



## **CASE STUDY**

**Reference #64**

**Customer: Nexans Olex, Melbourne, Australia**

**Segment(s): End-User / Drive Solutions**

**Project: Multi Capstan Copper Wire Drawing Machine**

## **Summary...**

**Drives & motors upgrade for a multi-capstan wire drawing machine, including replacing DC motors & gearboxes with direct drive AC torque motors.**





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### The Customer

Nexans Olex Australia is a branch of one the largest global cable manufacturers.

This particular site has been manufacturing cable for more than 70 years. This site has 2 Henrich Copper Wire Drawing Machines, each has 12 capstans which draws the copper wire from 8 mm down to various diameters ranging from 3.5 mm to 1.47 mm. These two machines are key assets in the cable making process, all of the cables manufactured on this site use the copper that's been drawn in either of these two machines.



### The Challenge

The task was to develop a new AC drive and control solution that would replace the existing troublesome DC drive, motor and gearbox setup. CNC Design selected the latest in direct drive technology installing individual SIMOTICS 1FW3 torque motors in combination with SINAMICS S120 AC drives. Our solution provides an elegant and complete low risk solution which improved the original machine capabilities, particular in line speed. We dramatically improved the reliability of the line reducing to zero the production stops due the wire breakage. Using SINAMICS technology we have been able to reduce the power usage and thus the running costs and factory power factor rating.

### Why CNC Design?

CNC Design has the ability to develop complex solutions for existing manufacturing machines. We can test and pre-commission our software, drive systems and machine control in house well before we arrive on-site and the machine is taken out of production. Nexans required limited disruption to their production, they wanted their machine down for as short a time as possible, we achieved this by having a solution that worked and was well test.

Mr Sam D'Amico, Engineering Manager at Nexans explains his decision to work with CNC Design:

"CNC Design provided us with the most cost effective, low risk solution for our wire drawer. As a key asset in our plant, we needed to know they were capable, we also like the use of the new torque motors, which would put us ahead of our completion"

### The Result

Our solution has resulted in a significant increase in production, due to the zero wire breaks per shift; our customer has reduced the machine downtime from faulty DC motors and gearbox problems to zero. This has significantly impacted on the amount of hours that were once required by the mechanical maintenance team for this machine. We have also reduced our customer's power usage.

Mr Sam D'Amico again:

"We are very happy with the outcomes from the upgrade, we hadn't expected such a positive impact on our production and the ease in which our operators now find the machine. Payback from our investment in this project will be within 48 months, we fully anticipate to covert our 2<sup>nd</sup> Henrich Wire Drawer with CNC Design's solution within the next 2 years".