

# Bacterial Fermentation Facility Upgrade



SYNERTEC



## CLIENT

MSD Animal Health

## LOCATION

Bendigo, Australia

## CORE CAPABILITIES

- Project management
- Specialist multidiscipline engineering including process, mechanical, electrical, control, and automation engineering
- 3D modelling
- Commissioning
- Good Manufacturing Practice (GMP) validation and compliance services
- V-model systems engineering lifecycle analysis
- Tender packages and evaluation
- Construction management

## PROJECT SUMMARY

The existing MSD production facility in Bendigo was manufacturing a number of viral and bacterial, live and attenuated biological vaccines for the animal health sector for local and overseas markets. Increased product demand required an increase in capacity for bacterial fermentation production. A new building extension was constructed, which interfaced directly with the existing production facility, along with new services and infrastructure to support the expansion.

## THE CHALLENGE

The new facility had to be designed and constructed to comply with the requirements of the Australian Pesticides and Veterinary Medicines Authority Good Manufacturing Practice and the physical containment requirements of the Office of the Gene Technology Regulator and the Department of Agriculture and Water Resources. Also, the existing production facility had to remain fully operational during the construction process.

## SYNERTEC'S SOLUTION

The ground level of the new extension comprised Grade B, C, and D production areas and a trafficable ceiling space above containing air handling equipment, services, and process piping. New standalone utilities for chilled water, heating hot water, steam, and compressed air were located in a new area designated specifically for mechanical services.

Various services were provided to the new facility including power, data, purified water, and clean steam. A new storage area for clean in place chemicals and a trade waste treatment system with an intermediate tank in an underground pit, a thermal decontamination system, and a cooling and neutralising pit were also provided.

Synertec was engaged by MSD as the head contractor under a design and construct agreement for all architectural, civil, structural, hydraulic, electrical, mechanical, and process packages.

Synertec's role as head contractor involved overall responsibility for Health, Safety and Environmental management of the construction site. This included coordination of all subcontractors, MSD staff, and contractors working on the site, as well as segregation and management of the construction zones to minimise the impact of construction activities on the ongoing operations and movement of MSD staff around the site.