EDUCATION

innovare
simplifying offsite

Experience

Offsite construction using Innovaré speeds up and simplifies school and college construction projects. Innovaré is well established in the education sector and we have delivered hundreds of education build projects from small school extensions to £40m college redevelopments and specialist requirements of SEN schools. We are also responsible for the largest new build school in the UK to be built from SIPs, accommodating 900 students.

Because we manage each stage from design to installation nobody knows offsite better than we do. Here's a small selection from the wide range of education projects we have created.

- **THE KINGS CE SCHOOL**

  This total school rebuild is the largest SIP built school in the UK. The 3 storey 900 place school structure was delivered in just 11 weeks - on budget and meeting all quality, performance and sustainability standards.

- **AYLESFORD ACADEMY**

  A seven classroom extension featuring i-SIP infill and steel frame. The structure was handed over for fit-out in 3 weeks instead of the scheduled 5.

- **ROWLEY HALL PRIMARY SCHOOL**

  i-SIP Full structure created 210 additional pupil places. Delivered in less than 7 weeks with prefitted windows to speed up follow-on processes.

- **VISION WEST - NOTTINGHAMSHIRE COLLEGE**

  A new 'inspirational' 4000 sq.m learning facility with a complex design delivered to a tight deadline. Using i-SIP for the steel frame infill allowed the structure to be completed in 8 weeks.

- **WEST THAMES COLLEGE**

  This £52m college development project saved 7% on cost and 8 weeks from the programme timing through using i-SIP frame infill.

To see some more examples of completed projects check out our website: www.innovaresystems.co.uk

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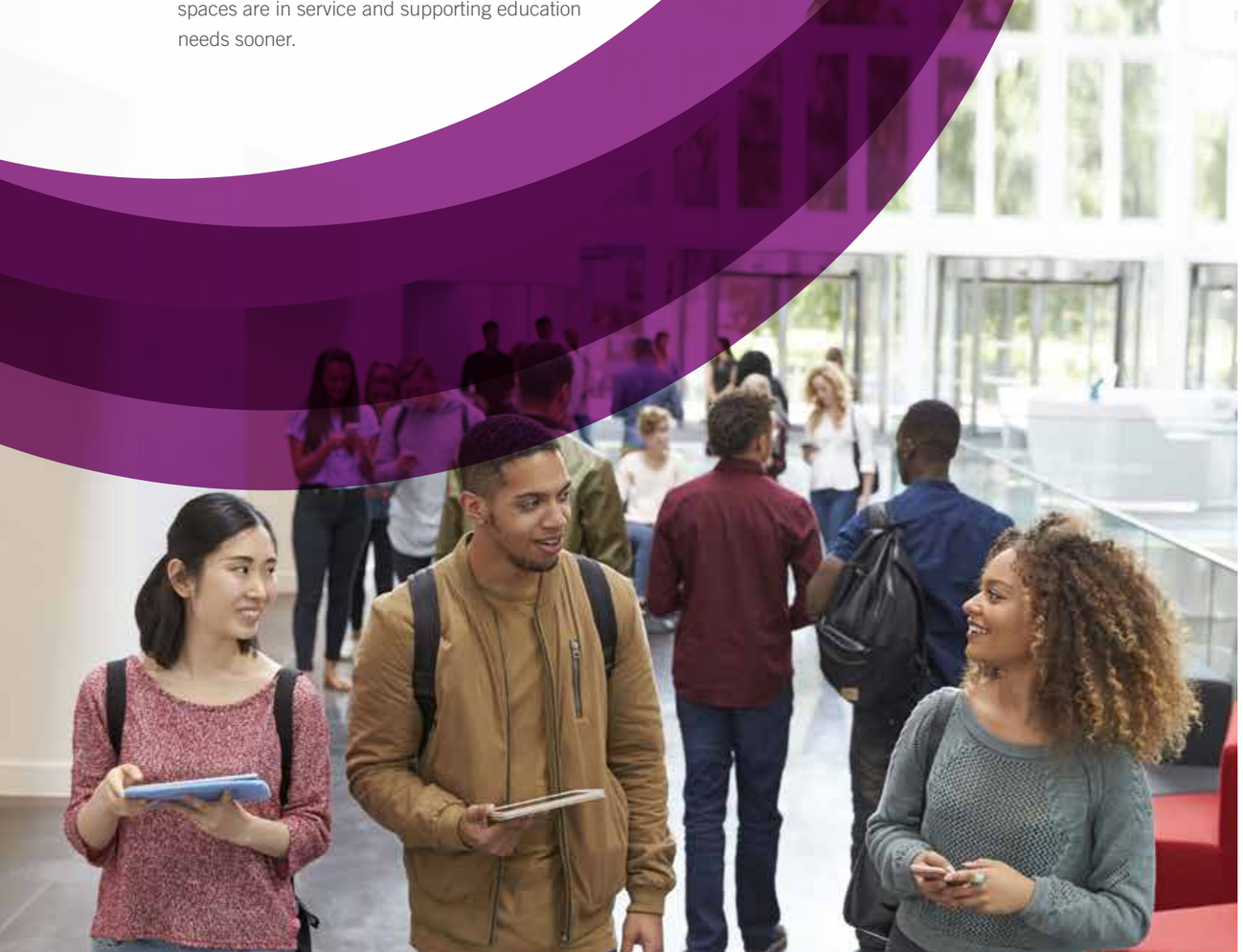
Building the future

Offsite Construction for Education

Value Engineering for the Education Market

Offsite construction by Innovaré makes use of design and planning optimisation to give maximum surety of project costs and timing. Early and continuous collaboration with all project partners allows us to simplify the entire build programme by taking full advantage of the benefits excellent performance properties of our systems.

Overall cost efficiencies will be gained through significantly reducing build times compared to traditional techniques, which means new learning spaces are in service and supporting education needs sooner.



PRE-MANUFACTURE CONSTRUCTION

Offsite construction transfers much of the building process away from the building site to a controlled factory environment. In place of traditional expensive labour and materials on-site with blockwork or timber framed structures, buildings are made from precision engineered Structural Insulated Panels (SIPs), delivered and installed, as kits of parts in a carefully controlled sequence.

The panels are quickly and precisely installed on site to rapidly form a watertight structure ready for fit out. Onsite activity, noise and dust are significantly reduced, making the technique highly attractive for projects on existing school premises.

REDUCED DISRUPTION

Offsite construction, with its delivery and installation model, is ideally suited to the constraints of building on existing school sites. Where access often is restricted and noise and disruption need to be minimised the speed of installing Innovaré's panelised systems delivers real benefits.

Innovaré are the contractor of choice on an increasing number of education projects, large and small. As we create most of the structure offsite, disturbance, noise, dust and safety risks of building on school premises are significantly reduced.

SUSTAINABILITY

The carefully controlled design process minimises waste. Offcuts are reused wherever possible and all i-SIP elements are 100% recyclable. Materials are sustainably sourced and manufactured under the international chain of custody schemes PEFC™ and FSC®.

WHY EDUCATION IS SEEKING AFFORDABLE OFFSITE SOLUTIONS

Using Department for Education and local authority projections it's estimated that England will need 26,000 additional classrooms by 2020. At the same time, traditional construction skills are likely to become scarcer.

Reliance on traditional techniques could delay the start and finish of badly needed school building programmes. Students may have to continue learning in overcrowded or unsuitable accommodation longer than necessary.

Offsite construction replaces these uncertainties with flexible and reliable project costs and timings. The technique reduces the overall cost and build times for school building programmes through greater optimisation and simpler building fit-out. There are also fewer risks to the project timing due to weather or the availability of labour or materials.

Innovaré's panelised systems offer exceptional thermal properties built in. This greatly simplifies the building and fit-out schedule and makes strict energy efficiency and sustainability standards easier and less costly to meet.

Superior Performance - Flexible & Adaptable Design

Innovaré's panelised systems can be used for walls, floors and roofs. They can form all or part of a building's superstructure. Offsite construction simplifies the process of delivering ambitious projects that precisely match client requirements for design, sustainability, price and performance. The technology is fully compliant with Building Bulletins and the ESFA Facilities Output Specification.

Innovaré's systems can be designed for future expansion easier than traditionally built buildings. Projects can be phased to rapidly bring additional accommodation on stream exactly when needed.

Virtually any roof style and covering, and any type of cladding can be used, making it easy to blend with existing buildings and meet any planning restrictions.

THERMAL PERFORMANCE

Our fabric first approach puts performance and sustainability into the heart of the design. Fewer structural joints and connections make our system one of the easier ways to achieve stringent performance criteria We can build to for thermal performance to achieve U-values as low as 0.10W/m^{2}K.

The typical Y-value for thermal bridging of 0.025 W/m^{2}K exceeds the accredited enhanced and construction detail values of 0.08 and 0.04 Wm^{2}K respectively.

Air leakage levels can be as low as 0.6m^3/m^2/hr@50 pa. By taping the seams our system is able to meet Passivhaus standards.

ENVIRONMENT AND ACOUSTICS

Adopting an adaptive comfort philosophy requires a robust fabric-first solution, with the design flexibility to accommodate natural ventilation strategies. This approach prevents high space heating costs and cold draughts during the winter and overheating in the summer and further confirms Innovaré's experience of delivering exemplar buildings to Facilities Output Specification (FOS) and Building Bulletins.

High levels of thermal performance and airtightness are achieved because our systems including fenestration openings are designed to fine tolerances making the internal environment easier to control. These factors make the internal environment much easier to control. Where required, phase change materials or dense boards can be incorporated to increase the thermal mass without adding significant weight or floor loading.

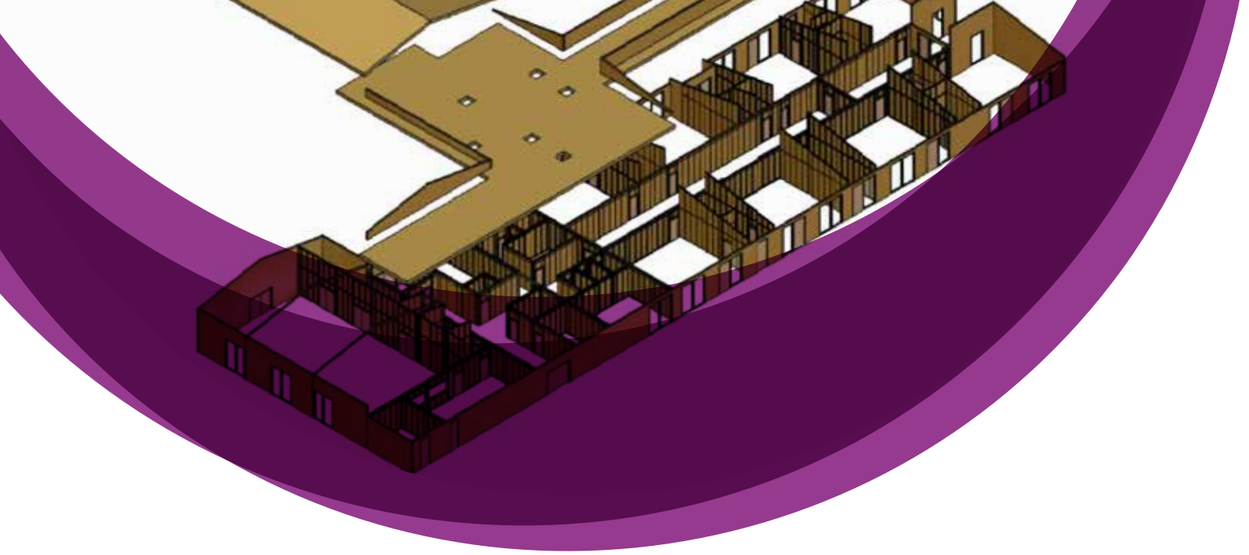
Excellent and imaginative use of natural light is a feature of good school design. Our systems are well suited to a range of fenestration strategies and flexible enough to adapt to provide daylight in circulation areas and the rear of classrooms. The Innovaré design team works closely with architects and developers to incorporate the most appropriate solution considering the location, orientation and performance needs of the building.

The acoustic properties are managed through the internal lining and external cladding specification. These properties are laboratory tested to guarantee the required acoustic performance. The i-SIP system has been used to enhance speech intelligibility in a facility for hearing impaired students.

FIRE SAFETY

Innovaré continues to make a significant investment in a rigorous regime of both full scale and elemental fire testing. This meets and exceeds regulatory requirements for during and post-construction fire safety.

Our systems provide the highest rated 'during construction' fire solution, meeting the recommendations of the Chief Fire Officers Association (CFOA), the Health and Safety Executive (HSE) and the Association of British Insurers (ABI). Factory-fitted A1 non-combustible, vapour permeable boards can provide instant during-construction fire protection and improve in-use fire and acoustic performance.



Optimised Solutions – a Modular Kit of Parts

The modular nature of the Innovaré panelised systems blend the flexibility to meet individual requirements with the efficiency of a standardised product and production process. The result is a kit of parts delivered to the construction site that can be rapidly assembled to create a structure configured to meet the exact needs of the project.

The modular approach makes it easy to adapt floor, wall and roof designs to meet specific performance requirements or architectural challenges. For simpler projects it is often possible to use a preconfigured kit of parts to save further time and cost.

FLOORS

Engineered joists are pre-assembled with timber decks to form cassettes. These can be rapidly installed onsite. They offer superior acoustic properties within a thinner floor section than with other techniques.

Adapting our systems to incorporate alternative floor solutions allows for the introduction of precast concrete, CLT or Glulam.

WALLS

Innovaré's panelised systems are used to form the structure of buildings up to four storeys. Panels are manufactured in sizes up to approximately 6m x 3m to allow rapid installation. Where necessary, Innovaré will specify metal or timber beams and columns to reinforce the structure.

Integrating structural and thermal performance into one panel simplifies the whole process.

Load bearing or non-loadbearing internal stud partitions are supplied in a variety of sizes with differing sheathing boards to meet the project requirements. Installation of the panels and services is extremely rapid and the acoustic properties can be managed easily.

ROOFS

Our designers can adapt our systems to accommodate virtually any roof design or covering. Pitched, mono-pitched or sawtooth designs are easily accommodated. Roofs are usually supplied as large panels up to 12m clear span or supported on intermediate purlins and roof beams. Pitched SIP roofs provide an open unobstructed void that is part of the thermal envelope - ideal where accommodation is required in the roof space.

Flat roof systems are normally delivered as cassettes which can be sealed and insulated in our manufacturing facility ready for any conventional roof covering.

Roof cassettes can include factory fitted single-ply membrane. These cassettes are insulated and weather resistant before they reach the site - avoiding delays caused by weather. The system eliminates the need for hot works and reduces work at height.