

The Bridge Linking Imagination and Reality

The most perfect work is always in our minds. However, CAD, CAM and CAE can make your dream work come true.

In the past, the curved surface of mold & die components for mass production was limited to circles, arcs, oblique lines and straight lines. Special shapes had to apply the copy machining which entirely depended on old masters' skills. Therefore, the emergence of CAD (Computer Aided Design) and CAM (Computer Aided Manufacturing) brought enormous benefits for industrial design.

For the purpose of promoting this new technology, in 1984 MIRDC was commissioned by the Ministry of Economic Affairs to implement the "production automation promotion project" and set up two CAD/CAM centers in Kaohsiung and Taichung respectively; the former took charge of the "research and demonstration project of computer-aided mold & die design and manufacturing" while the latter was entrusted with providing the industry with relevant technology service and assistance. In 1990, MIRDC accomplished its assigned mission with a few achievements, including developing EFEA (Energy Finite Element Analysis) software, holding 73 professional training classes, assisting 55 manufacturers in building the CAD/CAM system, providing 260 cases of technical service, acquiring 2 patents and 20 computer program copyrights.

After CAD/CAM became a part of factory automation, it was the turn of CAE (Computer Aided

Engineering) to polish the whole process. Aside from making the finished products, CAE can also judge the feasibility of products. The costs can be saved in all aspects by CAE analysis. However, these solutions were not popular in the early stage due to the high costs of software purchase and maintenance. Meanwhile, the development of CAD/CAM mainly focused on mold & die manufacturing.

Following the progress of computing, CAE's price is no longer sky-high. At the same time, the industrial demand for this technology has increased gradually in consideration of energy saving, cost reduction and time effectiveness. Taking the automotive industry for instance, undoubtedly, strength and safety are the first priority for this industry. Hence, simulation analysis must be processed by CAE before conducting crash tests. A huge R&D cost can be reduced in this way. For those manufacturers who have financial difficulties in introducing those solutions, MIRDC also provides them with professional, advanced services through its CAE service platform.