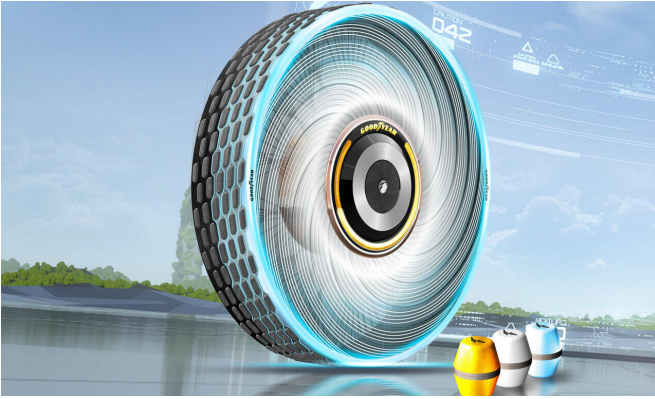


# Goodyear's biodegradable concept tire regenerates its tread

5 March 2020, by Jelani Harper



Credit: Goodyear

Goodyear recently unveiled a tire concept that could revolutionize the auto industry. Dubbed [reCharge](#), this concept tire would never require replacements or rotations because it regenerates its tread as needed.

In addition to eliminating flat tires and the need to check [tire](#) pressure, the concept's regeneration features would be customized to the driving habits and conditions of individual motorists courtesy of a combination of AI and telemetry data.

The crux of reCharge's regeneration capabilities is a biodegradable, reloadable liquid compound that's recharged by capsules. The compound is fortified by a mixture of dandelion rubber and fibers similar to spider silk, known to be one of the toughest raw materials found in nature. reCharge would push out this paste on demand through pipes to the wheel's surface, where it hardens into new tread.

The compound itself is customizable and would adapt to each motorist's driving tendencies. Intelligent algorithms (likely involving [machine learning](#) and other AI aspects) would analyze the vehicle's telemetry data to create individual driver

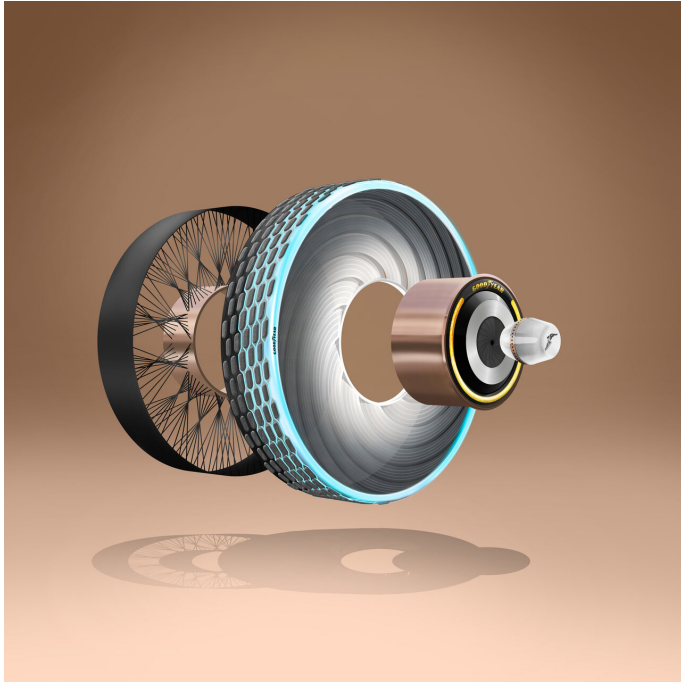
profiles, serving as the basis for personalizing the compound.

Additional personalization features include the makeup and consistency of the tire itself, which would adapt to the usage of individual drivers. Instead of changing tires for dry, hot summer conditions and frigid winter ones, reCharge would mutate its surface to accommodate those condition—or any others.

However, this would require drivers to change the capsules containing the liquid compound, which would be stored in the hub of the wheel. Goodyear hasn't specified whether or not this process would require bringing a vehicle with reCharge tires into a shop.

"Goodyear wants the tire to be an even more powerful contributor to answering consumers' specific mobility needs," explained Mike Rytokoski, vice-president and chief marketing officer of Goodyear Europe. "It was with that ambition that we set out to create a concept tire primed for the future of personalized and convenient electric mobility."

The innovative compound powering reCharge is a much more environmentally friendly option than conventional tire compositions. While the latter typically firms up petroleum rubber materials with silica or carbon black, the fibers in reCharge's compound make it entirely biodegradable.



Credit: Goodyear

Additionally, reCharge's tire tread would be underpinned by a non-pneumatic, lightweight frame with a tall and narrow shape. The frame would work in conjunction with the paste's lasting fibers to make the tire highly durable under almost any driving conditions. This feature of the concept tire, as well as its regenerative capabilities, is directly responsible for its elimination of flats or the need to check tire pressure.

Goodyear hasn't indicated when it might begin manufacturing reCharge.

**More information:**

[news.goodyear.eu/the-goodyear-recharge-concept—making-tire-changing-easy-with-customized-capsules-that-renew-your-tires/](https://news.goodyear.eu/the-goodyear-recharge-concept---making-tire-changing-easy-with-customized-capsules-that-renew-your-tires/)

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