Electric Car Project Relaunch

Presented by: ZOUARI Ahmed- IAS Electric Car Project' Manager

Previous Perspective

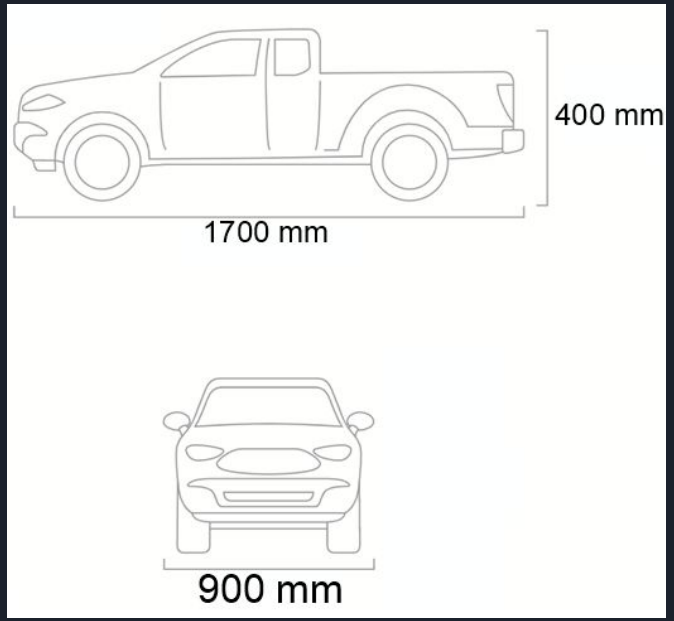
Last year, we were focused on making a full size functional electric car, that can sit four adults. We started by making some design sketches, learning more about different aspects: Electrical, mechanical, software, safety…
As planned, some parts of this vehicle were intended to be bought and not made in house (complexity, cost, safety..).
The prices were very high, amplified with the economical situation, the cost of this project would be estimated at around: 130 000 TND
Plus, such project would take a minimum of 4 years from R&D to execution.

New Perspective

This year, we decided not to drop the project, but rather give it a new perspective, that will carry on the work done last year: mainly the automotive engineering approach and culture that was in every member of our team.
So we chose to conceive and build a scaled down electric pick-up truck, that's remotely controlled, with an on-board camera to give live feedback of the truck's surroundings. Such project would take 2 years to be realised, and is certainly feasible and more cost effective.

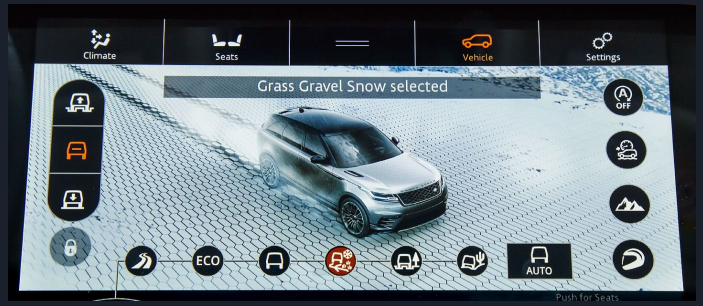
Technical Specs

- Dimensions : length x width x height : 1700*900*400 mm
- Curb weight: 70±10 kg
- Payload : 40±5 kg
- Estimated range: 20±5 km
- Power target & motors' layout :
  1,8 kW split between two electric motors,
  one per each axle: Permanent AWD
- Battery size : to be determined during the R&D period



Technical Features

- Off-road capabilities paired with driving modes: Rain, Mud, Sand, Normal...
- Adjustable suspension : raised or lowered depending on the use
- Vehicle dynamics control : ABS & ESP to avoid skidding or rolling over
- Detection of the load' weight to not exceed the maximum payload



Purpose & Goals

It will be mainly destined to be used at closed private areas, like a university or a company with acres of warehouses, our first direct target being our university, the INSAT.
It's job is mainly to: Carry, Tow and Supervise

- Carry: chairs, tables, lab equipments, fertilisers, construction equipment, food, cleaning tools, garbage bags... It will help the janitors as well as students during the events to gain time and efforts while moving chairs and tables around
- Tow: garbage cans and chariots
- Supervise : do night patrols around the University especially at night (low visibility, cold weather, rain...)

Challenging Aspects

This new aspect makes the project more feasible than before, yet the challenge is still there. Presenting a vehicle with true performance equivalent to a real 1:1 OFF-ROADER is not an easy task.

The creativity and the originality lies in finding other technological solutions to provide the same functionalities as a real Pick-Up truck.
Plus, this project will involve lots of engineering fields: mechanical engineering, electrical & electronics engineering, software engineering, network & telecoms engineering.

Joining our team

By joining our team, you will be able to:

- Gain knowledge in automotive engineering, develop your technical as well as your communication skills
- Participate in the R&D and the manufacturing of a technically challenging project
- Unleash your full potential and your creativity to innovate
- Apply the theories that you have learnt, and will learn, and make the link between practical and theoretical
- Set an engineering mindset to be prepared for your professional life, where you will work in a dynamic environment, whether it’s with a team or individually

Joining our team

If you consider joining our team, you will be required to:

- Have initiative and be willing to learn new things from scratch, and be patient with this process since it requires perseverance
- Communicate your new ideas without much thinking whether they are feasible or not, let the brainstorming and collective research take care of the rest
- Have an “explorer” mindset: it means that there will be situations on which there’s not much data, you will be required to look for it from different resources, in order to advance
- Show your commitment through your attendance to the meetings, submitting your tasks while respecting deadlines, being responsible towards the team members

Any questions?