

Making and maintaining tyres

By [Nicholas King](#) - January 25, 2023 @ 12:11am



Khoo Jan Sen has been working with Continental for 10 years.

HAVE you ever wondered what it takes to develop a tyre? During the official media testing of Continental's new UltraContact UC7 tyres in Langkawi recently, project leader Khoo Jan Sen shared what it's like to be part of the development team as well as tips on tyre care.

Khoo, who has a Master's of Science in Motorsports Engineering and Management, joined Continental in 2013 through a trainee pool programme and is currently based in Germany.

He has experience working in a tyre manufacturing plant before joining the research and development department as a tyre developer, a role which he would hold for two years before he was given project lead development of the brand's UltraContact UC6 SUV tyre - the predecessor to the UC7:

Q: What was your role in the development of the UC6 SUV and UC7 tyres?

A: I dealt with planning, budgeting, team collaboration across different markets and regions, cross liaison with different departments (e.g. marketing and product), as well as coordinate development, testing and industrialisation activities, such as getting requirements and market introduction.

Q: How many people are generally involved in the development of a new tyre?

A: To realise the UltraContact UC7 project, a global team of around 25 engineers and material experts spent more than 9,500 hours designing, simulating, building, and testing all the prototypes.

Q: Typically, what are the challenges faced in the development of any new product, especially for someone in your position?

A: We need to work with big amounts of testing and simulation data and translating them into real world performance.

Q: What are the regional differences you have to consider when making a tyre?

A: We typically consider differences in use cases, road conditions, climate and local regulations when developing a tyre.

For example, Asia Pacific consumers prefer more comfortable tyres versus European drivers who look for mileage.

City traffic conditions in Asia also require more stop and go and combined with the rainy season, wet performance is a key performance aspect.

That is why we have tyre lines dedicated to a specific focus that we think our buyers will look for, such as comfort (CC6), balanced performance (UC7) and sportiness (MC6).

With excellent tyre lines developed, buyers will be able to associate the high quality control and credibility towards a certain brand.

In Continental, we will not compromise on our quality as consumers' safety is our top priority.

We believe that we will be able to develop tyres that are best suited for consumers' needs.

Q: Is there anything fun about the development process?

A: It's seeing your estimations and simulations working as expected in real world tests!

Q: From the UC6 to UC7, why was wet drive and durability the focus of improvement?

A: Our aim is to develop products that meet both current and foreseeable market requirements. Due to giving a greater emphasis on the safety aspects, wet performance became the basis for the UC7.

Q: What sort of general testing is needed before a tyre to be road ready?

A: During the UC7 development phase, Continental engineers conducted more than 850 tests under various conditions to ensure we met our own exacting standards in delivering a cutting-edge tyre to consumers.

In general, Continental tyres undergo very stringent tests, such as for high speed and endurance, at our state-of-the-art testing facility, Contidrom, before they are released into the market.

With its diverse and highly precise test options, Contidrom is now one of the most modern test centres globally. It has tested approximately 1.3 million tyres since its inception.

Q: What are the brand's future plans?

A: We will continue to develop innovative tyre technology and our future plans will involve the Generation 7 products. So stay tuned for more!

Q: Do tyres actually explode or is it mistaken for a blowout? What can we do to ensure that doesn't happen?

A: Tyres generally don't "explode" under normal use and circumstances. What can happen is an instant pressure loss situation where there is a breach in the tyre construction that causes the tyre to deflate rapidly.

This should not happen often at all and if it does, it is usually down to external factors such as damage, improper use or maintenance. Therefore, do not forget to have a proper tyre maintenance check.

Q: What is your advice or tips when it comes to choosing a suitable tyre?

A: Choose a tyre best suited for your driving style or needs.

To be safe, invest in reputable brands as the tyre is an extremely important component to safe driving, being the only point of contact between the vehicle and the road.

Q: How do you ensure tyres are well maintained? When should we change them?

A: In my opinion, ensuring that a tyre is always properly inflated will go a long way to enhancing its life span. If the tyre is very well worn, do not wait until it reaches the minimum tread depth as this will reduce the safety of a tyre, especially during wet conditions.