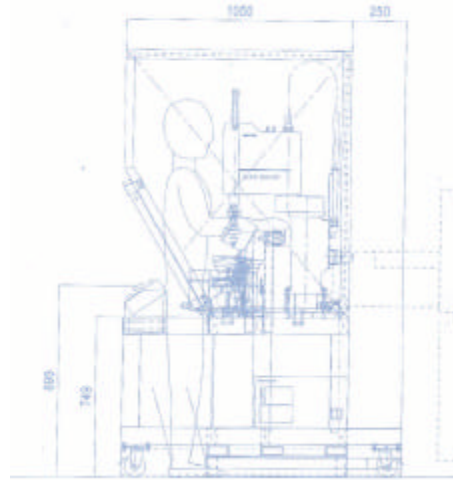
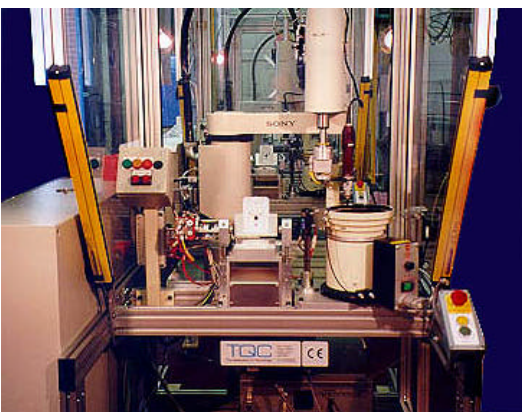


# *integrated robot systems*



TQC have performed a number of sophisticated robot integration projects for several demanding applications. These systems have ranged from the use of proprietary and reconditioned robot units, to the development of large, complex gantry robots.

TQC have provided multi station production lines and single robot workstations in different applications, ranging from automotive parts manufacture and modification, transfer of green state ceramic components to precision automation at high speeds.



This single robot cell was designed to automate the assembly of a small electrical handset. An operator loads the bottom casing (containing the PCB) and top casing into the assembly jig section of the machine. The jig then automatically closes, permanently clipping the two parts of the handset together.

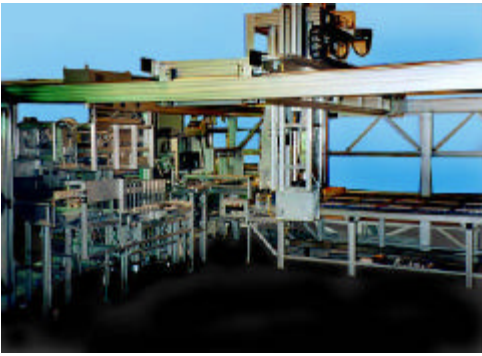
The robot picks four screws from the bowl feeder and drives them into place in the receiver one at a time. The cell produces a complete handset every 12 seconds. The cell was then repeated four times.



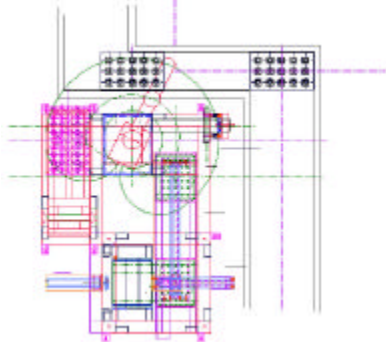
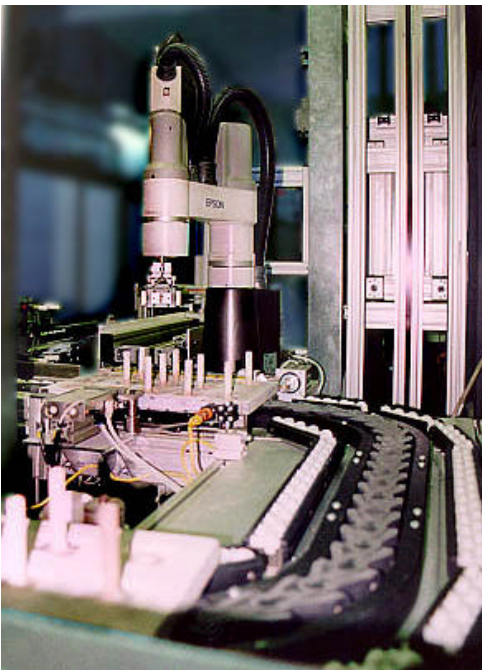
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# integrated robot systems



The facility shown here has a working envelope of 6 metres x 4 metres x 2.5 metres. The end effector (gripper) was specially designed to transfer delicate “green state” ceramic components, together with 3 other parts and assemble. The gripper transfers 12 items at a time, stacking them accurately onto a surface of varying heights and attitude.



The system incorporated a reconfigured robot unit. The drawing shows the configuration of the main elements. Associated with the robot is a pallet magazine, multiple transport conveyors and an elevation unit bringing products from a level four metres above.

TQC were responsible for the successful integration of the complete system, including the designing of vacuum formed trays and other product storage.

Both of these particular systems were integrated into factory wide SCADA systems on an Allen Bradley platform.

TQC welcomes the opportunity to design and manufacture complete automation systems to client specifications.



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