**Engineer Younghee Jun on her work in tyre development**

**Younghee Jun works in the research and development department of Hankook Tire & Technology. After studying engineering at Inha University and the Illinois Institute of Technology, she is currently employed in the original equipment development team, where she focuses on high-end / supercar assignments in particular. Her projects include developing tyres for the Porsche Panamera, the Porsche Cayenne and the BMW X3M/X4M. She is also working on developing sustainable tyres for another project, which is currently classified.**

**What led you to become an engineer in the automotive industry?**

I have been interested in cars from a young age. The older I became, the more the entire automotive industry started to interest me. I am a passionate driver myself. So it was an easy decision to study engineering. The tyre is the load-bearing element of the vehicle. It connects the vehicle to the road. It has a central role in determining the motion and safety of a vehicle and this is what ultimately led me to place my professional focus on tyres.

**Would it be fair to call you a petrolhead? Are you enthusiastic about technology generally?**

I am an absolute car enthusiast, which is an advantage for my work and increases the fun factor in my everyday professional life immensely. For some tests, for example, I am present on site at the Nürburgring or other test tracks. It’s great seeing the products that I developed in action and testing tyre performance in real-world conditions.

**How did you come to work for Hankook?**

I spent a long time deciding which company would be best to start my career with. After all, the first job you have often defines your subsequent career path. It quickly became clear that I wanted to be a member of a development team, as quick feedback and a generous serving of tight deadlines spur me on. As a company with a large research and development department which covers my area of expertise – developing original equipment tyres – Hankook is the perfect match for me, my interests and my strengths.

**Do you think that women sometimes take a different approach to developing tyres compared to their male colleagues and face different challenges?**

In some occupational groups and sectors, women certainly have the challenge of having to demonstrate their competence more strongly. I personally have had no such experience. I believe that my personal qualities, and the way I work and solve problems, are crucial. Sex does not play a role. I pay attention to the smallest details and am very ambitious. I think a lot of people in R&D are highly focused, and the overall environment is very modern at Hankook in the Technodome.1 This is very important for me and allows me to concentrate fully on my job. Diversity and equality go without saying among employees.

**Are you a Porsche fan? Have you ever been able to drive one yourself?**

The Porsche brand of course has a very special image, and stands for a very specific type of sports car. If you’re passionate about cars, you’re likely also a Porsche fan. So I was absolutely thrilled to be able to lead the Porsche project. So far I’ve only driven the Cayenne and the Panamera. Do you have a Porsche 911 key with you? If so, would you please hand it to me?

**If you compare this Porsche tyre with the standard set-up of the Ventus S1 evo Z – what are the most important adaptations that have been made?**

The tread was specially developed for high-performance vehicles. For the Porsche Panamera, we paid special attention to good handling and performance in wet and dry conditions. We did this to ensure our tyre optimally supports the vehicle’s dynamic and sporty characteristics. For the replacement market, the tyre needs to cover a whole range of car models. To achieve this, Hankook has its own development team that determines the best intersection of relevant properties so that the tyre works optimally on as many vehicles as possible.

**How long did you work on this project and what specific challenges did you come up against?**

It usually takes between one and three years to develop an original equipment tyre. The specifications are drawn up with the car manufacturer. This defines which requirements the tyre has to fulfil. Ideally, we want to exceed the set targets. To achieve this, smooth cooperation with the other teams involved from the areas of materials, research and production is particularly important. This is where my skills as a project manager are particularly in demand.

After we have clarified the most important key data with the original equipment partner, the work really begins for us. Every now and then we encounter new challenges during the process. With the tyre for the Porsche Panamera, for example, we had to experiment for longer than usual until we found the perfect solution for the quietest possible tyre.

**Which tools did you use during development, and which are you directly involved in?**

For this project, we used many of our latest technologies and development tools. These especially helped simplify the process of selecting materials and made the entire process more efficient. For example, CATIA, i.e. “Computer-Aided Three-Dimensional Interactive Application”, for modelling and simulations, which can also be used to create three-dimensional models. Or VDAP, the Vehicle Dynamics Analysis Program, which predicts tyre performance on the vehicle itself. A lot has happened here in recent years. My job is also becoming more and more digital, which is very exciting.

**Do you work directly with Hankook test drivers to improve the tyre? Are there any special requirements for a Porsche that you had to consider?**

I work closely, not only with Hankook’s subjective test drivers, but also with the objective drivers.2 We constantly exchange ideas and keep in touch through various platforms. Sometimes we use Microsoft Teams, but often we send emails or speak on the phone as well. However, I am most pleased when I finally get to see my colleagues again at the test track or in the office. Of course, we also keep close contact with our original equipment partner. Excellent cooperation between all those involved made a significant contribution to this project in particular. Everything worked as planned and the tyre was then able to go into series production.

**Is there anything else you would like to share or add?**

I am delighted to have the opportunity to put my profession as a tyre developer in the spotlight here, and to encourage women in particular not to be deterred from entering industries that are perhaps perceived as more of a traditionally male domain. Ultimately, skill and passion are the keys to success. It’s a great feeling knowing thatmy work is out there increasing people’s enjoyment of the road, and that a tyre I developed with my colleagues is being assembled in the thousands on the Porsche assembly line. That motivates me every single day. For me, at least, my challenging education was really worth it and I am very happy with my job.

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1: The Technodome, designed by Foster + Partners, an architectural firm founded by Sir Norman Foster, is the heart of Hankook’s research and development department. Located in Daejeon, South Korea, it is the result of a total investment of 266.6 billion KRW (approximately 230 million USD), and is an ecologically optimised, high-tech research centre featuring the latest equipment.

2: Subjective and objective test drivers check the performance of the tyre on a test site. The objective tests are carried out with the help of measurement technology. They record everything that can be measured, such as lap times and braking distance. The subjective test results are based on the expertise and feeling for the tyre that the respective driver has acquired over years of training. The tyre tests serve as indispensable feedback for the developers, and help to ensure that the finished product works as desired on the road.

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**About Hankook Tire**

Hankook Tire manufactures globally innovative, award-winning radial tyres of proven superior quality for passenger cars, light trucks, SUVs, RVs, trucks, and buses as well as motorsports (circuit racing/rallies).

Aspiring to bring consumers the utmost excellence in product quality, technological excellence and driving satisfaction, Hankook Tire continuously invests in research and development maintaining five R&D centres and eight production facilities around the world. Bespoke tyre solutions for the European markets as well as European Original Equipment according to the requirements of leading premium car manufacturers, are developed in the company’s regional Technical Centre in Hanover/Germany. Production for the European region is taking place in the state-of-the-art manufacturing site in Rácalmás/Hungary which was inaugurated in June 2007 and is continuously being expanded. Currently around 3,000 employees produce up to 19 million tyres a year for passenger cars, SUVs, and light trucks.

Hankook Tire’s European headquarters are located in Neu-Isenburg near Frankfurt am Main in Germany. The manufacturer operates further branches in Czech Republic, France, Germany, Hungary, Italy, the Netherlands, Austria, Poland, Russia, Serbia, Spain, Sweden, Turkey, UK, and Ukraine. Hankook products are sold directly through regional distributors in other local markets. Hankook Tire employs approximately 20,000 people worldwide and are selling their products in over 180 countries. Internationally leading car manufacturers rely on tyres made by Hankook for their original equipment. Approximately 34 percent of the company's global sales are generated within the European and CIS-Region. Hankook Tire has been represented in the renowned Dow Jones Sustainability Index World (DJSI World) since 2016.

For more information, please visit [www.hankooktyre-mediacenter.com](http://www.hankooktire-mediacenter.com) or [www.hankooktyre.com](http://www.hankooktire.com)

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