Lexus uses LumiLor coating to show driver's heartbeat on car

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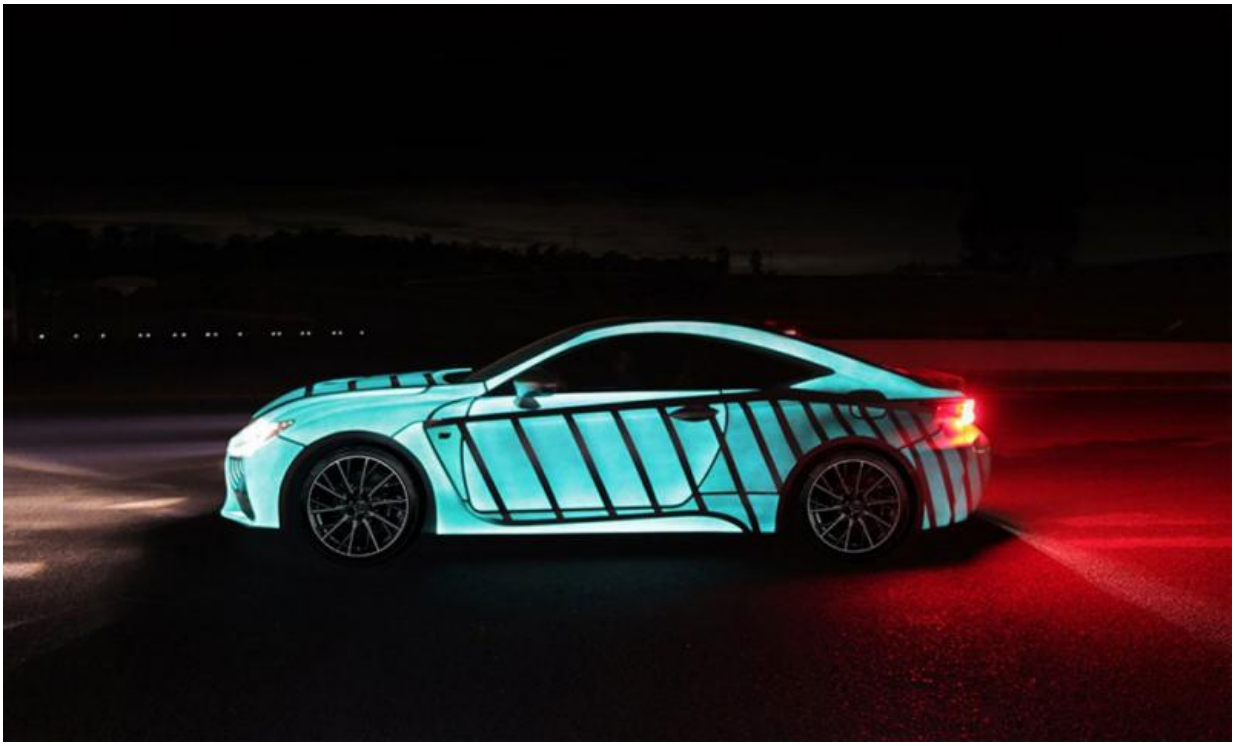

Lexus RC F

Lexus Australia has collaborated with creative agency M&C Saatchi to create a heart-racing demonstration of a vehicle that can display a driver's heartbeat on its exterior. In the demo, professional drivers raced at night with their heart rates "connected" to the cars they drove.

Ingredients that went into this show included the Lexus special RC F show car, a driver's heart-rate monitor and, for the car exterior, a special electroluminescent coating. Lexus billed it as the world's first car with a heartbeat. Lexus Australia referred to the "biometric paintwork."

Wired and *Mashable* were some of the sites that carried more details on the project.

Creative technologists from Tricky Jigsaw (a division of the M&C Saatchi Australia) teamed up with Lexus to develop the technology to make this work; it took about six months to build, according to Ben Cooper, group innovation director of Tricky Jigsaw and M&C Saatchi Australia, in *Wired Co.UK*.

They got their hands on an electroluminescent coating called LumiLor—which glows when you run an electric charge through it. LumiLor's site said that, at the sub-atomic level, the process behind electroluminescence (EL) is radiative recombination, where phosphorescent substances emit photons (light particles) in response to alternating electrical current. In turn, the LumiLor system involves coating technology that goes on like paint but will illuminate when energized with an electrical current. The company said the coating uses aqueous-based polymer technologies.

EL does not require heat to produce light, and the LumiLor site said an electroluminescent lamp is safe, efficient, long lasting, and cool to the touch.

"In daylight it looks like it's painted plain old ordinary silver," said Noah Joseph in *Autoblog*.

The team that worked on the car made multiple panels with this biometric paint. To show the heartbeat, each panel needed an animation

sequence. Arduino served as the brains of the system.

Ariel Bogle in *Mashable Australia* explained the workings of the system: "In the concept vehicle, a standard heartbeat monitor sends the driver's heartbeat wirelessly to a control board in the rear of the car. The custom-built Arduino control board takes the electrical signal from your heart and prompts the electro-luminescent paint to display it in a pre-determined, pulsating pattern on the car's panels. This appears in a similar fashion to a LED light."

Fun to watch but what's the point? The point may be that this is a conceptual project.

"While this 'heartbeat' RC F may not have any practical application, it's not hard to picture a future where the exterior of a vehicle could be customized in a similar way. Very cool idea, expertly implemented," said *Lexus Enthusiast*, which is an independent site not affiliated with Lexus.

Also, an aim of the project, as a joint initiative between Tricky Jigsaw and Lexus Australia, was to connect the human body to the car. "We're changing the conversation from top speeds, to talking about what the car does to you emotionally," Cooper said in *Mashable Australia*.

Cooper said in *Wired.Co.UK* that the idea also played into themes of wearable tech and metrics which are becoming embedded in daily life.

He said "it's evident that we're hooked on personal stats. A car that can understand the driver's biometric outputs provides all manner of possibility. Imagine mapping biometric with telemetric data to understand what stresses the driver?"

Lexus Australia chief executive Sean Hanley said the heartbeat car comes in the wake of other innovative brand activities in 2015. "This

latest concept follows other innovative projects we have developed this year including smart outdoor advertising billboards that respond to the car you're driving and our fantastic new Lexus hoverboard."