INTELLIGENT STEEL

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PROCESS-DRIVEN | INNOVATION | COLLABORATION

"If you always do what you always did,
you will always get what you always got" (Anon)

INTRODUCTION

Intelligent Steel Solutions Ltd is a design, manufacture and installation company offering high quality cold-formed structural steel to the construction industry.

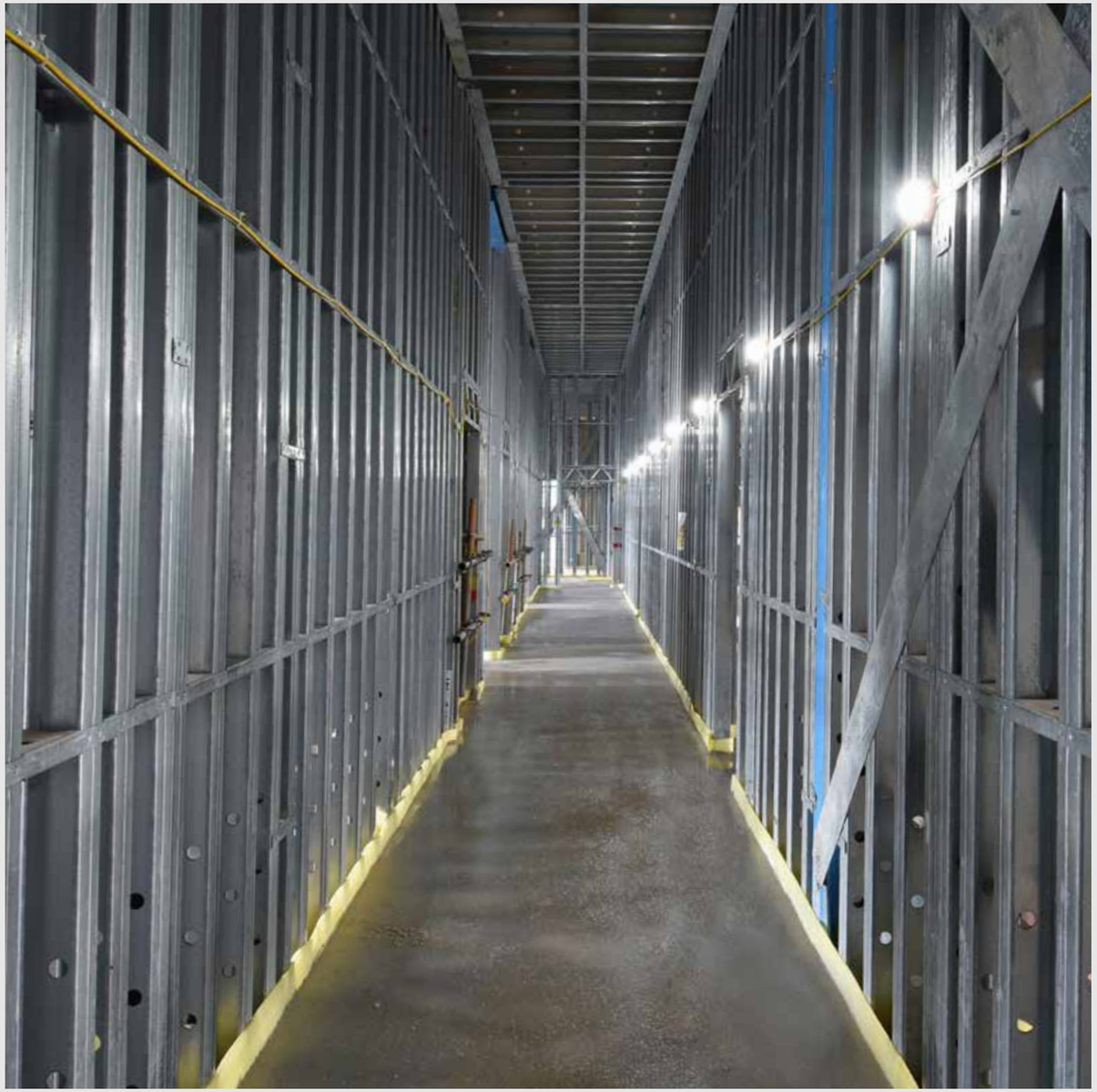
Based in County Durham on a seven-acre site with state-of-the-art-framing and fabrication machines, operating nationwide to DFMA (Design for Manufacture and Assembly) principles.

Over 15 years' track record of medium and large off-site load-bearing construction across all sectors, including load-bearing multi-storey frames, façade infill (SFS) and modular construction.

The key benefits of a light steel solution are fast build speed, quickly achieving a watertight shell, enabling access for follow on trades, and a sustainable, safe and cost-effective construction method with a fully BIM capable 3D model.

Fully certified to BS EN 1090-4:2018 and SCI/NHBC Stage 1 for up to 10 storey construction.

CE-accredited Factory Process Control and BIM stage 2 compliant. Full time industry-experienced staff of estimators, designers, engineers and project managers, supported by skilled manufacturing and installation teams.



OUR VISION

To be an effective and integral partner for the construction industry, helping to create a better quality built environment.

OUR MISSION

To be a market leader in sustainable lightweight steel technology.

OUR VALUES

INTELLIGENCE

This is at the core of our business. It defines our actions at every step: design, manufacture, installation.

COLLABORATION

The benefits of light steel framing are only fully delivered through effective collaboration by all key stakeholders. To harness the benefits, the process of engagement and collaboration is best begun at concept stage. This allows buildings to be designed with the engineered solution of LSF in clear focus.

RESPONSIBILITY

As an organisation, we operate within a world of finite resources, a world which needs to be protected and preserved for future generations. Our responsibility towards our precious planet encompasses our responsibility to one and all.

INNOVATION

A key aspect of what we do is research and development. We maintain a continuous programme of evaluation, evolution and innovation to ensure that we are delivering best practice at best value to our clients.

QUALITY

Quality is a much rehearsed by-word within any industry. Achieving quality is a state of mind. It means we consider every aspect of our process starting with the quality of our response to an initial enquiry through to the obvious in design, manufacture, effective transportation and installation.

KEY POLICIES

Our practice is underpinned by the following policies:

HEALTH AND SAFETY

Health and safety is of utmost importance in everything that we do. We retain the services of health and safety professionals who inform, support and ensure compliance with regulatory requirements, best practice and company procedures. They support our operational teams and monitor and audit all our working environments.

SUSTAINABLE DEVELOPMENT

We aim to meet current needs without compromising the ability of future generations to meet their own needs. We promote modern methods of construction which have low environmental impact.

We work in collaboration to develop schemes that are both sustainable for the environment and efficient for residents to maintain. We are committed to meeting the Government's Green Agenda on sustainable construction. Our aim is to help meet targets set by the Government over the next eight years.

RECRUITMENT AND TRAINING

Our structured yet flexible approach to training and development adapts to our constantly changing and evolving business needs, whilst ensuring our employees benefit from learning, training and development that will enable them to do their jobs and progress.

Making a positive impact on the communities we work in is a priority. We create local job opportunities wherever possible, ensuring that our workforce reflects the community we operate in.

MODERN SLAVERY

We have a zero tolerance policy towards forced labour, human trafficking and child labour practices (as defined in the Modern Slavery Act 2015). We have arrangements in place to ensure, so far as is reasonably practicable, that the working practices of those with whom we have direct contractual arrangements have a similar zero tolerance approach.

Our policy on Modern Slavery issues forms part of our induction process, and has been communicated to our supply chain. If it is discovered that any organisation we work with tolerates, to any degree, such slavery practices, or we suspect that slavery practices exist, we have arrangements to immediately take action, by informing the relevant authorities and severing our connection to that organisation.

GROUP CORPORATE SOCIAL RESPONSIBILITY

Our Corporate Social Responsibility (CSR) policy is demonstrated by the Better Community Business Network (bcbn.org.uk), a charity founded and run by the larger Group of which we are a part. It supports a number of important causes across communities and since its inception it has raised over £1.2m for community causes. BCBN has attracted support from high profile figures including HRH The Prince of Wales, the Mayor of London and other supporters from across the political spectrum.

Our commitment to and support for Feltham Community Chaplaincy Trust, an organisation working with Feltham Young Offenders Institution, further underpins our corporate social responsibility values.

QUALITY ASSURANCE

Our quality assurance process is a key part of every stage, from design engineering to installation. We have complete traceability from parent coil to finished component. Our systems have been fully audited by the relevant bodies and we hold BS EN 1090-4:2018.

Full CE mark accreditation to BS standards fully audited FPC underpinned by a skilled and empowered workforce that prides itself on quality service.

EQUALITY AND DIVERSITY

The company recognises the benefits of a diverse workforce and is committed to providing a working environment free from discrimination. We seek to promote the principles of equality and diversity in all our business practices.

WORKING WITH INTELLIGENT STEEL

STEP
00 PARTNERSHIP

STEP
01 ENQUIRY

STEP
02 DESIGN

STEP
03 MANUFACTURE

STEP
04 DELIVERY

STEP
05 INSTALLATION

00 PARTNERSHIP

In order to maximise the potential for value engineering, which is a key benefit of Lightweight Steel Frame (LSF) structures and the Intelligent Steel process, it is important that this is considered as early as possible in the design process, preferably at planning stage to gain maximum benefit.

Our in-house design team will review and comment upon architect and structural engineer drawings, on a no obligation basis with the aim of becoming an effective partner and advises in the ongoing project.

01 ENQUIRY

Our pricing is transparent, offering cost certainty. On receipt of an enquiry or request for tender, our in-house estimators will provide a fixed quote for the whole Intelligent Steel process, from design to delivery or installation. There are no hidden costs.

A dedicated account manager will be your point of contact going forward.

02 DESIGN

We have a talented design team, skilled in the latest CAD technologies, capable of delivering detailed section and elevation drawings. These, along with the calculations which are certified by our in-house engineers, will be generated in accordance with client programme and Quality Assurance systems so that the design process becomes seamless.

03 MANUFACTURE

Intelligent Steel has 5 state-of-the art Howick framing machines and a 300-tonne 4m CNC press. Design data is transferred directly from our software to these machines, ensuring detail and accuracy is maintained throughout. The manufacturing process is zero waste to landfill - the small amount of steel offcuts/process waste is fully recycled.

- Reduced wastage in manufacture and on-site – minimises the impact on the environment and disposal costs
- High strength to low weight ratio – delivering reduced loading on foundations and infrastructure
- Light gauge steel is perfectly positioned to meet construction industry demands – it is future proof and future ready:

Our highly-skilled team assemble modular sections in a clinically-clean and well organised assembly area. All elements are fully-identifiable as part of our QA system, ensuring full traceability back to the original steel coil and every operative along the way, giving rise to fully audited FPC and CE marking.

04 DELIVERY

Lorries are loaded efficiently, based on our knowledge of the client's site location and logistics. Unloading is made easy, as elements are bundled accordingly. Transport (reduction of inner city emissions by reduction of transport movements) as well as efficient offloading times in line with site traffic. All fixings are supplied, carefully labelled and boxed.

05 INSTALLATION

Intelligent Steel works with installation partners across the UK, with whom we have long-standing relationships. They are experienced subcontractors who work swiftly in line with client programmes, reliably delivering high quality structures. LSF components are light, inert and waste-free in installation and they can be installed in most weather conditions. Our structural elements also include integral edge protection which can avoid the need for external scaffolding.

BENEFITS OF OUR METHODS

- Highly efficient in terms of strength to weight ratio, meaning foundations and spans can be optimised
- Accurate manufacture, with tolerances of +0/-2mm over 3m
- Dimensionally stable after construction: non-shrinking, non-warping
- Flexible design and production process, leading to custom components which are effective for both one-off pieces and repeat batches
- Over 30% faster erection than traditional build
- Rapid dry envelope for follow-on trades
- Process waste of less than 3% (which is all recycled) and zero waste on site
- Integrates well with other construction methods and materials
- Well-developed method of construction with a wealth of technical data, such as Steel Construction Institute (SCI), British Constructional Steelwork Association (BCSA), etc
- Design life predictions for light steel framing in a 'warm frame' environment are in excess of 250 years.
- The NHBC and other housing warrantee providers, require a design life in excess of 60 years, and accept the use of light steel construction
- Full traceability of materials, from manufacture to delivery

PROCESS

Coils are placed to feed directly into our Howick machines, which form them into C-sections in a range of profiles for differing uses. All connections and service holes are then processed in-line, from CNC data provided directly by the signed-off BIM information.

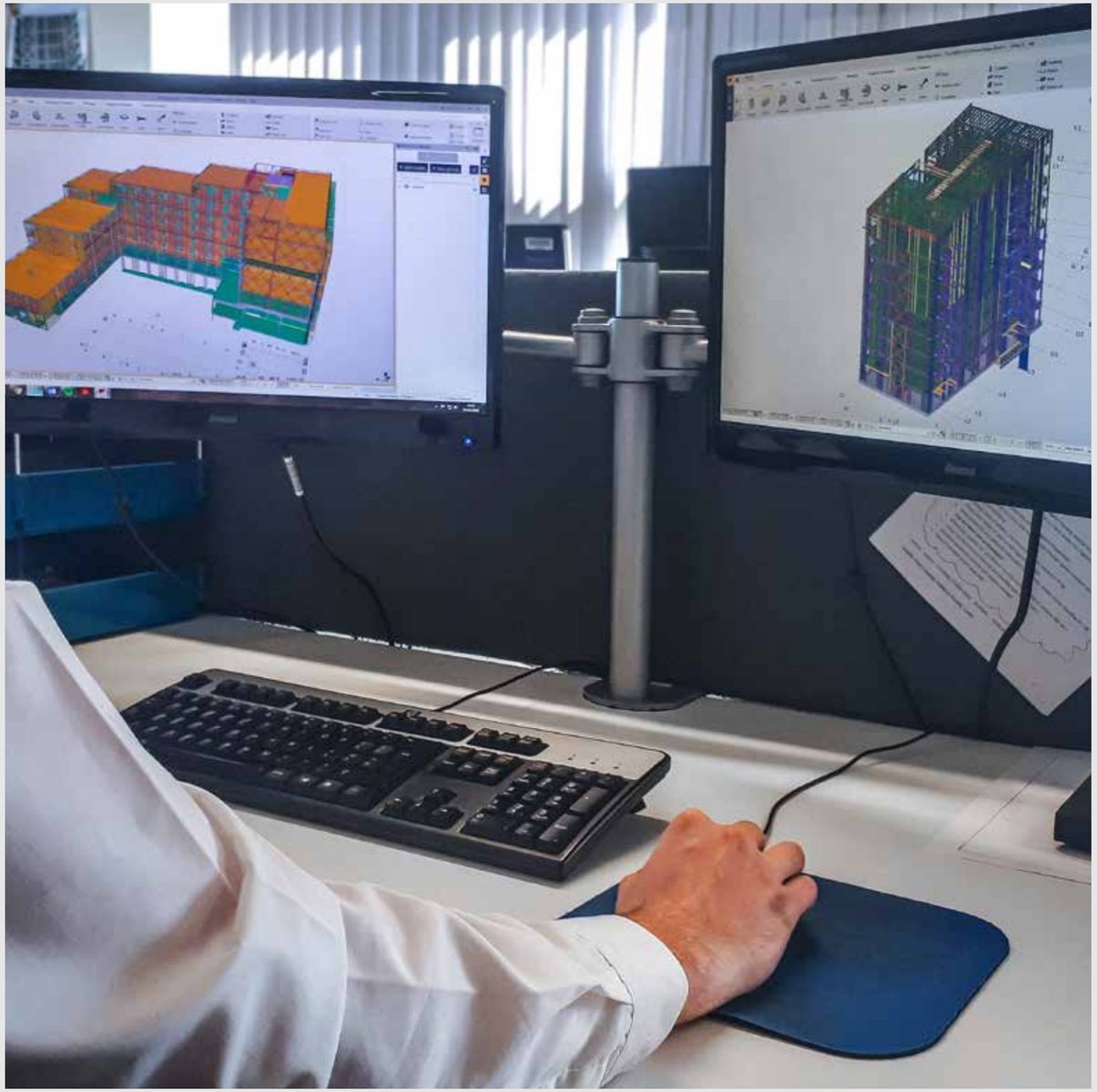
RANGE

C-sections are available in a range of profiles:

- 75mm section for internal and party walls
- 100mm section for internal and external walls
- 150mm section for external walls
- 150, 175, 200, 250 and 300mm sections for high bay applications, floors and roofs

All sections come in multiple gauges up to a maximum of 2.5mm on the deeper sections.

All sections can be supplied as individual components as well as fully-connected framed assemblies



INTELLIGENT DESIGN

Intelligent Steel offers a complete design solution, from technical appraisals at planning stage, to value engineering and full scheme design.

We can offer advice on frame application, achieving U-values, acoustics, roofing systems, flooring systems and cladding/rainscreen systems.

The output of our highly experienced in-house design team is approved by qualified structural and chartered engineers, and checked against feedback from our manufacturing team. Our approach is collaborative and we are happy to attend client design meetings from pre-planning right up to installation.

We use Tekla Structures software for CAD/CAM modelling and analysis. This exports 3D Industry Foundation Class (IFC) files, which are widely compatible with BIM software across the industry, and include detailed section and elevation drawings with steel and concrete structural elements and interfaces. The files directly control our state-of-the-art roll-forming machines, ensuring pinpoint accuracy in production.

We've designed several innovative products, which are now industry-leading, such as integrated edge protection which enables scaffold-less erection.

We are Tekla award winners.

Working in line with clients detailing/specification, Intelligent Steel can provide the following:

- **Fire certification t**esting in accordance with BSEN 1365-1 up to and including 120minutes
- **Acoustic p**erformance data from historical projects demonstrating standard detailing surpassing Part E requirements complying with robust details
- **Airtightness** from dimensionally stable and accurate panelised systems ensures performance exceeding Building Regulation requirements
- **Thermal** performance from warm frame construction exceeds Part-L and is capable of compliance with Peabody Trust specifications
- **LGS system manual** fully certified to BS EN 1090-4:2018
- **Residential warranty provider** SCI/NHBC Stage 1 for up to 10 storey construction.

INTELLIGENT TECHNOLOGY

Intelligent Steel Solutions blends together industry-leading technology, manufacturing know-how along with passion and experience to deliver a bespoke and highly personal journey to project completion.

As its basic components it uses cold rolled galavanised C-sections for wall studs and floor hoists designed in accordance with BS EN1993-1-3

Intelligent application gives rise to value engineering involving the client team reviewing all elements interacting with the structure (from ground through M+E to finishes and specific loading options).

All design is fully certified to BS EN 1090-4:2018

Our engineering package provides full building regulation submission of the supplied elements and resulting structure

All calculations are to Euro code whilst inputting latest industry from the SCI/BRE/ASTM.

Operating to BIM Level 2 and using DFMA (Design for Manufacture and Assembly) collaborative approach, designs are digitally examined in full 3D to eliminate clashes and errors – ensuring efficient installation/process on-site or within your own manufacturing facility

SUSTAINABILITY

Materials and Resources

- A+ rated in terms of environmental performance in the BRE's Green Guide to Housing Specification 2007
- 100% recyclable, can be repetitively recycled without degradation of properties or performance
- LSF reduces material usage by up to 30% if brick clad, and up to 70% when using lightweight cladding relative to traditional build.

WASTE

- 100% of factory produced steel is recycled
- 90% of steel in demolition projects is recycled and re-used
- 50% of current European steel production is from recycled sources
- Components are dimensionally accurate and inert; no deterioration, no waste, no re-work
- Non-combustible, does not add to fire load, does not produce toxic fumes- reduced insurance costs for construction phase.
- Water use is minimised by the 'dry' site process
- Pollution on site is eliminated when using light steel
- Transportation of materials to site is reduced by 70% in comparison to traditional construction, with a consequent reduction in traffic pollution.
- No waste charges as materials are not sent to landfill.

ENERGY USE AND CO_2 REDUCTION

- Energy efficient design reduces CO_2 production in service, still further improved by off-site production
- Typical UK 2 storey LSF house consumes 100– 150kWh/m^2 per annum in service (100m^2 floor area) - up to 30% less than traditional build
- Embodied energy is minimised as steel typically only weighs 40kg/m^2 floor area—reduced foundation requirement due to inherent strength/weight ratio
- Cost effective high levels of thermal and acoustic insulation are achievable
- Less energy use on site as well as reduced transport requirements to site
- Flexible and easily extended or modified, reducing future energy demand.

STRUCTURAL ROBUSTNESS

- Light steel framing and modular construction provide robust structures that satisfy the Building Regulation requirement for avoidance of disproportionate collapse.
- Light steel structures are capable of resisting high wind loads.
- Robustness is provided by multiple members with a high degree of inter-connectivity.
- The form of construction creates multiple load paths which mean loads can be transferred around areas of local damage.

INSTALLED WITH EFFICIENCY

Project management is much improved by ‘just in time’ delivery and minimal storage of materials on site.

Installation teams are highly skilled and productive. Noise and other sources of disturbance are also minimised, which is important in terms of Considerate Construction.

Site prelims are reduced due to speed of erection and the multi layering of follow on trades to reduce the overall programme

Smart efficient working, proficient project management and quality control enables key performance indicators to be far in excess of traditional methods.

The quality of build is validated by scheduled visits from engineers and designers.

Scaffoldless erection enables the intelligent solution to work independently of traditional leading edge protection reducing not only Health and Safety risk but also potential delays to programme

OUR PRODUCTS

- Light Gauge Cold Form Structural Steel
- Facade Infill
    - Stud and track
    - Infill panel
- Load Bearing Structures
- Light Gauge Steel Modular Component Supply

INFILL

- Engineered piece built into concrete or hot-rolled framed construction.
- 75mm, 100mm, 150mm available in 1.0, 1.2, and 1.6mm gauge
- 200+mm options available up to 2.5mm gauge
- Head and base track with vertical studs at max 600c/c
- Deflection track and brackets included
- Fully-formed openings
- Fully-designed system supplying a complete kit of all ancillary fixings and bracketry required for SFS package
- Compound sections are factory produced (quality assured)
- Materials bundled to suit on site installation
- Site design pack
- Co-ordinated inspections
- As built drawings

OFF-SITE INFILL

Pre-engineered panels are designed and formed off site They can be provided as open panels or pre-boarded as required.

Subject to a site survey, these framed infill panels allow for the deflection of the superstructure and can offer greatly increased speed and efficiency of installation.

LOAD-BEARING PANELS

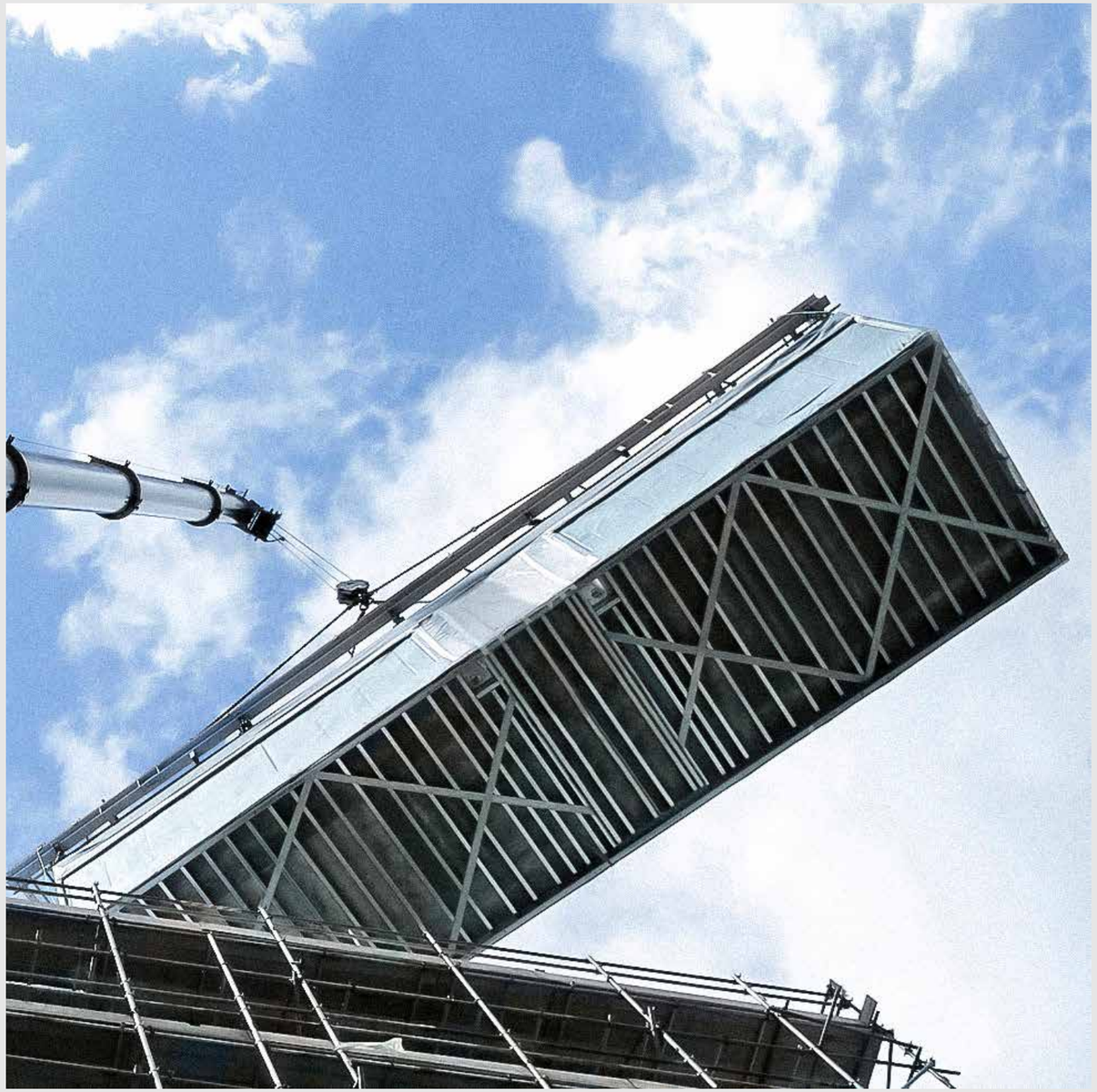
For projects including social housing, multi rise housing, healthcare, leisure and education.

Factory-assembled panels, designed to be load-bearing rather than simple infill.

Walls, cassettes (floor and roof) can be pre-boarded and insulated, or left open for access and finishing by other trades.

The benefits of light steel and modular construction are:

- Speed of construction (up to 50% faster than traditional methods).
- Excellent performance characteristics e.g. fire resistance, acoustic insulation, and thermal insulation.
- High level of quality control, accuracy and freedom from shrinkage, reducing call-backs for defects.
- A light weight form of construction for medium-rise and mixed-use buildings, thereby reducing foundation requirements.
- Minimum disturbance to the locality during construction, with fewer deliveries; this is particularly advantageous where site constraints may limit the storage space available.
- Waste recycling in manufacture and reduction of on-site waste.
- Structural robustness and ability to create long spans and large openings.



MODULAR CONSTRUCTION

We have extensive experience of supply chain partnering with manufacturers in the creation of volumetric solutions. We are regularly part of ‘just in time’ supply chains, getting custom components to other manufacturing facilities for incorporation.

All modular supply is quality assured and can be engineered and designed as required, taking into account lifting, M+E coordination and value engineering.

Added value from an extensive network of lifting and transport specialists, engineers and materials suppliers as well as in-house experience can assist in a service which goes beyond traditional steel supply.

Modular construction can be designed so that complete modules can be removed without the building becoming unstable.

OUR PROJECTS

Over the following pages, we introduce a selection of our recent and notable projects, including examples of both large and small scale new-build, listed and existing buildings across residential, mixed-use and leisure categories.

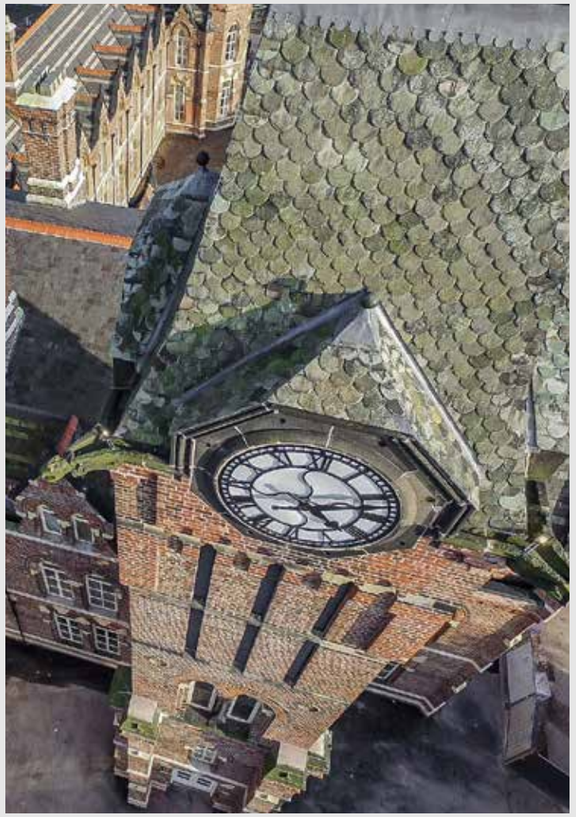
There is more information about these projects and others at intelligentsteel.com.

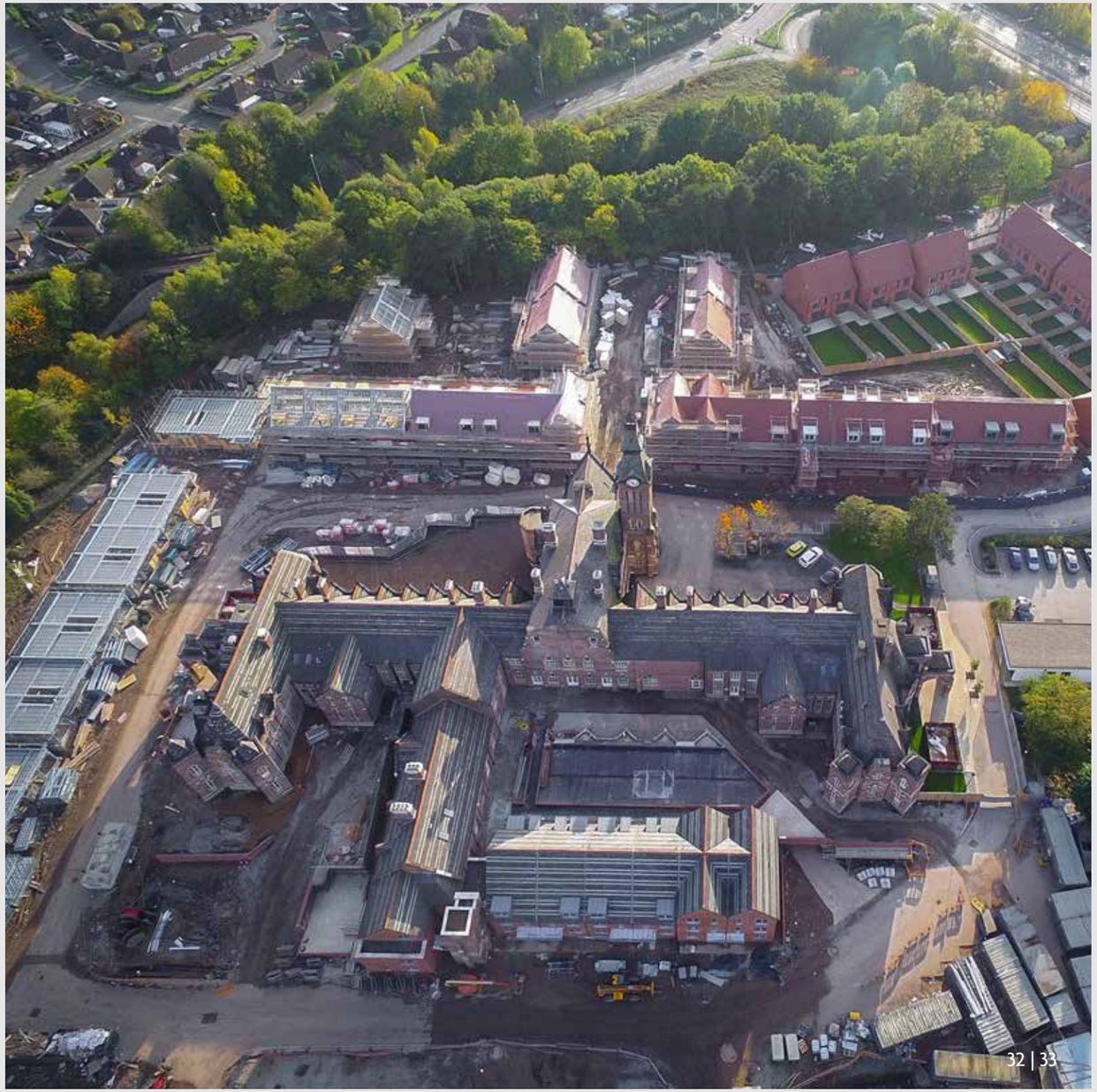
BARNES VILLAGE

MANCHESTER SK8

Sector: Residential

- 117 new-build, two, three and four bedroom family homes.
- Load bearing panelised construction, rapid dry envelope allowing layering of follow on trades to reduce overall programme





BRENT HOUSE

WEMBLEY HA9

Sector: Residential

- 248 apartments, 7 to 10 storey mixed-use scheme across 5 blocks.
- Load bearing panellised construction with lattice joist flooring.
- Modular balcony system
- Provision of stairs and cores

BAYLIS OLD SCHOOL

LONDON SE11

Sector: Residential

- 149 Central London apartments, 4 blocks.
- Load bearing panellised construction off strip foundations.

CHILLINGHAM ROAD

NEWCASTLE NE6

Sector: Student Accommodation
The new building will consist of two ground floor retail units, with two floors of student accommodation built over. Residential apartments above retail space for Sainsburys and Greggs.

- Load bearing panel off podium deck
- Factory fitted floor and roof cassettes

CONSTANCE COURT

LONDON SW11

Sector: Residential
A new-build development of 39 one- and two-bed apartments, located on York Road in London's sought-after Nine Elms area.

- Load bearing panellised construction
- Inset balconies
- Fully co-ordinated walkways

THE HERMITAGE ACADEMY

CHESTER-LE-STREET SH2

Sector: Education

A school site with restricted access and requirements for a speedy build, due to term time restrictions.

- Load bearing panellised construction
- Large span lattice roof to falls

RUTH GORSE

LEEDS LS10

Sector: Education

Single storey, stand-alone school building. Large open spans. Feature curved entrance

- Pre-panellised infill
- Pre-boarded in factory

RUTHERFORD CANCER CENTRE NORTH

BEDLINGTON NE22

Sector: Health Care

The Rutherford Cancer Centre North East offers a range of oncology services relevant to both the planning and delivery of cancer treatments.

- Pre-panellised load bearing construction
- Pre-boarded for rapid dry envelope
- Fully boarded roof cassette system

WESTGATE ROAD

NEWCASTLE NE1

Sector: Student Accommodation

Large student accommodation scheme of over 280 units, located in central Newcastle

- Pre-panellised, pre-boarded construction
- Scaffold free construction utilising integrated edge protection

AWARDS & ACCREDITATIONS

Designed by Intelligent Steel, built with Intelligent Steel technology.

Building – Vita Student Accommodation
Awards Offsite 2017 - Highly Commended, Best Use of Steel
Tekla UK BIM awards 2017 – Commercial Projects Winner

Building – The Foundry Awards
Nominated for Leeds Architecture Awards 2019
Offsite 2017 – Highly Commended, Best Use of Steel

Building – Ruth Gorse Academy Awards
Nominated for Leeds Architecture Awards 2019

Building – Constance Court Awards
Short Listed by First Time Buyer Reader Awards "Best New Development in the South" 2018

Building – Carlton Gate Awards
Short listed in the International Design & Architecture awards in "Overall Development UK & Europe

Building – Barnes Village Awards
United Kingdom Property Awards – Best Residential Development Greater Manchester 2018-2019
First Time Buyer Reader Awards – Best New Development in the North 2017

Building – Baylis Old School Awards
London Home Builder of the Year
Housing Design Awards – Completed Projects Winner 2016

Sunday Times British Homes Awards 2015
Baylis Old School SE11
Commended, Development of the Year (100+ houses)

International Property Awards 2015/16
Baylis Old School SE11
Highly Commended, Best Residential Renovation UK

Royal Town Planning Institute Awards for Planning Excellence 2015
Baylis Old School SE11
Highly Commended, Excellence in Planning for Built Heritage

Premier Guarantee Excellence Awards 2014
Baylis Old School SE11
Highly Commended, Social Housing Development of the Year

International Property Awards 2013/14
Baylis Old School SE11
Highly Commended, Best Development London

CONTACT

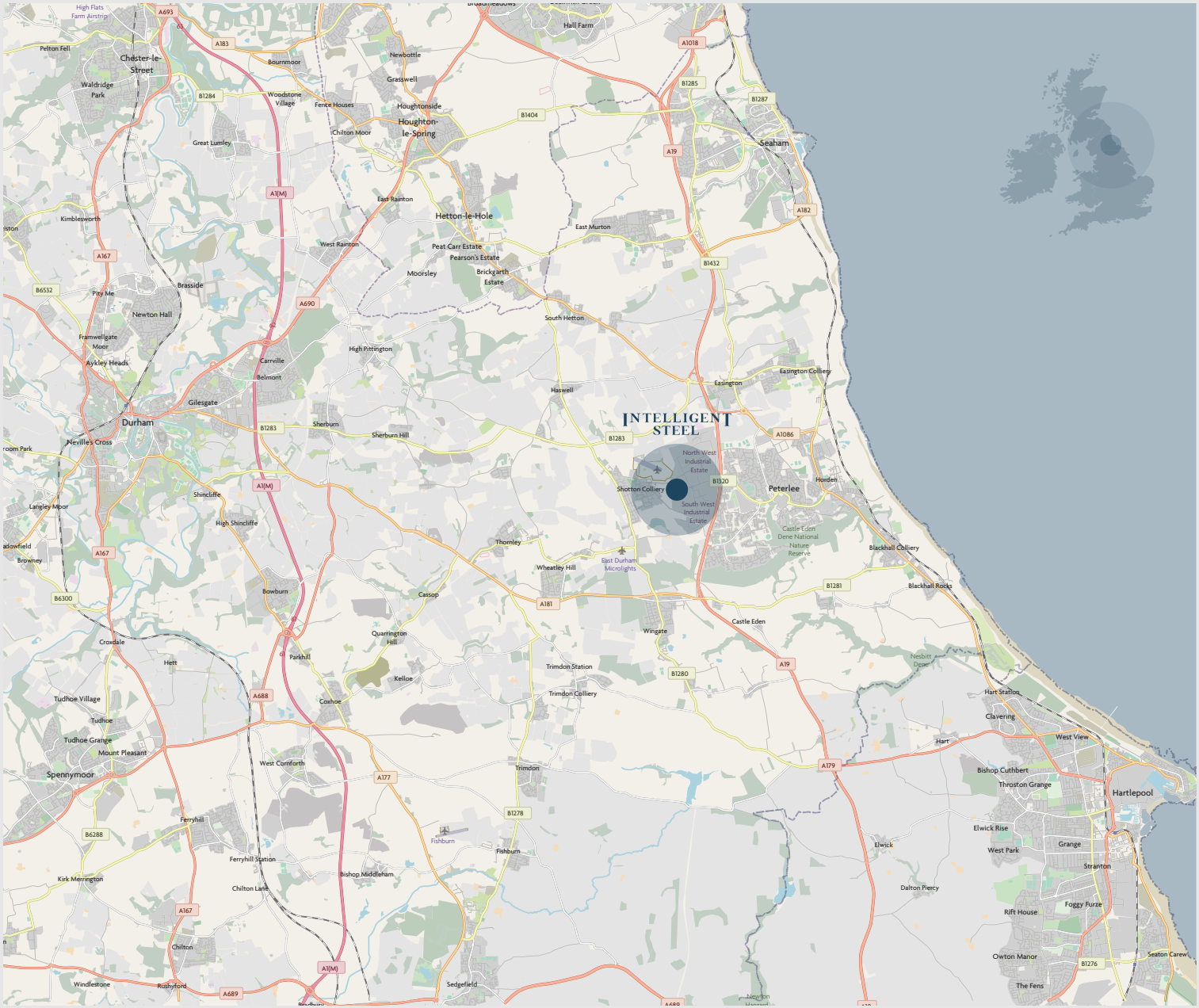
GUS HOULISTON
Managing Director

Gus has over 25 years' experience in the construction industry in several managing and operations director positions. He spent 10 years at LNT Construction as Managing Director, where he played a pivotal role in introducing LGSF to the care and assisted living market. Other notable successes include working on 22 Bishopsgate during his time at Severfield and setting up the industrial division at Midgard, securing the business's first PCSA for a new cruise terminal project in Southampton.

At Intelligent Steel, he is leading an experienced team and with a strong pipeline of work.

Intelligent Steel can offer a turnkey package for its internal and external clients. With in-house design, manufacture and installation teams, Intelligent Steel offer high quality cold-formed structural steel to the construction industry.

T: +44 (0)191 594 7200 | E: gus@intelligentsteel.com



INTELLIGENT STEEL SOLUTIONS LTD

1 Whitehouse Way, Southwest Industrial Estate, Peterlee, Co. Durham SR8 2RA
T: +44 (0) 191 594 7200 W: intelligentsteel.com

VAT: 184 6937 59 Company Registration: 08963278

1 Whitehouse Way, Southwest Industrial Estate, Peterlee, Co. Durham SR8 2RA
T: +44 (0) 191 594 7200 W: intelligentsteel.com