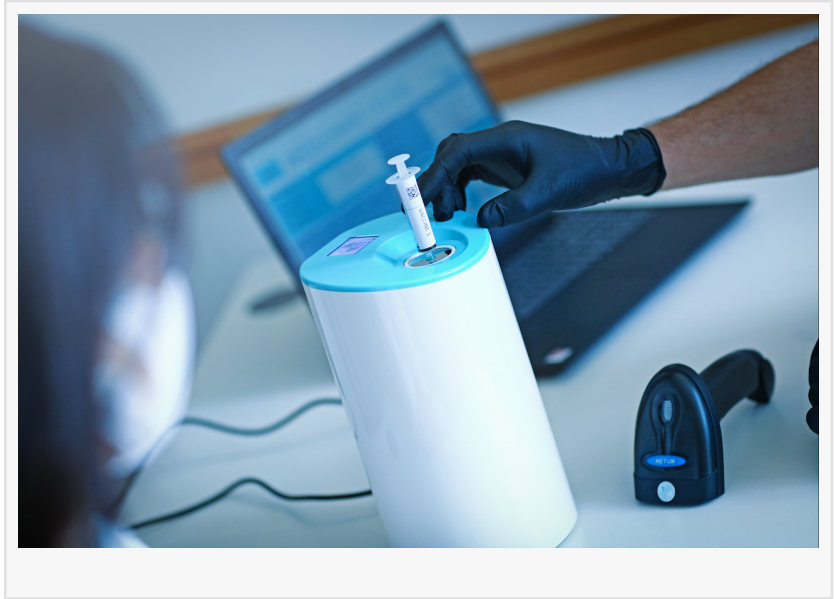


Pioneering British Tech Firm Helps NHS Carbon Reduction Strategy Reduce Carbon Emissions by 95%

UNITED KINGDOM, March 30, 2022
/EINPresswire.com/ -- NEEDLESMART
CLINICAL WASTE BOXES TO SAVE THE
NHS MORE THAN £120 MILLION IN
GOVERNMENT PLASTIC TAX

TECHNOLOGY TO PREVENT 100,000
NEEDLESTICK INJURIES TO CLINICAL
STAFF, SAVING THE NHS £127 MILLION
EACH YEAR

British smart MedTech company
NeedleSmart is at the forefront of
helping the NHS radically reduce CO2
emissions in its clinical waste disposal
by a staggering 95% as part of its Carbon Reduction Strategy, saving £10s of millions in clinical
waste destruction.



NeedleSmart is collaborating with the NHS, facilitated through the NHS Supply Chain innovation route, to drive a campaign forward to minimise single-use plastics and associated packaging. As of 1st April, and as part of the Government's recycling policies, all plastic packaging must contain 30% recycled material or be subject to a levy of £200 per tonne.

The NeedleSmart technology is also part of an innovative programme to reduce and eradicate 100,000 needlestick injuries (NSI), which affect all healthcare workers across the NHS. This initiative alone will help save the NHS and its trusts more than £127 million each year.

The Knowsley-based company has designed and developed a range of products, including the NeedleSmart Pro (NS PRO) a world-first in safe needle destruction and disposal. The ground-breaking technology is being pioneered in a partnership with the Innovation Centre at Alder Hey Children's Hospital and piloted with a number NHS trusts across England as part of the NHS's carbon reduction and sustainability programme.

As of 5th January 2022, the global COVID-19 vaccinations programme had delivered 134 million vaccinations in the United Kingdom, 513 million in the USA and 1.4 billion in India.

In the UK alone, using the NeedleSmart technology purely in relation to the vaccination programme would have saved the NHS 15,132 tonnes of CO2 annually.

This is equivalent to:

- * 15,000 flights from London to New York
- * 66 million miles in a family car
- * 45,000 square metres of polar ice caps melting
- * 39,600 trees storing atmospheric CO2 each year.

NS PRO destroys a contaminated hypodermic needle in a sealed chamber in just six seconds. The NeedleSmart device heats the needles inserted into the chamber to 1,300 degrees celsius, which will kill potential harmful pathogens, viruses and bacteria adhering to the needle. Within seconds, the needle is compressed into a tiny cold ball and released from the NS PRO device as a safe sphere of metal at the tip of the syringe.

This not only safely destroys the needles, converting them into safe clinical waste and allowing for recycling, but also hugely decreases the amount and level of clinical waste disposal, along with the huge carbon emissions associated with disposing of that clinical waste and its incineration. Previously, the entire needle would have had to be disposed into a plastic sharps box, which carried a limit on how many intact needles could be disposed of.

Now the clinical waste can be split into two parts, with the molten metal ball part of the clinical waste recycled as safe waste and the plastics recycled into the system. This represents a huge advancement for the NHS – which is one of the UK's biggest producers of carbon – in reducing its carbon emissions and recycling its clinical waste.

The NS PRO device can help the NHS save money and cut costs in a number of ways, including:

- NSI are estimated to cost each NHS trust £500,000 each year*** and an estimated £127 million across England ****.
- The NS PRO device will play a major role in significantly reducing and eradicating the 100,000 NSI that occur every year.
- NeedleSmart aims to offer the use of a 96% recycled cardboard clinical waste box (when NS PRO is used) as a viable alternative to the current single-use sharps bins.
- The Government plans to add a plastic tax of 20% per tonne on single-use plastic packaging as of April this year, meaning the NS PRO and its clinical waste box presents a real reduction opportunity in this tax levy to the NHS.

NeedleSmart CEO and smart MedTech disruptor, Cliff Kirby, said:

“By adopting the NS PRO device, the NHS will enjoy a whole host of efficiencies in cost-savings and reduction in carbon emissions, in addition to crucial safety aspects.

Using the NS PRO for the safe disposal of hypodermic needles can radically reduce the 100,000 needlestick injuries that occur each year to surgeons, doctors, clinical staff and hospital porters.

But the even greater capability for reducing carbon emissions lies in the fact that using the technology means we can reduce the carbon emissions that the NHS produces by 95%. Using the NS PRO to safely dispose of the needles and put these into our biogenic cardboard disposal boxes has major savings. The use of the NS PRO offers substantial savings to the NHS and the environment.

“This means more clinical waste can be stored in each NS PRO disposal box, which reduces the number of trips to empty and dispose of clinical waste. It also reduces the single use of plastics waste and allows for greater recycling of non-hazardous waste materials against the existing approach of incineration, which creates more emissions with carbon pollution. Finally, it reduces carbon emissions of associated logistics – be that manufacture or disposal.

As a UK SME, it is fantastic to work and collaborate with the NHS directly to drive forward innovations that will have a real and meaningful impact on climate change.”

NeedleSmart has recently achieved FDA approval as a Class II medical device, making it the first UK company to achieve FDA 510(k) approval (Class II for Sharps Needle Destruction Device (NDD)) and allowing the MedTech disruptor to expand into the US market and other global territories.

Claire Liddy, Managing Director of Innovation at Alder Hey Children’s NHS Foundation Trust, said:

“At Alder Hey, we have been innovating for the past 100 years. We want to ensure that we are always standing at the leading edge of clinical innovation, sustainability and the green tech space.

“The technology presents lots of opportunities for us to also reduce waste and carbon ,which is a huge agenda for the NHS and Alder Hey as part of the NHS Carbon Reduction programme. We really want to be a hospital that is pioneering in the space of green tech. We think the NHS has a long way to go in the clean, green agenda, but we see the relationship between Alder Hey and NeedleSmart as being a great platform to achieve this as we work towards carbon net zero.

“The partnership between Alder Hey Innovation Centre and NeedleSmart has a common purpose to innovate and disrupt. One of the biggest safety concerns for us across the NHS is needlestick injuries. So, we are excited to see how the technology can not only reduce those

injuries, but also eliminate them all together.”

Alder Hey is widely recognised for its cocreation and adoption of new innovative technologies and boasts the largest hospital-based Innovation Centre in the UK, with 25+ full time innovation experts working out of a 1,000 square-metre innovation hub in the heart of the hospital. Through this alliance, Alder Hey will work directly with NeedleSmart as it brings its multi-faceted hardware and software solutions to the healthcare markets.

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For more information on NeedleSmart, visit www.needlesmart.com
www.digitalvaccination.com

The NeedleSmart process explainer

<https://youtu.be/C968RkWtSi8>

The NeedleSmart DVS explainer

<https://www.youtube.com/watch?v=nlAzsMwyBDc>

ABOUT NEEDLESMART

NeedleSmart is a market leading, British patented needle destruction technology engineered in the UK with offices in Knowsley, and Pittsburgh, Pennsylvania. Their award-winning NeedleSmart PRO needle destruction device has achieved FDA approval as a Class II medical device, being the first UK company to achieve FDA 510(k) approval (Class II for Sharps Needle Destruction Device (NDD)).

As well as contributing to the reduction of needlestick injuries and their consequential costs, the NeedleSmart process has the potential to reduce the cost and increase efficiency of used needle disposal. NeedleSmart’s innovative technology also offers the opportunity to move hypodermic needles, syringes and consumables associated with the injection/vaccination process, away from conventional sharps bins to a solution that allows recycling to become a possibility.

NeedleSmart technology compresses the needle, significantly reducing the needle footprint leading to a minimum of 50% increase in needle count per sharps bin. After the unexpected Covid-19 pandemic and the mass vaccination programme that followed, NeedleSmart's DVS (Digital Vaccination System) was created to support mass vaccination programmes, digitalising the vaccination process with every detail being automatically recorded in the cloud. DVS delivers a single solution that can coordinate every individual vaccination initiative into a single, coherent

vaccination programme

ABOUT ALDER HEY INNOVATION CENTRE – Today's Child, Tomorrow's Healthier Adult

Alder Hey Innovation is the largest, dedicated, purpose built, hospital led innovation centre in the UK. Alder Hey Children's NHS Trust has a proud history of innovation spanning over a hundred years.

Today we continue that legacy pioneering the use of cutting-edge technology and innovating to save lives and improve the life chances of today's child. Our ambition is to be the world leader in advancing child health with innovation, utilising our unique hospital-based innovation centre, disrupting, discovering and disseminating to have real impact.

Our mission is to solve the real-world healthcare problems children and young people face today, creating fair access to care and enabling a healthier future for all.

Our unique strengths lie in our experience to innovate and disrupt, with a strong track record of rapid problem solving, creating an end-to-end pipeline and process from problem identification and solutions through to commercial income.

Our strategy is fueled by a bespoke open innovation system, to rapidly identify real-world problems and bring the right partners together to solve those with innovative and disruptive technology. Our co creation approach involves scouting and partnering with local and international industry and academia, bringing the most innovative technology and solutions to Alder Hey, where we strive for excellence and breakthroughs in healthcare.

www.alderheyinnovation.com

ABOUT ALDER HEY

Alder Hey Children's NHS Foundation Trust provides care for over 330,000 children and young people every year. Alder Hey delivers clinical excellence for all children, for routine illnesses as well as very complex and rare conditions.

One of four stand-alone children's hospitals in the UK, it is a national centre for neuro and craniofacial surgery, a regional centre for burns injuries and a Centre of Excellence for children with cancer, heart, spinal and brain disease. Alder Hey as an NIHR funded Clinical Research Facility (CRF) that specialises in the design, and delivery, of early phase drug trials in children with a wide range of conditions.

The Trust is one of only four epilepsy surgical centres in the UK and one of only two accredited major trauma centres in the North West. Alder Hey is also a respiratory Extracorporeal

Membrane Oxygenation (ECMO) surge centre and is the referral centre for the treatment of congenital heart defects in North West England, North Wales and Isle of Man. It became the first UK Centre of Excellence for Childhood Lupus in 2010.

Alder Hey is the first accredited Investing in Children hospital in the UK. It has a dedicated patient experience programme which includes the award-winning Alder Hey Arts involving music therapy, dance programmes, storytelling and animation projects. It is also one of a few hospitals to have a Children and Young Person's Forum.

Alder Hey opened a new hospital 'Alder Hey in the Park' in 2015. Europe's first hospital in a park, the new facility provides a purpose-built, unique and world class healing environment for children and young people.

Alder Hey is supported by The Alder Hey Children's Charity which aims to raise vital funds for lifesaving equipment, research projects and patient experience initiatives.

For more information visit www.alderhey.nhs.uk and www.alderheycharity.org

Reference Points

*Survey conducted by SERMO. 510 actively practicing UK, US, German, Swedish, Japanese and Australian surgeons responded to a survey on the importance of surgical gloves. April 2019.

** A review of sharps injuries and preventative strategies, Journal of Hospital Infection, 2003

*** Needlestick Injury in 2008, Royal College of Nursing, 2008

**** NHS statistics, facts and figures. July 2017. <http://www.nhsconfed.org/resources/key-statistics-on-the-nhs>. There are 254 NHS Trusts in the UK, so the estimated cost is calculated to be £127m (£500,000 x 254)

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