DONCASTERS TODAY
WINTER 2000

DONCASTERS lights up North America

The industrial gas turbine market in North America, which drives city and industrial power generation, has recently seen unprecedented growth. DONCASTERS has been part of this growth. To support the growing turbine airfoils market, our DONCASTERS' casting facilities at Bochum, Germany and Deritend, UK have been refocussed under the new title of DONCASTERS Precision Castings.

Also, on 1 December 1999, DONCASTERS acquired the New England precision foundry at Groton, Connecticut from Wyman-Gordon. This acquisition expands the DONCASTERS Precision Castings group of companies into North America.

Bochum and Deritend have recently made significant investment in new technology and additional capacity to take advantage of market growth.

For further details, see pages 8 and 9.

In this new Millennium issue, DD Today takes a look forward at how DONCASTERS is supporting the industrial gas turbine boom for cast airfoils (pages 8 & 9) and machined airfoils (pages 12 & 13), and, at this start of the new century, we take a quick look back at significant events during DONCASTERS' 222 year history (see centre pages).

Deritend & Bochum - see pages 8 and 9
New England acquisition - see page 8
DONCASTERS' history - see centre pages

Message from the Chairman

I L DILLAMORE Chairman & CEO

The last few months have been blighted by the accident at Penistone Road, which resulted in Aubrey Staniforth's death. This is the first fatality in my time with the company and it must be the last. Our deepest sympathy is with Mrs Staniforth and her daughters.

Such horrors make it clear that we are our brother's keepers. We all have to look out for each other.

When we go to work, we do so firstly for ourselves and for our dependants. Anyone who tells you that they are looking out for your best interests as their first concern has a high probability of being a scoundrel - he is probably a politician, which amounts to the same thing. That does not mean that we are all interested in others simply to exploit them for our own benefit. Certainly that is not the DONCASTERS philosophy.

The industrial world has changed enormously over my lifetime. When I started school before the end of the Second World War, I was brought up on stories of how my father was unemployed in the immediate pre-war era. In the thirties there were owners of companies and workers in companies, and they were not related to each other. It was reasonable to have an 'Us and Them' attitude. There was little in background and experience to unite those who supplied the labour with those who supplied the capital. It is very different today. The suppliers of labour and capital are one and the same. Someone in my position is no longer an owner, but the provider of a certain type of labour. Socialists refer to 'workers with hand and brain'. That's all there is left in industry. The capital now comes from our savings, mainly through the savings we make for our old age through pension contributions.

One third of all capital comes from pension funds and more from our insurance policies and savings. I have to make it clear that none of our pension funds are actually invested in DONCASTERS - that would be putting all of our eggs in one basket - but workers in other companies are the main source of the investment in our company.

Should this make any difference to how we relate to each other? I certainly believe it should. Firstly it should lead to the attitude that we are working for each other. An important consequence is that we should be accountable to each other. In the old system a hired labourer was supposed to know his place, speak when spoken to and do as he was told without question. That assumed that the boss knew best. The best companies even then were the ones where the boss was open to other people's ideas and where he shared his ideas openly. Today there is no possible excuse for not doing so.

The principle of accountability is enshrined in the Maastricht Treaty, in particular in the Social Chapter. This requires that we have a Europe-wide assembly that will meet regularly and in which the 'directorate' of the company will account to the 'workers'. We held our first meeting early in December. The record of the meeting is open to all and all are invited to put their viewpoints and questions either in writing to the secretary to the meeting, Kimbra Green, or through their representative. I welcome this assembly and I would encourage all locations, except perhaps the very small ones, to organise works councils, as some already do. We must not, however, think that this is all we have to do on accountability. It is an every day, every way, matter. I like to visit our sites to be available to anyone who will speak to me. I am available to anyone who can send an e-mail or a letter, and I expect everyone in the company to be available in the same way.

Accountability should be as well oiled a principle as communication. Arbitrary instructions are unacceptable in an environment where we are seeking to get the best contribution from all of us to the common good. The question 'Why?' should always be dignified with an intelligent answer unless experience has shown that its aim is to obstruct.

Interpreted with intelligence, the Social Chapter is something for us all to embrace. I am particularly keen on the limitation on working hours. The notion that we can increase our take-home pay simply by stretching work into extra hours is a particularly barbaric hang-over from the Victorian era. We should treasure our leisure. If we all truly embrace the attitude that life is about more than work we can make progress together which both increases our income and makes us more competitive. At the same time we should aim to enjoy the hours we are at work. Only sadists and masochists get pleasure from misery, so it is far better to come to work to give of our best. The result can be this wonderful thing called productivity.

Of course there are times when we could, again all together, agree that to clear a peak requirement we would not take on extra employees but would work a little longer. That might be in everyone's best interests in maximising benefits and in minimising the eventual impact of redundancy when the peak has passed. However, to allow over-time working as the norm and to thus hold back the process of continual improvement brings ever closer the decline in our business and the catastrophic redundancy which will follow. It makes no sense to any of us; it only benefits our competitors.

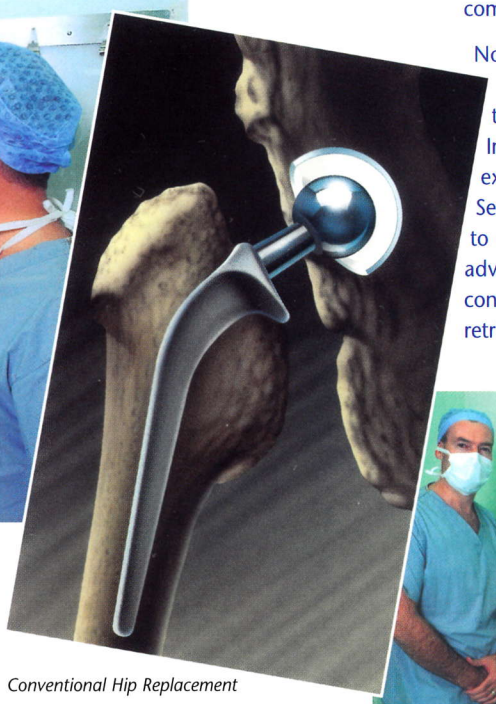
There are lots of little things we can do to drive continual improvement and to improve our competitive position. Between us we know most of them and we are strengthening our pool of talent to help us draw them together into working systems using a lot of Japanese words to describe techniques that were in essence invented in Britain in wartime. I invite everyone in DONCASTERS to join in the game of getting better and to enjoy and share in the benefits.

In many respects 1999 has been a tough year for most of us. Everyone can take pride in the fact that we are regarded by our customers as a world class supplier and that our reputation continues to grow.

We will enter the new millenium in good shape and expect to start to reap the rewards for our hard work.

Theatre trip with a Difference!

L to R: Derek McMinn (surgeon) & Bob Bruce (Centaur) examining BHR implant



Conventional Hip Replacement

A team from DONCASTERS was recently invited to Nuffield Hospital in Birmingham to photograph the Birmingham Hip Resurfacing (BHR) implant and its designers, Derek McMinn and Ronan Treacy, two of the world's leading orthopaedic surgeons.

What they did not anticipate was that the photographs would be taken in the operating theatre during actual operations. I am pleased to report that whilst a little apprehensive at how they would react at the sight of blood they all exhibited DONCASTERS true grit and actually "enjoyed" the experience.

Although at the time it was far from funny, a 'comedy of errors' led to Messrs McMinn and Treacy, teaming up with DONCASTERS Centaur, Midland Medical Technologies and Finsbury Instruments to develop a scientific rationale for product selection in replacement hip surgery.

In a conventional hip replacement the head and neck of the femur is removed and a metal ball and stem implant is inserted into the bone. The ball part of the implant articulates with a polyethylene cup which is fitted into the socket in the pelvis.

The drawbacks of this operation are that the cup can wear relatively quickly and the metal implant can loosen over a period of time due to polyethylene debris. Either one, or a combination of these effects, means that, in most cases, the life span of the implant is usually about 10 years. This sort of operation is therefore not particularly suitable for young patients.

Whilst researching ways to overcome the drawbacks, Messrs McMinn and Treacy found that some metal on metal implants, which had been in situ for more than 30 years, showed little, if any, wear. The problem was that there were little or no records of the specifications used and, due to lack of quality control in those far-off days, there were great variations in the specifications.

A meeting between Messrs McMinn and Treacy and Centaur's Bob Bruce and Tim Band at a British Orthopaedic Association (BOA) meeting started a chain reaction.

By reverse engineering, Centaur was able to reproduce the metal specification needed and, in collaboration with the surgeons and Midland Medical Technologies Ltd, the development of the Birmingham Hip Resurfacing (BHR) implant began.

Centaur's next contribution was to develop a unique casting surface on the outside of the cup to maximise bone growth around it to ensure complete stability.

Not satisfied that the optimum metal specification had been achieved, Centaur teamed up with the Materials Research Institute at Hallam University in Sheffield to examine the microstructure of the metal. Seven articles of published data would appear to uphold their findings and, while further advances are still being made, Centaur continues to carry out scientific research on retrieved and new products.

L to R: Tim Band, Bob Bruce (Centaur) Ann Tilly, Tony Andrews (HQ).

The BHR implant resurfaces the head of the femur with a metal dome, which fits into a metal cup attached to the pelvis with the major advantages being a very slow surface wear rate. This means the implant should last for the patient's lifetime and the knowledge that, should the implant fail, a conventional replacement joint can still be implanted as a primary operation.

The technique of hip resurfacing involves considerable surgeon training and currently 34 orthopaedic surgeons in the UK are now trained in this technique with a further 30 to 50 elsewhere in the world. This operation is being done on the NHS. Although more expensive than a conventional operation, the reduced recovery time and the elimination of the necessity for a second implant (in most cases) more than offsets the difference in cost.

The unique partnership between Centaur (the precision foundry) and the orthopaedic surgeons, coupled with their excellent working relationships with Finsbury and the MRI, all further demonstrate Centaur's reputation as the leading European cast implant manufacturer.

BRAMAH SAYS THANKYOU!

Saturday, 17 July saw **DONCASTERS Bramah** hosting an open day at its factory on the outskirts of Sheffield. Factory tours, exhibition stands, fair ground stalls, BBQ, music and a variety of other entertainment was on offer during the day when the children, in particular, had a fun filled time. The evening saw the adults enjoying a disco, jazz band and buffet supper. Excellent weather ensured the day was a huge success. The Open Day was by way of a thank you to all the employees for their hard work over recent years and enabled their friends and families to see what the company makes and how they make it. Over 500 people attended.

As a major customer, Rolls Royce agreed to man an exhibition stand (see photograph showing combustion chamber outer casings produced for the Trent engine series).

The roots of DONCASTERS Bramah date back to Joseph Bramah (1748-1814), a prodigious but little known engineer from Barnsley, who developed many techniques taken for granted in today's modern industries.

Wherever hydraulic power is used today - from car brakes to aircraft landing gear and machine tools to space rockets - we should acknowledge the pioneering works of Joseph Bramah.

200 years on, DONCASTERS Bramah is now a world leader in the manufacture of precision fabricated assemblies for aerospace markets. These include engine exhausts, machined and sheet-metal fabrications, nozzles, casings and super plastic formed components. Bramah is a key supplier to major engine and aircraft programmes for Boeing, BF Goodrich, Bell Helicopter, Rolls-Royce and GKN Helicopters.

Rolls-Royce Combustion Outer Casings

A COLLEAGUE IS REMEMBERED

Following the recent sad death of Betty Padgett, her colleagues at **DONCASTERS Bramah** wished to do something in her memory. A raffle was organised and £600 was raised for Western Park Cancer Hospital in Sheffield. Norman, Betty's husband, although officially retired, still works at Bramah when needed. He is seen here with representatives of Bramah personnel presenting the cheque to Carol Fields from the hospital.

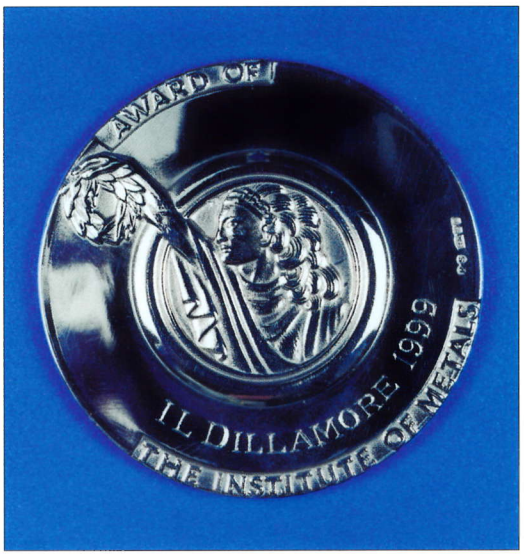
L-R Back row: Neil Waller, Carol Fields, Jim Nichols, Kath Broadhead, Norman Padgett
L-R Front row: Tony Hardman, Bill Standell, Tim Lamb, Alan Smith

DOUBLE HONOURS FOR OUR CHAIRMAN

In July last year, Ian Dillamore, our Chairman and CEO, was awarded the Honourary Degree of DEng (Doctor of Engineering) by the University of Birmingham's Guild of Graduate and Alumni Association in recognition of his contribution to the University.

Already holding four degrees in his own right (BSc, MSc, PhD and DSc) - all from the University - this honour was bestowed exactly 40 years after he earned his BSc.

This is the second honour awarded to Ian, by the University, the first being the title of Honourary Professor in 1981.
His academic career started at the University as a Research Fellow and then a lecturer in Metallurgy. He then moved to the laboratories of the British Steel Corporation in Sheffield in 1969 (formerly known as BISRA) which were, coincidentally, on Doncaster Street on the original DONCASTERS site. In 1976 he returned to academia as Professor and Head of the Metallurgy Department at Aston University, subsequently becoming Dean of Engineering. In 1981 he left Aston to take up the post of Corporate Director of Research with Inco Ltd, which then owned what is now known as DONCASTERS.



Platinum Medal awarded to Ian Dillamore

One month previously The Institute of Materials had awarded him their Platinum Medal for "... outstanding service to the technology and business development of the metal industry in the UK". The Platinum Medal is the greatest distinction that the materials profession can confer for services in research, teaching and application in relation to non ferrous metals.

Ian said "That one comes from my alma mater and the other from my profession, and that both were awarded within the space of a few weeks is especially pleasing".

DONCASTERS Welcomes Investors

A series of planned presentations and manufacturing tours for financial investors, analysts and bankers kicked off last May when DONCASTERS Turbo Products in Connecticut staged a very successful "Investors' Day".
The visiting group, mainly from the financial communities of New York and Boston, travelled to Turbo Products to learn more about DONCASTERS' products and markets, to see airfoil machining processes at first hand, and to meet senior managers face to face.
The visit included presentations, a lively question and answer session and tours of the production floor.
A similar 1-day tour for London analysts and bankers took place in the UK last November to DONCASTERS DPC Deritend and DONCASTERS Bramah. The day was heavily over-subscribed and will be repeated some time in the New Year.
Both days were resounding successes, very much appreciated by the visitors, and a credit to the host companies and their employees. Although these events take considerable planning and effort, it is vital that the providers of our capital are able to experience where investment is taking place, learn as much as possible about our markets and objectives, and meet locally with the people who are driving DONCASTERS forward.

Thank you to everyone who made the days such a success.


Investors examining machined airfoils at Turbo Products, Connecticut, May 1999


Manufacturing tour to Bramah and Deritend, November 1999

Achieving "Investors in People"

By John Harwood, Centaur Precision

Centaur have long recognised the benefits to their business of schemes such as the Investors In People (IiP) award. Some time ago they launched a World Class Performance initiative empowering teams to meet and develop their own ideas for improvement. This was coordinated by nominated team supervisors.

Communication is a key part of any business and this has certainly improved at Centaur but, like all things, needs continual review. The most difficult part was the change of culture and the development of trust in management objectives. Currently, this initiative is driven by management but change is happening and each team is now much more proactive.

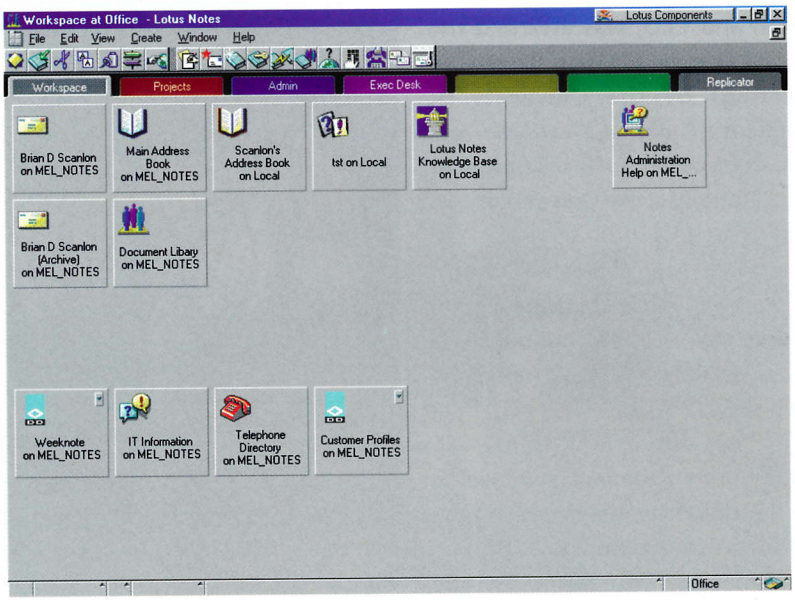
Each month, the previous month's performance, forecast and objectives, are discussed, with each team focussing on Key Performance monitors.

The IiP framework is an important part of management, but like any other tool must be used with others to improve performance. IiP enables both management and employees to focus, in a structured way, on aims and methods of achieving improvement with everyone having a voice and sharing the agreed goals.

The recognition of the IiP award in July 1999 was the result of much hard work by Centaur personnel and they deserve congratulation on their achievement.

Working as a group - Lotus Notes within DONCASTERS

By Brian Scanlon - HQ



"E-mail": the very word brings up a whole host of comments and you can guarantee that some of them will not be entirely complimentary. Yet this breakthrough in communication has become an indispensable tool for business. If you use e-mail, ask yourself, 'Could I work without it?' The answer may be 'Yes!' but it would be a hell of a lot more difficult.

Before e-mail, how would you have sent that document? You could have sent it via Fax. Sure, it may have got there sooner, but what of the quality? It would not have been anywhere near the quality of the document that arrives in the 'Inbox'.

Within DONCASTERS we use Lotus Notes to handle sending, receiving and everything that happens in between clicking the 'Send' button and having a message flash up saying, 'You have new mail'. Lotus Notes does this job very well.

But isn't there anything else Lotus Notes can do? Oh yes, a whole lot more. Lotus Notes doesn't just deal with e-mail.

Lotus Notes was originally designed as a GroupWare platform. What does that mean? Well, let's take an example. Say, there is a number of you working together on a project, collecting data on maybe 30 of DONCASTERS customers. The only problem is none of you work together, and you are all on the road for most of the time, so you want a way of being able to share ideas and work whilst on the move. This is where Lotus Notes steps in. It provides a central point for all of your data, you can see when others have made changes to the data and not have to rely on faxed copies, which may already be out of date. Plus, it gives you instant access to all the data at any time. The ability to work as a group on a project and not matter where you are, is what Lotus Notes can give you.

Other things that Lotus Notes could be used for are discussion forums; somewhere you can post messages for others to see. So, if you work with people from around different sites, and you need somewhere you can keep all those people up to date with information, a discussion forum could be for you.

Another tool that is popping up around DONCASTERS is the Telephone Directory database. This database contains all the extension numbers of people within the DONCASTERS group, plus all the Direct Dial numbers. If numbers change, it is a lot easier to keep up to date, as you only update the information in one place.

What I would like to see happen in the next twelve to eighteen months is the more widespread use of Lotus Notes as more than just a tool to send e-mail.

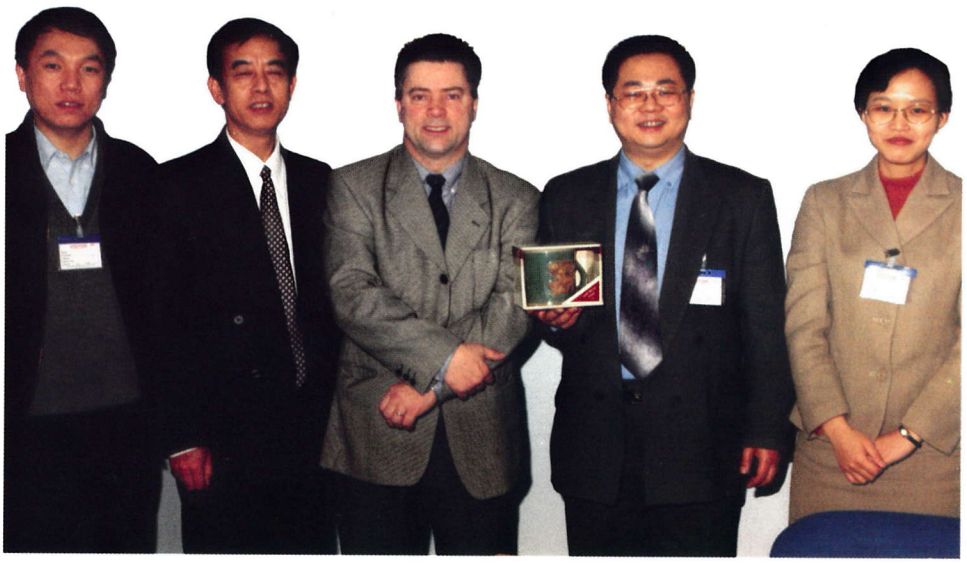
BLAENAVON AEROSPACE RINGS BOUND FOR CHINA

On 16 December 1999 a party of visitors from China viewed world-leading precision ring-rolling technology at **DONCASTERS Blaenavon.**

The visitors from Chengdu Engine Company travelled 12,000 miles around the world to the Welsh valleys to witness state-of-the-art processes for rolling nickel alloy rings used in the fabrication of gas turbine components in the Far East.

The visit, lead by Executive VP Mr.Gong Yichun, was the culmination of 6 months' discussion by Blaenavon with Chengdu.

Robert Hudson, International Sales Manager of DONCASTERS Blaenavon, said "This is a most prestigious visit by a major Chinese aerospace company.



Chengdu delegation with Bob Hudson, International Sales Manager, Blaenavon, 16/12/99.

It demonstrates not only the attraction to customers of our new ring-rolling mill, but also Blaenavon's capabilities to serve international markets around the world with a quality high-technology product.

Further visits are planned, and we hope that this marks the start of a long and successful partnership with Chengdu Engine Company".

Expansion at Storms Forge

by Roger D Briggs, Site Manager

HAMMER BUSINESS UNIT

DONCASTERS Storms Forge continues to expand its forging capabilities. The Hammer Business Unit participated in the forging of 33 new airfoil shapes for General Electric's latest industrial gas turbine (IGT) compressor. One particular 300 lb blade forging is the largest ever produced at Storms. The unit also produced more than 100 large nickel-based turbine discs for industrial gas turbine customers.

New equipment in the large forge area includes:-

- 16 ft diameter rotary pre-heat furnace
- Robotic furnace-to-hammer transfer equipment
- 600 ton trimming press (due for commissioning shortly)

This new equipment, together with Storms' experience in forging large, difficult parts, will enable the Hammer Business Unit to develop through 2000 and beyond.

SCREW PRESS BUSINESS UNIT

This unit continues to advance its precision forging capabilities with the addition of new equipment and an expanding customer base. An extensively renovated extrusion press came on stream at the end of 1999 which will enhance both Screw Press and Hammer Forge capabilities.

The Screw Press unit is expanding its customer base in the hip joint medical prosthesis market with 10 new forged designs. 2000 will also see the Screw Press make several IGT forged airfoil applications for other machining operations within DONCASTERS Inc. In the continuing drive for improvement, all 3 presses have now been fitted with new efficient change tool-sets, including, most recently, the large 1750 ton screw press.

DONCASTERS ACQUIRES NEW ENGLAND PRECISION CASTING FACILITY

On 1st December 1999, DONCASTERS completed the acquisition of the New England investment casting foundry based at Groton, Connecticut, US from Wyman-Gordon Company.

DONCASTERS Precision Castings - New England

The company, to be known as DONCASTERS Precision Castings - New England, will operate in the same DPC business group as our airfoils foundries Deritend in the UK and Bochum in Germany.

New England has both air- and vacuum-casting capability, and is located close to our Turbo Products airfoils machining operation. Parts produced include nickel and steel alloy gas turbine nozzles, casings, rings and other structural components in sizes up to 50 inches (1270 mm).

We welcome all New England employees to the DONCASTERS organisation.

Main contact details are as follows:
DONCASTERS Precision Castings -
New England

835 Poquonnock Road, P0 Box 1146,
Groton, Connecticut, USA, 06340-1146
Tel: 001-860-449-1603;
Fax: 001-860-449-1615

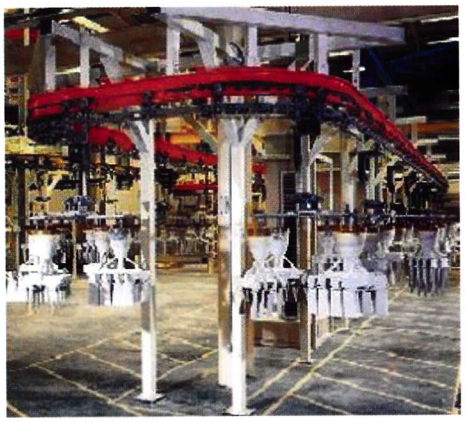
Paul Farrow	President
Fred Bieber	Manager, Engineering & Quality
Bruce Ebright	Operations Manager
Paul Lindblad	Controller (Finance)
Christine Wallace	Administrator

Investing in Growth at DONCASTERS Precision Castings - Deritend

Deritend, our precision casting facility at Droitwich, specialises in production of airfoils for industrial gas turbines. These vacuum-cast superalloy 'hot-end' blades and vanes, whilst usually larger in dimension than their aerospace equivalents, are equally complex in design, material and manufacture. Customers include the major land-based turbine manufacturers ABB Alstom, Siemens-Westinghouse, General Electric and their licensees.

Deritend's current challenge is to stretch the size 'envelope', increase capacity and develop new parts at a time of unprecedented growth in the IGT market.

Donald Poole, Commercial Director, Airfoils Group tells DD Today how this is being done.



Robotic line at DPC - Deritend

In the late 1980s and early 1990s, Deritend was a capable foundry serving many varied markets, but the company differentiated itself mainly on price. Following a comprehensive review of its strengths and market opportunities, the decision was made to focus future investment and commercial efforts on the expanding IGT market. Overall objectives were to make Deritend a world-class supplier of airfoils and to become customers' first choice for quality and service.

New Shelling facility at DPC - Deritend

Building from its existing European customer base of ABB and Siemens, more recent objectives have been to make Deritend a supplier to all major IGT OEMs worldwide. This was achieved following incorporation with DONCASTERS in 1998, who brought complementary strengths with the major North American gas turbine manufacturers.

These new customers, Siemens-Westinghouse and General Electric, now account for around 50% of company turnover.

Deritend is half way through an aggressive expansion plan, introducing new equipment and further developing people skills to double its present capacity by 2002. The investment, totalling around £l0m over the 4 year period, includes new wax, shell and foundry facilities, together with the creation of a second finishing facility on a new adjacent site in Droitwich.

Products currently being developed and produced by Deritend are amongst the most technically challenging produced by investment casting worldwide, and these will drive the long-term future of the business in a market which is entering a period of sustained growth.

ADVANCED TECHNOLOGY at DONCASTERS Precision Castings - Bochum

by Dr J Großmann - Bochum

Our facility at Bochum in Germany manufactures precision cast airfoils for aerospace and industrial gas turbines.

Bochum has always had a reputation for being at the forefront of metallurgical development in precision casting. Here Dr J Großmann, takes up the story

New LMC Furnace - Bochum

Advances in investment casting technology enable mechanical properties of castings to be improved by controlling grain structure during solidification. Bochum has capabilities to produce castings to all categories of advanced grain refinement :

- **Equiaxed castings** - conventional, random grain structure orientation
- **Directionally solidified** - grain structure aligned in a particular direction
- **Single crystal casting** - the whole part is a single grain, no grain boundaries

For the advanced single crystal and directionally solidified components, Bochum employs both conventional radiation cooling of castings (Bridgman process) as well as pioneering conduction cooling development (Liquid Metal Cooling or LMC).

Bochum commenced LMC development in June 1999 and single crystal airfoils are currently being developed in close relationship with major OEMs. Compared with the conventional Bridgman technique, LMC offers significant improvements in efficiency, production rates and process control.

The company's new LMC furnace is the world's largest of its type. With an overall height of 14m (6m of which is below ground), the chamber contains 18 tonnes of liquid tin as the cooling medium.

Superalloy material is melted at around 1500°C and cast into moulds, which are then immersed into the liquid tin for controlled solidification of components. Associated investment includes new vacuum heat treatment and real-time single crystal measurement equipment.

News of progress on Bochum's LMC development at international conferences has generated huge interest within the gas turbine industry.

We look forward to its continued success and keeping Bochum at the forefront of advanced precision casting technology.

INAUGURAL MEETING OF COMPANY FORUM

The first European Works Council, called "the Company Forum" was held on 8 December 1999 in Melbourne. This will be an annual event where transnational issues will be discussed. Site representatives who attended were:

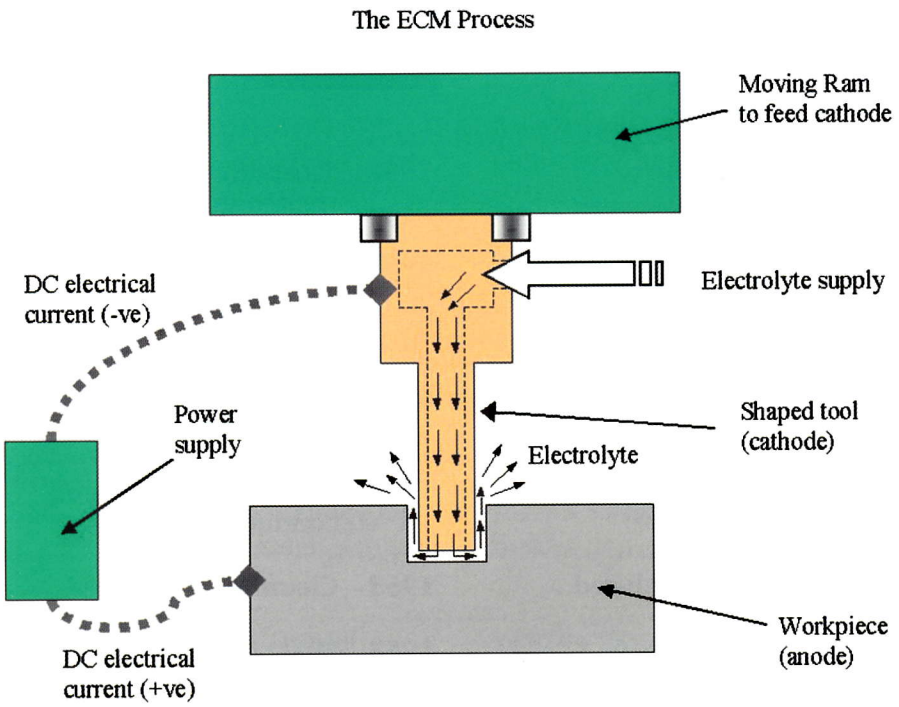
Steven Bailey	**Bramah/ DMA**
Ulrich Borchers	**DPC - Bochum**
Phil Fowler	**IVC**
Dave Hammond	**Paralloy/ Paralloy Fabrications**
John Orton	**Sterling International**
Mike Mee	**Blaenavon**
Veronica Milbrodt	**Monkbridge/ Moorside**
Brigitte Regnier	**Settas**
Dave Rowland	**Centaur/ Sheffield**
Bob Simms	**DPC - Deritend/AMTech**
Frank Winter	**FVC**

OVER 200 YEARS OF HISTORY

Significant dates for DONCASTERS		World events	Major Industrial Developments	
1778	Daniel Doncaster I begins file-making	American War of Independence being fought	1740	B Huntsman invents cast steel
1817	Installation of first converting furnace for Blister Steel	Gas lights first used to light Covent Garden	1777	First cast iron bridge built over River Severn
1833	Daniel Doncaster II concentrates on converting - file-making declines	No child under 9 allowed to be employed	1785	Joseph Bramah patents Screw Propeller
1860	First crucible furnace for making cast steel installed	Joseph Swan invents electric light	1796	Joseph Bramah patents Bramah Hydraulic Press
1863	Formation of Daniel Doncaster & Sons	World's first underground railway - Paddington to Farringham Street, London	1839	Nasmyth invents steam hammer
1893	Alloy steel melting in crucible furnaces	Labour party founded by Keir Hardy	1856	Introduction of Bessemer Process
1898	Purchase of Penistone Road Forge for cogging and forging - 24 hole crucible furnace	John P Holland builds first successful submarine for Royal Navy	1860's	Introduction of Siemens Martin Open Hearth Process
1902	DD becomes a private company	Sheffield United beat Southampton in FA Cup 2-1	1879	Electric Arc Furnace demonstrated at Siemens
1907	Association with Martino begins; engineering alloys forged	Baden Powell forms Scout movement	1884	Charles Parsons develops steam turbine
1916	First drop stamping unit installed	1st World War - Battle of the Somme	1900	Start of development of steel alloys
1920	DD joins United Steel Company	First performance of Holst's "The Planet Suite"	1913	Brearley invents stainless steel
1924	Valve making equipment purchased from Brunswick	Death of Lenin	1915	Centreless grinding patented in US
1932	Manufacture of first hardened steel roll	First transmission from Broadcasting House	1917	Haigh identified "corrosion fatigue" - development of studies of behaviour of metals under stress

Significant dates for DONCASTERS		World events	Major Industrial Developments	
1936	DD leaves the United Steel Company	First test flight for Spitfire. Edward VIII abdicates	1935	Stanton introduced centrispun pipes
1937	First horizontal upsetting machine installed	Coronation of George VI	1937	Frank Whittle demonstrates jet engine. Philip Wyles implants first total hip replacement
1939	First valve extrusion press installed	War declared on Germany. First automatic washing machine marketed		
1947	New Victoria Forge built for ingot cogging	Coal mines nationalised	1940	Titanium successfully melted in vacuum arc furnace
1950	First eccentric press for multi-stage die forging	J Sainsbury opens purpose built supermarket in Croydon. Petrol and soap rationing ends	1950s	Electro Chemical Grinding and Machining developed
1951	Purchase of Monk Bridge Iron & Steel Co	Festival of Britain	1952	First commercial Jet - Comet starts flying
1953	DD becomes public company	Coronation of Elizabeth II	1953	Shockley invents semi conductor
1956	Purchase of Moorside	Premium Bonds introduced	1953	Clean Air Act passed
1957	Purchase of Blaenavon Iron & Steel Co	Treaty of Rome creates 6 nations' EEC USSR launch Sputnik	1958	First commercial flight of Boeing 707
1960	Fully mechanised hydraulic forging press	John F Kennedy wins US election	1960	Laser beam invented
1967	Blaenavon install ring rolling mill	Decimal currency and breathalyser introduced in GB	1964	IBM produce first practical word processor
1975	DD purchased by INCO	Margaret Thatcher becomes leader of Conservative Party	1969	Concorde's maiden flight
1980	Purchase of TurboProducts	Mount St Helens erupts in US	1970	IBM introduce the floppy disc
1983	IVC started	Compact discs go on sale	1971	Rolls Royce declared bankrupt
1988	Purchase of Bramah	259 die in Lockerbie air crash	1975	North Sea pipeline opens
1989	Purchase of Storms Forge	Berlin Wall comes down	1980	British Airways privatised
1990	Purchase of NEAP	Nelson Mandela freed from jail	1985	Microsoft launch Windows
1997	DONCASTERS plc formed	Princess Diana dies in Paris		
1998	Purchase of Triplex Lloyd plc	Water discovered on the moon		
1999	Purchase of DONCASTERS Precision Castings - New England	Euro is launched		

MANUFACTURING PROCESSES "HOW DO WE DO IT?"



Paul Theriault, machine Technician, operating ECM Machine at NEAP

In the first of a series of articles to be featured in DD Today on some of the specialist manufacturing processes operated within DONCASTERS, we start with a look at the process of electro-chemical machining ("ECM").

What is electro-chemical machining?

As the name suggests, ECM is a form of machining using the process of electrolysis to deplate material from a workpiece. Both the workpiece and tool have to be charged and sit in a bath of conductive electrolyte, usually salt solution. The tool is a mirror image of the desired shape, and is advanced towards the workpiece at a controlled rate and gap. The surface of the workpiece is effectively de-plated into the fast-flowing conductive salt solution as sludge, and then removed through filters.

Advantages of ECM are:

- Cutting rates depend on ion exchange and not on the hardness of material. Very hard materials can be machined quickly, and much faster than conventional milling
- There is no tool wear, since there is no physical contact with the work piece and the tool is protected cathodically during electrolysis.
- ECM can produce a shape with one pass. Conventional milling requires a series of passes. ECM is close to finished form with a good surface finish. Also, the resulting surface is stress free, unlike conventional machining and forging.

In summary, ECM is well suited for volume production of complex shapes in difficult to machine but conductive materials.

ECM facilities within DONCASTERS:

- **NEAP, Farmington, Connecticut, US**
- **Effingham, Georgia, US**
- **Amtech, Axminster, Devon**

Leonard Jay, from our NEAP airfoil machining house in the US explains how the process is operated at our facilities in North America.

"NEAP can produce airfoils up to 15" in length with chord widths of 8". This capability is complemented at Georgia who specialise in bar-feed ECM (a more continuous process from bar, where each component is parted off after machining).

Most of our ECM products are gas turbine compressor airfoils in stainless and nickel alloys. We produce around 125,000 airfoils per year by this process.

We currently have plans for 360 degree ECM of wide chord fan blades with high degrees of twist. Additionally, we are designing a new 8" ECM machine to supplement existing 4" and 15" precision equipment."

For further information on the ECM process see website:

http://www.bath.ac.uk/~en8mat/ecm.htm

HISTORY IN THE MAKING AT TURBO

DONCASTERS Turbo Products was founded in Ivoryton, Connecticut in 1947 as the Schellens True Corporation. E L "Gene" Schellens, in partnership with E R True, formed the company with 2,000 square feet of space in a rented garage, with 3 employees.

Gene Schellens' background in steam turbine engineering convinced him that there was a better way to produce the small impulse-type blades used in auxiliary steam turbines. This better way was a highly automated machining process, which greatly reduced cost without sacrificing quality - this became known as the Schellens True process. Today, the process is basically unchanged and still producing in a competitive fashion.

Turbo's first major customer was the Coffin Turbo Pump Division of FMC Corporation. In 1956, the Company moved to its present location where it now occupies some 126,000 square feet of space.

During the 1960s the development of the gas turbine industry and the use of turbines in aircraft, industrial, and marine applications led to a major expansion and the introduction of ECM technology. Turbo began doing work for additional customers such as General Electric, Ingersoll Rand, Worthington Turbo International, Westinghouse, Turbodyne, Rolls Royce, Fiat and Pratt & Whitney.

In 1980, Turbo Products was bought by International Nickel Company Ltd (INCO). During the 1980s Turbo's capabilities expanded to include manufacturing of rings, segments, aircraft compressor blades, inner guide vanes and large blades.
Also, during this time, CNC technology came of age and provided machining with increased versatility and reliability.

DONCASTERS Turbo Products

In 1990, Turbo became part of Inco Engineered Products Inc, along with Storms Forge and the newly acquired New England Airfoil Products Division.

The 1990s brought continuous improvement into the workplace and with the formation of business units, Turbo was able to utilise "Just-In-Time" manufacturing technology. Total Quality Management (TQM) and Statistical Process Control (SPC) were introduced, and in 1994 Turbo Products received its ISO 9002 certification.
Turbo Products has come a long way since 1947, and today is a key supplier of machined compressor airfoils for General Electric and Westinghouse.

How did Ivoryton get its name?

The town of Ivoryton got its name from ivory which was imported from Africa into New England during the last century (Ivory town) for the production of piano keys.
An old piano key factory and warehouse can still be seen close to the Turbo Products facility, though production of ivory keys in the region ceased many years ago.

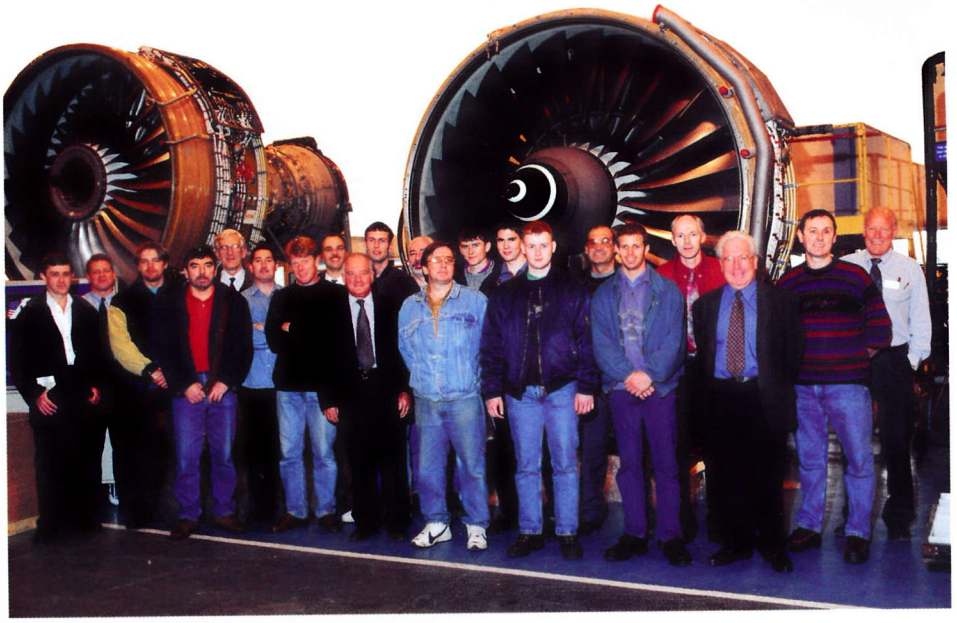
Fostering customer relations

Mick Luck and Ivan Davies at Staverton airport.

Mick Luck and Ivan Davies, Team Leaders on the C130J projects at Bramah, were invited by GKN Westland Aerospace to view the C130J Hercules Transport Aircraft on display at Staverton Airport. Bramah manufacture the Oil Cooler Pan and Exhaust Tail pipe and Nozzle for the Aircraft.

Two of **DONCASTERS Bramah** General Fabrications main customers recently undertook a joint exercise to improve working relationships. Personnel from Bramah were invited to visit the build line at Rolls Royce Derby in order to get a better understanding of how, why and where their fabrications fitted into the engine.

Groups of between 15 and 20 people attended at any one time and in all some 120 employees visited various Rolls Royce sites at Derby and were given conducted tours of the Facilities.



DONCASTERS Bramah visit Rolls Royce, Derby.

LORD MAYOR SWITCHES ON LASER AT BRAMAH

December 22nd saw Councillor Trevor Bagshaw, Lord Mayor of Sheffield, switch on the new £750,000 state-of-the-art, Laser Machining Centre at DONCASTERS Bramah, at Halfway in Sheffield.

It is capable of machining complex 3-dimensional shapes in nickel and titanium alloys and has cut machining time for aerospace fabrications from hours to minutes.

It also offers greater accuracy, reduced variation and quieter operation than conventional machines.

Councillor Trevor Bagshaw, Lord Mayor of Sheffield, switches on laser at DONCASTERS Bramah, 22/12/99.

Amtech find 5S = 10S

by David Hall

Recently, employees from Amtech, DONCASTERS' electrochemical machining facility based in Axminster, Devon, were involved in a Continuous Improvement "5S" training and implementation launch.

The term "5S" derives from the Japanese words for 5 practices leading to a clean and manageable work area - Seiri (Sorting), Seiton (Storing), Seiso (Shining), Seiketsu (Standardising) and Shitsuke (Sustaining).

Amtech created a checklist for each "S" which is now used for monthly audits of factory and office spaces. Examples of 5S initiated activities include improvements in the care and storage of jigs, fixtures, tools and machines. Also, visual control has been enhanced through implementation of process control and equipment status / performance noticeboards.

Amtech's understanding of 5S philosophy is also helping them to see their organisation "through the eyes of their customers". There is a greater appreciation and awareness that customers often monitor suppliers' housekeeping standards as a measure of quality control capability.

So, what does the headline "Amtech find 5S = 10S" mean?

Amtech generate by-product as part of the electrochemical machining process, which has to be collected, separated from electrolyte, then packaged and removed from site. This used to be a labour-intensive, non-value adding process requiring consumables and floor space. It was also a difficult operation in which to maintain good housekeeping.

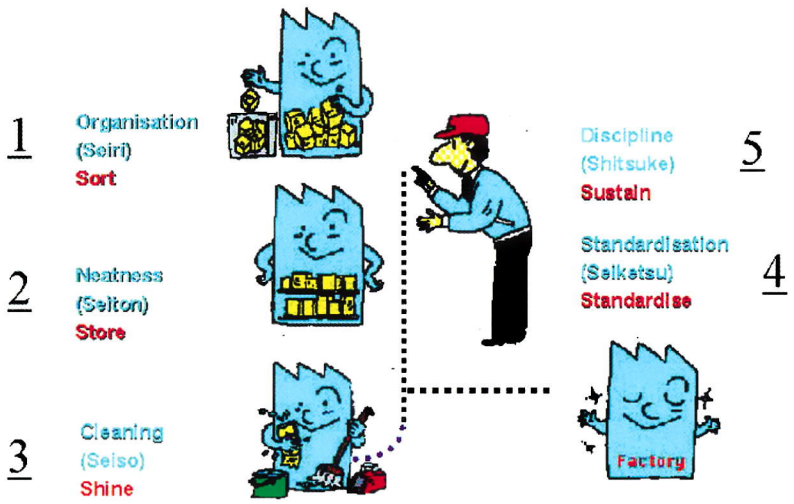
Amtech applied basic 5S methodology, and then found that this also resulted in additional 5S's of ... Continuous Improvement...

Benefits & Results

6S = Supplier development
Discussions with the disposal contractor led to design and implementation of a new, easy-to-use, more environmentally friendly skip arrangement.

7S = Speed
The new skip arrangement eliminates all manual shovelling, bagging and palletising, saving 3 hours labour per day

The 5S's



8S = Safety
The risk of spillage has been eliminated.

9S = Space
Elimination of pallets has freed floor space for Value Adding activities.

10S = Savings
Consummable and labour inputs have been dramatically reduced.

Further 5S Continuous Improvement events are now being launched at Blaenavon, Bramah, Monk Bridge and Centaur. Updates will feature in future editions of DD Today.

DONCASTERS NEAP win GreenCircle Award for Second Time

L to R Alan Chadwick -Plant Engineer, Rich Krystanowicz Electronic Technician, David Leff Deputy Commissioner. (DEP)

DONCASTERS NEAP recently won and environmental award from their local authority for the second time in two years. Based on their 1998 success, NEAP continued its water reduction practices and installed new heat exchange controls in March 1999. Over the past nine months they have reduced their quarterly water consumption rates by more than 92 percent.
The Department of Environmental Protection (DEP) said that their GreenCircle Award is to honour businesses for outstanding projects that contributed to, or improved the quality of the environment in the state of Connecticut. The project was designed and implemented by Rich Krystanowicz.

New Vice-President of BICTA

Congratulations to John Harwood (DONCASTERS Centaur Precision) who became Vice-President of the British Investment Casting Trade Association in June 1999.

NEW APPOINTMENTS

Sean Edney

Sean took up the position of Market Development Engineer in August, reporting to Quentin Hughes.
He graduated in 1988 with a first class honours degree in Metallurgy from Sheffield University and has spent the last 10 years in operations management in the constructional steel industry. Sean is attached to SETTAS and Bramah, developing business for cast and sheet metal formed titanium products in the aerospace industry.

INTERNAL CHANGES

Jim Nichols

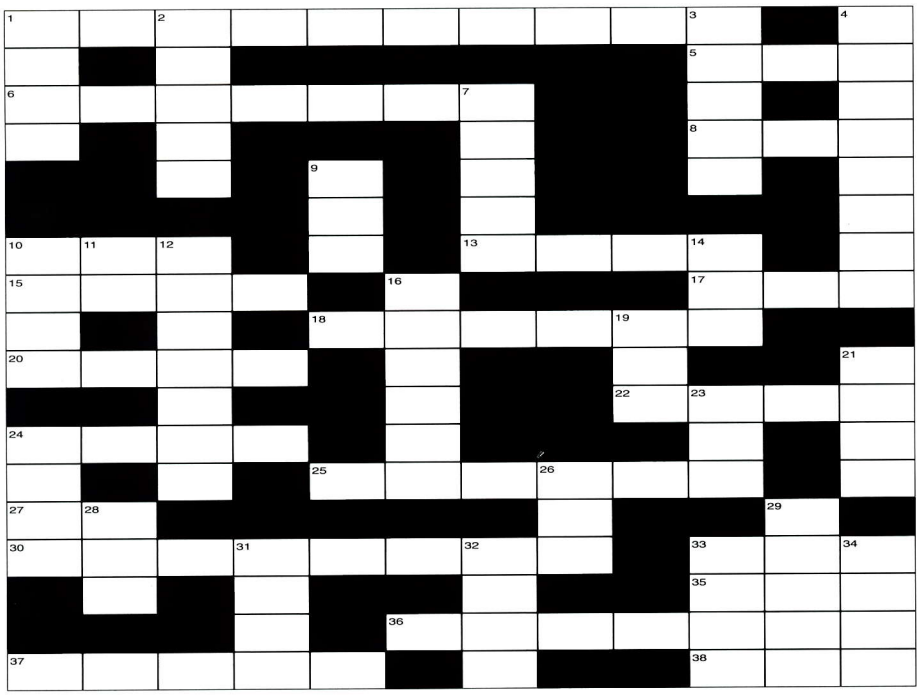
Jim Nichols took up the post of President of DONCASTERS Inc on October 4, 1999, based at the Ivoryton, Connecticut, USA facility. In order to ensure a smooth transition, Jim worked closely with David Simm until his retirement on December 31, 1999. With effect from January 1, 2000, Jim assumed the role of Chief US Officer, DONCASTERS plc. In this new role, he takes special responsibility for UK and US finishing operations supplying aerospace and industrial gas turbine markets. Jim was formally Managing Director - Fabrications Group.

Richard Shacklady

Also on October 4, 1999, Richard Shacklady became Managing Director, DONCASTERS UK Holdings plc with responsibility for group market and engineering development. He also takes responsibility for diversified business operations; these businesses supply petrochemical, medical, turbocharger, structural casting and other performance - critical engineering markets.

CROSSWORD

First correct entry out of the bag wins £10 voucher. Entries to Ann Tilly at HQ



CLUES
Most of the answers are IT related

Across

1 & 10	New Year virus perhaps (10 & 3)
5	Belongs to us (3)
6	Enter uninvited (7)
8	Plant fluid (3)
10	See 1 across
13	Heavy burden (4)
15	Unwrap (4)
17	Donkey (3)
18	Recollection (6)
20	Part of a terrace (4)
22	Labyrinth (4)
24	Cut to size (4)
25	Some animals feed like this (6)
27	Opposite of under (2)
30	QWERTY perhaps (8)
33	Small piece (3)
35	Prefix meaning 'outside' (3)
36	He produces books (7)
37	Gateway to the internet (5)
38	Beer (3)

Down

1	Post (4)
2	Blossom or software company (5)
3	Computer accessory (5)
4	Diagrams or drawings (8)
7	Surpass (5)
9	Fishing aid (3)
10	Item of footwear (4)
11	Opposite of down (2)
12	A group or class, not specific (7)
14	24 hours makes one (3)
16	Church assistant (6)
19	Male sheep (3)
21	See 28 down
23	Mimic (3)
24	Seized (4)
26	Roll of bank notes (3)
28 & 21	It starts on 1st January (4 & 4)
29	Smallest part of a computer picture (5)
31	Small computer meal (4)
32	Uncommon (4)
33	Greek letter (4)
34	Ripped apart (4)

APPRENTICES IN ROLE REVERSAL

L-R: Dave Martin, Martin Hardy, Alan Gwyer, Charlotte Mottram

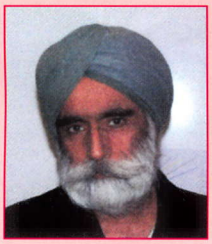
L-R: Steve Levi, Alan Gwyer, Stephen Lee, Ken Sanderson, Ryan Holland, Luke Hesp

When engineering lecturers from Sheffield College spent a fortnight at DONCASTERS Bramah, the apprentices, who are normally their students, were able to get a "bit of their own back". In order to up-date their knowledge and get experience back in "the real world" the lecturers have developed links with DONCASTERS Bramah through their apprentice scheme. They spend 2 weeks on the shop floor learning all about the latest techniques and machinery. The visiting lecturers wanted to ensure that their 2 weeks were as near to the "real thing" as possible and consequently ended up sweeping floors and making tea! They also found that at times their students became the teachers as the apprentices showed them how to operate some of the machines. It was all taken in good part and the lecturers, Steve Levi, Alan Gwyer and Ken Sanderson said that they had thoroughly enjoyed the change of scene. Under their apprentice scheme Bramah currently have 12 young people being trained, including Charlotte Mottram, who is training to be a welder.

Retirements

The following employees retired during the last 6 months in 1999 and we take this opportunity of wishing them and their families a very long, happy and healthy retirement.

DONCASTERS
Sterling International Technology

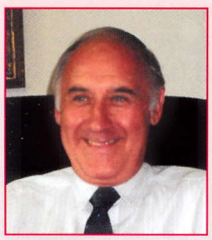


Mohinder Singh is retiring at Christmas having started with the company in 1957. He will have completed 42 years service.

DONCASTERS FVC

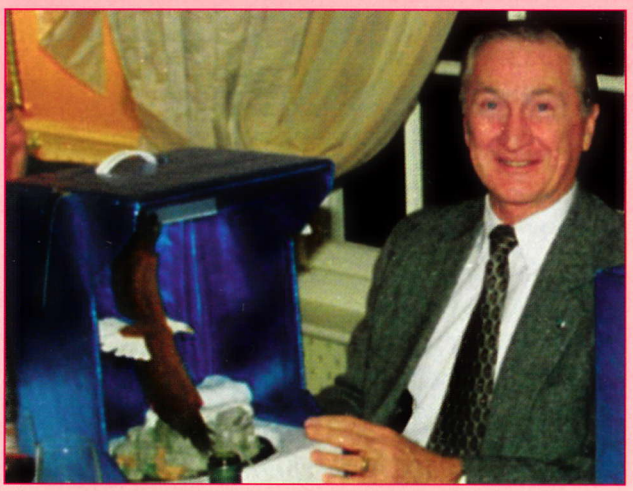
Vicky Hall retires with 32 years service from FVC Sheffield.
Most recently she worked as secretary and administrator to senior managers.

DONCASTERS Sheffield



Brian Oldfield completed 45 years service. Brian began working with the company in 1954 and throughout his career has been deeply involved in open-die forging.
In 1965 he assumed management responsibility for hammer forging and subsequently the ring rolling facilities. Since the mid 1980s, in the capacity of Forge Production Manager, Brian has overseen the furnace and press modernisation programmes. He was made Business Unit Manager for DONCASTERS Sheffield in 1997.

Dave Simm - DONCASTERS Inc



An important milestone in our history was reached on December 31st. Dave Simm stepped down from the role of President and Chief Operating Officer of DONCASTERS plc. Dave has given guidance to the operating side of DONCASTERS since he became head of our US businesses in the latter part of our time as an Inco subsidiary. The legacy he leaves is impressive. It includes our Georgia operation in Effingham and our new facility in Mexico, neither of which would be in existence without his efforts.

Dave joined the company as the result of our acquisition of Storms Forge in 1989, but it was in 1990 when he was asked to take over our Turbo Products business that he was able to show his strengths. Sales of compressor airfoils grew from $20.7 million in 1989 to $34.9 million in 1990, with a total of $25 million of sales to GE over the same period. It was a difficult time for us to respond to such a large increase in the business but after Dave moved in the problems were all overcome. Turbo became the corner-stone of a business, which has expanded to now include the satellite operations in Georgia and Mexico. Sales are expected to exceed $82 million in 2000, with $68.5 million for GE.

During the public flotation of DONCASTERS, it fell to Dave to look after the shop while a lot of effort was being expended on preparing the company for sale. In that time it went from strength to strength and it is much to his credit that the company enjoys the reputation it now has for quality and service. He has been a wonderful colleague and an excellent manager and fortunately we do not have to do without his efforts completely. Dave's term as a director of the Company continues until the annual general meeting in 2001 and we shall have the benefit of his advice and encouragement at least until then.

IN MEMORIUM

It is with great sadness that we announce the tragic death of our colleague, Aubrey Staniforth, at DONCASTERS Precision Forgings, Penistone Road, Sheffield as a result of an accident at work on 16th August 1999.

Aubrey (aged 53) had worked as a Machine Operator for DONCASTERS since leaving school, 38 years ago.

Although a very private and family orientated man, he was a keen golfer and a very active member of DONCASTERS' Annual Golf Tournament. He was a committed Christian and an active charity fundraiser.

He is sadly missed by his many long-standing friends and work-mates at DONCASTERS.

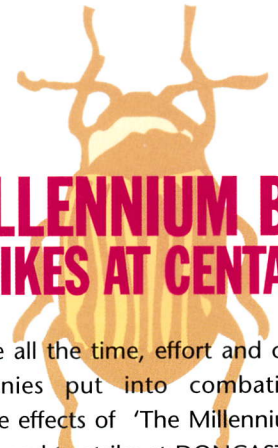
Our thoughts and condolences go to his wife, Pauline, and two daughters, Helen and Claire.

PROTECTING THE HISTORY OF DONCASTERS

As part of the millennium, a group wide project has just been launched to protect, catalogue and archive important objects from DONCASTERS' history. Sites have already been circulated with requests for details of any literature, articles, photos or artifacts which could form part of this collection. Items will be collected, catalogued and then stored near Head Office. If you know of any such historical material which is gathering dust, or deteriorating, needs protection, or perhaps just some TLC, please contact Ann Tilly (tel 0114-2858243 or atilly@doncasters.com).

Two items already archived are the original DONCASTERS' trademark of 1778 and the medal, presented to Daniel Doncaster for his contribution at the Great Exhibition of 1851.
Other material is stored at the Kelham Island museum at Sheffield. DD Today will publicise in future issues what items our history detectives can find.

Please do some investigating and let us know!



MILLENNIUM BUG STRIKES AT CENTAUR!

Despite all the time, effort and cost that companies put into combating the possible effects of 'The Millennium Bug' it managed to strike at DONCASTERS.
On returning to work after the holiday, Margaret Rushby, Receptionist, at Centaur went to date stamp her post as usual only to find that her rubber stamp was not year 2000 compatible - **it only went up to December 1999!**

Have a good laugh!!!

Extracts from insurance claims

1 "Driving along the side of the harbour and car slipped in."

2 "Why was the vehicle left unattended?"
"Because the hotel would not serve meals in the car park."

Extracts from actual CVs

1 "Wholly responsible for two failed financial institutions."

2 Reason for leaving last job:
"They insisted that all employees be at work by 08.45 every morning, I could not work under these conditions."

3 "The company made me a scapegoat, just like my three previous employers."

4 "I have an excellent track record, although I am not a horse."

5 "Received a plague for Salesperson of the year."

Extracts from US Military Officer efficiency reports

1 "I would not breed from this officer."

2 "Got a full 6 pack but lacks the plastic thingy to hold it altogether."

3 "So dense, lights bend round him."

4 "Wheel turning but the hamster is dead."

5 "Since my last report he has reached rock bottom and has started to dig."

and finally a couple of "squawks"

1 Pilot's Problem: Target Radar hums
Mechanic's Solution: Reprogrammed Target Radar with the words

2 Pilot's Problem: Aircraft handles funny
Mechanic's Solution: Aircraft warned to straighten up, "fly right" and be serious

HaHaHaHaHaHaHa

LONG SERVICE MILESTONES

Congratulations go to all the people below who have achieved 25 or 40 years' long service with the company.

40 Years

DONCASTERS Storms Forge

Bill Guertin

DONCASTERS Precision Forgings

Paul King

DONCASTERS Sheffield

Jennifer Hattersley

DONCASTERS Bramah

Ken Belt

25 Years

DONCASTERS Sterling International

Tony Aldridge

DONCASTERS Turbo Products

Craig Whittelsey

DONCASTERS Centaur Precision Castings

Pat Coe

25 Years

DONCASTERS FVC

L to R: Trevor Garner, Mohamid Bashir, Phil Donoghue, Brian Hunt, Walter Fearn, Dave Haden

DONCASTERS Bramah

Alan Smith

Bob Hudson

Ian Marples

John Revitt

Darrell Davidson

DONCASTERS Precision Forgings

Leslie McCulloch

John Fletcher

David Finbow

Stephen Sampson

Ernest Sharpe

Brian Nichols

DONCASTERS Sheffield

Roy Hallam

DONCASTERS Precision Castings - Bochum

Heinrich Schmiederer

DONCASTERS' FA CUP FINAL

MATCH REPORT
by Paul Kay - Centaur

CENTAUR v PARALLOY

The Final between these 2 old adversaries took place in October at Wolviston Football Ground. On an excellent playing surface and a bright, sunny afternoon, the 2 teams immediately got at each other. After only 2 minutes, Kay, in the Centaur goal, showed his mettle by tipping a vicious curling 25 yards' shot from Dean, over the bar to safety.

The scene was set for a scorching, goal happy, opening 10 minutes.

Five minutes into the match saw Centaur take the lead with a Littlewood free kick, straight through the Paralloy wall. Two minutes later Briggs (later to become man of the match) danced his way through and passed the Paralloy defence to take the score to 2-0.

On 10 minutes, Dean, earlier denied by Kay, tried again from 20 yards with a thunderous right boot, which left the goalkeeper grasping air and into the back of the net, to take the score to 2-1.

Both teams defended stoutly for the next 80 minutes but on the ninetieth minute Briggs picked up the ball in his own half and set off on a last final surging run which culminated in yet another goal - final result 3-1 to Centaur.

Many thanks to Andy Kay for all his hard work.

If there is anyone out there with a football team and would like to enter the Millennium Competition contact Andy Kay at Paralloy on 01642 370686 and join next year's FA Cup.

CENTAUR - Open Golf Championship

by Paul Kay - Centaur

Played at Barnsley Golf Course on a windy day, a field of 24 employees and guests enjoyed a good day out with some excellent golf.

The winner was Paul Kay, 86-16-70 with joint runners up Gary Connor 91-20-71 and guest Mick Swift 95-24-71.

Rod Jackson kept up his run of trophies by winning nearest the pin on the par 3, sixth hole.

Results of word search

Congratulations to Janice Paylor - HQ whose entry was the first correct one opened.

A bottle of wine is on its way!!

Grateful thanks to all contributors.
Please note all contributions for the next edition of DONCASTERS Today should reach Ann Tilly no later than mid April 2000.
Contact details:
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Fax: 0114 2334860
E-mail: atilly@doncasters.com
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Angling Matches

We have very active angling clubs in DONCASTERS and the following results are just 2 of the matches which were played during last year:-

Inter Works Match - 27 June 1999

(Penistone Road site's winning team)

The match was fished between the 3 Sheffield companies - FVC, Centaur and a combined team from the Penistone Road site (Precision Forgings and Open Die).

Fished on a pond at Woodhouse Grange Fishery in torrential rain, which ensured everyone got a good soaking, the match was a resounding win for the combined Penistone Road team who beat Centaur and FVC by over 5Olbs.

The final result was: -

Penistone Road	136 lbs 10 ½ ozs
Centaur	82 lbs 12 ½ ozs
FVC	70 lbs 14 ozs

Individual best catch -
Alan Mackenzie, Penistone Road, 33 lbs 2 ozs

Penistone Road Inter Company Match - 10 July 1999

This match was fished at Straight Mile Fishery with a total catch of 326 lbs 5 ozs. The winner was John Bridges with 26 lbs 2 ozs with Roger Annerson and Alan Kitson winning the pairs section.