



LONE FIGHTER ACHIEVES BREAKTHROUGH AS JOB-ORDER MANUFACTURER

Without a safety net...

■ Helmut Damm

... but with a stout heart and plenty of common sense, 28-year old Hendrik Hilbring succeeded in establishing his one-man business in the job-order sector within the space of four years. Instead of working his way up gradually with small investments and, in turn, little risk, he jumped straight in at the deep end. He needed a ›matec-30 HV‹ in order to succeed in the niche market he had discovered, i.e. a demand for the complete, five-axis machining of workpieces measuring up to 4000 × 1000 × 1100 mm to high standards of quality. And succeed he did.

Entrepreneurs are chiselled out of wood. At the age of 24, as an employed, fully qualified precision engineer, Hendrik Hilbring (Figs. 1 and 3) decided to become self employed. A short time later, he went all out to achieve a clearly defined objective, »After a year as a job-order supplier, I identified a gap in the market for the machining of high quality, complex parts of average dimensions. This, however, called for a sophisticated, flexible machine of adequate size, something which, in turn, was associated with heavy investment costs. The banks and even machine manufactur-

ers warned me not to become financially overstretched. But with a smaller machine, I would have been powerless if one of my competitors had pinched this opportunity from me. So, in the end, I decided it was all or nothing.«

Quality and reliability

Hilbring's courage paid off. If success had depended on courage alone, however, he would have failed. Working weeks of 70-90 hours, the ambition to meet customers' requirements and an above-average skill in

Not really a typical entry machine. With the matec-30 HV, the young job-order processor from Ahaus-Alstätte went the whole hog.

machining techniques were other important factors which made the difference between failure and a loyal circle of customers.

With his livelihood and a young family at stake, Hilbring certainly did not make light of buying the machine he needed. But this much he did know. In the surrounding area, adequate machining capacities were in existence, based on large bed-type milling machines with a processing length of 10-14 m and reasonable facilities for the processing range from 1 to 3 m. To avoid getting involved in a price war, he needed a machine with 4000 mm in the X-axis. Moreover, he was unwilling to compromise on machining performance in the five-axis range or on the standard of quality the machine could achieve.

Thus, one by one, the various manufacturers which failed to make the grade in machining tests, fell by the wayside. »There were milling demonstrations with truly questionable results, followed by excuses such as that the machine was not properly set up. I couldn't understand it. When I give a demonstration, I show what I can do, not what I can't!« In the end, he decided in favour of a matec-30 HV (title il-



Fig. 1. Courage to seize an opportunity: Master precision engineer Hendrik Hilbring borrowed heavily in order to achieve a position of strength in his catchment area - a correct decision.

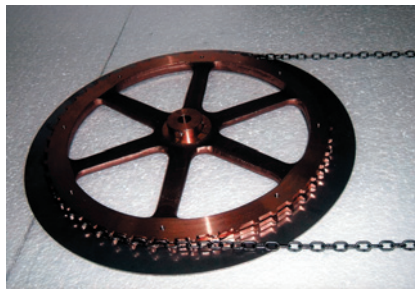
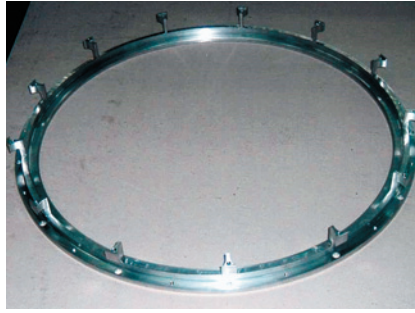


Fig. 2. Nothing's impossible: So far, Hilbring has not had to send away any customers empty handed whose component parts can be processed on the machine. This small selection of workpieces testifies to the adaptability of the young machining expert.

illustration) a travelling column machining centre with a swivelling horizontal/vertical head which alone was capable of achieving the promised machining capacities and precision in every spindle position.

Today, the young entrepreneur is happy with his choice. »The favourable progress my company has made is primarily due to quality, on-time deliveries and flexibility. As regards the last of these, the exceptional Y-axis travelling distance of 1000 mm makes an essential contribution to the machine's uniqueness. Also, the use of roller guides and a direct displacement measuring system in every axis (including the rotary axes) convinced me. My customers also value the fact that they can come to me with unusual requirements, irrespective of whether these call for the production of individual parts on the basis of a sample, the completion of prototypes or even the overnight production of a particularly urgently required component. In the face of these challenges, my motto is ›nothing's impossible‹. And so far we have always managed it.«

Almost unlimited machining capabilities permit flexible response

Apart from dimensional constraints, which ultimately characterise every machine, the 30 HV has enabled Hendrik Hilbring to process a considerable variety of workpieces in the period of just under two years

since its acquisition (Fig. 2). Among others, his services are used by the agricultural industry, tool and mould makers, the automotive industry, machine manufacturers of all types, the printing industry and manufacturers of jigs and fixtures. Ma-

terials range from steel, stainless steel, cast iron, light alloys and non-ferrous metals to plastics and even wood.

An important aspect of quality resides in complete machining in a single chucking, which Hilbring accomplishes whenever possible with a combination of his own fixtures and the technical capabilities of his machine. Frank Isenheim (Fig. 3), Matec's regional sales associate and Managing Director of the Helmuth Rauscher Engineering Bureau, based in Viersen, lists a number of the machine's special features, »In this case, the objective was to assemble a machine with the utmost flexibility for job-order production from the Matec range of modules for a one-man business with limited financial resources. Thus, the tool magazine was modified to accommodate tools over 500 mm in length while, to save money, an attachable NC rotary table of 500 mm in diameter, which can be positioned both horizontally and vertically, was chosen instead of a recessed rotary table. A wireless measuring probe permits the measurement of specimen parts on the machine for the compilation of the NC program, while even deep drilling operations can be reliably undertaken with the system of high-pressure internal cooling through the spindle. The swivelling head rotates through $\pm 140^\circ$ and, as a result, even permits machining at an inclined angle from below. Finally, the adapted Heidenhain control system is ideal for workshop programming. All in all, a highly successful package.«

USER

After training as a machining technician specialising in turning, Hendrik Hilbring went on to qualify as a master precision engineer. Having done so, he gained experience in a machining company before setting up his own business. On his parents' farm, not far from the Dutch border, he converted a former machinery shop and, in 2001, started processing short and medium runs on an old Heller machining centre with pallet changer. Just under two years ago, he decided to acquire a five-axis matec-30 HV traversing column machining centre. Meanwhile, his own adaptability, and that of the machine, have been talked about in the area to such an extent that the young entrepreneur will be taking on an additional worker at the end of the year.

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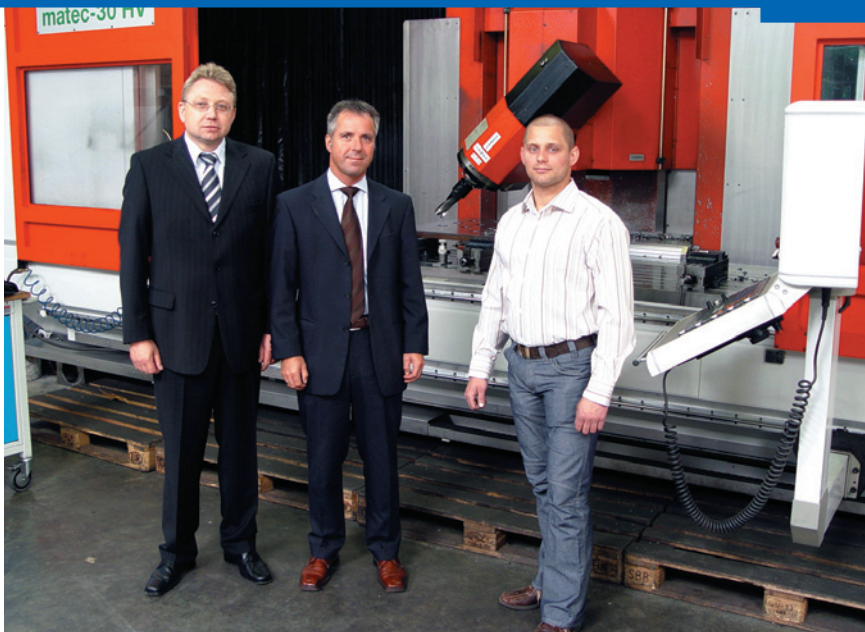


Fig. 3. Technological support: That the 30 HV became a guarantee of success for Hilbring is due, not least, to the sound advice he got from Matec. Frank Isenheim, Norbert Tiede and Hendrik Hilbring (from left) are pictured in front of the matec 30 HV machining centre.

Utilising machine availability with an additional pair of hands

At the time of deciding on which machine to buy, Hendrik Hilbring had orders for milling operations occupying 20-25 hours a week. The rest was at risk. Given that the machine now runs for 70-90 hours a week, a decision has been made to appoint an additional qualified CNC milling machine operator in the autumn, »At present, the limiting factor lies in operating the machine. The availability of the matec-30 HV is exceptionally high and we have so far been able to resolve any minor problems by telephone, even though I have a 24-hour on-site service and (something which in my experience not every manufacturer offers) a two-year guarantee without any limit on shifts. At the same time, however, the five-axis machine needs a well trained operator. To increase the proportion of machining time, and given the pro-

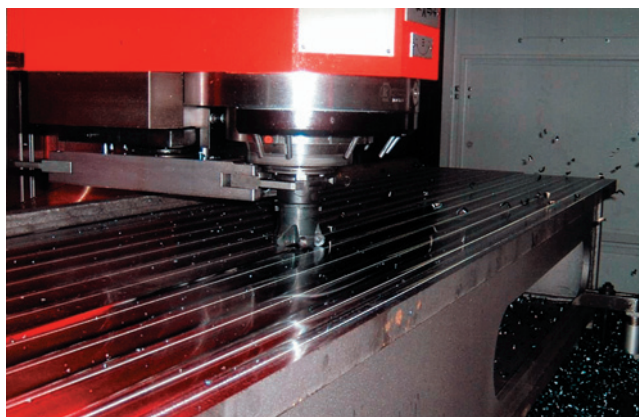
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gramming times for high-cost components, I'm also thinking of acquiring a CAD-CAM system. Only in this way, will I be able to meet customers' demands in the future.«

The exceptional progress of such a small enterprise has also made an impression on Matec's northern Sales Manager, Norbert Tiede (Fig. 3). He recalls the time of the buying decision and the associated problems, »Unquestionably, the most difficult aspect was financing. Not every banker in the area welcomes this type of project with open arms. What I admire no less than his

Fig. 4. High performance metal removal in travelling machining: It is not for plain milling alone that Hendrik Hilbring utilises the capabilities of current machine and tool technologies.



courage, is Mr. Hilbring's staying power in the face of so many bureaucratic hurdles.«

What the future may well bring? Still more satisfied customers!

Meanwhile, word has gone round that here is an imaginative machinist who can also undertake unusual jobs by making the most of the capabilities of the 30 HV. For the peripheral machining of shafts, he uses the rotary table, with a tailstock as the bearing block. Rough surface milling in St52-3 takes place at up to 700 cm³ per min. (Fig. 4). The high pressure cooling system through the spindle permits drilling at 10-15 x D without intermediate stoppages for chip clearance. Threads up to M 36 are cut without difficulty with a screw tap in a single stroke. Although Hilbring does not process long runs, he uses the two stations in the large working enclosure in parallel when possible. Degrees of accuracy likewise present no problem, whether in the circular milling of fits, tooth cutting, machining tap-holes to tolerances of 5 mm or reverse milling with the swivelling head. Hilbring has already determined the next steps, »I am thinking of expanding, so this year I intend to acquire a CNC lathe for single and mass produced components with, for example, a Siemens control system and Shopturn package. At present, I am having to subcontract a number of turned parts, but my customers prefer to have everything from a single source. Next year, we will restyle the company as a GmbH & Co. KG.«

He has every reason to be optimistic given that, so far, all his customers have come back to him repeatedly, »A good sign and actually the best advertising.« Anyone who is unable to find his premises straight away (the town council won't let him put up a direction sign in the main street) will find the neighbours, who also take satisfaction in his success, only too willing to help. Provision has already been made for the continuance of the up-and-coming company into the next generation. The favourite place of Hilbring's son, just under two years old, is the workshop. »You can already see he has iron in the blood«, says his proud father. <<

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