

CIBSE AWARDS 2020 WEST MIDLANDS REGION

WINNERS OF:
Project of the Year
Nightingale Hospital Birmingham

HOARE LEA 


Interserve



“The winning entry perfectly demonstrates the vital contribution of building services to our region, public and society as a whole. The winning project showcases the best of our industry and the people within it.

The project chosen, highlights the Building Services Sector at its best which, when challenged to provide solutions rapidly in a crisis, responded in a uniquely collaborative way.

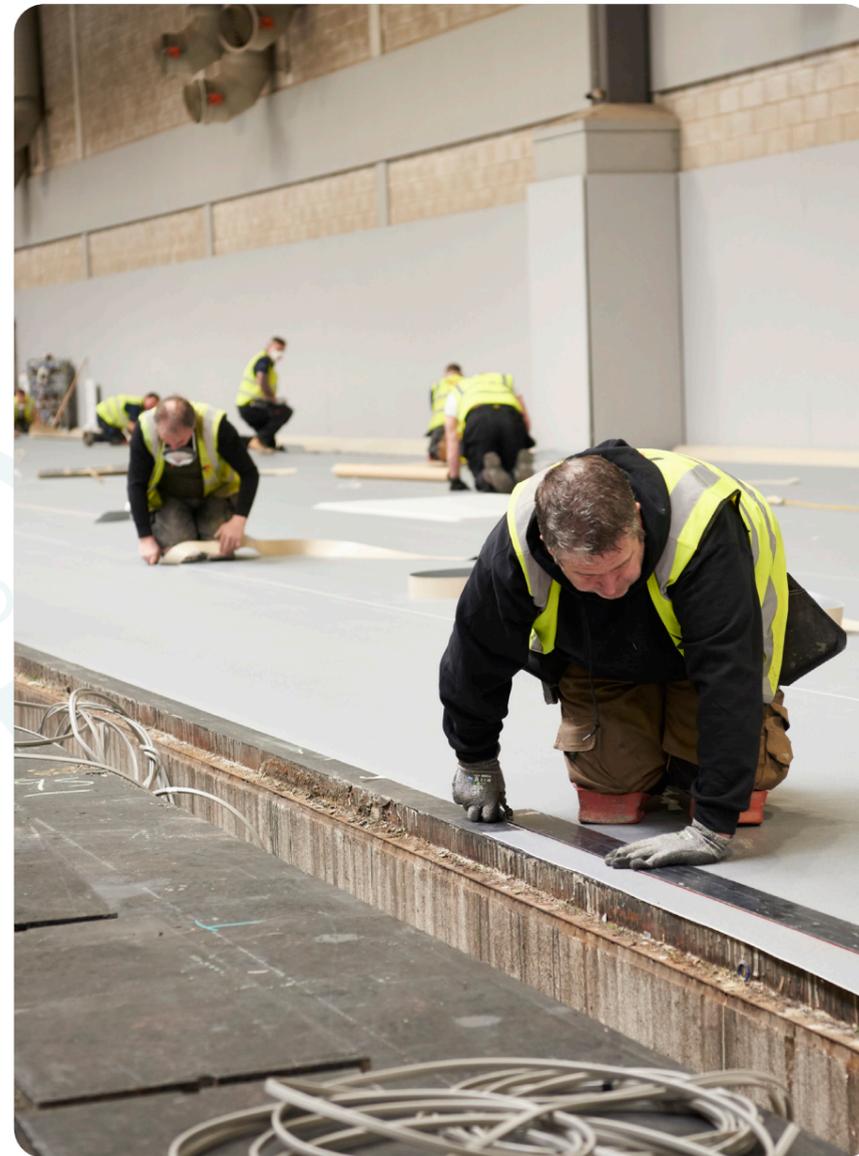
The project is a testament to the dedication and skills of the construction industry.

This collaboration, means that our award is for Project of the Year 2020 is jointly awarded to Hoare Lea and Interserve for the NEC Nightingale Hospital.”

CIBSE Judges comments

Applicant Details		Partnering Organisations	
Name	Andy Vernon	Interserve Construction (& Engineering Services)	Vince.Kesterton@interserve.com
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KEY INFORMATION	
Project title	Nightingale Field Hospital, NEC - Birmingham
Project location	NEC Birmingham
What are the project timescales	March 2020 to May 2020
What is the project value	UNDISCLOSED (CLIENT REQUEST)
Type of project	4000 bed fast - track Hospital for Covid-19 pandemic
Type of client or sector	Health



Provide an overview of why this project has been nominated

This project shows our industry at its best. A truly seismic collaboration which is already changing our industry’s approach to hospital project design and construction.

The speed at which you respond to tackling a pandemic is critical to the outcome and this was the case for Hoare Lea. A team of 50 of our MEP engineers were deployed across the country to support the NHS & MoD with the rapid design, build and commissioning of the Nightingale Field Hospitals, including the facility to be built at the NEC site in Birmingham.

Over the weekend of 28th/29th March, Hoare Lea, as part of a team which included Interserve Construction, Interserve Engineering and BDP Architects were in negotiation with University Hospitals Birmingham (UHB).

At 07:00 hours on Monday 30th, we attended a briefing from the UHB and MoD’s Royal Engineers with a remit to create a field hospital within the existing exhibition halls at the NEC with a capacity of up to 4000 Intensive Care beds.

The NHS had not built a temporary 4000 bed Field Hospital before, there are no specifications, case studies or references to fall back on. The project’s success was achieved through mutual trust and determination of Engineers whether they’re on the tools, designers, part of the NHS Estates Team, members of the Armed Forces or manufacturers and their supply chains.

This project is nominated for the dedication of all Engineers and recognises those whom have lost their lives and those whose lives have been affected by Covid-19.



How is your project benefitting stakeholders?

The project was centred around a deep understanding of the requirements of a facility needed to treat patients diagnosed with life threatening Covid-19. The designed facilities would feature a range of building and medical services to support the NHS teams in their day to day activities, whilst allowing CBRE to maintain the built asset during a pandemic.

Due to the time constraints, our approach leaned heavily on standardisation and volumetric design. Our experience of designing hospitals using Modern Methods of Construction and Off-Site Fabrication would benefit the installation teams, allowing them to begin the rapid assembly of 4000 ICU bedded ward bays, complete with medical gasses, power, lighting and UPS. Wireless nurse call helped reduce the need for on-site labour.

As data was received to inform design of Nightingale Field Hospitals from teams of scientists, epidemiologists, virologists and Healthcare experts, our designs drove solutions which we shared across the various Field Hospital sites to the benefit of NHS and MoD personnel on the ground.

The infrastructure and resilience of the building services required reinforcement and procurement of certain pieces of equipment, UPS and switchgear, in particular required detailed design to integrate into the existing NEC site infrastructure in the timescale available. We worked alongside CBRE, the NEC's Building Managers throughout this work to ensure supplies remained live throughout.

Hoare Lea are already using lessons learned from Nightingale, sharing our healthcare expertise with project stakeholders on the future HIP projects to deliver faster solutions to help the 'new' NHS



Mike Greening - Commissioning Vent Systems

What makes this submission a winning entry? Why do you think this work stands out from the crowd and how do you suggest we share this with the industry?

This is a winning entry as it demonstrates, when faced with one of the greatest challenges in our lifetimes, engineers from all walks of life ran to the challenge.

As engineers, we are capable of incredible feats - the tallest buildings, the deepest basements, the grandest boiler houses and the most energy efficient designs have all required us to think outside of the box during our careers. The Nightingale Field Hospital programme required 20'000 Intensive Care Beds in 10 weeks; the quantity would typically take 10 years to build traditionally and saw engineers from a diverse range of backgrounds and skills test their selves daily to find the solutions which would turn this request into reality.

Throughout the project a greater collaboration was felt which has been missing from our industry in recent years. It was a collaborative mindset, focussed on a single common goal. Much of the day to day project bureaucracy, which sometimes prevents us from engineering, had to be relaxed if we were to stand a chance of delivering on time. This new freedom allowed our engineers to think freely and consider faster, more agile solutions which would support the build teams. This resulted in manufacturers and their supply chains responding with hands on support for rapid product development.

In just over 2 months, across the programme of works, engineers designed systems NEC Birmingham was part of, included;

- More than 50km of Medical Gas, O2 and Vacuum pipework with 100,000 gas outlets
- Commissioned ventilation systems in 200,000m2 of existing exhibition spaces
- Installed over 350km of power and data cabling
- Installed and commissioned 20,000 bed head lights and nurse call points
- Worked alongside 5000 project staff across 7 sites
- Built 55km of partitioning to create ICU bed bays
- Installed the largest VIE assemblies in Europe



Typical Bed Bays



Collaborating with members of the Gurkhas

HOARE LEA (H)

Nightingale sites.

50 MEP Eng'rs	20,000 Beds	7 Sites	<input type="checkbox"/> Excel Centre, London
5000 project staff	Area 200,000 m ²		<input type="checkbox"/> NEC Birmingham
350km cabling	2 Months	50km medical gas	<input type="checkbox"/> Principality Stadium, Cardiff
			<input type="checkbox"/> Bay Studios, Swansea
			<input type="checkbox"/> UWE, Bristol,
			<input type="checkbox"/> RLUH, Liverpool
			<input type="checkbox"/> Exeter Warehouse



We would like to thank you for all your efforts and support in successfully delivering the Birmingham NEC Nightingale Hospital. What has been delivered by everyone working collaboratively over the last few weeks is nothing short of miraculous, and we wouldn't have achieved this without you. Everyone has gone above and beyond in ensuring we delivered in record time...this has been backed up by the tremendous compliments we received from Andy Street, Mayor of the West Midlands, Simon Corben, Director and Head of Profession NHS Estates and Facilities, Dr David Rosser, Chief Executive of UHB Trust, Matt Hancock, Health Secretary, and even HRH Prince William, thanking us for the extraordinary effort in creating the Birmingham Nightingale Hospital.

Craig Tatton, Managing Director UK Building, Interserve Construction



The plaque, left, commemorated the opening of the first Nightingale Hospital, giving recognition to engineers and contractors, NHS staff, armed forces and public volunteers.

Playing a critical role in the design and build of the Nightingale Field Hospital programme has given the teams an incredible sense of pride to be part of our countries engineering community. CIBSE should be deservedly proud of the support it gives to these teams.

THANK YOU

HOARE LEA (H)



