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COMPUTER-AIDED ENGINEERING



### THE EV CHALLENGE

Several automotive companies are sourcing components, products, and technologies from our startups--



### **TALENT MANAGEMENT**



## DIGITAL MANUFACTURING

A key challenge with digital manufacturing lies in the initial high investment

## "EVERY INDUSTRY STANDS TO BENEFIT FROM CAE"

From the automotive to the electrical, every industry can grow with a Computer-Aided Engineering, believes Radha Krishnan, President and Founder, Detroit Engineered Products (DEP) as he gives an insight into how CAE evolved, what it is at present and how it will grow in the future.

Mr. Krishnan, could you share your journey in the engineering industry and the foundation of Detroit Engineered Products?

I am so proud that DEP has completed 25 years. Over these years, I have seen the company evolve from a



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Engineers today use CAE to model and analyse designs and predict how they their prototype will perform under various conditions which reduces the need for costly physical prototypes.

Michigan-based CAE services and software provider. Witnessing it growing its base into five countries, seven offices, and numerous global partnerships across various product and service domains still feels unbelievable.

You know, our journey has been marked by many stepping stones, including the release of each new version of our flagship CAE platform, DEP MeshWorks. We also celebrated the establishment of our product development wing, where we've collaborated with clients to create diverse custom products—from drones, people movers, and e-scooters to agricultural equipment and laser cutters.

Another notable achievement for us was the introduction of the IC sensor, a technology enhancing the efficiency and reducing emissions in internal combustion engines. As we continue to broaden our service offerings, the journey becomes even more captivating and dynamic.

Could you provide an overview of what a CAE platform is, and how is it benefiting our industries today?

CAE is basically a Computer-Aided Engineering (CAE) platform, this sophisticated software employs computational methods to simulate and analyse engineering designs. Hence, it enables a virtual testing



# As a president, my priority is to continue investing on research in simulation like digital twins, machine learning, as they will ensure the continual enhancement of DEP MeshWorks for optimal efficiency.

ground for products before their physical prototypes are produced. Doing so will streamline the product development lifecycle.

Engineers today use CAE to model and analyse designs and predict how they their prototype will perform under various conditions which reduces the need for costly physical prototypes. Using CAE in automotive, aerospace, electronics, and manufacturing, enhances efficiency, minimises development time, and ensures product reliability. In my opinion, with CAE in the picture, engineers can make informed decisions which will give birth to innovation and competitiveness in the engineering landscape.

### What is it which distinguishes your CAE platform from other CAE platforms?

MeshWorks is our own CAE platform, through which users can employ morphing technology to create conceptual CAE models and make direct modifications within the model. Our users then get the freedom to make improvements to parameters later if their desired performance satisfaction is not achieved.

This approach allows for swift adjustments and enhances efficiency in achieving solutions. We have integrated workflows as well that enable the user to do repetitive CAE workflows really quickly.

#### There is often a skill gap seen in this industry, and it is seen that those who have the skills are often difficult to retain. What methods do you employ to provide skill training and employee retention?

See my approach with respect to employees goes beyond addressing skill gaps and retaining employees. As a company we target to create an environment where employees feel valued and motivated to stay and grow within the organisation.

With respect to this, we have put various strategies in place. Firstly, we prioritise collaborating with educational institutions, and offer internships and apprenticeships to students. Even in the industry, DEP participates in job fairs, networking events, and invests in training programs.

We also encourage our employees to obtain relevant certifications even facilitate cross-training to ensure versatility. At DEP, we ensure to provide a regular performance feedback, which acknowledges

the achievements and also identifies areas of improvement.

Further, we do maintain a competitive compensation, coupled with benefits, which helps us attract and retain top talent. Alongside flexible work arrangements and prioritise a positive workplace culture.

Understanding what the industry demands, we adjust and tailor our training programmes to ensure that our employees are up-to-date and remain at the forefront of the field.

#### So, which other industry do you think could benefit from the CAE platform that we're planning to step into?

See, DEP has a rich history in the automotive segment, especially since we're based in Michigan. We have been long involved with major automakers in the US, Europe, and India.

While CAE tools are heavily used by automakers, aerospace companies, and biomedical folks it's interesting to note that other industries are also embracing CAE and putting its tools to good use.

We are not just limited to automotive; we are also working with companies in Energy, Electronics, Oil and Gas, Consumer Products, Heavy Equipment, and more. From where I see it, every industry stands to benefit from CAE, and I am happy to see people expanding the boundaries of what CAE can achieve.

## As we witness the growing utilization of CAE, what is your vision as the president? Where do you see DEP over the next decade?

As a president, my priority is to continue investing on research in simulation like digital twins, machine learning, as they will ensure the continual enhancement of DEP MeshWorks for optimal efficiency.

We are also gearing up for significant investments in our global product development wing. Looking ahead, our immediate milestone involves establishing our presence with a dedicated office in Europe within the next year or so.

Again, aside from these immediate goals, in the long term my vision is to enable sustainable innovation and fasten the product development process, making it an inclusive endeavour for all to achieve.