.

Moreover, 550 buyers of new cars in Germany and the United States, who were questioned about their acceptance of innovative features and their budget allotments for this purpose, indicated that the overwhelming majority of customers are looking for a reliable car at a reasonable price. The most important selling point is the overall cost (“total cost of ownership”). Oliver Wyman consultant Dannenberg summed it up as follows: “In the future, automotive manufacturers and suppliers will have to continually cull their innovation portfolios, to make sure they are concentrating on truly promising innovations that are likely to be accepted by customers. Also, they will have to formulate and pursue highly focused, well integrated marketing plans, to make sure that buyers and car dealers are truly interested in the innovations which are currently in the pipeline.”

Tomorrow’s cars still need to be affordable

Over the last 20 years, the retail price of a new car in the industrialized nations has risen by 100%, while the average personal income has increased by only 50%. Thus, innovations designed to lower costs will be just as important to auto makers as other kinds of innovations, the main purpose of which has traditionally been to create brand differentiation. To ensure that cars are still affordable to regular people, and profitable for their makers, in the year 2015, auto makers will need to lower the cost of producing each car by 1,500 euros (11%), according to calculations of Oliver Wyman. Various cost reduction measures such as the offshore procurement of R&D services, steps designed to simplify, standardize and modularize the production process, and the production of low-cost cars will be instrumental in helping automotive companies get a grip on the spiraling costs that have resulted from offering more and more features. The industry’s R&D expenditures vary widely, depending on the manufacturer. Market leader BMW spends nearly 15 times as much (1,796 euros per car) on R&D as Hyundai (120 euros per car). Whereas Western manufacturers are expected to limit their unit research expenditures in the future, the Chinese, Indian and South Korean manufacturers will increase their R&D expenditures substantially.

With a view to the overall industry, the winners of these trends will be the automotive suppliers and engineering firms. They will be able to increase their R&D budgets substantially, from 46 billion euros in 2005 to 66 billion euros in 2015. “The ongoing concentration process among the automotive suppliers will enable them to progressively enhance their innovation capacities,” says Oliver Wyman consultant Burgard. “Also, automotive suppliers can be expected to enter into R&D partnerships as a means of building their increasingly complementary know-how and expertise. This way, they will be able to lower their costs while increasing their innovation quality in the future.”

The innovation strategies of the future

As part of the “Car Innovation 2015” study, Oliver Wyman analyzed the innovation strategies of the most successful automotive companies. Based on the results of this analysis, Oliver Wyman developed an “Innovation Strategy Framework.” According to this framework, four closely interconnected criteria must be satisfied concurrently, in a manner that suits the requirements to be met by the respective business model: Making an innovation promise to the customer, maintaining the right mix of R&D capabilities in the innovation network, presenting convincing business cases for each innovation and instituting an effective innovation organization.

“Automotive innovations will continue to play a critically important role in the preservation of individual mobility,” says Oliver Wyman consultant Dannenberg. “The biggest challenges facing the industry today relate to the reduction of fuel consumption, tailpipe emissions, raw materials usage and costs. In addition to these overriding goals, automotive companies will need to orient their research and development activities more closely to the needs of customers and sales, in order to avoid wasted projects as much as possible and improve the market acceptance of new developments.”

“Car Innovation 2015”

The “Car Innovation 2015” study identifies all the factors that are relevant to the planning and management of innovations in the automotive industry. Over 30 Oliver Wyman automotive experts worked on this study for a period of more than nine months. Besides drawing on the extensive base of knowledge acquired over five years of project work, Oliver Wyman interviewed 700 persons and analyzed more than 300 of the most important technologies of the automotive industry. The study also covered 500 automotive suppliers and 15 manufacturers. Based on the extensive findings of this study, Oliver Wyman’s automotive experts developed a range of recommended actions to improve the innovation management process of all automotive manufacturers and suppliers. These recommendations deal with how automotive companies should design and structure their innovation management programs.

Ten success factors for R&D in the automotive industry

Technology vision

Top performers develop a long-term innovation vision and pursue them unwaveringly, without being distracted by short-term trends.

Knowledge of customer preferences

A thorough understanding of customer preferences helps automotive companies to better focus their innovation projects on customer-relevant features.

Strategic fit

Successful automotive suppliers and manufacturers synchronize their R&D strategies with the desired target customers and network partners at a very early stage of the process.

Focused R&D capabilities

The R&D capabilities of the best innovators are closely aligned with their R&D strategies.

Strategic partnerships

In response to the ever rising complexity, R&D networks are destined to become a key success factor, also for automotive suppliers.

Investment focus

R&D budgets should not be affected by short-term business demands. Making short-term changes to R&D strategies is inordinately costly.

Orientation to megatrends

Long-term R&D objectives should be oriented to global megatrends, which are, after all, foreseeable, as a means of ensuring that R&D expenditures are not wasted.

Cost discipline

Innovation leaders always maintain very strict cost discipline. Reducing unit costs is one of the cornerstones of their innovation efforts.

Outside-in strategy

Top performers concentrate on innovations that will be accepted by the market and terminate, at an early phase, projects that hold little promise of being profitable.

Employee involvement

Companies that involve their employees in their R&D activities on all levels are much more successful innovators.

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