

Build your diagnostics capacity more easily



COMMUNITY DIAGNOSTIC CENTRES MADE EASY



Welcome to Hygieia

Our mission is simple. We are partnering with primary, acute and the independent Health sector providers to efficiently deliver Community Diagnostic Centres (CDCs) that bring innovation excellence, improved patient and staff experience, and better health outcomes, throughout the diagnostic pathway.

Demand for diagnostic tests continues to increase. More than 85% of patients seeking NHS care require diagnostics. Finding out what is wrong with a patient is vital to treating them as early as possible. In April 2023, around 1.6 million people in England were waiting for a diagnostic test. This waiting list has been growing steadily since 2008, well before the start of the COVID-19 pandemic.

Over the past 12 months 24.6 million checks and scans have been carried out and the latest Community Diagnostics Centres have now delivered more than 4 million checks and tests. The national target is that 99% of patients should wait less than six weeks for a diagnostic test.

The UK currently has less diagnostic equipment than comparable countries; it has 8.8 CT scanners per million population, 25th out of 28 OECD countries, and the number of MRI units and PET scanners are also below average. NHS England estimates that demand for CT scans will rise by at least 100% in the next five years.

Hygieia can help reduce the pressure on acute hospital sites. We are your trusted partner for delivering Community Diagnostic Centre solutions.

A more efficient way to create Community Diagnostic Centres

Community Diagnostic Centres (CDCs) provide local communities with fast and flexible access to a range of checks, scans, and tests closer to home.



Who we are

Hygieia is a consortium of leading companies who have wide experience of creating efficient, modern, modular buildings for the healthcare sector.

We want to support an improvement in population health outcomes by diagnosing health conditions earlier, faster, and more accurately.

Hygieia can provide our customers with a next generation sustainable diagnostic centre to meet the needs of the local community with flexibility to scale the service to meet patient demand.



Algeco, part of the Modulaire Group and backed by Brookfield, is a global business operating in 25 countries around the world.

For over 60 years, we have been supplying high quality, modular and offsite healthcare buildings around the country. We work under various NHS modular frameworks and our solutions are compliant with HTM, HBN, SHTM, WHTM and HAI-SCRIBE standards.

Algeco is a trusted partner to public and private sector healthcare providers in the delivery of both permanent and semi-permanent buildings. Our experienced team is focused on delivering patient and service-focused solutions to help address the need for flexible, fit-for-purpose accommodation.

We work as a key partner on a number of public sector frameworks for healthcare buildings, including NHS Shared Business Services (NHS-SBS) framework. This healthcare modular framework complements the speed of offsite construction by providing OJEU-compliant, rapid, and cost-effective procurement.

With early engagement, our specialist healthcare team will support trusts in preparation of their outline business cases to expand capacity quickly and efficiently. When acting as Principal Contractor we work with our integrated specialist healthcare architectural and engineering teams to offer a full range of services – from design and planning to ground works, offsite manufacture and fitting out, landscaping, testing, and commissioning.

We offer a highly flexible financing option to respond to the increasingly constrained capital budgets across the NHS. This allows trusts to increase capacity using modular construction with a highly flexible operating lease option. This funding solution has low set up costs, and is accounted for as revenue expenditure, spread over the life of the lease.

From planning, design, and build, to staffing solutions via our partners and provision of transformational technologies; let us help you to see beyond clinical complexities and work flow challenges to deliver the right care, every time, to every patient.

Tata Steel UK

Globally, the \$32.8 billion Tata Steel Group is one of the world's top producers of high quality steel, with annual production capacity of 34 million tonnes. We are also recognised as one of the world's most ethical companies, with far-reaching environmental ambitions. We will be producing steel with net zero emissions by 2050 and will have reduced CO2 emissions by 30% by 2030.

From our base in Port Talbot, in Wales, Tata Steel UK's annual production capacity of 5 million tonnes supports projects across the UK, as well as operations in France, Germany, Norway and Sweden.

Our role in Hygieia is to supply the steel used in the construction of high quality CDCs. Tata Steel is one of the founding partners of the platform design solution along with Algeco, and we continue our journey into the CDC's with innovative recycled steel content products and unique flexible and efficient wall and roof panel solutions.



Scan here to see more -

P+HS Architects P+HS

At the forefront of sustainable design P+HS Architects has won several awards for our work in healthcare including the Leaders in Sustainability award for building design. We have extensive experience of BREEAM and our Primary Care development at Houghton Le Spring is the first UK healthcare building to achieve BREEAM Outstanding.

From our offices in the North-East, we have more than 30 years' experience of working with healthcare clients, who account for around 75% of our business. We work right across the healthcare sector: community, primary care, mental health, and acute and are highly experienced in the delivery of complex projects within live hospital environments.

As part of Hygieia, our aim is to work with our clients and partners in the most collaborative way we can, focussed on delivering best value and exemplary design solutions. P+HS Architects were the Winner of the Architectural Practice of the Year for at the 2022 Healthcare Estates IHEEM Awards – the 3rd time we have won this prestigious award.

CAD21

With more than 25 years' experience in all aspects of acute healthcare delivery, CAD21 is a leading Mechanical, Engineering and Plumbing (MEP) consultant in the sector.

Healthcare is the company's main specialism and accounts for over a third of our annual turnover, built on projects ranging from minor works all the way to £200m projects.

CAD21 is a primary partner of P+HS Architects with both companies offering the same level of capability, delivery and professional services. With CAD21's ability to design for modular, working as a key supply chain professional for Algeco, we offer efficient and effective coordinated healthcare design solutions within modular building environments.

Our role within Hygieia is to continue to provide the expert support that enables our consortium to provide high quality CDCs in any location at speed.



Established in 2008, C D Engineering Services Limited is an independently owned and operated business that has established itself as a reliable, professional Electrical Engineering Services Contractor with a reputation for outstanding safety, quality and customer focus.

Our experienced North East based team operate through the United Kingdom covering all major building sectors, including healthcare. Our primary focus is safety of our own staff and the staff of our clients. We have been awarded several safety accreditations from customers, in recognition of the quality of our work.

Our role in Hygieia is to provide electrical engineering experience and expertise for all Hygieia projects, including those supporting specialised diagnostic equipment.





Scan here to see more

Why you need CDCs as part of your healthcare provision

Community Diagnostic Centres (CDCs) provide a range of tests in community-based settings. As a key part of the elective care pathway, access to early diagnostic tests reduce the time it takes patients to be diagnosed and treated for serious conditions, such as cardiovascular disease and cancer, thereby improving patient outcomes.

They reduce the number of hospital visits and reduce waiting times for patients by diverting people away from hospitals. This enables hospitals to focus on treating urgent patients while the diagnostic centres tackle tests and checks, including those suffering backlogs in the post-COVID era

High quality diagnostic facilities are essential aids to physicians and clinicians as they gather the precise information they need to aid in the early detection, prevention and monitoring of diseases. Moreover, diagnostics are vital in optimising care pathways and in the creation and implementation of treatment plans.

"They have already made a huge difference, delivering nearly four million tests, checks and scans since the programme started in July 2021, helping to deliver on the Government's commitment to cut waiting lists."

Steve Barclay, Health Secretary

As Hygieia, we have created three standard Modular CDC building designs: small, medium and large. These standard designs enable you to deploy completed, high quality, sustainable and cost-efficient CDCs much more rapidly than those built using traditional methods of construction.

As well as faster completion and more rapid ROI, you benefit from certainty of supply, excellent pre-manufacture value (PMV) prior to delivery, and patients being treated sooner than you could expect via traditional building methods.

Diagnostic criteria may be as broad or as narrow as needed in order to accurately identify as many people with a condition as possible, taking into account the unavoidable fact that the signs and symptoms of a disease or the severity of disease progression varies from person to person.

> "By offering checks, tests and scans closer to home, we can speed up the diagnosis of illnesses like cancer and heart disease and ensure patients get their treatment quickly."

> > Rishi Sunak, Prime Minister

Why choose the Hygieia approach

When you need healthcare buildings that meet the high standards expected by your patients, Hygieia has the solution. We have the modular buildings, equipment, and expertise to develop complete CDC's equipped to serve the needs of your community.

Our experienced Healthcare design teams have meticulously designed & developed a Small, Medium and Large version CDC. These standard formats have been developed to utilise Algeco's platform design modular solution...we have done the hard work so you don't have to.

Beautiful buildings made easy

Our innovative modular space solutions are suitable for highly constrained sites, minimising disruption to hospital sites and surrounding communities. Sites that are completely inaccessible for traditional construction can be developed effectively. The very nature of a modular building is to minimise disruption on site, reduce the amount of work and trades on site, and provide a high quality cost effective building solution.

Our CDC's are robust and the end-product comparable to any kind of traditional building. We have opted for subtle pallets of materials from internal finishes to external façade treatment, blending functional needs with aesthetic gualities to support the treatment of patients, and the needs of clients, planners and local communities.

Consistent quality

Platform design is key to our standard CDC building. Each CDC, delivered anywhere in your healthcare catchment area, ensures consistent quality throughout by the efficient pre-designed chassis for the modular elements. This approach significantly reduces the time and cost involved in bringing a site into full operation.

Lean manufacturing and Design for Manufacturing and Assembly (DfMA) through our standard platform designed are central to our approach. DfMA focuses on reducing time-to-market and total production costs by prioritising the utilisation of a standard kit of parts with a de-skilled assembly operation. A DfMA-led approach aids with material optimisation in order to minimise waste. We work with key supply chain partners to bring forward to the best products to support the greener credentials of our buildings.

Buildings are assembled to our strict quality process in line with our approved, audited and accredited procedures Getting it right first time, every time.

Customer satisfaction - on time, on budget

How good are we? Ask our customers. Hygieia consortium member Algeco, for instance, ask our clients after every project delivery. We use the Net Promoter score to assess satisfaction. The results, to put it mildly, are outstanding. We are consistently scoring an industry leading NPS score of 100 for some of our long standing clients.

The figures speak for themselves

Fighting the Backlog

The total number of patients waiting six weeks or more from referral for one of the 15 key diagnostic tests at the end of July 2023 was 405,400. This was 25.5% of the total number of patients waiting at the end of the month. In the last 12 months, the proportion of patients waiting six weeks or more at the end of a month has varied between 25.0% (March 2023) and 31.3% (December 2022).

A total of 2,214,100 diagnostic tests were undertaken in July 2023. This is an increase of 243,800 from July 2022.

Weekly Patient Numbers

Over 71,000 patients currently undergoing diagnostic procedures each week.

Smarter

Pre-Manufacture Value in the factory equals less disruption. less cost. less trades, and less waste on site.

Health & Safety - Lost Time Accident (LTA) rate measured in days lost is 0.64 compared to 3.0 for traditional construction: 369% safer.

(PMV) - 85% - More work

Carbon emissions both during manufacture and in operation reduced by up to 70% - innovative thinking through design, material choices and standardisation.

Faster

Modular building can Speed of Construction - up to 30% faster than traditional construction.

Greener

Waste – up to 80% less waste in the Offsite Manufacturing Process and standardisation over traditionally constructed buildings.

Safer

Client Satisfaction

The Net Promoter score for one of consortium's members. Hygieia aims for the same high level of customer satisfaction.

less Carbon

Better Value

Value increased by 47% based on waste reduction and inefficiency alone, benchmarked against the UK government's Construction 2025 targets.

What we can deliver

The creation of CDCs was recommended following Professor Sir Mike Richards' Review of NHS diagnostics capacity. The recommendation was that NHS organisations across England move to providing diagnostic services in Community Diagnostic Centres (CDCs). All health systems are expected to include a network of CDCs as part of their health services offer.

The CDCs will allow patients to access planned diagnostic care nearer to home without the need to attend acute hospital sites. These services would be separate to urgent diagnostic scan facilities, which means shorter waiting times and a reduced risk of cancellation (which can happen when more urgent cases take priority). CDCs provide a single point of access to a range of services in the community and support more joined-up care across primary, community and secondary care.

The purpose of the CDC is to provide:

- Imaging: CT, MRI, Ultrasound, Plain X-Ray and Mammography.
- · Physiological measurement: Echocardiography (ECHO), Electrocardiogram (ECG), including 24 hour and longer tape recordings of heart rhythm monitoring, ambulatory blood pressure monitoring, oximetry spirometry including reversibility testing for inhaled bronchodilators, Fractional exhaled nitric oxide (FeNO), full lung function tests, blood gas analysis via Point of Care Testing (POCT) and simple field tests (e.g. six min walk test).
- Pathology: phlebotomy, Point of Care Testing, simple biopsies, NT-Pro BNP, urine testing and D-dimer testing.
- Large CDCs must provide endoscopy services including: Gastroscopy, Colonoscopy, Flexi sigmoidoscopy.



High quality buildings, rapidly constructed

At Hygieia we offer a range of three standard sizes for CDCs: small medium and large. In addition, we can deliver bespoke buildings where needed. Whatever size you need, you can be sure of the quality of the building.

As a team, we provide a full design, delivery, construction and finishing service, so that you can start using your CDC from Day One. This includes all services, including specialised electronics needed for sensitive imaging equipment.

All sizes can be stacked or combined in multiple units to expand the diagnostic capacity of the site where they are located.

Because our permanent modular healthcare buildings can be constructed quickly and efficiently, our CDCs can help to relieve the pressure on both space and waiting lists. Despite the rapid speed of construction and delivery, there's no compromise on quality. Every CDC is constructed to the same high standards and meticulously quality-checked at the factory.

Working with us helps you to make financial and operational plans with complete confidence that everything will be delivered on time and on budget. Because, with us, you know exactly how long it will take to manufacture and commission a new CDC.

We understand precisely what you need to deliver under the NHS Infrastructure Plan and your estates strategy, so that we can help you optimise all of your facilities.

Our CDCs meet the requirements of the latest Health Building Notes and Health Technical Memoranda. They are also comfortable, attractive and hygienic spaces for both staff and patients.

Our factory production processes make it easier to achieve high quality control standards, resulting in fewer issues on-site and a more sustainable and safe building process.

We are currently members of the NHS SBS Modular Buildings Framework and are well-versed in the healthcare sector.



Funding those much needed CDC buildings

Healthcare budget constraints mean that the acquisition of much-needed buildings and equipment is becoming increasingly difficult across both the public and private sectors, resulting in many procurement projects being delayed or even cancelled due to unavailable upfront capital.

An appropriately structured funding solution can enable a public sector organisation to build the much needed new facilities or to upgrade ageing equipment without the need for any capital outlay.

We work with finance providers who specialise in structuring and funding finance solutions for the public & private sector, in particular the NHS. We have significant experience and a proven track record of working within the healthcare sector providing affordable and compliant alternatives to outright capital purchase. Our finance partner has over the past 17 years funded over £500 million of modular facilities into the NHS, Public and Private sectors, firmly establishing themselves as the market leading finance specialist within the modular market. For the Public Sector, as a Team we can offer asset finance terms from 12 months to 15 years and these facilities can be structured as either on or off-balance sheet solutions. Our finance partner was the first company in the UK to provide an NHS Trust with a fully funded 15-year Managed Service that successfully achieved full VAT recoverability.

The Private Sector is also increasingly seeing the benefits of modular buildings, and the ability to access alternate funding solutions for these facilities can be essential. Our experience in funding modular facilities is extensive, with our flexible approach and in-depth knowledge being key to ensuring that funding is available, enabling them to be completed on time and within budget.

Working alongside our long-term finance partner, we can also provide bespoke branded finance packages to give access to state-of-the-art equipment over a five-year lease term. We understand that significant investment in strategically important healthcare infrastructure may require procurement solutions outside of outright capital purchase. We can offer a range of bespoke funding solutions, structured to accommodate a variety of budgetary and accounting requirements.

Increasing pressure on Capital Departmental Expenditure Limits (CDEL) following the implementation of IFRS16 within the public sector, in addition to an ever-growing demand for clinical services, may require more innovative procurement solutions. For our Private sector clients, a well-structured funding solution may better service cash flow and maximise return on investment without the need for a significant initial capital outlay.

Our team will work pro-actively with your organisation to structure an appropriate funding solution alongside the technical and clinic solution, working alongside all relevant stakeholders.



Funding Options

Short / Long Term Hire Agreement*

- Funding term from 3-15 years.
- Fixed payments.
- Options to take legal title to the facility.
- Compliant Procurement Option.
- Budget led solution.

Managed Equipment Service Agreement*

- Funding term up to 15 years.
- Fixed payments.
- Potential for VAT recoverability.
- Facility fully serviced and maintained.
- Equipment included.

*Subject to formal credit approval

Inside a small CDC

A small, compact design that enables you to establish a CDC in relatively small spaces.

Design highlights:

- 590m² GIA (exc. plant area).
- Ultra compact CDC building.
- 14 x standard platform design modules 1-standard module size throughout for exceptional design and assembly efficiency.
- Plant requirements Concept of bolt on module and external enclosures to suit site specific arrangements and available space.
- Layouts have been configured to maximise offsite production without compromising internal layout or patient flow.
- Departments have been designed to fit the modular grid to enable easier customisation of accommodation. Swap out or add on additional departments to suit client need.
- Standard equipment (to be procured together or separately from the CDC modular building):

- 85%+ PMV (pre-manufactured value).
- All fixed furniture / cupboard / storage factory installed.
- MRI quenchless or with quench pipe can be accommodated.
- Reception desks shown are based on the use of Hi-Macs solid surface material, which is robust, through coloured and ideal for clinical environments as it is antimicrobial, easily cleaned and jointless.
- The aspiration is to have a less clinical appearance for improved patient experience. This can however be tailored to client specific expectations, via a range of customisable finishes.
- Modular CDC buildings have been designed to the relevant current Healthcare Estates technical standards and guidance (HBN's & HTM's).

• 1 x Magnetic Resonance Imaging 'MRI' Scanner.

- 1 x Computerised Tomography 'CT' Scanner.
- 1 x X-Ray Imaging Machine.
- 1 x Mammography Unit.





What to expect in a medium CDC

Our Medium-sized CDC enables you to offer higher diagnostic capacity to the local community.

Design highlights:

- 1,187m² GIA (exc. plant area).
- Efficient CDC building.
- 28 x standard platform design modules 1-standard module size throughout for exceptional design and assembly efficiency.
- Plant requirements Concept of bolt on module and external enclosures to suit site specific arrangements and available space.
- Layouts have been configured to maximise offsite production without compromising internal layout or patient flow.
- Departments have been designed to fit the modular grid to enable easier customisation of accommodation. Swap out or add on additional departments to suit client need.
- 85%+ PMV (pre-manufactured value).
- All fixed furniture / cupboard / storage factory installed.

Standard equipment (to be procured together or separately from the CDC modular building):

- MRI quenchless or with quench pipe can be accommodated.
- Endoscopy layout based on Pod approach Patients have a pod for pre-op and recovery, rather than separate changing rooms, consent rooms and recovery bays etc. Endoscopy can accommodate on site scope cleaning where required.
- Reception desks shown are based on the use of Hi-Macs solid surface material, which is robust, through coloured and ideal for clinical environments as it is antimicrobial, easily cleaned and jointless.
- The aspiration is to have a less clinical appearance for improved patient experience. This can however be tailored to client specific expectations, via a range of customisable finishes.
- Modular CDC buildings have been designed to the relevant current Healthcare Estates technical standards and guidance (HBN's & HTM's).
- JAG accreditation for Endoscopy.

• 2 x Magnetic Resonance Imaging 'MRI' Scanner.

- 2 x Computerised Tomography 'CT' Scanner.
- 1 x X-Ray Imaging Machine.
- 1 x Mammography Unit.
- 2 x Endoscope Machines.
- 4 x Ultrasound Machines.

Our versatile large CDC

Our Large CDC is designed to offer the optimum level of diagnostic space on a large 2-storey footprint.

Design highlights:

- 2,562m² GIA (exc. plant area).
- Large capacity CDC building.
- 2-storey format, minimising external footprint / site size.
- 50-56 x standard platform design modules 1-standard module size throughout for exceptional design and assembly efficiency.
- Plant requirements Concept of bolt on module and external enclosures to suit site specific arrangements and available space.
- Bolt on module for stairs and lifts when multi storey unit required (therefore doesn't compromise the smaller design layouts).
- Layouts have been configured to maximise offsite production without compromising internal layout or patient flow.
- Departments have been designed to fit the modular grid to enable easier customisation of accommodation. Swap out or add on additional departments to suit client need.

- 85%+ PMV (pre-manufactured value).
- All fixed furniture / cupboard / storage factory installed.
- MRI quenchless or with quench pipe can be accommodated.
- Endoscopy layout based on Pod approach Patients have a pod for pre-op and recovery, rather than separate changing rooms, consent rooms and recovery bays etc. Endoscopy can accommodate on site scope cleaning where required.
- Reception desks shown are based on the use of Hi-Macs solid surface material, which is robust, through coloured and ideal for clinical environments as it is antimicrobial, easily cleaned and jointless.
- The aspiration is to have a less clinical appearance for improved patient experience. This can however be tailored to client specific expectations, via a range of customisable finishes.
- Modular CDC buildings have been designed to the relevant current Healthcare Estates technical standards and guidance (HBN's & HTM's).
- JAG accreditation for Endoscopy.
- Standard equipment (to be procured together or separately from the CDC modular building):
- 3 x Magnetic Resonance Imaging 'MRI' Scanner.
- 3 x Computerised Tomography 'CT' Scanner.
- 1 x X-Ray Imaging Machine.
- 1 x Mammography Unit.
- 3 x Endoscope Machines.
- 6 x Ultrasound Machines.



Pinderfields Eye Hospital: Clinical Support Unit (Opthalmology)



"This unit provides high quality clinical and non-clinical office accommodation for staff who are currently based within these ward areas. This building will provide an improved working environment."

Kevin Oxley, Director of Operations for Clinical Support and Facilities (Building created by Hygieia consortium member Algeco)

Finishes Palette





Artwork

Designed to deliver excellence

Every aspect of our CDC design has been chosen to ensure that excellence is built into the fabric of the building from day one. The result is a high quality, high performance space that enables you to achieve better health outcomes for your patients.

Built-in efficiency

The designs are based on previous experience and knowledge of consortium members working on multiple diagnostic and day case facilities. Layouts have been configured to maximise offsite production without compromising internal layout or patient flow.

Departments have been designed to fit the modular grid to enable easier customisation, such as swapping out or adding additional departments where needed. Other modules or external enclosures can be bolted on to suit site-specific requirements, as can stairs and lifts when multi storey CDC units are needed.

Pleasing Aesthetics

The elevations of the CDC units have been designed to be flexible enough to work with the different CDC size options, whilst offering a consistent aesthetic appearance. The intention is to create an aesthetic that embraces modular construction system (a kit of parts) whilst considering varying levels of external palette's, and branding notes possible in line with client organisations.

Notes to Biophylic design to embrace calm and emphasis and enhanced look and feel to help patients feel calm, safe and comfortable during their visits.

Internal finishes are inspired by nature, with colours and images chosen to evoke a sense of wellness and calm through exposure to nature.

Modern materials

Materials used in the construction of Hygieia CDCs have been selected specifically for their suitability in a healthcare setting.

Whilst we consider a palette of traditional finishes typical with Healthcare settings, we are pushing the boundaries with innovative new products. For example, Tata Steel's Trimawall.

This mounting system for wall panels that uses just five components and can be rapidly constructed. Walls can be easily changed and adapted with minimal disruption and zero dust. The surface options include

- · Acrovyn Bactericide Sheet for hygiene critical areas.
- Advantica L Control for general spaces, corridors, staff and office spaces. Durable, easy clean panels with the ability to use magnetic fixings.
- · Decorative Feature walls that can be Colorcoat, hardwood, stone veneer or any other look.

Seismic: Standardised components that can be assembled in a predictable and repeatable fashion - while still giving building designers freedom to create buildings of any type and style. This type of construction component improves certainty and lowers risk , so the UK government has made a commitment to use them in publicly funded projects.

Trisobuild[®] Tailored Profiles: steel profiles developed to create striking geometry and to challenge the concept of traditional façades in the UK.

Trisobuild[®] Linear Plank systems: Manufactured from Colorcoat Prisma® pre-finished steel it allows the system to be classified as non-combustible.

Trisobuild[®] Seam: a long strip standing seam façade system which provides an aesthetic alternative to traditional hard metal systems for non-residential applications. The Trisobuild® Seam façade system uses a non-combustible Trisobuild® D32 steel profile.



Lighting Feature



Equipped to perform

Medical settings often have specialised needs in order to accommodate sensitive equipment. Hygieia CDCs are built with this need in mind and can include specialist materials and systems that support such equipment.

Mechanical, electrical plumbing

The mechanical, electrical and plumbing (MEP) systems for the Hygieia CDC model range have been verified for HTM compliance by relevant Authorising Engineer disciplines for electric, water, ventilation and medical gases. Each solution is standardised to save time and money. Standardisation also makes it easy to scale up or scale down depending on your needs.

HBN guidance has been followed throughout the scheme designs, including mood lighting scenes for MRI and CT suites. The designs for every Hygieia CDC strike the optimum balance between quality of patient journey, patient safety, operational resilience, clinical service requirements, and cost.

In addition, all systems are designed to be resilient, including sufficient mains, data, ventilation, heating/cooling, medical gas, water and sewage systems to support the work of the CDC. This includes the ability to provide back-up generator support if needed.

By using technologies such as modular wiring systems, heat pump energy and pre-packaged air handling units, Hygieia CDCs are designed to be flexible to suit the diverse spaces in which they will be located.

Imaging rooms that are fit for purpose

Rooms that are meant to hold imaging equipment (CT, MRI, Ultrasound, X-Ray and Mammography) need to be equipped with a range of technologies to ensure they can be used effectively and safely.

Our CDCs that are destined to be used for this purpose come ready-fitted with RF enclosures - panels of high quality copper foil - that act as shielding throughout the life of the building.

Being able to see a patient during an MRI scan is important both for the staff and for the patient. As well as needing good visibility, the MRI RF Window must offer the same level of shielding as the rest of the Faraday Cage. Hygieia RF Windows have 2 layers of blackened mesh that meet the RF performance.

Other essentials

Waveguide Vents allow air to pass through whilst still attenuating radiated interference. MRI Quench Pipes mitigate the effect of a guench (a sudden loss of superconductivity in the wire of the magnet) that can cause liquid helium to boil off very rapidly.

Many thousands of cubic metres of helium gas can be released in a few minutes, and the vent pipe has to be able to carry this flow safely. The expansion ratio of liquid helium is 1 to 757. Lighting is provided by the unique Silentlite[®] LED system, designed to meet the demands of an MRI Chamber. The dimmable light is unaffected by the strong magnetic fields created by an MRI scanner, and provide a low interference and reliable alternative to Tungsten Halogen Lighting, while using 75% less power.

All electrical cables, medical gas pipes and other supplies are routed out of sight in the wall cavities. This makes it easier to carry out any subsequent replacement or modification of the MRI equipment. If necessary, with the exception of the floor, the enclosure can be dismantled and erected at another location. All fittings are of non-magnetic materials. Doors, windows and penetrations for services are also shielded or fitted with filters to prevent leakage. RF enclosures are dielectrically insulated from the rest of the building. They are delivered to site in prefabricated modules and assembled by trained Hygieia personnel.

Shielded viewing windows

The benefits of biophylic design

Hygieia strives for Biophilic design principles where possible.

Biophilic design has quickly been adopted within healthcare facilities. These design choices allow patients to connect with nature, adding a natural healing element to their everyday care.

Studies have shown that having access to nature can help patients heal faster.

Biophilic design connects patients and staff to nature by bringing natural elements inside. Biophilia, meaning love of nature, can be utilized beyond potted plants. Natural light, green walls, natural patterns, and wood grain finishes are all common biophilic elements that can be featured in healthcare facilities.

The approach has been shown to support cognitive function, physical health, and psychological well-being.

Research shows that. Healthcare facilities should incorporate wood, stone, cotton and other natural materials that don't contain harmful chemicals wherever possible to reduce the potential for negative impact on health and pair these with carefully selected indoor plants or murals depicting local nature scenes. These materials should be centred on low or no-touch areas to maintain sanitation.

A sustainable solution

While the buildings and construction sector accounts for 30% of global energy use and 27% of emissions, Hygieia is seizing the moment to make positive change.

This can be achieved by minimising the emissions or resources required to deliver high quality health outcomes, for example, reducing waste associated with procedures, using more sustainable products / materials and / or the reuse, re-purpose or re-cycling of our CDC modular buildings, providing a legacy use.

Reusing and recycling materials have long been key tenets of sustainability. Construction can apply these green principles by opting to use salvaged materials in their projects. Doing so gives construction materials a second life and helps keep waste out of landfills. An example of this for Hygieia, is the use of high recycled content within the steel sections from Tata Steel which is used in the Algeco modular elements.

The facilities should be designed with energy efficiency in mind. Through working with mechanical engineers, architects and designers, facilities can design a high-performance building envelope that maintains the indoor comfort over an outdoor element such as temperature, air, humidity, and noise while also lowering the lifetime operating costs of a facility. Minimized energy consumption also helps to reduce the renewable energy required on the site to achieve Net Zero Energy design.

Algeco are moving our main modular assembly facilities to 'greener' production, including the use of all electric plant and machinery, PV panels to the roof of the main production hall, EV charging points for our growing fleet of electric vehicles, all aimed to provide Algeco with a net zero production space. A significant investment in UK based manufacturing.

One of Hygieia key product suppliers, Tata Steel, is also expected to invest £1.25 billion, including a UK Government grant worth up to £500 million one of the largest government support packages in history - in a new Electric Arc Furnace for 'greener' steel production at Port Talbot, which is currently the UK's largest single carbon emitter.

We will be working with several supply chain partners where innovative sustainable products are available. We have utilised plastic kerbs produced from recycled water bottles, we have utilised sheep's wool for building insulation over conventional inert products, we have considered alternative cladding / façade materials recycled from white goods, IT equipment and plastic toys. We have a host of vetted suppliers with products that offer a high percentage level of recycled content and we will strive to utilise the best products available.



Monitoring our progress

Our 2025 sustainability and ESG commitments

To deliver on our focus areas, we have outlined the following commitments to 2025, when we will review our targets and time frames for completion. Alongside this, we have started our ESG disclosures and have mapped our key focus areas to create an ESG dashboard to monitor our progress.

All underpinned by the TCFD, UNGC and SDGs.

2021

Environmenta

- Report to Board progress on Net Zero Strategy through the ESGS committee.
- 4 reviews per annum.
- Establish Group Operational Carbon baseline tonnes of annual.
- Scope 1 and 2 for 2020.
- Establish Group Operational Energy Intensity per Modular.
- Space Unit based on carbon footprint.
- Undertake an assessment of carbon footprint of a typical.
- Modular Space Unit (baseline 2020).
- Roll out a Group-wide strategy to reduce or mitigate Scope 1and 2.
- Design and build New Frankfurt Branch using Best Available.
- Technology (BAT) for sustainability.

ocial

- Zero fatalities. Reduce Lost Time Incident
- Frequency Rate (LTIFR) per.
- 100,000 by 15%.
- Strategy rollout.
- Launch Well-being Helpline in every SBU (6/6).
- Rollout a Group-wide Equality, Diversity & Inclusion strategy and training.
- Establish Employee Retention Rate.
 - Establish a Voluntary Labour Turnover Rate.
 - Establish Involuntary Labour Turnover Rate
 - Create a Talent Development Programme.

Governance

- Rollout of Code of Ethics and Anti-Corruption.
- Policy and related training to all employees (new starters 3 months).
- Establishment of ESG & Sustainability Committee.
- ESG & Sustainability Materiality assessment
 2 reviews.
- ESG & Sustainability Disclosure Practice
 2 reviews.
- Sustainability & ESG, climate-related risks and opportunities - 2 reviews.
- Cyber risks to be reviewed with the board at least once a year.
- Rollout of Cyber Security Policy and related training (new starters 3 months grace).
- Signature of the UN Global Compact.
- Group-wide strategy to support the donation and discounting of units to support local community groups.

2022 | Resource Efficiency

- Implement Internal Climate Change and Circular.
- Design Key Principles Protocols for new modular space unit designs.
- Greening of Supply Chain and ESG Protocols for Suppliers.
- Establish Climate Adaptation Plans for each SBU.
- Biodiversity Impacts Protocols for Modulaire sites.
- Frankfurt Branch assessment for BREEAM.
- Establish Group Operational Carbon baseline tonnes of annual Scope 3 for 2021.
- Establish Science Based Targets.

- Commence group-wide Supply Chain audit for modern day slavery.
- All design and assembly facilities to achieve ISO 14001/ ISO 9001
- Cyber risks to be reviewed with the board at least once a year.
- Rollout of Cyber Security Policy and related training (new starters 3 months grace)
- Signature of the UN Global Compact.
- Group-wide strategy to support the donation and discounting of units to support local community groups.

2025

- Reduce Intensity ratio Tonnes (91kg CO₂e per Unit) by 40% (vs baseline 2020)
- Reduce Group total gross emissions in metric tonnes CO₂e by 10% (vs baseline 2020).
- Reduce Group embedded carbon footprint (A1-A5) of a typical Modular Space Unit by 20% (baseline 2020).
- Reduce waste to landfill by 50% per typical unit (vs 2020 baseline).
- Improve the operational energy efficiency for a Modular Space Unit by 20%.
- Reduce water consumption by the Group by 10%.
- 15% reduction in carbon emissions of logistics vehicles (Scope 1).
- Assessment of all newly manufactured Modular

2023 | Low Carbon Solutions

	Social • Increase overall female participation at Board and Senior Management level.
Environmental	 Increase overall proportion of female employees.
 Source 100 % Renewable Electricity for the Group where available. 	 Map gender wage gap for all SBUs. Paid Voluntary Time – 7500 hrs pa.
 Roll out a Group-wide strategy to reduce or mitigate Scope 3. 	 Group participate and undertake three UN: March 21st – International Day for the Elimination of Racial Discrimination. June 5th – World Environment Day; December 10th – Human Rights Day.

2024

• Paid Voluntary Time. - 10,000 hrs pa.

Social

• Paid Voluntary Time -

Completion of a global

Programme in all SBUs.

undertake three UN Days:

March 8th - International

Women's Day; April 28th -

World Day for Safety and

Health at Work; October 10th

- World Mental Health Day.

• Develop a Graduate

Group participate and

employee satisfaction survey.

5.000 hrs pa.

• Increase number of locations with Management Systems e.g. ISO 14001/ISO 9001.

Modulaire Path to Net Zero

From a 2020 emissions base line: Modulaire path to Net Zero by 2050.

*Reduce scope 1 and 2 GHG emissions 30-40% by 2030.

*Reduce scope 3 emissions 30-40% by 2030.

2025

Actions

- · Switch to renewable energy. · Green Sourcing.

 Complete Life Cycle Space Units in our portfolio.

2030

- Innovation & Scale
- Reduce Scope 1 & 2 GHG emissions 30-40%*
- Reduce Scope 3 emissions 30-40%*
- Total Circularity Units Carbon removable 100% renewables Transform new product portfolio to Net Zero carbon.

2050 | Net Zero

- Our commitments aim to minimise carbon emissions for our customers and our own company and manage our material risk and opportunities. For Modulaire, this means:
- Net Zero carbon of our end-to-end supply chain by 2050 and implementing our circular, 'Loops within Loops' model.

- Resource efficiency
- water waste energy.
- Innovating smart spaces.
- · Reducing embodied Carbon.
- Shift to Circularity.
- Cleaner logistics.
- · Moving to carbon-neutral
- · Behaviour changes.
- · Advocacy for action.
- · Contributing Citizen.

2030

Innovation & Scale

- Total to renewables.
- Transforming new. product portfolio to operate at Net Zero carbon.
- Total Circularity.
- · Carbon Removable.

2050 | Net Zero



Recycling, reuse and the circular economy

Some key trends that contribute to the growth of the Circular Economy include the increasing awareness of environmental issues, advanced

recycling technologies, innovative product designs that focus on modularity and lifespan extension, the rise of sharing economy platforms, and policies and regulations supporting circularity.

Hygieia CDC buildings are designed to have a future legacy, through reuse, re-purpose or recycling.

We believe that true innovation is not only about creating new products, but also about improving existing ones and making them more sustainable. One way to achieve this is by applying the principles of the circular economy, with the aim of reducing waste, reusing resources, and regenerating natural systems.

Annual global resource consumption exceeded 100 billion tonnes in 2017, almost doubling the per capita consumption rate of 50 years ago, and jumping 8% in just 2 years. Of this figure, the construction industry is responsible for between one-third and 40% and a similarly high proportion of waste, as very few construction components and materials are reused or recycled. Indeed, some construction materials are never used before they are scrapped, research suggests that as much as 13% in the UK.

Material efficiency is at the heart of circular approaches in construction, as well as designing for adaptation, and disassembly and to preserve the value of materials beyond their initial use. A key conceptual shift is to think of buildings not just for their primary purpose, but also as a method of storing thousands of tons of valuable products and materials, which can be traded and reused at the end of the building's life, rather than just discarded.

In addition, we use components in the construction of our CDCs that can be reused across a range of sectors in other buildings for other uses.

Biophyilic design

Biophilic design has been found to support cognitive function, physical health, and psychological well-being. Biophilia is defined as the innate human instinct to connect with nature and other living beings and comprises the 5 senses; sight, smell, touch, taste and hearing. The ultimate goal is to use these in conjunction with each other to create a space which reenergises its occupants.

Hygieia will be one of the first companies to provide Digital Log-Books with the new CDC modular buildings.

A Digital Building Logbook is an all-in-one information tool meant to encourage data transparency and availability and simplify decision-making for stakeholders across the buildings value chain. The data logging of key recyclable components will allow a higher percentage of recyclability of, for example, steel components, should the modular building not be re-purposed or reused.

Biophilic design can be organised into three categories - Nature in the Space, Natural Analogues, and Nature of the Space – providing a framework for understanding and enabling thoughtful incorporation of a rich diversity of strategies into the built environment. It aims to use sustainable materials by default as we encourage use of wood grain, plants to reduce VOCs, air flow through windows, better acoustics, natural lighting and so on.

Innovation

Platform Design

The Hygieia team is working alongside industry and Government to define the need and establish a clear route for industry and clients to adopt a platform approach, one that will enable industry to meet the evolving needs of future infrastructure.

The benefits to a platform based approach are varied and include:

- Improved assurance of buildings.
- Reduction in delivery time.
- Reduced whole life costs.
- Reduced greenhouse gas emissions.
- Improved health and safety.

- · Higher level of lifetime build performance.

Digitalisation

As the UK construction industry rapidly moves towards digitalization, and the concept of digital twins is considered a ground-breaking development with enormous potential, Hygieia plan to utilise digital twins to reduce their footprint on job sites (less travel to meetings / visits equals less Co2 emissions), enhance safety and monitoring procedures, speed up work flow processes, increase automation, improve asset management, and give stakeholders the information they need to empower effective documentation and collaboration on a project.

Building Information Modelling (BIM) is transitioning from a 'modern way' to design, build, and manage construction projects to a 'compulsory way' for all projects, big and small. Nowadays, all public-private partnership (PPP) tenders are requiring "some" form of BIM capability and delivery, although the standards and expectations vary from project to project. We are utilising AR and VR enable better design visualization, helping our team of architects and engineers to detect and resolve design issues early in the process, resulting in more efficient and optimized designs. Al is at an early stage but we can see that Hygieia, and our consortium, will be able automate tasks and provide insights to optimize construction processes and projects.

EV Charging

Electric Vehicle (EV) charging points can be an option outside your new Hygieia CDC building, for the use of visiting patients, staff, and clinicians. One of the primary benefits of electric vehicles is that they emit less carbon emissions into the environment compared to traditional petrol or diesel vehicles - making them a cleaner and more sustainable mode of transportation.

Changes such as these are essential in helping Healthcare clients reduce their carbon footprint and meet their long and short term Green Plan goals.

Alternative PV solutions

We are conducting R&D on a 'peel and stick' module with integrated solar cells. Modules are attached to the approved substrate to create a roofing system that can be installed in the same way as a conventional roof. This could have the potential to be a factory applied solution during module assembly, reduce working at height, and reduce weight on the CDC's building's roof structure. These solar modules contain a self-cleaning top sheet to deter mildew, dirt or other obstacles.

Infrared Heating Foils

We are conducting R&D on cutting edge technology, ultra-thin Infrared Heating Foils. For under-floor, inside walls or ceilings, this product is extremely light weight plus extremely efficient and fast heating. Foils are made from no-toxic, non-harmful materials and are fully recyclable.

Air purification paint / Carbon Capture paint

We are conducting R&D on Air Purification and Carbon Capture Paint. These are ecological products, and are composed of natural elements that purify the air we breathe inside our buildings. It is suitable for people suffering from chemical intolerance, recommended for indoor enclosures, hospitals, nurseries, retirement homes, hotels, environments or rooms for infants and children.

The health benefits resulting from the use of such materials for individuals living in Healthcare buildings are:

- Improves air quality of indoor environments.
- Limits pathogens derived from sick building syndrome (sBs).

The Ambient Pro range of this paint coating is also self-cleaning, absorbing CO2 as well as other toxins such as Nitrous Oxide (NOx) and Sulphur Oxide (SOx) via a catalytic reaction using Titanium Dioxide.

Hydrogen Power

Hydrogen could offer a greener future for us all, but harnessing its full potential requires a degree of technical understanding. We are in the very early stage of R&D to see how this could be used for fuel / energy for our modular buildings.

Consisting of one proton and one electron, hydrogen is colourless, odourless, tasteless, non-toxic and non-poisonous. It is eight times lighter than natural gas and burns eight times faster. But unlike oil and gas, hydrogen is not a fuel in itself; it's a way of storing and transporting energy, which is particularly important for renewable energy.

Hydrogen holds significant promise for the transmission of clean energy, but given its flammability, it must be handled and processed very differently than other fuels.

- Prevents mould growth, fungi and bacteria, guarantees safe domestic environments.
- Increases comfort and quality of life.

Need to know more? Contact us today.

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