

Winner Best overall risk reduction through design
Employer MP Coleman Ltd
Designer RMGroup – Packaging Machinery & Robotic Automation
Title Taking the strain out of palletising work

“By the end of a shift my back used to feel tight from all the lifting and I said to myself I am done, not coming back tomorrow. With the robot it’s completely different – no heavy work anymore.”

BEFORE



Worker sealing the bags



Worker bending to lower 25kg bags to pallet

- Two workers manually palletised 25 kg bags, rotating during the shift, each handling around 5 tonnes of material
- Workers reported lower back fatigue, shoulder discomfort and physical strain by mid shift
- Manually palletising and wrapping involved repetitive bending and twisting while supporting the load
- Worker feedback highlighted ongoing fatigue and discomfort
- HSE’s manual handling assessment charts tool identified high-frequency handling, heavy loads and awkward postures, indicating high risk of MSD injury

AFTER



Robotic arm loading pallet from conveyor



Robotic arm and automatic pallet wrapper

- A robotic arm now picks, places and stacks bags accurately and consistently
- An automatic wrapping unit replaces manual stretch wrapping
- Operators were involved throughout in on-site trials, commissioning and testing to ensure the system met operational needs
- Perimeter guarding (not shown in photo) and automated controls improve safety and simplify the workflow
- No manual handling is needed during stacking or wrapping, removing MSD injury risk, and workers were upskilled in other activities, so no jobs were lost