

## Trying times spawn long-term success

Returning home in the early 1980s without a job to go to, Ian Neale had a big decision to make about his future. Hindsight shows that he got it right when he decided to launch Hiden Analytical, a highly successful metrology firm that is now celebrating its thirtieth anniversary. Richard Stevenson reports.

Lossing your job is always painful. It's not just the immediate loss of income that you have to deal with. There are also the nasty, nagging questions that circle round and round in your head: Why me? Why not him? How can they fail to appreciate all my hard work? Why can't they realise what a big mistake they've made?

It's natural to ask yourself these questions. But dwelling on them for too long is not a good idea, because you may fall into the depths of self-pity, where hope for a better future vanishes. For some

that are fired, their career will take a backward step and never fully recover, but for others it can be the beginning of a better, brighter future. In the case of Ian Neale, his dismissal has turned out to be a blessing. His career in scientific sales had led him to leave the UK for the US, and he was fired 18 months into his new role with a manufacturer of residual gas analysers (RGAs) based on mass spectrometers.

After packing his bags and returning home, he used his negative experiences as a catalyst for kick-starting a new career. He dreamed of being his own boss and he felt that his previous employer, which dominated the RGA market, was not delivering a great product. So he launched a rival, Hiden Analytical, which would give customers exactly what they want.

Neale explains that his primary US competitor had been the first to bring out an RGA with a digital display: "I rapidly learnt that people wanted one, but couldn't afford it. That was the incentive to launch our first product." One of the biggest markets for this tool would be the developers and manufacturers of semiconductor devices, because RGAs can identify the nature of gas leaks and expose impurities in a vacuum chamber.

Starting the business required a partnership. Neale had worked in the scientific vacuum industry since leaving school and had plenty of business nous, but he didn't have the necessary electronics skills. "I desperately needed an electronics person. [The electronics] are more involved than the mechanical or the vacuum side."



From its founding in 1982 until its move to the Gemini Business Park in 1996, Hiden's premises were lock-up sheds – initially one, and later an adjacent pair. In this photo from the early years of the company, its founder, Ian Neale, is wearing a tie and standing towards the centre of the group

It appeared that this trim, down-to-earth entrepreneur had found the perfect match in a former colleague who had wanted him to start a company. But this engineer didn't have the courage to leave his current employer, so Neale spent six more months searching for the right person. This turned out to be another engineer that he had worked with in the past, John Smith. The duo founded Hiden in 1982, in a lock-up garage on the south side of Warrington, a town with industrial roots that is nestled between Liverpool and Manchester. Within a few months they recruited their first employee, Tom Russell, a software engineer they both knew. Russell went on to become a director and has made key contributions to the company's long-term success.

### Getting going

A recession gripped the UK in the early 1980s, with unemployment exceeding ten percent and double-digit inflation driving up the cost of borrowing. To raise the capital required to get his start-up off the ground, Neale had to dip into his own pockets. But he also accessed up to three-quarters of the cash that he needed by tapping into a government-backed bank loan from the Small Firm Loan Guarantee Scheme. This had to be paid back within six years.

The financing helped the fledgling firm to build its first RGA. The founders had no intention of building it from scratch, because that approach makes no sense – the right way to do it is to source the various components from good suppliers, and



Hiden launched its DSMS system in 1984



In 1999 Hiden broadened its portfolio with the launch of secondary ion mass spectrometers. An example of this range of products is shown on the left

assemble them together on site. Neale had worked with many of these suppliers in the 1970s, and rather fortuitously, he reacquainted himself with quite a few of them in the run up to the launch of Hiden, when he found a couple of months of temporary work in this industry.

Hiden's first product did not offer a superior technical performance to those already on the market. Instead, it appealed to customers by excelling in an area that it not supposed to matter to scientists and engineers. Hiden's first RGA had more 'sex appeal' than its rivals, thanks to a higher feature count and greater ease of use.

To win sales of their first product, Neale would set off at the crack of dawn and travel up and down the length and breadth of the UK to meet potential customers. Back then Britain was a major chipmaker: National Semiconductor, IBM and Motorola (now Freescale) had a significant presence in southern Scotland; British Telecom had a major InP-based research laboratory in East Anglia; GaAs transistors were being developed and produced at the Plessey-owned Caswell site; and several other firms around the UK, both large and small, were making semiconductor devices.

In many industries, customers can be reluctant to switch from an established supplier to a smaller start-up, fearing that they may never deliver the product, it may break down, and if the company folds, after-sales service could disappear. But Neale found that many potential customers did not worry about such matters, while some welcomed the opportunity to support the underdog.



The quadrupole element used to build Hiden's first RGA, which initially retailed for about £4,000

## Before we moved, we had a customer in testing a system. He didn't have room to sit during an acceptance test

Researchers at GEC bought Hiden's first product and sales followed at TI in Cambridge and at Herriot Watt University. Hindsight shows that these first customers did not need to have concerns relating to the reliability of their purchases – Hiden has recently had one of its RGAs from the 1980s back in, but for calibration, rather than repairing a fault.

Like many start-ups, getting the first product out of the door took longer than expected. In this case, it took 15 months, with the cash injection providing welcome relief to a balance sheet that had started to look rather precarious.

More success followed. "In 1984, we had our first order for a large system, and that got us out of the overdraft situation," say Neale. During this time, the company had to cope with interest rates on its borrowing peaking at 18 percent. It weathered the storm, and by 1988 it had fully repaid its loan.

### Growing the business

To grow the company, Neale took on school leavers on the government-backed Youth Training Scheme. This programme has been widely criticised for the low wages paid to youngsters, who would find themselves out of a job at the end of the scheme.

However, that's certainly not happened to some of the teenagers that Neale took on: Three are still with the company today. They form part of a diverse workforce that includes many staff with a strong academic background – about one-in seven of those at Hiden have a PhD.

As the company began to establish itself, customers started to want their RGAs to be hooked up to PCs, rather than operating as standalone units. To keep pace with customer wishes, Hiden started to build a new generation of tools, tapping into support from a range of government grants.

The company also started to grow its overseas business, which now accounts for 85 percent of its turnover. Initially it worked with distributors: The first provided access to the US markets, another to France and Germany, and a third provided a presence in South Korea. According to Neale, back in the mid 1980s these countries represented nearly all of the potential market for Hiden's tools.

As sales ramped, the company required more

space to make its products. It doubled its footprint in 1985 by renting the lock-up garage next door, and when this pair of premises became too cramped, it moved to the leafy Gemini Business Park on the northern outskirts of Warrington, a site that it is still on today.

Hiden moved into its first unit in 1987 and stayed until 1996 when bigger premises were essential. "Before we moved, we had a customer in testing a system. He didn't have room to sit during an acceptance test," recalls Neale.

The company's product portfolio continues to expand to this day, driven by requests from customers for new tools. The key to offering such a wide range of equipment is to work with a set of common building blocks. For example, just before the turn of the millennium, Hiden launched a secondary ion mass spectrometer, which is used to determine the atomic constituents of a solid. The key component in this tool is a mass spectrometer, Hiden's core technology.

In 1996 the company set up Hiden Analytical Inc. to increase the sales of all of its products and provide better support for them. There are now offices in



*Hiden moved into its current premises on the Gemini Business Park in 1996*

## Monitoring deposition rates in MBE chambers



One of Hiden's more recent products is an 'XBS system'. This features a quadrapole mass spectrometer and it is designed for monitoring multiple molecular beam sources simultaneously.

It offers beam acceptance through a 70° cone and can be used for a wide variety of tasks, including: monitoring and controlling MBE

processes; studying molecular beams; analysing multiple beam sources; tracking outgassing and desorption; and uncovering contaminants in the process chamber.

To account for variations in source positions between different chambers, beam acceptance apertures are configured individually for each specific process chamber source position. Protection from the radiant heat sources is realised with a water-cooled, fully shrouded probe.



*Hiden's latest residual gas analysis interface*

Livonia, MI, San Francisco, CA and Peterborough, NH. In addition, the company has steadily increased its global network of sales offices, which now number in excess of twenty.

A broadening product portfolio has been coupled with an increase in headcount, which now stands at around 90, and diversification into new markets. This has been aided by the 2002 launch of Hiden Isochema, a subsidiary that focuses on the production of tools for characterising gas sorption.

Today, the Hiden group makes products for many different industries, including pharmaceuticals, automotive and aerospace, and its portfolio of tools

can be employed for a vast range of applications, including characterising plasmas, understanding the behaviour of catalysts and tracking the evolution of gases.

There have also been changes at the top. Although Neale is still heavily involved with the company, for the last few years he has moved to part-time working, with Peter Hatton taking over as Managing Director.

Where will Hiden head in the coming years? Given its success over several decades, there is every reason to believe that it could have a highly lucrative launch on the stock market. But that's not on the cards – the passing of time has not lessened Neale's desire to be his own man, and it is clear that he does not want the company to be distracted by appeasing to the wishes of shareholders. Instead, Hiden will focus on what it excels at – not trying to second-guess what its customers want, but listening carefully to their needs and meeting them with high-quality, reliable products.

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