



CULLINAN STUDIO

PRESS ENQUIRIES

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PRESS RELEASE

THE NATIONAL AUTOMOTIVE INNOVATION CENTRE

University of Warwick, Coventry

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The National Automotive Innovation Centre (NAIC), in the Prof. Lord Bhattacharyya Building at the University of Warwick, was officially opened on February 18th by HRH The Prince of Wales. The NAIC was the vision of the late Professor Lord Bhattacharyya, founder of Warwick Manufacturing Group (WMG), and the Centre is located in a building which is named in his honour. It is one of the largest research centres of its kind in Europe and was designed by Cullinan Studio.

The Centre brings together the brightest minds from industry and academia; the NAIC is a beacon for future mobility and sustainability research and development. It will create future vehicles and personal mobility solutions as well as deliver the skills required to keep the UK globally competitive. The NAIC is at the centre of the Midlands ecosystem, which is a magnet for economic growth and focused on delivering a Destination Zero future: zero accidents, zero emissions and zero congestion.

The £150m Centre is a partnership project by Jaguar Land Rover, WMG, Tata Motors and the University of Warwick, with £15m funding from the UK Government's Research Partnership Investment Fund through Research England.

The NAIC represents a significant investment for the client partnership, and Cullinan Studio has designed a building that embodies their aspirations and ethos. The Centre sits on a prominent 17,800m² site at the entrance to University of Warwick's main campus, and close to four other Cullinan-designed WMG R&D facilities, offering easy access to students and researchers. The standout feature of the new building is a vast engineered timber roof – one of the largest in the world – precision engineered by Arup to meet high technical standards.

Collaboration between manufacturers, academia and industry; between landscape and building; between form and function, sits at the heart of Cullinan Studio's concept for the NAIC. The client partnership's original brief to the architect was to create an environment for their research groups that would halve the time from idea to production.

Cullinan Studio has worked with WMG since 1992, and from the start of the project eight years ago the architects built on this trusted relationship. This level of engagement from feasibility right through to delivery proved essential to the development of the brief and eventual success of the building. Cullinan Studio led an in-depth consultation process to explore and develop a shared working culture. This helped prepare building users for the significant change to their workplace settings and gave the architects a unique insight into how people wanted to work in their new building and how best to support them.

Through various initiatives, such as town hall-style presentations with visualisation software and visits to exemplar collaborative workspaces, building users could easily envision new ways of working. Individual research groups and academics previously working in silos on different sites are brought together under one roof with an unusually high percentage of shared and open spaces, designed with future flexibility in mind.

On approach, the dramatic timber roof appears to float above a ribbon of glazing, creating an impression of lightness, which is no mean feat for a building with a gross internal area of 33,000m². The imposing scale of the building is softened by gently undulating aluminium mesh cladding that complements the landscape maturing around it. Designed by Grant Associates, the landscaping includes a water course, mixed beds of wild native plants, and spaces designed for students and researchers to gather, rest, work or simply pass through.

Everyone enters the building from a single shared porch beneath a large timber canopy that creates a natural gathering space at a key junction of routes across campus. It sets the open, collaborative tone of the building organisation within. The entrance opens up a view into the main engineering hall, then leads you into the collaborative hub: a layered landscape of internal terraces, all flooded with natural daylight through the diagrid of the timber roof.

Much of the work carried out at the NAIC is confidential, and the building organisation respects this with a central space at its heart that contains secure technical laboratories and engineering areas. The architects worked with all the research teams to ensure there was a default towards openness, interrogating the need for visual or acoustic privacy so that as much of the workplace facility could be shared, avoiding the costly duplication of workshops and encouraging the cross-fertilisation of ideas. Surrounding these technical areas are a network of meeting spaces, breakout areas and individual booths, exhibition space, café and entrance hall, maximising the opportunity for cross-disciplinary meetings and chance encounters that often spark the best ideas.

The internal terraces around the inner sanctum ensure every space feels open and maintains a direct contact with nature, all unified under the umbrella of the coffered timber roof that stretches the full length and breadth of the building, making the building feel more intimate. Every floor provides outside terraces; in direct contrast to typically sterile and isolated research facilities, here the client was keen to make sure their researchers don't lose touch with the natural world that will eventually be home to their ideas. Cullinan Studio Design Director Roddy Langmuir explains:

"We have tried to bring in natural light everywhere, marking the changing of the sun's position across the day. Even deep inside the building, people have a connection with the day's natural rhythms and changing seasons."

Work spaces are designed to be future-proofed and flexible, walls are reconfigurable and writable with projection-friendly surfaces. Research spaces include benches for experiments close to hand, to connect different aspects of the engineers' work more directly. Cullinan Studio has designed areas for individuals, small and large groups and, with the exception of the most sensitive areas in the central space, all work is carried out in plain sight to encourage interaction.

The materials and construction of the building combine precision engineering with craft and creativity. The building structure is exposed wherever possible and the architects have carefully integrated support services to create a deceptively simple, calm environment. A light colour palette allows the research to take centre stage, and naturally finished timber lends a warmth and human scale to a very large space.



The look, feel and functionality of Cullinan Studio's carefully curated workplace furniture and equipment completes the collaborative and flexible ethos of the building. Furniture in the atrium balconies is carefully designed and placed to encourage interaction, whilst quiet corners are designed to encourage focused working. A break for lunch can also be a meeting; adjustable laptop tables are preferred to coffee tables, and all spaces can be adapted for cultural events.

Underpinned by Cullinan Studio's natural design philosophy, the NAIC's timber structure - not the obvious choice for the automotive industry - embodies the spirit of a forward-looking industry that prioritises environmental considerations. Cullinan Studio was an early adopter of cross-laminated timber (CLT) at the John Hope Gateway building at the Royal Botanic Garden Edinburgh in 2009, and the NAIC is the impressive culmination of the expertise they have developed. The glulam and CLT timber roof was meticulously CNC machined off site, then assembled and dropped into the steel primary grid structure. The building walls were put up using a pioneering system of pre-fabricated, self-spanning CLT 'megapanel' that could be quickly erected. Externally the walls are overlaid by a lightweight curving aluminium mesh veil that controls solar gain and modulates daylight into the building.

The NAIC includes a large rooftop photovoltaic array and regenerative electrical heating and connects to the university's CHP plant. The landscape was designed in coordination with the university's biodiversity plan. On completion the building was EPC 'A' rated and received BREEAM 'Excellent' certification.

Cullinan Studio's design serves two purposes: outwardly it is a creative and welcoming showcase of the best of British design and engineering. At its core, the building is a state-of-the-art research and teaching facility; a platform for the next generation of researchers to come together and shape the future of an industry on the brink of dramatic change.

NOTES TO EDITORS

Location	University Road, University of Warwick
Site area	17,800m ²
Internal floor area	33,000m ²
Value	£85 million
Construction dates	2015-2018
Client	University of Warwick; Tata Motors; Jaguar Land Rover; WMG (Warwick Manufacturing Group)
Architect	Cullinan Studio
Interior designer	Cullinan Studio
Structural Engineer	Arup
Services engineer	Arup
Civil engineer	Arup
Fire engineer	Buro Happold and Fire Guidance
Acoustician	Buro Happold
Timber engineeringr	Eurban
QS:	Rider Levett Bucknall
Project Manager	Rider Levett Bucknall
Planning Consultant	Turley
Contractor	Balfour Beatty
Interiors fit-out	Penson
Specialist Lighting	Arup
Signage/Wayfinding	Maynard
Landscape architect	Grant Associates
Photos	Hufton+Crow

Cullinan Studio

Cullinan Studio believes that architecture is a social act, both in its creation and its impact on people and planet. Too often the built environment is unnatural, unhealthy and unfair. Cullinan Studio engages with organisations and communities, seeks local, low-carbon, non-toxic solutions, and strives to connect people to nature. Through that connection, the practice raises awareness and fosters care of the planet.

The late RIBA Royal Gold Medalist Ted Cullinan founded the practice in 1965 based on cooperative principles. The London-based architectural and masterplanning practice has created award-winning projects for Kew and Edinburgh Botanic Gardens, Cambridge and Warwick universities, and the BFI, with Maggie's Newcastle epitomising the practice's natural design philosophy.

The studio works across all sectors and scales, from education to housing and workplace. Recently completed projects include 2020 Civic Trust Awards winner Royal Horticultural Society (RHS) Hyde Hall Hilltop Complex, Chelmsford; 2019 Civic Trust Awards Commended Spring at Stonebridge Park, a housing regeneration scheme for Hyde Group, Wembley; and Push-Pull House, a new-build family home in Amersham.

The NAIC is the practice's latest project with WMG at the University of Warwick. The studio has worked with WMG designing award-winning buildings for manufacturing research since 1992, completing the International Manufacturing Centre (2002), the International Digital Laboratory (2008), the International Institute for Product and Service Innovation (2012) and the International Institute for Nanocomposite Manufacturing (2014).

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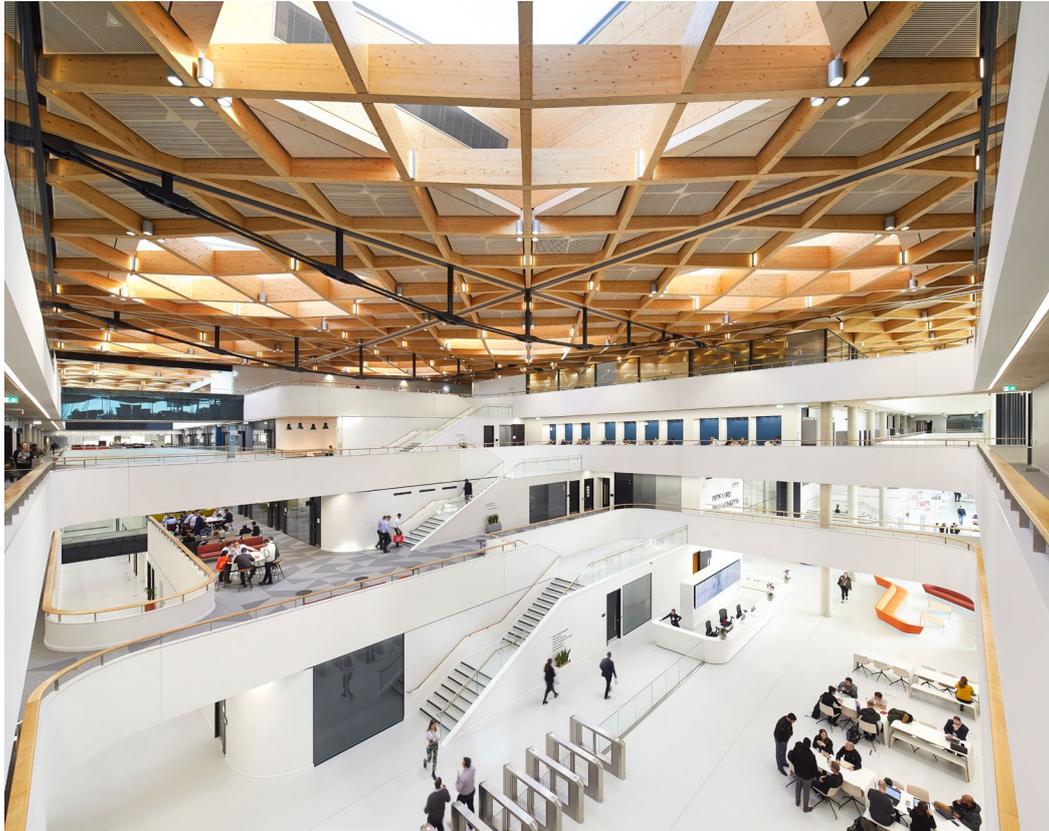


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