

Growing reputation paves the way for expansion

An Army-trained electrical and mechanical engineer whose father produced one of the first AGS receiving systems based on the BSRIA design commissioned by the DHSS, which was later incorporated into the British Standard, and who spent many boyhood hours turning and milling in his father's factory, has seen his hard work, determination, and regular long hours in a 35-year career pay off. He and his business partner now manage and own four separate medical and industrial gas companies that provide services and expertise both across the UK and overseas. Expertise ranges from Authorising Engineer, Authorised Person, and Competent Person services, to help for healthcare estates teams with compliance, policies and procedures, and Permits to Work, plus expert system design, installation, and maintenance. *HEJ* editor, Jonathan Baillie, reports.

When I met Rob McCrea at his home in the village of Cridling Stubbs near Knottingley in Yorkshire in mid-February, we spent an interesting couple of hours discussing his very interesting engineering career, beginning by focusing on his education. He admits he was something of a 'tearaway' at school, but a subsequent seven-year spell in the Royal Electrical and Mechanical Engineers – where he gained 'an absolutely fantastic' engineering training – gave him the self-discipline he needed, and also saw him deployed to a number of overseas postings. His time in the Army also imbued him with a drive and self-motivation, and a 'lack of fear' of difficult situations, which he says has stood him in excellent stead as he has forged a successful career. He developed his first interest in engineering 'aged about nine', working in his father's factory. Harris McCrea had founded his own medical gas company, McCrea Engineering Services, near Luton, and after school, Rob was often required to lend a hand with production activities, gaining early experience of milling and turning. We subsequently moved on to talk through an interesting subsequent career in the medical gas field. With this February's acquisition of Medical and Industrial Gas Services, which serves customers in a variety of industries, for example, supplying medical gas systems to laboratories and clinical applications, Rob McCrea and his business partner, Michael George, now own four medical and industrial gas companies:

- Medical Gas Services, which offers Authorising Engineer, and Authorised and Competent Persons services; compliance surveys, and cylinder and compliance audits; pipeline system design; help with medical gas compliance; safety, nurse, and porter



Rob McCrea (pictured) and his business partner, Michael George, now manage and own four separate medical and industrial gas companies that provide services and expertise both across the UK and overseas.

training, and medical gas pipeline system maintenance – including for ambulance services;

- HTM Authorising Services, which offers Authorising Engineer services to hospitals and other healthcare facilities;
- Medical and Industrial Gas Services, offering a range of medical and industrial expertise, and support and help with compliance, for applications ranging from the brewing industry to medical and pharmaceutical laboratories;
- Dental Air Services, which supplies medical air and compressors to dental surgeries.

Eastwood Park-trained

Rob McCrea is an Eastwood Park-trained Authorising Engineer and an Authorised Person (MGPS), as well as an expert witness for arbitration cases and dispute solutions for a counterpart medical gas pipeline specialist, Medical Gas Pipeline Systems. He and Michael George pride themselves on the quality of the various companies' service – which he attributes largely to their business ethos, and their belief in giving customers the best, and the calibre of their staff. John Rhodes, for instance, the managing director of HTM Authorising Services, is a highly experienced electrical engineer with a BEng Honours Degree in Electronic Systems & Control Engineering. Also a PRINCE 2 Foundation & Practitioner, he previously spent 33 years in NHS engineering, capital projects, and estates and facilities management roles, holding senior positions including senior engineer, deputy director of Estates & Facilities, head of Estates, head of Capital Projects, and director of Estates & Facilities, at NHS Trusts in in Yorkshire, Cumbria, Tyneside, and County Durham.

Appointment to the IHEEM AE Register

Earlier this year, Medical Gas Services and HTM Authorising Services got a further boost when John Rhodes' considerable medical gas and engineering expertise were recognised with his appointment to the IHEEM AE Medical Gases Register. Rob McCrea told me: "We have always hand-picked our staff, and have always looked for individuals with really good hands-on engineering knowledge and expertise gained in the field, for which there really is no substitute. With February's acquisition of Medical and Industrial Gas Services, we now possess an unrivalled range of expertise in all



Ryan Clark repairing an air filter.



Stephen Hutchings servicing a medical dryer.

aspects of medical and industrial gas pipeline system design, commissioning, maintenance, and installation. We're thus in a great position to take the various businesses forward under strong and capable management, and to further expand our customer base and capabilities, building on what I believe is an excellent reputation for the quality and reliability of our service, and the expertise of our team."

Formative years

So much for the present, but Rob McCrea made it clear that his childhood, education, and particularly his time in the Army, had shaped both his own personal development, and the way the various businesses had developed. Having grown up in Tottenham and the Home Counties - including Bedfordshire, and Hertfordshire, he acknowledges he had a tough childhood, but says his early experience working in his father's factory sowed the seeds of his interest and skills in engineering. He explained: "One of the things I am keen to get across is that you can pretty well start at the bottom, as I did, and with sufficient dedication, hard work, commitment, and drive, can grow and develop personally, and make a successful business."

Joined the army aged 16

He continued: "I initially grew up in north London, and left school - a private school, Bishop's Stortford College, aged 15, in 1983, with 13 'O' levels, including Biology, Chemistry, and Physics, Maths, and Applied Maths. On my sixteenth birthday, I joined the British Army, and specifically the Royal Electrical and Mechanical Engineers, where I served for six years, gaining a really first-class all-round training in electrical and mechanical engineering at the Army's Arborfield training establishment in Berkshire. My original training was as an aircraft technician, but during deployment I got involved with working on some medical equipment out on site, due to my previous



Adam Clark completing a dryer desiccant replacement.

experience as a youngster, working with my father, Harris, who owned the then McCrea Engineering Company, or MEC, now the Medical Equipment Company." MEC specialised in the manufacture and assembly of medical gas terminal units. Rob McCrea said: "My father was involved in the design of the first British Standard medical gas terminal units, with Dräger Medical and BOC. He was also involved in important work on associated products such as NISTs (non-interchangeable screw-thread connectors), as well as anaesthetic gas scavenging systems."

Harris McCrea, his son explained, was a mechanical engineer and a qualified turner and miller, who founded his own company, initially known as McCrea Engineering Company, but subsequently as Medical Equipment Company. Rob McCrea added: "MEC is, in fact, still opening today, from a base in Hemel Hempstead. I learned milling and turning from the age of about nine working with my father. From about 1978 onwards, 90 per cent of the components he produced were for the medical gas sector. He had a factory in Houghton Regis near Luton, having had his first production facility in Dunstable."

Fantastic training and experience

Rob McCrea later had a spell working for his father, when he left the Army in 1990 after six years as both an aircraft technician engineer and a medical and electronics engineer. He said: "I believe the REME engineering is the best in the world. The experience was also fantastic, and gave me both discipline and the ability to self-drive, as well as to do things properly - it was very regimented - and to relate well to a range of different people." He continued: "During my time in the armed forces, I sat my City & Guilds in Engineering, and my associated project revolved around the development of the MEC medical gas pressure and flow test guns, which are now used all over the world. During my time in the Army, I also sat my CP and AP tests for MGPS at Eastwood Park."

On leaving the Army, Rob McCrea went to work for his father's business, at the time about 30-strong, and one of the UK's leading medical gas pipeline suppliers, with customers all over the world. He said: "Today, MEC is the UK's only company recognised for the manufacture and sale of test equipment for medical gases. My father later sold the company to an anaesthetic manufacturing company, Blease Medical, which in turn sold it on to a consortium including the Rayners. Having worked at MEC for a year, I decided I wanted to leave the manufacturing side of the business, and move into on-site work and management of medical gases, which had no appeal to my father, since that would have meant him competing with the companies he was selling to. He also sold direct to hospitals."

Fortuitous trip to Portugal

During his year with MEC, Rob McCrea had a trip to Portugal to provide training on the optimal use of use of AGSS systems to engineers working for the country's public health board. He said: "That was a very interesting experience; I gained the introduction through a



Adam Clark undertaking a dryer service.



Ryan Clark carrying out the PPM on a vacuum plant.

customer we were selling to in Portugal.” His next step was to join a company which is today a competitor, medical gas pipeline installation specialist, K&H Medical, where he worked for eight years, starting as an Installation engineer, and then as both Maintenance manager and Contracts manager, before establishing a Professional Service Division for the business, undertaking AP work. He explained: “I then left K&H and went to work as an associate director for another medical gas pipeline contractor, D&L Medical, where I helped to build the company up to a good size. However, feeling by this juncture that I wished to branch out on my own, using an approach and methodology based on my military experience, I started up a business called Medical Gas Consultancy in London in 2001. At this business, I principally undertook Authorised Person work, and acted as an AE for the Ministry of Defence, which entailed me visiting military hospitals as the Authorising Engineer - a role that in essence didn't then exist in the NHS.” This AE work for ‘the military’ took Rob McCrea to many locations worldwide. He said: “I was undertaking system design and management; the latter typically involved policies, procedures, training, and compliance auditing, as well as training of military ‘estates’ and engineering personnel on the installation, use, and maintenance, of medical gas systems. This was an easy role for me, having already served in the Army. I was also one of the few engineers with the necessary clearance to undertake medical gas system work in such facilities.”

A move to Manchester

In 2009, having found the ‘London life’ very stressful, and having also recovered from a brain tumour and subsequent brain surgery at London’s Royal Free Hospital while with D&L, Rob McCrea decided life in the capital was no longer for him. He said: “I thus sold my house and business in London, and moved up to my

original family roots in Manchester, where my father came from.” He continued: “One evening up in Manchester, I met up with an ex-colleague, Michael George, for a drink, and we came up with the idea of starting up a new business in Manchester. I knew him from the medical gas arena, and indeed he was the previous owner of compressor installation and maintenance specialist, Compressor Engineering. The meeting resulted in the formation of Medical Gas Services.”

Rob McCrea and Michael George started the business up in an old mill house in Rochdale, operating from a Portakabin as an office. He said: “Initially there were no other staff, and we offered purely Authorising Engineer and Authorised Persons work. We had both had significant experience of working in the healthcare sector, and on establishing the firm, used our contacts to win work from a good base of hospitals and other healthcare facilities both across England, and overseas. Within six months the workload was too much for just the two of us, and much of our work was in the north-east, so we recruited another staff member, Michael Sayers, a former Atlas

Copco medical gas engineer based in Newcastle, who is still with us today. We brought him in to train hospital personnel up to AP level, and to manage the north-east hospitals.” (The Authorised and Competent Person roles, Rob McCrea explained, were introduced in HTM 2022, reinforced with the publication of the revised and updated HTM 2022 1997 and 1999, and the AE role was brought into the NHS with HTM 02-01 in 2006).

Dental air compressor business

In the company’s early days, nearly all its work was undertaken in NHS hospitals, but in 2010, Rob McCrea and Michael George decided to purchase a company called Dental Air Services, which provided medical air for dentists’ surgeries, back from Atlas Copco, the business having been sold to the latter as part of the sale of Compressor Engineering. Rob McCrea explained: “Dental Air Services was at the time being run out of Rochdale, with its own assembly and test facility, and also offered installation and maintenance of dental sector compressors. We later moved it to its own offices, in Salford Quays, and it has since been run as a separate subsidiary there. One of the UK leaders in its field, it now serves dental surgeons throughout the UK. On founding Dental Air,” he continued, “we sought to establish and build a business that doesn’t just sell compressors, but will also take adoption of the existing compressors in dental surgeries and service and maintain them.” The company can also lease compressors, offers a 24-hour breakdown response, and guarantees a replacement in the event of compressor failure. The compressors not only go into private dentists’ surgeries, but also to hospitals’ dental departments. They run the drills, operate pneumatic dentists’ chairs, and are used to keep patients’ mouths clean and comfortable during dental work. Dental air has a European Pharmacopoea monograph, equivalent to medical air in quality, but less onerous on moisture content.



Adam Clark servicing a compressor.

Broadened its offering

Rob McCrea added: "Medical Gas Services subsequently broadened its offering when we started undertaking a lot of training, including nurse and porter training in safe use of medical gases. However, at that point we were restricting the majority of our business to the north-east of England. We were still based out of Rochdale, but moved in 2012 to larger offices in the Lancashire town."

Within 2-3 years, Medical Gas Services had grown to serve a national customer base, including taking on an NHS Property Services national contract, to the extent that, by 2015, the business was looking after the medical gas needs of over 450 different UK healthcare premises. These included acute hospitals, doctors' surgeries, and primary care centres. "At that point," Rob McCrea explained, "Medical Gas Services was sub-contracting all the maintenance work out to other companies, since the staff we had at the time didn't have the necessary maintenance expertise. We were tending instead to undertake safety and compliance audits, ensuring that the maintenance was undertaken correctly, and raising Permits to Work." He added: "In addition to the hospitals we serve, there are about 300 health centres in the UK equipped with piped medical gas, a small number with step-down and elderly care wards attached. At this stage, due to a growth in demand, we increased our headcount to 15, still centrally managed from Rochdale. We were employing engineers trained to AP level, and were still continuing the AE work."

Three principal offices

John Rhodes, a highly experienced engineer and estates management professional, later joined Medical Gas Services, further boosting its capabilities. Rob McCrea explained that the group of companies he and Michael George now own has three principal offices to serve different parts of the UK – a head office in Normanton in Yorkshire, close to his home, an office in Newcastle, and one in Harlow, serving the south and south-east



Adam Clark servicing a terminal unit.

of England. He said: "We opened the new head office in Normanton just off the M62, in 2017, and the Newcastle office and Harlow office in Essex in 2018. The three offices are managed by Michael Sayers, Wayne Badkin, and Adam Clark respectively. We continued to expand Medical Gas Services from about 2016 onwards, recruiting skilled medical gas engineering professionals with a background in both installation and maintenance, including some from the NHS. Overall, Medical Gas Services now employs 19 staff."

Database writer

In 2016, Medical Gas Services recruited a full-time database writer, Mark Rhodes, to, as Rob McCrea put it, 'bring the company into the 21st century' – previously it had had to handle a 'growing mountain' of paperwork. He said: "When we first recruited Mark, John's son, we didn't realise quite how beneficial his input would be. We can now, for instance, see live auditing, manage work very efficiently, and give our clients access to our data to see their records, which we hold indefinitely."

Bringing things up to date, Rob McCrea explained that Medical Gas Services, and the associated businesses, continued to grow their clientele, and, in the past five years, MGS has continued to expand its medical gas training for nurses and porters particularly. He said: "In broader terms, we still undertake a large volume of medical safety training for NHS staff. Interestingly," he added, "while on holiday in 2015 in the Caribbean, I got into conversation with an American medical engineer, Jonathan Willard, the MD of a company called Acute Medical in Boston, who was in St Lucia looking at the medical gas system in a new hospital which he didn't feel had been installed very well. Jonathan is also an NPFA (the US's National Fire Protection Agency) instructor on the America standards." The discussion led to Rob McCrea visiting the hospital in question during the

holiday, and subsequently, to Medical Gas Services becoming the 'recognised company' within St Lucia to manage and equip all the island's healthcare facilities with medical gas equipment. "From this encounter," he explained, "our relationship with the American medical gas community has led to me undergoing training in the US medical standards. In turn, we are working with a number of American Health organisations to develop what they are dubbing 'a Harmonious Standard for Medical Gases' in the US, introducing some of our British Standard methodology of work into America."

A major change

Focusing on Medical Gas Services' development in the past two years, Rob McCrea said: "The company massively changed in 2018. Having principally mainly offered AE and AP services until that point, in 2018 we were badly let down by one of our sub-contractors, and had to get all our staff together to fulfil a maintenance contract at a large acute hospital. We undertook the work, effectively on an emergency basis, and the hospital told us it was extremely pleased with the way we had completed the job, which they said was a significant improvement on what had been undertaken previously. This experience resulted in our decision to move into medical gas maintenance and installation. With the staff we had on board, we had a great mix of installation and maintenance engineers, and in 2018, recruited the senior medical gas engineer from Atlas Copco, Steve Hutchings, to run our maintenance operation from our Harlow office. In 2019, we won the King's College Hospital tender for medical gas maintenance, and the Maintenance Division has continued to grow ever since."

Medical gas maintenance

Medical Gas Services now provides medical gas system maintenance at eight hospitals across England. Rob McCrea said: "The King's College Hospital London contract entails maintaining equipment both at the Trust's main site in Denmark Hill, and at two others in Farnborough and Orpington in Kent. The Denmark Hill campus is by far the biggest site, and indeed this was our biggest ever overall contract win. We won the five-year contract based on the quality of our tender, rather than price." The day after I met him, Rob McCrea was due to have a meeting at a new hospital under construction close to Buckingham Palace in London which will be operated by America's Cleveland Clinic.

Today, alongside offering AE and AP services, Medical Gas Services also provides services including CP maintenance and installation, training, and



Stephen Hutchings repairing a local alarm panel.



Medical Gas Services prides itself on the standard of its medical gas system installations.

system design. Rob McCrea said: “We will also now install a hospital’s complete medical gas pipeline system, having begun offering the installation service this year. I have both an installation and a maintenance background, while Michael Sayers and Wayne Badkin have strong installation backgrounds. We used to feel that Medical Gas Services’ specialism in AE and AP work were enough, and that we would use sub-contractors for installation and maintenance. However, having been let down on a number of occasions, we decided that – to ensure that optimal quality of service for customers – we would undertake our own installation and maintenance ‘in house’. We now anticipate both our installation and maintenance work growing significantly.”

Key differentiators

I asked him what he thought were the key differentiators that Medical Gas Services and the associated businesses now offer within a pretty competitive market. He said: “Due to entering all these different medical gas disciplines, we have split the company, and acquired another to fulfil all the various needs. Due to starting to undertake a lot of CP work, we

established HTM Authorising Services in mid-2019, to undertake all the AE and AP work, which was Medical Gas Services’ original remit. Meanwhile, Medical Gas Services continued with installation and maintenance, and found a requirement for undertaking industrial gas works, where our expertise was limited. To address this, we purchased Medical Industrial Gas Services in February this year; originally based in York, the company now operates from our Normanton head office.” MIGS serves the industrial, pharmaceutical, and laboratory gases markets, within colleges, universities, and hospitals.

Very specialist expertise

Rob McCrea said: “This work requires very specialist expertise, which the three professionals we have recruited to work for this subsidiary company certainly possess. They already have contracts in locations including Kent, Middlesex, and Manchester, to name just three. We decided to move into this area because we were being asked by hospitals when undertaking installation work to also do some pharmacy and laboratory work.”

While Rob McCrea sees considerable further growth potential for Medical Gas Services in installation and maintenance,

he equally expects the business to substantially grow its training offer. He explained: “We already undertake a fair amount of training for the NHS, and will be looking to start really stepping this up later this year.”

He added proudly of the Group’s all-round expertise: “The way that the Group and the businesses have been built, we now have an AE/AP company, HTM Authorising Services; a medical gas installation and maintenance company, Medical Gas Services; Medical and Industrial Gas Services working in laboratories and pharmacies, and Dental Air, doing the Dental Services. We thus have a really comprehensive portfolio of services. Later this year we will be expanding our training offer through a new agreement; Medical Gas Services has agreed a five-year deal with a major training company to provide all of its AP and CP training.”

As our discussion closed, I asked Rob McCrea to what he particularly attributed the successful growth of he and his business partner’s medical and industrial gas companies. He said: “As I mentioned just now, one of our biggest strengths is the breadth of our offering, which, with the acquisition of Medical and Industrial Gases, I would say no other UK medical gas specialist can match. There is also no doubt that my military training was in very large part responsible for my drive, determination, and a can-do attitude, which has played a significant part. Ironically, my father was never keen for me to enter the army, but the lure, particularly, of travelling the world and playing lots of sports really appealed, and I learned a huge amount during my six years in the military. Michael and I are really pleased with the position we now find ourselves in with the group of businesses, and the fact that – largely through word of mouth and a reputation for no-nonsense, reliable, and value-for-money service – Medical Gas Services and the associated companies are winning some fantastic work, both in the UK and overseas.”



Medical Gas Services Area managers (left to right): Michael Sayers, Wayne Badkin, and Adam Clark.