

A three-fold production increase from only a doubling of the work-force

With 16% market share, GKN Sinter Metals are world leaders in powder metallurgy and their plant in Bad Godesberg, Germany produces a range of components for many global automotive, office equipment, home appliance and power tool manufacturers, amongst others.

Their successful working partnership with System 3R stretches back over several years, when the need to maintain ever-tighter tolerances during grinding, milling and electrode manufacture led them to select and standardise on the MacroJunior and Macro systems.



The triple cell at GKN, integrating 3 milling machines fed by the WorkMaster robot from System 3R.

With increasing worldwide demand for their products, together with shorter lead times and moulds of greater complexity, there were increasing pressures on the activities in Bad Godesberg. "We therefore had to move rapidly from 2D into 3D design and incorporated the Unigraphics system into our CAD department," explained Karl Borsch, Operation Manager Toolshop. "Hand-in-hand with this expansion was the need to harness new technology on the shop floor that would give us even greater speed in production for our 'internal' customers."

Saving time, money and a whole lot more...

Yet again, the major competitive systems were interrogated by GKN for more efficient and economic electrode manufacture, and '3Ready-to-Run' came out on top. "We found that we could standardise on only 6 sizes of these factory-mounted graphite and copper electrode blanks, which saved us an enormous amount of time in preparation," continued Karl Borsch. "The cost of electrode assembly has been reduced by a factor of three!"

The '3Ready-to-Run' blanks are fitted on Macro holders, ensuring repeatable accuracy throughout every production process and were totally compatible with 28-position changers on the EDM machines as well as the CMM at the pre-setting station. "This added security on assurance of performance was vital in relation to our Quality Assurance procedures," added Karl Borsch.

Automation is the key

The move to '3Ready-to-Run' also opened the door to making further savings and efficiencies through increased automation.

"Our confidence in System 3R and our proven investment was the catalyst for our first automated HSM production cell in 2003. Their 'WorkMaster' robot was programmed to serve a Roders miller and Kern micro-miller at the same time. The close cooperation between the machine manufacturers,

System 3R and GKN during the project stage ensured it all ran smoothly," said Karl Borsch, "and we were highly delighted with the final result!

"We had a vision of reaching even greater heights of excellence and could see the very real advantages of moving to the 'WorkMaster' serving three machines, as System 3R had always assured us it would."

In 2003 GKN fulfilled this dream when another Kern micro miller was successfully added to the cell, with the 'WorkMaster' robot now operating within a 300° circle.

"What took us 3-4 weeks to manufacture a year ago now only takes 3-4 days. It is the answer to the serious question of 'Time to Market'," said the quietly confident Karl Borsch.

This triple cell operates 24/7 and incorporates 100 Macro holders for electrode manufacture and 10 MacroMagnum pallets with clamped workpieces. System 3R's 'CellManager' software programs the 'WorkMaster' to select them from positions on the magazine racks, effected by an ID system carried by each pallet/holder. The possibility of lights out production and 168 hours a week output from the cell is at the heart of a fast payback on the investment made.

Palletisation and pre-setting outside the machines and automation has in-



Karl Borsch and his team, with the Triple Cell.

system 3R

creased machine utilisation substantially
– and it is still rising!

A total 'One System Partner'

All machines at the GKN toolshop in Bad Gosenberg now have System 3R tooling. In line with the die-sinking machines, the focus is now on pre-setting outside the wire cutters, thus incorporating them in their ultimate goal – plant-wide integration.

“With System 3R’s help , we have proved that the projected efficiency and savings can be more than achieved . This has not only enhanced our own working practices but also cut our through-put time substantially,” concluded Karl Borsch.