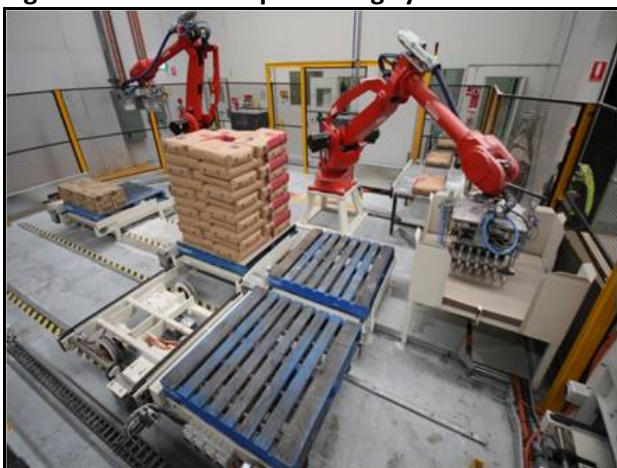


MAR – Making a “TPM³ Friendly” Robot Palletiser

In March 2011, Machinery Automation & Robotics (MAR) successfully designed and installed a TPM³ Friendly dual robot palletising system at Sugar Australia – Croydon site. The fully automated system which includes automatic pallet dispensing and stretch wrapping has replaced a labour intensive hand stacking of 25kg bags and 12kg boxes of sugar products.

Sugar Australia manufacturing sites are all applying CTPM's TPM³ methodology (Australasian version of TPM & Lean) as a framework for their Formal Continuous Improvement activity. Included in the CTPM framework is New Equipment Management (NEM). NEM is about applying TPM³ learning's to new equipment and processes so as to minimise Life Cycle Cost through “**Prevention at Source**” design activities.

Figure 1 - Dual robot palletising system



NEM is a team based approach involving all stakeholders of the equipment / process, including Suppliers, Engineers, Maintenance, Operators, Technical Support and Management.

The NEM team focuses on making sure the equipment / process has good:

- **Operability** – “*make it easy to do right and difficult to do wrong*”;
- **Maintainability** – *try to eliminate maintenance or to make it easy, infrequent and low cost*; and
- High **Standardisation** so as to minimise life cycle cost.

So what is “TPM³ Friendly” plant & equipment? This is when during the design and installation we make the equipment / process easy for:

1. Operators to identify **process and quality problems at the earliest possible time**; and for
2. Operators to identify **equipment condition abnormalities (Equipment Defects) at the earliest possible time**.

Together MAR and Sugar Australia ensured that the Robot Palletiser was easy for operators to run (Operability) and easy to maintain at low cost (Maintainability). There is also very good use of Visual Controls such as andons, colour coding, labelling, match marking etc, to ensure problems are identified at the earliest possible time. They have made the Palletiser “TPM³ Friendly” and thus easier and quicker for operators and maintainers to know if the Palletiser is outside its **normal condition**.

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