

ATS gets ready for testing future mobility solutions

Script Bureau

Chennai based testing expert company Automotive Test Systems (ATS)'s business is basically sales and service of test instrumentation. It brings in instruments from Europe and the USA for different areas of the market (such as) vehicle testing (including) acceleration test, fuel consumption test, etc. It does a lot of on-road and test track tests to approve a vehicle. Automotive Script spoke to S Ramanathan, the Managing Director of Automotive Test Systems (ATS) at the recent Automotive Testing Expo. Edited Excerpts:

Can you give us a quick background about your company?

ATS started its operations 2004 with testing and validation as core competencies. Over a period of time, we expanded to simulation, hardware and design testing, test rigs, noise and vibration, passive and active safety. Now after nearly a decade and a half, the firm has grown such that multiple manufacturers both native and overseas have entrusted ATS with the validation of their products. With Asia expected to continue its growth in the field of testing, contrary to matured markets like



North America, where testing has moved to produce quality products, ATS is banking on this growth curve to stay in contention, among other established players. Also, since autonomous vehicles are also gaining momentum, we work on that area as well.

How about your clientele and what kind of work do they demand from you?

Nearly 70-75 per cent of our business comes from OEMs from abroad. We have big laboratories including vehicle dynamics lab, data acquisition lab, power train lab, NVH lab and more. We have done a lot of projects for Ford, Mercedes, Mahindra, Renault-

Nissan and every day we get jobs. We do more than 200 projects for the industry in a year.

Can you tell us more about the testing centres that you have?

We have a collaboration with Amrita University in Coimbatore. We have set up a technical centre there, the idea is to provide testing services to the industry and the (other) reason we made the collaboration with Amrita University is that we wanted students and professors to work on projects. The industry does not mind the distance (the logistics involved in shipping parts down south) when projects are done. It is a good initiative and the industry is supporting us.

S Ramanathan
Managing Director-
Automotive
Testing Systems

How has the collaboration helped ATS?

It is a good idea. Though students have their own academic curriculum, they do come over to learn (and in-turn) pushing more and more students to come and do projects. When they go to the industry, they should have the practical knowledge. It is only through such projects they come up with ideas. I am sure that these kids are brilliant. You have to give them access and the freedom to work. You

have to give them time. One thing I feel is, at this level, at this age, you need to push them.

You said 75 per cent of your business comes from abroad. Could you please elaborate on testing methods for overseas clients?

You cannot differentiate testing methodologies based on the country. But it differs from OEM to OEM. Every company has its own testing methodology and philosophy that they follow and we have to follow their testing methodology. But, in principle, the testing itself is the same. (But) the way they approach the test and the way they develop the programming could be different. In some test, every manufacturer has a

common procedure. In many cases, no two European companies have the same procedure. I would say that they (foreign manufacturers) are very strict with the way they do the measurement. But now, Indian manufacturers are also working with testing agencies there (overseas) or they have partnerships there. The way the customer approaches the test is very similar now. Probably, the Europeans are very strict in terms of methodology and safety. They have very strict regulations there (overseas), so they look everything with a microscope initially. They look at what you are doing and how you are doing. In terms of wiring, they make sure that every wire is properly concealed inside the vehicle and we have learnt it and we are doing it for everybody now.

Although the industry revolves around timely introduction new products, testing continues even after the launch of a

product. How important is that?

There are two things in this. If a customer complains, then you need to attend to that immediately. Plus, you have to test it, find the root cause and solve it. Because if one customer comes out with a complaint, you need to figure out whether it is a major problem across all the vehicles or it is a batch problem. Anyway, you do testing to improve the vehicle model. You just try to make it better for the next version. So, testing anyway continues for that. Until there is a life for that model, testing will continue.

Is there a time frame that the manufacturer will come up with to test the components, since they are the designers of the product?

They design the component looking into the usage of the vehicle and they would be giving a certain warranty and life to the customers. Accordingly, they will have to validate the product. If they are giving warranty for one lakh kilometres, this may translate into the usage of vehicle (in hours), you need to calculate or estimate the number of hours. You need to be (able to) at least test that many hours plus a safety margin. That is the durability testing that they (manufacturers) have to do.

You spoke about manufacturers coming up with their own testing

methods. Is it difficult at all to adapt to those different methods?

Not at all. At the end of the day, our job is to take data and provide it to the customer from the vehicle. It involves sensors and it is recorded in a system and then a software, which is able to support all the information and probably analyse all the information and provide it in a certain format that a customer would expect. What this would lead to is probably one customer would ask for additional measurements that add value to him. We need to adapt to that.

To test the complex systems, data loggers need to be accurate. How have they evolved in recent times?

In the past, the data loggers we used were very slow, but they were fast enough at that time. Mostly, it was analog at that time. But today, everything is digital, so lots of communication happens via different bus terminals, depending on how fast you want to get the data. Now, we need to talk to the ECUs, as they are recording data. This kind of communication has evolved more. Data loggers have to be more intelligent today. They need to be more synchronised with the analog sensors. A lot of information is coming from different sensors in different formats and so, this system should be able to take all these and integrate them.

ATS Displayed its Range of test equipment and demonstrated some in vehicle itself



In recent times, safety has taken a big leap. When did you think the shift towards safety started in the industry?

About five years ago, we started to talk about the seatbelts and airbags. They still existed in the top end models and as accessories, but again the complaint from the industry is always that even if you provide such facilities, the customer doesn't use them. It becomes dangerous when the customer doesn't use them. People did not have the knowledge back then that if you don't wear the seatbelt, you could get suffocated or killed when the airbag deploys. This has always been a debate with the customers since the cost of the vehicle increases once you put in these features. Now, it is getting mandatory as safety is a priority. I would put it this way. Over the past five years, it (safety) was a hot topic, test labs were being established and then people started talking about the NCAPs and how some vehicles failed. There should be a stronger focus on educating customers about the safety. In every forum we talk about that. The manufacturer has to provide the safety features if there is a demand.

Autonomous cars are a reality yet a distant dream in India. Where do you think the change needs to come from?

We talk about autonomous cars now. It is very fancy talking about

it. But in India it is too difficult. Sensors will collapse, it may work in some conditions and it may not work in most conditions.

So, where do you think the changes need to be made in the short-term?

We can take certain features like collision avoidance and can we not provide a system at high speed where it becomes dangerous for us. OEMs differ in that opinion as they say the cost of a vehicle will go up if those features were incorporated. In dangerous conditions, the value of the human life is high. If the customer is ready to pay for those, you can at least put it as an optional feature. Why not? My personal opinion is that these features are not that bad, the thought process is very nice and anyway we are trying to save lives at the end of the day. The thing is you need to look at it in the Indian perspective and think what is needed for us. Bring in those features, only those features. We do not need every feature. Anyway the OEMs have those features in the cars they export to other countries. It is not that they don't have it. Every car company in India would already have access to this technology. It is not something that they are away from. It is only that they have not implemented it in Indian conditions. And whenever you talk about Indian conditions, the car itself has to be modified anyway. You cannot launch a car that is on sale

in Japan without modifying it in India. So, for Indian perspective, you need to redo a lot of stuff. So, why not for this as well? It is a calibration right? Here we are talking software, the hardware remains the same. For people having so much technology with them, it is not challenging. Youngsters like these technologies.

Do you also test electric vehicles and components?

We can do that. We have been supporting customers like Mahindra Reva (now Mahindra Electric). We supply testing equipment to them and they make the measurements.

So, you are ready for the electric future?

Yes, that is going to be one of the key features in the world -- probably HEV first and more of EV then. Either way, we have to make measurements for them as well. Probably it will take some more time in India, because we do not have the infrastructure. But it is only a question of time.

Could you tell us the difficulties faced while testing electric vehicles?

The challenges will be more about reducing weight and the problems with the safety test. In the case of a crash test, it can catch fire, during test or after a couple of days. There needs to be certain safety precautions. For passive safety tests, there needs to be fire tenders there. It is an electric fire

as well, so accordingly the class of fire tenders are supposed to be there.

Virtual testing nowadays has gained a lot of importance. What are its merits and where does it lead testing to?

Virtual testing is helping now to front load the manufacturing of a product. With the virtual environment, what is happening is people are now correlating their final product with the development program. Now, they have the confidence level of say 95 per cent in their product, because if you do a mistake at a later stage, the duration becomes longer. They are correlating every stage of the development with virtual testing. It saves probably 40 per cent of the time for development. Every car company is working big time on this and they are using it across the platform. Initially, it started as a model in the loop or a system in the loop and now it has developed into a virtual environment. You can do different tests and see how it affects the real car.

How much has virtual testing reduced the completion time of a product?

It depends on the manufacturer who develops it. It is still a work in progress in India. In abroad, there are many leading companies who have implemented it end to end and they are seeing the benefits.//