Advanced Design Solutions

Advanced Design Solutions Inc. is a designer and manufacturer of material-handling containers, racks, bins, and dunnage. The firm specializes in the production of steel shipping rack and assemblies that use structural steel components such as tubing, channels, angles, and flat bar.

Headquarters	533 Romeo Street South, Stratford, Ontario, N5A 4V3
Year Established	2001
NAICS	332999 - All other miscellaneous fabricated metal product manufacturing
Employees	185
Major Expansions	2004, 2008, 2011, 2019
Exports	US, Mexico
Parent Company	N/A
Other Locations	Ohio, Tennessee

Headquartered in Stratford, Ontario, Advanced Design Solutions Inc. (ADS) is a designer and manufacturer of material-handling containers, racks, bins, and dunnage. ADS specializes in the production of steel racking and assemblies that use structural steel components such as tubing, channels, angles, and flat bar. Rather than just serving as a supplier to its customers, ADS consistently works to understand customers' unique business and operational requirements. The firm's high-quality products and on-time delivery have helped it to build a reputation as a reliable manufacturer.

Established in the rural community of St. Clements, Ontario in 2001, ADS originally provided only the engineering designs for its products and outsourced the manufacturing. The firm's current president, Mark Booker, explains that as ADS began to grow, he realized that its reliance on other manufacturers and suppliers was limiting its ability to deliver quality products in a timely manner. Accordingly, ADS opened its own manufacturing operation in 2004, and has never looked back. By 2008, ADS had grown to 60 employees and no longer fit comfortably in its St. Clements facility. The firm relocated to a facility in Stratford that was large enough to accommodate its operations as well as providing additional space to grow. Booker also found Stratford to be an ideal location because it was a commutable distance for his employees, all of whom he wanted to retain despite the relocation. Today, ADS employs approximately 125 individuals at its Stratford facility.

The majority of ADS's customers are OEMs and Tier 1 suppliers within the automotive industry. Given that the automotive industry as a whole is constantly designing new vehicles and thus requiring new parts, ADS receives a consistent stream of business from its existing customers. However, word-of-mouth referrals that

lead to new customers have also contributed to the firm's rapid growth. It is not uncommon for a new customer to quickly make ADS its largest supplier after seeing the quality of the firm's products and services from an initial small order. ADS considers that its ability to manage multiple large projects simultaneously and in a cost-effective manner sets it apart from direct competitors that are smaller firms with lower capabilities. As a further competitive advantage, Booker created his own enterprise resource planning software, ensuring that effective manufacturing management processes are always in place.

> All of ADS's products are custom designed, which means that every time a customer makes a new order, the company must address a variety of requirements.

The firm has built a reputation for collaboration by offering customers turnkey solutions through its ability to design, prototype, and manufacture products. Customers need only provide ADS with a computer-aided design file of the part they wish to transport. ADS will then design the product, build a prototype, test the prototype with a physical part, and then proceed with the manufacturing after the prototype is approved by the customer. There are times when the customer will have a physical part available for only a few days, so ADS will bring its product directly to the customer and have the prototype tested at the customer's facility.

However, creating entirely unique products can present entirely unique challenges. For example, ADS must ensure that all of its designs maximize the number of parts being transported, while also ensuring that the transportation process protects the parts and allows the operator to load and unload them in an ergonomically feasible manner. To address these factors, ADS has developed expertise in combining steel frames with plastic, steel, foam, and fabric dunnage. Booker notes that sometimes he has told customers, "I've never done this before, I'll never do it again, but I can do it for you now." Customers value ADS's dedication to designing and manufacturing innovative products that are beyond its competitors' capabilities.

A typical production run at ADS ranges from 150 to 600 units, but the firm's manufacturing processes allow for production of anywhere from 50 to 2,000 units of any given product. ADS management is proud to note that all of these manufactured products are reusable, which means they create significantly less waste in comparison to cardboard boxes typically used for shipping. Additionally, if a new automotive line differs only slightly from a previous one, customers will often send ADS its own product back in order have it reworked for the new line, rather than requesting an entirely new product.

Due to the high freight costs for shipping overseas, ADS exports exclusively to the United States and Mexico. The company exports approximately 75 percent of its products, with the majority of these exports going to the United States. In fact, ADS's American customer base has grown so dramatically that in 2011, the firm opened a manufacturing facility in Ohio, as well as another facility in Tennessee in January 2019. In addition to offering ADS greater proximity to its existing customers, these new facilities provided increased access to new American customers along the automotive corridor. For example, companies in Tennessee that previously would not purchase from a firm located in Canada are now ADS customers and have even recommended ADS to their other American suppliers. Given how recently the Tennessee facility was established, ADS management firmly believes that it has the opportunity to further grow its customer base in the United States.

ADS employs 185 individuals across all three of its manufacturing facilities. The firm employs engineers to create product designs, welders to manufacture the steel frames, painters and assemblers to put together the final product. Much of the welding is ideally suited to learning and early development of welding skills. The higher volume work allows someone to repeat a weld for a day or more, but then can move on to another part to practice another weld on a different part. Someone starting out can gain a great deal of experience in a short time. They are then able to progress into more complicated welding. ADS encourages its welders to move into more challenging and difficult welding roles within the company as they gain experience.

> To gain access to more potential employees, Booker has developed relationships with educational institutions near Stratford by providing local students with internship opportunities.

Given the firm's rapid growth, Booker is always looking to hire motivated individuals who are hardworking and have a passion for welding. He believes that manufacturing custom products at ADS appeals to many prospective employees because they never have to work on the same project for a prolonged period of time.

Booker understands the value of staying connected with the local community, as well as capitalizing on the support offered by various government programs. With regards to the community, ADS is a proud Platinum Sponsor of FunTECH, a program that offers a series of hands-on workshops for children aged 7–14 at Stratford Northwestern Secondary School. Booker notes that this program is beneficial to the industry because it exposes young people to different areas of technology and teaches them how to use a variety of tools and equipment.

In terms of government support, ADS utilizes the Scientific Research and Experimental Development Tax Incentive Program to assist with its research and development projects. These projects focus on discovering new cost-effective control processes and manufacturing methods. The firm is always receptive to new methods that capitalize on the benefits that adaptable automation can offer.

Looking forward, ADS plans to maintain its reputation as a reliable manufacturer that provides innovative designs, high-quality products, and on-time delivery. The only challenge that the company's management expects in the near future is the need to increase capacity at a rate that matches the rapidly-increasing demand for ADS's services. To address this issue, Booker is strengthening existing relationships and creating new ones with educational institutions to ensure that ADS has access to a large pool of potential employees. In the long term, Booker believes that ADS's flexible manufacturing processes will allow it to expand outside of the automotive industry and into many other industries that require welded products in large quantities.