

# Road Rover ®

## Subject: LGHV/ EP21

### Light Goods Hybrid Vehicle/ EP21

By Collaborative Production and Manufacturing to create a solid and absolute economic supply chain

Market: Export and direct competition

Partners Thoughts: A) Chassis Manufacturers; B) Body and Cabin Manufacturers; C) Electric Propulsion and Wiring Specialists, and Fitters.

Graviton Dynamics Inc. is proposing this type to fill a gap in the market. GD concept is an innovation in EV range extension but low cost. It has identified an opportunity and export market for the HLGEV/EP2100, to compete with Chinese and Indian manufacturers, by building advanced light weight electric motor, generator, bank of batteries and advanced control panel for multipurpose usage.

The opportunity requires rapid buildup of HLGEV/EP2100, assembling with robust metallic construction for mass production/ economy of scale, to be used in rough terrain and on long journeys, often on rural roads. Production must include room for goods and/or passengers. It is a straight forward project destined primarily for export, not the European or American market, due to the nature of their use and solution they provide. It aims at presenting solutions to acute problems in developing countries.

Given its proposed market, it will not be necessary to conduct lengthy R&D or any kind of consulting services since the project requires manufacturing and fitting expertise only. GD in partnership with IIfET will simply be producing and adapting existing components to new opportunities and new markets, better suited for mass production, that have multiple solutions. High technical capabilities and manufacturing strategies will ensure the project's success for a reliable supply chain. Pricing is an integral factor to allow market penetration against Chinese competition among lower buying-power customers, rather than those in developed countries such as the USA or Europe. Therefore, price per unit will be based on the size of a compact car with intelligent and functional design that is a commercial solution to multiple problems, making it a specific "niche market."

Naturally we need to compete against the Chinese, so the costs, combined with technological edge, quality and advantage, should be extremely low in order to ensure success. The sequence of the project's execution is capable of generating new jobs. Your rewards will be in mass production/ economy of scale. Participants should demonstrate flexibility and long term commitment to the project, leading to the formation of a reliable synergy and, if necessary, a joint venture or consortium with additional parties. The final products must be produced rapidly and cheaply with sufficient number to flood the market to avoid quick imitation by competitors. The vehicle has multi-solution elements to

complicated problems with low maintenance, which is especially important to consumers in hot climates.

### **Technical Requirements:**

- 1) Hybridity is crucial because it is not easy to charge batteries away from a grid source in remote areas, where there is no electricity.
- 2) This limitation necessitates a built-in electric motor-generator or mobile unit with a minimum capacity of at least 5kw.
- 3) The HLGEV/EP2100 will be used commercially and on all terrains.
- 4) Body and chassis must be robust, compact car size, to accommodate goods and passengers.
- 5) It must be as light in weight as possible with top speeds of 35-45 MPH, with longest range possible and efficient bank of batteries with low maintenance.
- 5) Driver should be sitting inside a protected cabin to protect him/ her from rain and wind.
- 6) HLGEV/EP2100 will be similar to the old commercial Suzuki 1970 in Europe with a similar size and lighter body and chassis.
- 7) The HLGEV/EP2100 manufacturer/s must have equal or similar technical capabilities to these specifications or willing to expand their business in the direction of HLGEV/EP2100. One manufacturer may provide a unit price. If additional manufacturers are involved, each one should provide an estimate of the cost of parts manufactured or provided in order to establish the final costs per unit to produce EX-WORKS (EX Factory) or arrival at designated port for shipping (**FOB + City name**). Manufacturers will be chosen based upon satisfactory pricing. An NDA is required, along with a fee payable to IIFET if invited to conduct the work. The above information is sufficient to allow for pricing and costing. The collaboration might lead to a consortium or a joint venture.
- 8) One or two models are needed for promotional materials and all other aspects of marketing including website and social media for promotion, agent network, and distribution.

This project is, in simple terms, a consortium (cooperative) in action working together. Thank you for your reflection and participation.

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