



Electronics & Advanced Technology

Client

CMO, Chi Mei Optoelectronics Corporation

Location

Tainan & Kaohsiung, Taiwan

Flat Panel Display Manufacturing Facility

Key Highlights



- CMO has one of the largest fabrication sites in the world with a three-level manufacturing cleanroom area exceeding 270,000 square meters (about 2,900,000 square feet).
- Provided CMO with an integrated blend of design and construction management services for some of the most advanced FPD production facilities
- Collected proper project requirements, coordinated the needs from different disciplines, evaluated and determined the most function-efficient and cost-effective decisions in a very limited time frame—all while many tool and equipment information was still uncertain during the design stage.

CH2M HILL has completed several major Flat Panel Display manufacturing facility projects for CMO in Taiwan. TFT-LCD is currently the major technology of Flat Panel Display. CMO is one of the leading TFT-LCD manufacturers in the world. Their main products are LCD TV panel and LCD panel displays for desktop and notebook computers, delivered to IT and home electronic vendors worldwide. TFT-LCD business is a very fast-paced industry. The development of technologies is expected to move toward larger substrate sizes, and new production lines will have to be built. Large glass substrates have been used to reduce production cost. The size of substrate is increased by a factor of 1.5 to 2 from one generation to the next. It has become evident that technologies are moving very fast. The first Generation 5 TFT-LCD production line with a substrate size of 1 meter by 1.2 meter was launched in the fourth quarter of 2002. The most current Generation 10 TFT-LCD flat panel facilities will be expected to deploy in the near future with a substrate size of 2.85 meters by 3.05 meters or larger—more than twice the size of a king sized mattress.

CH2M HILL's Taipei office has provided CMO with an integrated blend of design and construction management services for some of the most advanced FPD production facilities. Our services include:

- Master planning
- Industrial engineering
- Architectural/engineering
- Construction management
- Construction services

CH2M HILL has completed multiple projects for CMO, including Fab 3, Fab 4, Fab 7 and Fab 8. The Generation type ranging from G5, G5.5, G7.5 to G8.5. CMO Fab 8 is one of the largest fab in the world with total three-level manufacturing cleanroom area exceeding 270,000 square meters (about 2,900,000 square feet). The facility is designed to contain advanced



manufacturing tools, complex automatic material and product handling systems, utility equipments, production engineers, and support staff.

The biggest challenge in designing this type of facility is collecting proper project requirements, coordinating the needs from different disciplines, evaluating and determining the most function-efficient and cost-effective decisions in a very limited time frame—all while many tool and equipment information is still uncertain during the design stage. This requires a good blend of experienced architects and engineers working closely, supported by the accumulated knowledge and data obtained throughout the course of delivering many projects.

Our long and firm relationship with CMO has been built on our commitment to understand the client's business strategies and being able to support them with responsive, reliable, and innovative solutions. We have worked closely with CMO to ensure that each project meets the quality demanded from the most advanced technology and their commitment to construct the most cost-effective and efficient facilities in the world. CMO has recognized our commitment to achieve their goals. This also leads us to many other opportunities among FPD clients.