Success Story

Goldline DDR Solution for Data Storage

Sales Challenge

A medical facility, specializing in pharmaceuticals, was in the process of developing an automation system to speed the discovery process. In an age where making it to market several months in front of your competition can be the difference between success and failure, automation is the key.

Key Customer Requirements

Cells are exposed to reagents and examined for their response to a given protein or temperature change. These types of pharmaceutical testing processes are usually performed one eye dropper full at a time by a technician. The goal was to fill a 900 well microtiter dish in 10 seconds. Then without a human hand touching it, the dish is moved to a temperature-controlled chamber with several hundred other dishes, where the effects of humidity and temperature can be monitored.

Application

Coordinated motion would link the base stage with the gantry system. The gantry system carries metered syringes filled protein compounds. Once in position, the syringe dispenses fluid into the dish 40 wells at a time, then moves to the next set of wells and again dispenses. This process takes 200ms.

Once the well is full it is picked up by a robotic manipulator and transferred to the "Hotel" (Temp Chamber) where it is housed for a period of time.

The dishes will be periodically removed and examined by exposing the dish to fluorescent light; this will signify a reaction of compounds and will prompt further tests with that specific protein compound.

Danaher Motion Solution

The complete system is 40 axes and Danaher Motion provided a solution for the "Hotel" portion of the system. The goal was to rotate the hotel 18 degrees in less than a second. Danaher Motion proposed a DDR solution. The outcome was a motor drive combo that did the application with an inertia mismatch of 900:1. Industry recommendations are to keep the ratio below 10:1, although 50:1 is achievable with the DDR, but 900:1 required expert tuning and that is what the customer received from Danaher Motion.