

Case Study 5

A Quick Win

This project took place while working with Johnson & Johnson.

One of their immunoassay sub systems on their automated analyser used a particularly expensive binary reagent. Due to the method of dispensing the reagent the dispense sub system detected the reagent surface using a capacitor based sensor system. The overall engineering tolerance stack up in the system plus a lack of sensitivity resulted in quite large overages of the expensive liquid being dispensed. Changes to the detector system could not be made to improve this as there were too many analysers in the field and costs would be prohibitive. At first sight any type of cost improvement looked impossible.

However by pulling the right team of people together and getting some real brainstorming to happen a possibility emerged that we might be able to improve the sensor by changing the dielectric constant of the capacitor. We did this by metal plating the outside of the plastic container, which is a lot easier than one might think. Bingo, this change improved the sensitivity of the detector system which in turn allowed a reduction in overage of the solution while preserving detector functionality.

The plating of the container, if anything enhanced the look of the bottle as it was now silver on the outside and had the benefit of adding to the light attenuation that was needed as the reagent was light sensitive.

The additional cost of the plating equated to about 7% of the cost of the saved reagent raw material. (other costs, of course were the same) so even after the cost of the software change to the analyser which, was made part of a routine software upgrade, we were still showing a 95% saving on the reagent in the first year.

So how much was 95% worth - over £250,000 per year.