



## Battery Efficiency and Range Extension through a Selective System for Vehicle Lightweighting using Magnesium

*Seminar and Discussion, for presentation at Battery Electric Vehicle Architectures, Detroit Michigan; 3:20 pm. February 26, 2020*

Reducing gross vehicle weight has a direct impact on battery power and charge retention, and therefore the range, of electric vehicles. One of the best methods of achieving a large increment of efficiency is to use magnesium alloys in selected vehicle systems. The results of an initial survey of magnesium optimization and how it can be economically applied without performance reduction are presented, analyzing automobile structural systems in detail, resulting in gross vehicle weight reduction of up to 40% compared with steel alloys, and up to 20% compared with aluminum.

Up to now, the challenge to major, system-wide adoption of magnesium vehicle optimization has been the reliability of large-volume, long-term supply of custom magnesium alloys, quality control and business terms. Galaxy Trade and Technology, a new US-China joint venture, provides an end-to-end solution through a comprehensive manufacturing, refining, science and logistics system. Presented in cooperation with renowned auto engineering and design firm, Panoz Engineering.

Presenters include Michael North, co-founder of Galaxy; Dan Panoz, president of Panoz Engineering; Dong Yuming, CEO of Galaxy, and Qiu Ruimin, CEO of Magnesium Investment Corp, both from China, joining by two-way video.

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