Due to the rapid pace of digitalization in the industry of manufacturing, organizations and consumers are witnessing a significant transformation in the way products are now produced. The change in the field is welcomed, and has come to be known as Industry 4.0: a modern age revolution for manufacturing conglomerates. Supported by the technological advancements in the areas of IoT, ERP systems, big data, artificial intelligence (AI), and AR/VR innovations, organizations today are empowered to bring in a novel frontier in manufacturing. Moreover, the industry is teeming with competitors seeking to win market shares and deliver enterprise-class products in a faster and cheaper manner, while retaining promise of quality. Consequently, manufacturing companies recognized the need to evolve and increase their throughput and product lifecycles. This realization, however, for the very mechanical industry, proved to be a cumbersome as implementing various digitally driven-services hampered Industry 3.0’s workflows.

To help manufacturers gain a competitive advantage in the marketplace and leverage the innovations of the 21st century effectively, manufacturing service providers emerged. IoT technology drew a lot of attention in the manufacturing space, owing to its ability to connect disparate devices to an existing internet infrastructure. Approximately 63 percent of manufacturers believe that by implementing IoT products may increase profitability and are set to invest 267 billion dollars by 2020 for the same.

In today’s digital ecosystem, therefore, it has become critical for CIOs to choose proper technology and select best consulting and services companies that are at the forefront of efficiently tackling the challenges across the manufacturing industry. To help CIOs negotiate this now burgeoning landscape, APAC CIOoutlook Magazine’s distinguished panel comprising of CEOs, CIOs, VCs, industry analysts along with its editorial board have reviewed the top manufacturing service providers and shortlisted the ones spearheading the charge towards fulfilling the urgent demands of the industry. The listing offers a look at how these services are put to use, thereby enabling business leaders to gain a comprehensive knowledge as to how they can strategize growth.

In this edition of APAC CIOoutlook, we present to you the “Top 10 Manufacturing Technology Consulting/Services Companies - 2019.”

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**Company:**
Broadleaf

**Description:**
Provides time-motion analysis software with video functions, OTRS that is not only a useful tool in time analysis but can contribute towards raising awareness of KAIZEN in industries as a whole

**Key Person:**
Oyama Kenji
President & CEO

**Website:**
There are very few manufacturing companies that have the ability to properly perform time analysis on the actual production floor. Manufacturing companies are well aware that time analysis is very labor intensive and time-consuming, so, understandably, time analysis tends to be put on the back burner. Broadleaf is one such company that has brought relief to manufacturers through its time-motion analysis software with video functions, Operation Time Research Software (OTRS) that is not only a useful tool in time analysis, but it is one kind of software that can contribute towards raising awareness of KAIZEN in industries as a whole. “Powered by collaborations with Toyota and other leading companies in Japan, we are selling OTRS to more than 20 countries with over 6,000 installations,” says Oyama Kenji, President and CEO of the company.

OTRS enables production and manufacturing sites to shorten work time, reduce labor, and costs. By analyzing videos of the actual work process, unreasonableness, waste, and inconsistency can be eliminated, and tasks can be standardized. Such work improvements can lead to reduced costs and uniform quality. OTRS is designed to accelerate the implementation of industrial engineering best-practice techniques to drive operational excellence into businesses of all kinds. OTRS can be used in various other ways such as to prepare work instruction manual, education, and training materials, or as a tool to transfer technical skills. Owing to these abilities, the software has become popular among leading manufacturers in Japan, and in particular major automobile manufacturers that are seeking tight control over material and labor costs and line productivity. “We aim to continually improve efficiency in wide range of services and systems of our clients with a special focus on their production systems,” says Kenji.

OTRS simplifies detailed motion analysis with its user interface tailor-made for video motion analysis. Manufacturers can view output results of the analysis with comparative videos and visualizations of work disparities. OTRS also enables manufacturers to create a high precision structure simulation using analysis results and the ability to output the results of simulations as standardized work combination tables. At the same time, manufacturers can customize the output format to match their company’s procedure manuals.

A testimony to OTRS’ time analysis is Marugo Rubber Industries, a manufacturer of rubber products, who wanted to carry out improvement activities. Even though the manufacturer conducted training related to improvement activities, this was not being implemented on-site. Marugo Rubber Industries selected OTRS for reliably promoting improvement activities. In addition, to ensure good improvement activity progress, a full-time person in charge was decided on upon introduction and an operational structure in which the assistant manager of vibration control division, Hiroyasu Siozu personally looked over every QC circle report. When OTRS was used to perform a video analysis of the painting process, it was discovered that the spray gun was set up in an unsuitable position, which was causing the paint not to reach well enough. As a result of adjusting the gun position, it became completely unnecessary to touch up the work, which led to a cost reduction of several million yen for just one process. This was just one scenario where a rubber manufacturer realized huge cost savings with OTRS. The client now plans to extend its improvement activities using OTRS to its other plants as well.

With such stellar results, Broadleaf plans to expand services run on its cloud platform and promote its work analysis/optimization software in the overseas market on a full-scale basis. At the same time, the company plans to create data-based analysis services and develop the automobile parts distribution/e-commerce business.