

Breakthrough results with high-power laser technology to transform electric vehicles

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Credit: PULSEProject

The northern lights are shining extra-bright in Tampere Finland this

month as a major step forward in amplifying the power of lasers was achieved.

For the first time a [laser](#) using similar technology to the fibers that deliver [broadband internet](#) to homes has been able to generate enough [power](#) to cut through steel in seconds. With more than a trillion times the power of the sun and many times the power of existing technologies, the laser generator, when used with ultrafast beam targeting, can vaporise and weld metals at speeds greater than 1,000 km/hr.

The new laser processing systems will overcome the relatively long processing time which is a major shortcoming to the industrial implementation of laser-machining solutions today. The development by Ampliconyx and Tampere University will be of special interest to the [automotive sector](#) aiming to reduce vehicle weight and accelerate battery production processes for new electric vehicles.

Nello Li Pira, the head of the Physical Analysis Department of Fiat Chrysler Automotive Research Centre in Turin said, "These exciting results can make a major impact in electric vehicle production and the drive to reduce vehicle CO₂ emissions."

Dr. Maxim Odnoblyudov of Ampliconyx said, "We are very excited by these results which prove the unique capabilities of the technology which we plan to launch the first lower power products early in 2020."

Dr. Regina Gumenyuk, who leads the project, said, "It is rewarding to see these results based on technology originating from Tampere University and now a major step closer to reality."

Provided by CORDIS

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