Case Study 2: Ford Motor Company – Implementation of 3D Printing Company Overview: Ford Motor Company, a behemoth in the automobile sector, has been researching cutting-edge technology to improve its manufacturing and development processes.

Challenges:

1. There is a need for speedier prototyping to accelerate product development.

2. Reduced waste and costs in the manufacturing process.

Solutions Implemented: Ford Motor Company was a very early adopter of additive manufacturing. Ford has integrated 3D printing technology into its manufacturing and prototyping operations. This technology enables for the fast creation of components and tools at a much cheaper cost than traditional approaches.

3D printing will also be a major focus of the facility. Unsurprising given Ford's early support for 3D printing – he purchased the third 3D printer ever produced in 1988. Today, the company heavily uses 3D printing in product development and is looking into methods to incorporate the technology into its manufacturing processes. The Advanced Manufacturing Center will play an important role, as it already houses 23 industrial 3D printers.

Harold Sears, Ford's Technical Leader of Additive Manufacturing Technologies, brings 25 years of industry expertise. We recently chatted with Sears to learn more about how the company is advancing 3D printing in the automobile industry.

Additive manufacturing has clearly established itself as a critical component in our product development cycle, assisting in the fabrication of prototype parts as well as product engineering development exercises.

While we continue to help product development and prototyping (we generate literally tens of thousands of parts per year), we've lately begun to investigate how technology may be utilized to support the manufacturing environment.

We're excited to see how 3D printing can affect production procedures. Our activities are primarily focused on two major areas: supporting current production processes with more efficient tooling, jigs, and fixtures, and implementing these processes in the industrial space.

Furthermore, we want to encourage the 3D printing industry to recognize automotive more by providing goods that are more tailored to our requirements.

By and large, a lot of what we see in the additive world today is driven by the aerospace and medical industries. Their needs are significantly different from those of automobiles, so we intend to drive the industry in a direction that is also more appropriate for automobiles.

This includes advocating for more material upgrades, developing build envelopes for machines that correspond to the types of parts we want to make, and significantly increasing process speed.