When you are at the top of your game and lead the way, it is easy to rest on your laurels and be satisfied with your success. Not so with Techaids in India. Established in 1986, Techaids soon became a world leader in calendar bowl manufacturing. A major requirement for paper and textile manufacturing, these calendar bowls quickly established Techaids as a world leader in roll manufacturing, with their products operating in textile mills, paper mills, steel mills, and in the automotive industry. The managing director, Mr. HM Singh, had experience in wire EDM, and while the calendar bowl manufacturing was profitable, Mr. Singh saw the demand in India for advanced cutting technology. With many different cutting technologies available such as wire EDM and laser, the decision to invest in abrasive waterjet technology was not a quick process. Ultimately, it was the versatility that abrasive waterjet brought that narrowed the decision to that technology. Once the decision was made to add waterjet cutting to the Techaids manufacturing facility, the question still remained as to which waterjet system would be the best fit. At the time, imported Chinese waterjet systems were making an appearance in India. Mr. Singh researched those machines, as well as other manufacturers, and following a trip to INNOMAX in Germany, the decision was made to purchase an OMAX® 55100 JetMachining® Center with a Tilt-A-Jet® taper-eliminating cutting head. "Being located in India and away from a metro city, reliability was critical for us," notes Mr. Singh, "and the robustness of the OMAX machine and the company’s willingness to help unconditionally was very appealing." The OMAX JetMachining Center is a proven robust and reliable machine tool, and the company backs that with a responsive global service and support network. "Creating and building innovative waterjet systems is important," acknowledges OMAX CEO Dr. John Cheung, "but equally important is supporting those systems. Our large service and support network allows us to quickly respond to issues, from troubleshooting to spare parts to training, anywhere in the world." To improve customer service response time, OMAX teamed up with MD Corporation in India to provide local trained service and support technicians. This dedication to support helped in the decision to purchase an OMAX, and once installed, the 55100 quickly proved its worth.

The OMAX 55100, with its 2.5 meter by 1.3 meter cutting area, could handle most projects, and the versatility of the machine allowed for precision cutting of metals and nonmetals alike, from thin gauge stock up to 100mm thick aluminum and wood. The simple fixturing requirements of the waterjet meant that it was easier to add and remove materials between jobs, and the smooth finish, speed, and precision of the Tilt-A-Jet resulted in finished parts right off the machine. The demand for waterjet cutting soon surpassed the capacity of the 55100, and after some discussion and a visit by Dr. Cheung, Techaids added their next waterjet, an 80160 bridge-style JetMachining Center with a Tilt-A-Jet. The 80160, with its large 4.2 meter by 2 meter cutting area, opened up more opportunities for Techaids, and helped establish the company as a modern manufacturing facility.
The Tilt-A-Jet cutting head plays an important role in the precision abrasive waterjet cutting process. Its advanced design and accurate software controls enable the Tilt-A-Jet to produce parts with virtually no taper, which allows for finished parts to come straight off the machine. Being able to hold tolerances as tight as 0.003” or less reduces or eliminates secondary finishing requirements, and as the Tilt-A-Jet cuts at this high precision with no reduction in cutting speed, production times remain short. Advanced technology such as the Tilt-A-Jet sets Techaid apart from other waterjet providers and further accentuates the forward-thinking vision that Mr. Singh has pushed to establish at Techaid.

The inclusion of abrasive waterjet technology into Techaid’s production facility has expanded its customer base dramatically. The flexibility of waterjet production means that no job is too small or too large. As Mr. Singh notes, their client base comes from all segments, government, education, and commercial: “a student is our client for his room name plate, a state minister for his house architectural cutting, and a business house for its engineering cutting.” The breadth of projects is diverse as well, tapping into markets in architecture, engineering, signage, and defense.

Turnaround is important, and waterjet technology makes a significant difference in production times. During a visit by a European client, the question came up of how long it takes to make a typical roll. Mr. Singh noted that, if it was an urgent job, they could finish the job in seven days. The client was impressed, remarking that at their factory in Barcelona they would be satisfied to finish a similar job in seven weeks. Mr. Singh notes that this is what waterjet provides for multi-engineering companies like Techaid, combining a conventional workshop and textile machinery with state of the art OMAX abrasive waterjet machines.

The versatility of the OMAX systems has created some interesting applications. Typical jobs include cutting ceramic tiles as thick as 1.5mm, stone up to 2.5mm, and steel up to 40mm. Four-inch thick wood and three-inch thick aluminum are also somewhat common. One of the more challenging applications, though, is the cutting of laminated steel and ceramic. This material is difficult to cut due to the different material types, but it is easy for the waterjet. Similarly, Techaid is able to use the OMAX JetMachining Center to cut wooden paper punching dies, which conventionally is a very slow process. The waterjet offers a significant improvement in cutting times, allowing for higher production rates. The advanced Intelli-MAX® Software Suite provides powerful cutting technology, allowing for large, multi-hole piercing in virtually any material, with each subsequent part matching the original exactly.

Techaid now operates four OMAX waterjets, having added two 5555 machines that feature 1.3 meter by 1.3 meter cutting areas. With a standard Motorized Z Axis, these two machines are capable of fast production, which helps keep manufacturing costs down, a savings that Techaid passes on to their customers. “The fear that the technology is unaffordable is generally not there any more,” notes Mr. Singh, and even pedestrians right off the street are now bringing in their small jobs and projects for cutting. The large battery of four OMAX JetMachining Centers provides an impressive sight for visitors, who gain an appreciation for waterjet cutting and Techaid for looking to the future and adopting this advanced cutting technology.