Niche strategy pays off

Danobat celebrated its 50th anniversary last year. In expansionist mood, the company is targeting a niche applications and tailored solutions strategy, as Andrew Allcock reports

Spain's largest machine tool builder, Danobat Group (see panel, far right), has ambitious growth plans – 18 per cent for the next four years, according to Group managing director Iñigo Ucin. Ambitious – Spanish machine tool industry production fell almost 9 per cent in 2003; 7.6 per cent in 2002. But concrete proof of Danobat's expansion – rather literally – is the part-finished construction of the group's new machining facility at nearby Itziar, close to Group headquarters at Elgoibar in Spain's Basque region. Called Goimek, the new, €12.3 million investment will support machining of strategic parts – complex, high-cost and high-precision components. Some 65 people will be employed here operating key machines, large capacity and/or high-precision machinery.

> Danobat Group posted sales in 2003 of €128 million

This new facility will separate the currently co-located machining and assembly operations at Elgoibar, but it's just one of the company's expansionist activities. The Elgoibar-based Group R&D activity, IDEKO, established in 1986, is also to get an additional, separate facility at the headquarters' site – expected to be complete in 2006 – while just down the road, Danobat Group's Soraluce is to have two more new buildings – this just two years after an expansion that was thought to set it up for years to come. Customers are asking for larger machines – 40 m x-axis units instead of the anticipated 20 m travels, and which has also required the company fund a new bridge across the adjacent river to, quite literally, support its customers' demands – it will also be a public thoroughfare; the council is happy, Danobat less so.

In the UK and elsewhere, 964-employee Danobat Group is one of Spain's best known machine tool operations. In 2003 it posted sales of €128 million – 75 per cent export. The Group incorporates a number of machine tool companies/brands but nearly all are liveried Danobat to the outside world.

In 2003, the Group made more concrete its UK presence with the acquisition of Newall, Peterborough, an established grinding machine re-engineering operation with customers in the automotive and aerospace sectors. This now serves as the Danobat Group machine re-engineering centre and the UK engineering, sales and service arm in support of Group turning and grinding products. The 30-employee operation boasts design, applications and service engineers. Soraluce continues to be represented by TW Ward, Sheffield.

The Danobat Group is not about volume, standard machine tool manufacture. Its two-prong strategy is to target niche applications for high-tech products and deliver tailored customer solutions. Indeed, a new factory that will make a product for the railway equipment manufacturing sector will be set-up this year, reveals Mr Ucin, while another current project involves customer-led development of a new machine for manufacturing printing rolls. The expanded R&D facility will concern itself with micro-machining and ultra-precision machining developments, for example, benefiting from a special vibration-isolated floor. Acquisition is also part of Danobat Group's growth strategy, but only for niche/specialist companies, or those that give it a relevant geographical platform.

Recent internal re-organisation has seen greater coherence brought to

activities involving separate Group companies with the appointment of a single managing director for each technology area. So Newall managing director Harvi Chana is now also managing director of all Danobat grinding activities, for example, which, incidentally, includes Germany-based Overbeck since 2003.

Underpinning the Group's success are two key elements, explains managing director Mr Ucin – people and technology. On the people side, it must be understood that Danobat is a co-operative organisation, so all employees (except new starts) are also shareholders – equal partners, each having a single vote when it comes to annual senior management election (retired employees do not remain shareholders).

Above, Danobat's new high-speed, compact CG (see panel, right). Right, Group managing director Iñigo Ucin

CO-OPERATIVE HISTORY

Danobat has been part of the Mondragon Corporation Co-operative (*www.mcc.es*) since 1956, two years after the original Danobat company's establishment as a co-operative venture. MCC is the largest business group in the Basque region, the second in Spain, a business made up of 218 companies or entities in three sectoral groups: financial; industrial; and distribution; while also taking in

The Danobat stable and recent developments

Danobat (Elgoibar) – lathes (horizontal and vertical), machining centres (horizontal), plus surface, cylindrical, creep-feed and aerospace grinding machines, together with flexible manufacturing systems and bandsaws (currently Azcoitia, but will move to Elgoibar): Soraluce (Bergara, separate site) – medium to large milling/boring machines: Goiti (Elgoibar) – punch pressing, laser profiling, shears and folding machines: Lealde (Ispaster) – lathes: Estarta (Elgoibar, separate site) – centreless grinders: Overbeck (Herborn, Germany), internal grinders.

Product development revealed during November/December open house included:

TH-500 horizontal lathe – aimed at shafts up to 500 mm length and 300 m diameter, a novel built-in loading and unloading system eliminates the need for a gantry, offering 20 per cent greater productivity;

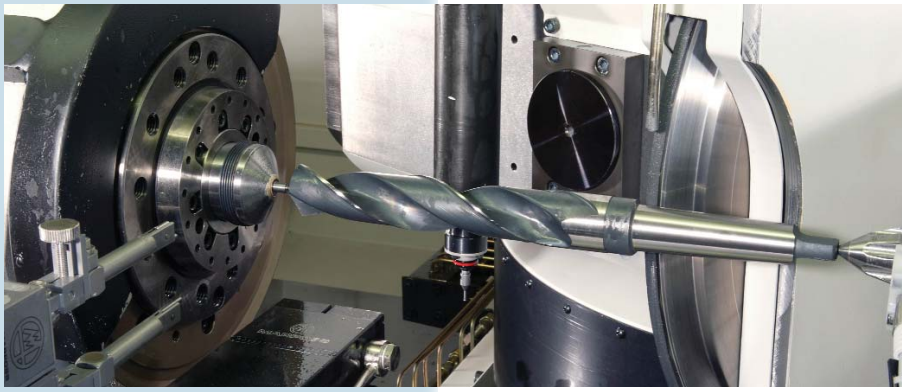
IRD – a high-accuracy internal radius grinding machines from Overbeck, having granite base, direct linear and rotary axis drive and zero backlash offer cylindricity error of 0.002 mm over 150 mm, dressing accuracy to 0.0005 mm and 15-20 per cent productivity increase;

CG – a compact production grinding machine, featuring a 610 mm by 170 mm wheel running at 60 m/s cutting speed, high productivity, ease of wheel change, small footprint and ease of maintenance make this ideal for high-volume and cell layout applications;

RTU-10.000 – a high-precision moving-column surface grinder, equipped with automatic wheel change – featuring hydrostatic guideways and spindle bearings, reduction of hand polishing is the target through un-attended, automated progression from rough machining to polish is the target;

G-71-1600-B1 – a high-precision, medium-weight shaft universal grinding machine represents is a new generation of precision grinding machines for high-standard grinding requirements on medium to heavy parts, such as machine tool spindles or

Cont'd on page 32



G-51-C – a new generation of grinders for contouring and offering flexibility

(*from page 31*) electric shafts. This can feature DanMDM multi-diameter absolute measuring system having a 200 mm range and a 2 micron precision;
G-51-C – a flexible contouring grinding machine; another a new generation of precision grinders for contouring and applications where flexibility is the most important requirement, such as for manufacturing tools and hydraulic high precision parts. By using peeling or contouring technology, where a thin CBN or diamond wheel is used, this machine can grind parts having differing geometry without the need to change wheels. Stock removal rates of up to 100 mm^3/mm are claimed. And Danobat's patented high precision integrated b axis provides accurate wheelhead positioning for the grinding of diameters, faces and tapers in the same clamping;
DANVTG – a new range of vertical spindle grinding machines to grind, measure and de-burr jet engines and small power generation turbine casings and similar applications. Table diameter is 500, 700 and 1200 mm, with strokes from 500 to 1525 mm. CBN or conventional wheels can be used. A vertical spindle, CBN wheel, granite base, linear motor, high-precision model is to be launched at EMO (Hanover, 14-21 September);
Estarta 301 MV – a versatile machine of reduced dimensions and low cost for medium and small batches. Equipped with CNC, easy operation and fast change over are key features for the 1.5 to 50 mm diameter capacity machine.

research and training activities – a university was founded in 1997 in Mondragon – MCC's headquarters. It has sales in its industrial and distribution activities of €9,655 million, while within its financial activity, assets of € 9,247 million are administered, with MCC's workforce numbering 68,260 – all at the end of 2003.

Within Danobat Group, employees, being equal partners, are well briefed on company strategy and supportive of it, even when this means shifting from local to international component supply, as will be the case for castings since local costs continue to rise, as does the euro's value, Mr Ucin adds. There is no union and extended working to meet deadlines is undertaken as required.

In return for their commitment and effort, employees can count on security of employment – people cannot be sacked as a cost reduction/efficiency increase measure. Investment in people development – for they are prime assets – is therefore a key activity, and communicating with and obtaining feedback from employees is also taken very seriously. A static/growing workforce is clearly a driver in the company's desire to expand and find high value added activities since a simple 'cost-reduction by numbers' strategy is not on offer. And, fundamentally, the co-operative movement is about making firms operate for the benefit of people and not *vice versa*.

Technology development, supported both by IDEKO and the MCC's IKERLAN R&D activities, is the Group's second key strength. On site at Elgoibar, the separate IDEKO building is home to some 100 personnel – IKERLAN had 181 researchers and technicians in addition to 43 interns in 2003 and its income was €13.6 million.

Focused solely on machine tools, IDEKO's resources include an 'intelligence gathering' department plus mechanical design, mechanical analysis, electronic, software and applications engineers, plus a shopfloor where 'real life' is tested and analysed, thus providing a closed-loop activity. Use of linear motors, high-precision machining, grind hardening, hard turning with laser chip breakage, minimal lubrication turning – all are areas of current interest. IDEKO and IKERLAN's R&D clout is something that few machine tool groups, if any, can call upon.

Through such efforts are new products and key competencies developed and honed. For example, Soraluce's all-new, floor-type horizontal spindle FX machine with 30 m x-axis traverse and boasting rapid and cutting federates of 25 m/min and 10 m/min versus the FR models' 10 m/min and 5 m/min figures. And Soraluce's large gantry-type mould and die machines can feature 5-axis, 18,000 rpm, 104 Nm torque spindle heads which aim to slash production times and reduce hand finishing of large parts.

Danobat's linear motor Falcon 500 2G horizontal spindle machining unit boasting 1g axis acceleration is another leading edge development. The square 500 mm pallet, 630 by 500 by 500 mm capacity machine makes use of just four linear motors unlike other machines' six. The so-called 'gun' axis layout is the subject of a patent. Indeed, Danobat Group holds some 46 patents.

Other machine developments were also revealed at a Danobat Group open house last November/December (see panel, left). □

Enter 90 at www.machinery.co.uk/enquiry