

New monitors for the Total Refinery in Antwerp

The Total Refinery in Antwerp is the second largest oil refinery in Europe. Situated in the harbour of Antwerp, Total converts raw petroleum into high quality products such as petrol, diesel and kerosene for both the European and American markets and into base products such as naphtha, butane and aromatics for the petrochemical industry. This ultra-dynamic company is continually involved in updating its computer-controlled systems. A recent modernisation of the monitors started a difficult problem for which Mulder-Hardenberg's help was called in.

The Challenge

The Honeywell cathode-ray tube monitors in the refinery's Control Room have to be replaced by modern TFT screens. Among other reasons, this transition is imperative because continued supply of the familiar screens will meet with problems. However the transition from the slightly convex screen to the completely flat alternative also requires the touch sensor to be replaced.

'Touch' technology in flat form for the systems used can be supplied by Honeywell themselves but Total is looking for a more economical alternative. This proved to be impossible within the range of technology currently on the market. The touch protocol by Honeywell is *embedded* and has acquired with this the exclusivity of the control of a Honeywell system. The alternative infra-red touch sensors available prove not to work. The only option for Total was to have an alternative developed for the existing monitors and touch screens. Mulder-Hardenberg accepted this challenge.

The Solution

Total made a system available for further analysis. With the help of *Reversed Engineering*, M-H staff finally managed to unravel the Honeywell protocol with this system. Then, in collaboration with the supplier CRE, a protocol converter was developed. This converter enabled an already ex-



TOTAL

isting and current infra-red touch screen to be applied to the Honeywell system. The newly developed converter is a special controller card that is integrated into the monitor. In view of the fact that CRE helped develop the card and that they have the necessary experience in the field of infra-red touch screens, they have also manufactured the first monitors.



The Implementation

It appeared nevertheless from tests that optical interference occurred in a curved console on these first CRE monitors. Consequently the favourably priced monitors could only be used in straight consoles or in consoles with only one monitor. Supplier KME, with whom the M-H staff have also been looking for a solution in the meantime, eventually managed to develop and apply a working screen. In addition KME appeared to have another mechanical solution for the problem up their sleeve. Contrary to the CRE version, the KME monitor did not require the front

of the console to be modified. The KME touch screen also lies at the same depth as the Honeywell alternative. This solves the problem of optical interference.

The result

The result is a couple of monitors which have in the meantime been put on the market by Mulder-Hardenberg and which

See next page

can be used as a *direct replacement* for Honeywell products. The CRE product is a favourably priced alternative for straight or single consoles; the KME solution can be more widely used and can also be used in curved or double consoles.

Both products were initiated by a problem in the Control Room at the Total Refinery in Antwerp and taken in hand and resolved by the Mulder-Hardenberg staff in an extraordinarily inventive fashion. In collaboration with CRE and KME, products were subsequently developed that offer not only a solution for Total but for every company with a similar problem.



Our Websites



- mulder-hardenberg.com
- mh-hminterfaces.com
- mh-fiberoptics.com
- mh-labeling.com
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