

Breathing new life into the fight against Covid-19



The Situation

Nobody could have predicted what 2020 had in store for us, with Covid-19 creating the largest global pandemic in living memory.

The sudden onset of the virus in so many countries put massive pressure on national health systems in every corner of the world and prompted many Governments to explore new ways of treating huge volumes of patients outside of traditional hospitals.

In England, seven Nightingales were established to create additional capacity in areas that were under significant medical pressures and these impressive facilities were devised and built-in record time.

It quickly became apparent that the one thing Covid-19 patients relied heavily on for their care was oxygen and all these temporary super hospitals needed to create a safe and secure supply to what would surmount to thousands of beds.

All of this was played out against a backdrop of urgent timescales and lead times that had never been previously achieved. People's lives depended on it and UK industry reacted.

The Solution

Lawton Tubes' reputation for supplying medical gas copper pipes saw it quickly approached by the Government, the NHS and healthcare providers to supply products that would safely transport oxygen to people who needed it most.

The family-run copper pipe manufacturer was open throughout every stage of the pandemic and this meant that it was front and centre of supplying these vital copper pipes to the Nightingale Hospitals and dozens and dozens of other locations across the UK, including nursing homes, pop-up clinics and existing hospitals.

With no visibility on volumes and forecasts, the entire manufacturing facility in Coventry had to pivot to focus on orders for the medical sector, delivering its core medical grade copper tube in sizes ranging from 12mm up to 219mm.

Small diameters that would normally be used at the final point for the outlets by patient's beds were replaced with much larger sizes more

suitable for carrying vast amounts of oxygen from plant rooms and offsites stores to theatres and wards.

In addition to the pipes, hundreds of thousands of accessories and fittings were manufactured and supplied, including medical grade copper endfeed fittings, brass munsen rings/rubber lined pipe supports, silver brazing rods and gas identification tapes - a complete pipeline system all from stock.

"I don't think we've ever seen a period like we faced in March. Usual lead times were cut in half even to same day deliveries, our stock make-up had to change beyond all recognition and staff were asked to work flat out, coming in at weekends and during holidays," explained Robert Lawton, Business Development Director at Lawton Tubes.

"Thankfully investment in technology and new equipment gave us the agility we required and



- > our manufacturing processes meant we could move people around the factory to get the most throughput.

"Whilst speed was of the essence, we also had to make sure all of the copper pipe supplied conformed to exacting medical standards BSi kitemarked EN13348 and to the recognised NHS HTM 02-01 guidelines."

Once production was underway, Lawton Tubes had to collaborate with numerous different project leads at the Nightingales to ensure that it fitted seamlessly into the complex logistical plan.

It was all hands to the pumps to meet the

allocated timeslots, with even members of the Armed Forces unloading the company's pipes to ensure they got to their destination on time.

Robert continued: "The Nightingale Hospital at the NEC required a precise logistics operation on its own, with vast oxygen tanks installed a safe distance away from the building allowing for truckloads of oxygen to be brought in.

"In some instances, oxygen had to move 10kms along pipes, so we came up with a tailored solution that saw us supply 6 metre length tubes and vast amount of copper fittings, pipe hanging supports and silver brazing rods."

The Results

Ten months from the first order being placed and Lawton Tubes has successfully delivered 120 miles of medical gas copper pipes to the NHS - if laid end-to-end, this is the same length as Phase 1 of High Speed 2 (HS2).

All of the 100% recyclable product was delivered on time and to budget, ensuring that vital oxygen supplies were in place in time for the Nightingale openings and to provide additional capacity in other hospitals across the UK.

In total, more than 200 deliveries left the company's Coventry manufacturing facility carrying tonnes of specialist copper to over 70 different destinations. Work hasn't stopped there with continual upgrading of medical facilities keeping the team at Lawton in demand.

Rob went on to add: "It's quite an emotional feeling knowing that our family business in Coventry has played a small role in helping save thousands of lives here in the UK and overseas. Copper is the preferred choice because of its antimicrobial qualities and, in our offices, even our door stair handrails and light switches are made of copper.



"Our copper pipes are also in place at St Thomas' Hospital in London just prior to Prime Minister Boris Johnson being admitted with his own fight against Covid-19 earlier this year."

International Efforts

Lawton Tubes role in the Covid-19 pandemic wasn't purely restricted to the UK, with the firm's pipes also supplied to 35 different countries, including Ghana, Pakistan, Saudi Arabia, Singapore, United Arab Emirates and Vietnam.

The greatness of the NHS and its foresight in having its own written step-by-step guidelines, incorporating product standards and best practice, has seen the UK medical industry taking the lead in medical gas pipeline systems.

This is something the company was all too aware of and was factored into its manufacturing requirements and how the product was supplied.

Then there were shipping lines and international customs/banking arrangements to consider and a worrying global imbalance when it came to the volume of parts being transported with the number of ships/containers available.

Fortunately, the Queen's Award for Enterprise International Trade winner's recent growth in export had given it the connections and experience to meet all of these challenges head-on and deliver the same level of service, quality and delivery performance enjoyed by customers in the UK.



Queen's Award



Viewpoint

- “We have watched Lawton Tubes’ growth with great interest, first helping it secure the Queen’s Award for International Trade and then brokering introductions to Government officials leading on the fit-out of the Nightingale hospitals.

Whilst demand for its products was global, the company consciously and patriotically opted to hold back stocks to supply the UK market first. Coventry & Warwickshire is lucky to have such a high-quality manufacturer representing our region.”

Louise Bennett, Chief Executive of Coventry & Warwickshire Chamber of Commerce

- “Lawton Tubes comply fully with HTM 02-01 regulations for the design, installation, validation and verification of medical gas pipeline systems.

It goes way above this as well, offering a unique post-production manual inspection process and conducting improved identification to avoid confusion with similar sizes of water services fittings. The latter pleases me, as crossed services constitute a serious risk to patient safety.”

Geoffrey Willow, Healthcare Technical Consultant and author of HTM 02-01

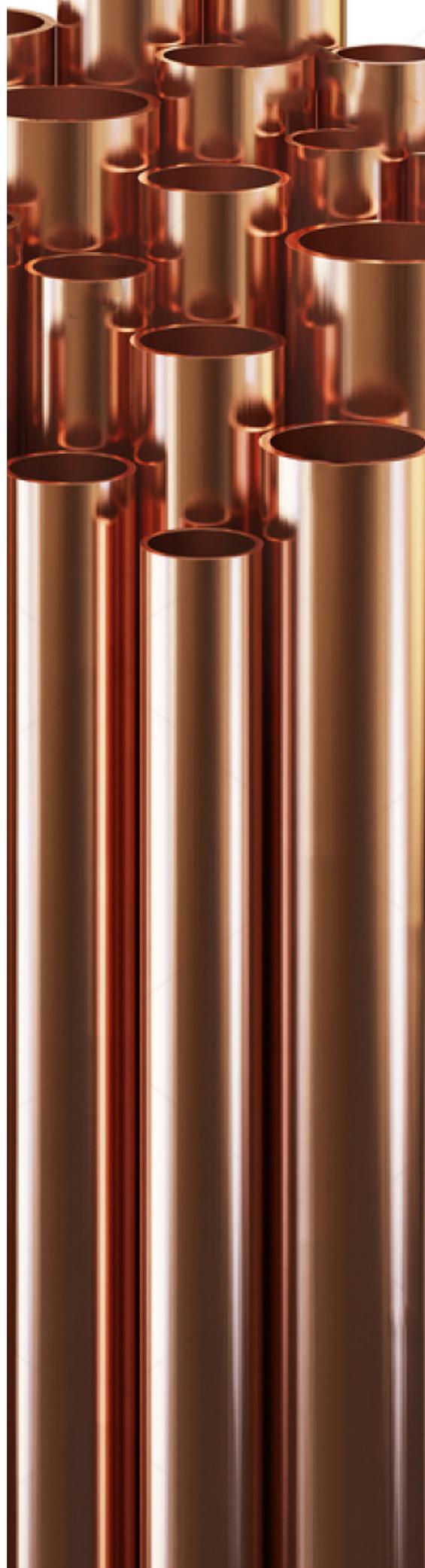
- “We received a phone call on Saturday morning and by 5pm that evening we were designing one of the most complex medical gas systems we’ve ever looked at for the proposed Nightingale Hospital in Harrogate

This was our most demanding job and needed every member of our supply chain to come with us on the journey to achieve a project in 18 days that would normally take between 12 and 18 months.

Lawton Tubes was instrumental, supplying 7.5miles of specialist copper tube, over 100,000 Munsen rings and brackets and 2000 degreased copper fittings within a matter of days of us ordering.

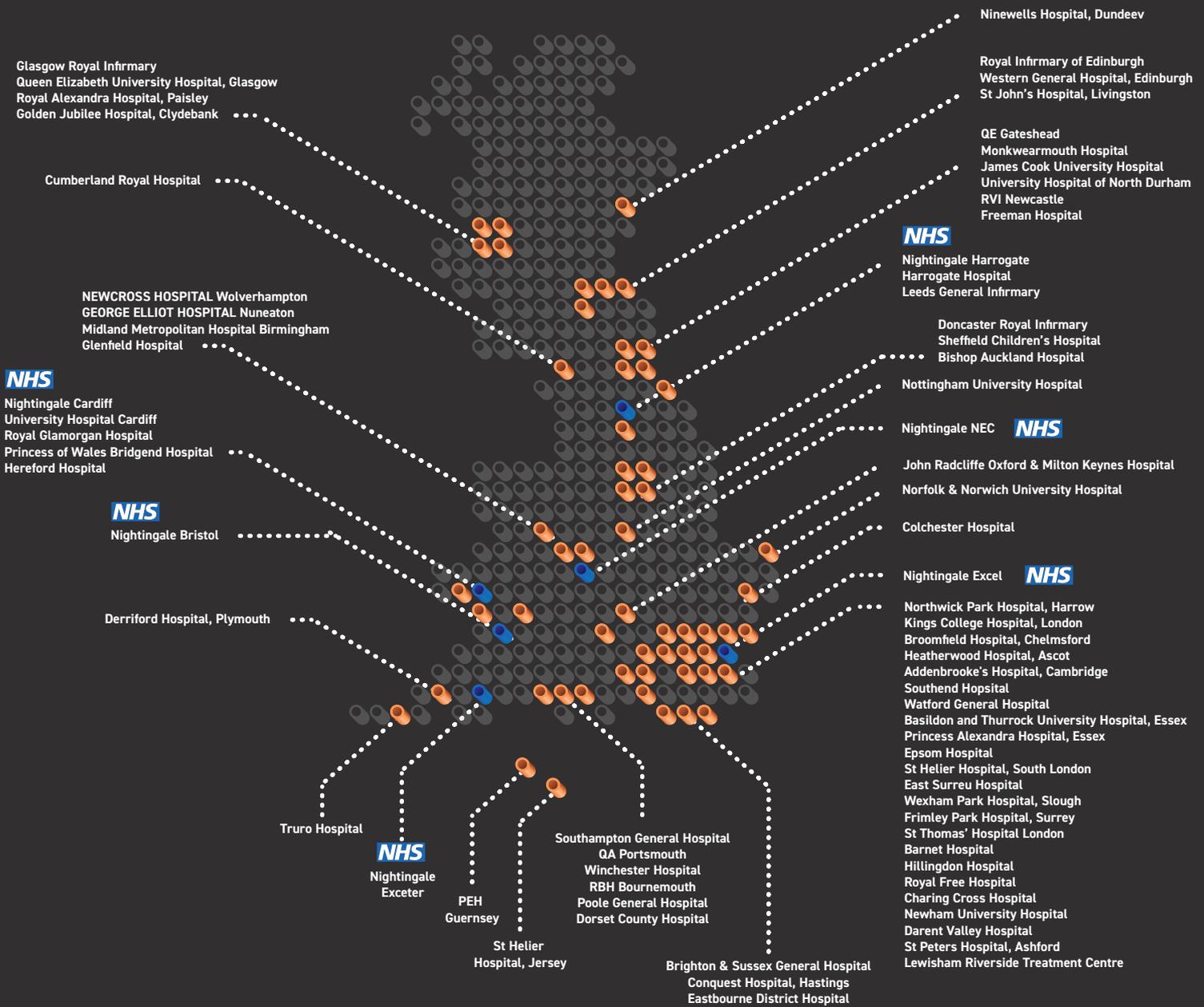
Like the previous 28 years I’ve worked with the company, all of its products were supplied to outstanding quality, ensuring we didn’t have to reject any and lose valuable days on the install. It was also available seven days per week in the event of us needing to order more stock.”

Roses Medical



The National Effort

120 miles of medical gas pipe, 200 deliveries across 70 different NHS locations





Nightingale NEC

- *"It was our responsibility to deliver the infrastructure that would carry the medical oxygen and air around the NEC Nightingale, a massive operation that involved two 108mm ring mains, each 3km long, together with another 12 km of 54, 35 and 15mm pipework."*

This had to be completed in just a two-week period so we immediately turned to established partner Lawton Tubes to supply all of the copper pipes for the project.

"Communication started within minutes of us being appointed and the response was fantastic, with the first delivery arriving on site the next day. I know Rob and the production team increased manufacturing capacity, in order to meet the need for 18km of tube and thousands of fittings.

"The quality, as normal, was first class and we also used Lawton to help identify installers who could quickly join our team to help us meet the most demanding deadlines we've ever taken on. Whilst it's not its core expertise, the standing the firm enjoys in the sector means they are very well connected."

Midland Medical Services

- *"We have worked with Lawton Tubes for over eight years and turned to them in 2020 to work with us on well over one hundred projects at hospitals across the UK.*

The company, with its quality of product and customer service, has helped us meet our commitment to providing superior medical gas pipeline services to our customers in the NHS and the private healthcare sector."

SHJ Medical Gas Specialists

- *"During the construction of the NEC Nightingale hospital Lawton were an integral part of the supply chain which enabled the successful and timely completion of the project. Lawton went above and beyond to ensure material supply was not interrupted for the critical path delivery of the medical gases installation by opening up their factory out of hours to maintain delivery schedules.*

Their support on the project was very much appreciated by all involved."

Interserve Engineering Services Ltd



“During the first wave of Covid-19 projects we were involved with a large number of acute hospitals requiring oxygen pipeline resilience works, as well as ICU and Covid ward extensions. To support these projects, thousands of meters of degreased copper pipe and fittings were installed by our team and all of the material was supplied by Lawton Tubes.

What was different in the early projects was the size of tube needed. Many scenarios used 108mm as a norm, but some then decided to move to the larger 159mm size. Large amounts of 76mm and 54mm were also consumed.

These sizes are not normally used in the same volume as 42mm and are not kept in stock as readily, so the entire industry was after the same material at the same time. Therefore, I have to give huge credit to Lawton Tubes for managing

the requirements of all the different medical gas installers, keeping us all going at what was a critical time for the country.

After the first wave of Nightingales, we were also chosen to deliver medical gas pipeline supplies at the Nightingale Exeter, which was delayed due to the time it took to find a suitable location.

This meant having Lawton Tubes ready to respond at any given moment, with the uncertainty that it may never go live. This was a huge challenge, but thanks to excellent communication and the strength of the partnership, we were able to fulfil requirements on time and to budget when the decision eventually came to proceed.”

Beacon Medaes

About Lawton Tubes

Lawton Tubes has created a global reputation for supplying high quality copper tube to clients involved in air conditioning, engineering, plumbing and the medical sector.

Regular investment in new warehousing, equipment and company-wide training has seen it achieve year-on-year growth for the last decade, with turnover touching £155m and a workforce of just over 100 located across its headquarters in Coventry and a second site in Poole.



The nations copper specialist