

JAVELIN prepares Newmont for upping a gear on ALPHACAM parts



Newmont Engineering

JAVELIN is a flexible, scalable and intelligent production planning and control system offering advanced functionality and value in the key areas of manufacturing and assembly. JAVELIN allows SME organisations to successfully compete in difficult economic and market conditions, through direct productivity improvements and lower IT infrastructure costs.

A specialist precision-gear manufacturer says full traceability of its aerospace components programmed by ALPHACAM CAD/CAM software will become even more important in the next few years.

With over 75 per cent of its work being for the aerospace industry, Newmont Engineering says the JAVELIN production control system will help keep administrative and paperwork costs down.



About the company:

Name: Newmont Engineering

Business: Specialist precision-gear manufacturer

Website: newmonteng.co.uk

Key benefits achieved:

- Capture manufacturing times.
- Provide KPIs
- Enables them to be highly competitive in an increasingly global market place.
- Accurate costing.

Managing Director Rob Davies says traceability is key to the aerospace industry. "The amount of paperwork that has to follow a part has quadrupled in the last decade, and will continue to rise as the industry reviews its standards and looks for even more traceability." But he says they are ready to meet the challenge by using JAVELIN, from Hexagon. "JAVELIN stores all the information we'll ever need for every aspect of traceability. We can see at a glance where the material came from, what batch a product belongs to, who worked on it, and who shipped it."

It also allows them to capture information and report in real time on everything they produce. Tablets with barcode scanners have been installed in five of the main sections on the shop floor – Turning, Milling, Grinding, Gear Cutting and Deburring. "All our Works Orders (WO) now contain barcodes, and engineers simply scan the barcode. The WO contains the sequence and layout of all work required to turn the raw material into a saleable component and all routines and operations are documented in it."

The manufacturing of precision gears to tight tolerances is a niche market. The combination of the JAVELIN MRP system and ALPHACAM CAD/CAM system – also from the Hexagon stable – allows Newmont to offer a more professional and controlled manufacturing process. With ALPHACAM driving a number of CNC machines, including a new Haas VF1 vertical mill, an Okuma Genos 460, Fadal, VMC Mills as well as Okuma, Citizen and Haas lathes, the company has been able to speed up both programming and cycle times.

“Everything revolves around efficient scheduling, so it’s [JAVELIN] key to our business.”

Rob Davies,
Managing Director, Newmont Engineering

CAD/CAM programmer Owen Lambert explains: "We get a pack with the drawing and specification, then generate a drawing in ALPHACAM. From there we pick the specific cutting tools and create toolpaths, before simulating it to ensure the component can be cut accurately from the billet with no collisions." ALPHACAM programs the gear blanks on the mills and lathes before specialist machines carry out the gear cutting process.

Newmont frequently use ALPHACAM to generate cycle times used in producing accurate quotations, which fit in seamlessly with JAVELIN. "We use JAVELIN's Estimating and Quotations function for quick estimates as well as full formal quotations. With the history of our parts being stored in JAVELIN we can see how long it takes to make both that specific component, and previous similar parts. With ALPHACAM providing programming and cycle times, we are able to produce an accurate figure for the customer."





The company's precision-gears are largely manufactured from a variety of steels up to around 50 Rockwell hardness, plastics, aluminium, brass, tufnol and composites. They have a variety of uses, including controlling solar panels in satellites which accurately track the sun's rays. Newmont also produces yokes for aircraft, connecting blocks for aircraft wiring, fuel injector components, and parts for drones.

With so many diverse individual components required by a number of customers at a variety of times, Rob Davies says they rely on JAVELIN's powerful Scheduling function.

"We're able to capture manufacturing times of components and provide KPIs to measure the performance of the business. It gives us complete control of the manufacturing process and enables us to be highly competitive in an increasingly global market place. Everything revolves around efficient scheduling, so it's key to our business. We generate a Crystal Report with pick lists from that module, which shows all timescales. Each component has between 10 and 30 operations, and everything is scheduled within the required

timescale. Scheduling is the bane of any subcontractor's life – if it's not right nothing would get out of the door on time. JAVELIN manages our complex scheduling, and helps us to manage the conflict of priorities and production deadlines."

In 2015 Newmont upgraded from Jobshop to JAVELIN and have been running 'Shop Floor Data Capture' since January 2016. "This reduces administrative time considerably as it keeps track of time recorded against every job."

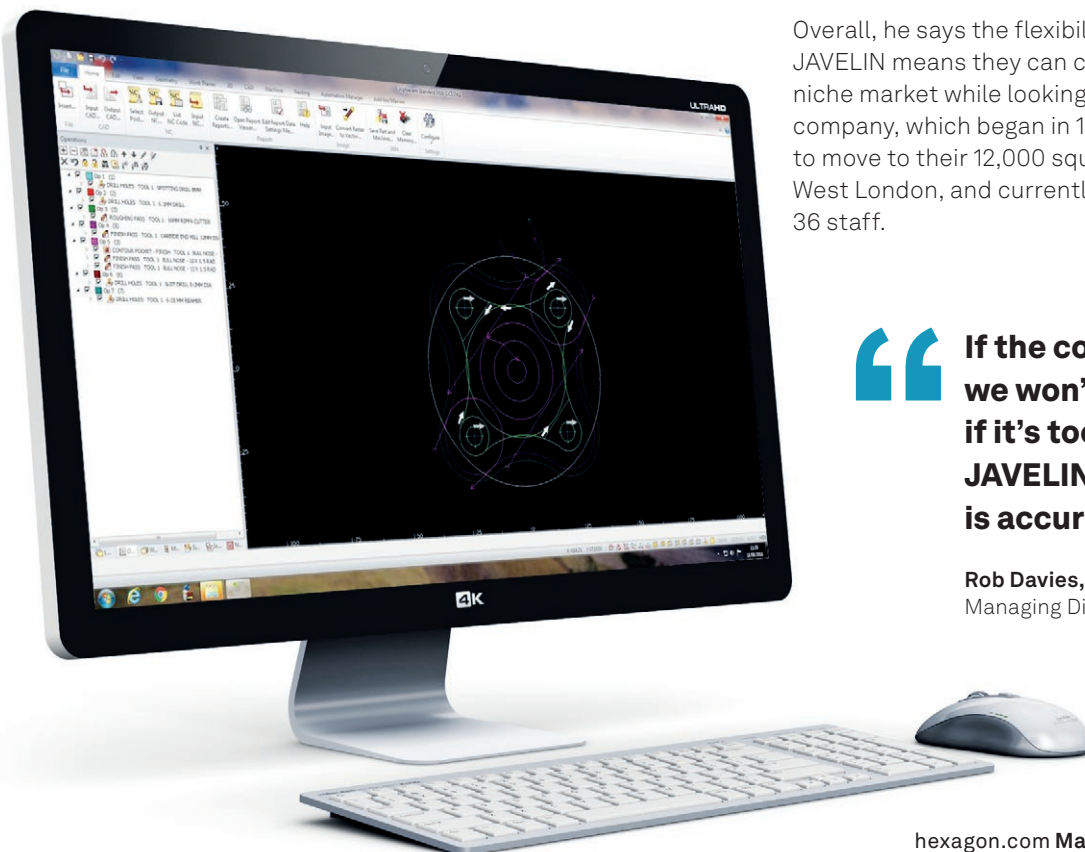
JAVELIN's Costing function is particularly valuable to Newmont, as costing is one of the most difficult things to calculate. "Our versatile and skilled engineers move from one machine to another – even from one section to another. If a cycle takes five minutes the operator will move on to do something on another machine, so the task of getting an accurate overall total cost of a job, taking manpower and workcentre costs into account, is a real challenge...and would be impossible without JAVELIN."

"If the cost is too high we won't get the job, and if it's too low we'll make a loss. JAVELIN ensures each job is accurately costed."

Overall, he says the flexibility provided by ALPHACAM and JAVELIN means they can continue to compete in their niche market while looking to expand and diversify. The company, which began in 1955, invested £2m in 2013 to move to their 12,000 square foot premises in Isleworth, West London, and currently operate with a total of 36 staff.

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Our technologies are shaping production and people-related ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

Hexagon's Manufacturing Intelligence division provides solutions that use data from design and engineering, production and metrology to make manufacturing smarter.

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