

**Introduction:** Schmidt Hammer Lassen Architects is an award winning Danish architectural practice, shaped by the virtues of Scandinavian traditions and orientated towards working internationally. The practice, founded in 1986, is located across its four studios in Aarhus, Copenhagen, London and Norway. A 120 -strong staff is engaged in a broad spectrum of project types in the Scandinavian and Nordic countries, Eastern Europe (Czech Republic and Estonia), the UK, Middle East and China. Completed key projects include the extension to the Royal Library in Copenhagen (1999), the Aros Museum of Art in Aarhus (2004) and the Katuaq Cultural Centre in Greenland (1997). Recently the practice was awarded the commission to design Scandinavia's largest library: the new Urban Mediaspace in Aarhus, Denmark.

We have completed and are undertaking a number of large scale tertiary education projects in Scandinavia and the UK described further in this document to illustrate our design approach.

**The new Faculty of Architecture, Building and Planning for the University of Melbourne:** This is an exceptional opportunity for the Faculty; to create in collaboration with its chosen design team an outstanding new teaching building to meet the strategic aspirations of the Faculty. The building will provide model spaces for teaching and learning and spaces for generating and disseminating the ideas and concerns of ABP and the MSD. And through an integrated approach to the landscape and urban design, the new building will contribute to the quality of the physical environment and social life of the campus. For the new ABP, the end result is far from the only consideration. The process of defining and constructing the new building needs to be exemplary; showcased as a result of a collaborative and integrated process between the University, the design team, the building's users and wider stakeholders of the project.

Central to our way of working is this notion of collaboration. Our design process and the achievement of a successful project is one which relies upon and benefits from the conversational exchange between client and architect. This is one of the most fundamental and enjoyable aspects of creating a building. Our strategy is to form and guide a workspace that ensures the active participation of all members of the design team, the client body and the wider community. Our architecture is enriched by this diversity of vision.

**Design Approach:** Each project comes with its own themes, aspirations, challenges and potential. We seek to respond with architecture that has a powerful yet straightforward attitude and identity without compromising functionality and economic responsibility. Our approach is guided by principles that we believe are pertinent to the aspirations of the new building for ABP and MSD:

**Democratic architecture:** Rooted in a Scandinavian architectural tradition with the implicit notion of democracy as a starting point, our approach to architecture creates modern, open and multi-functional spaces that revolve around the people they are for. We seek to welcome people into our buildings, stretching the thresholds of what is public and private.

**Place making and identity:** Every project seeks to understand and respond to it's site, and to convey its 'genius loci', sense of place. Thus we have designed with brick in Aarhus next to an historic centre, with timber in Greenland for a building in the landscape and in glass in Aberdeen, to create a glowing icon for the city.

**Generating ideas:** Every project is designed around its central idea. The open and overlapping central atrium space of the City of Westminster College seeks to provide an open and un-inhibiting environment for its diverse student population, the 'street' that passes through the Aros Art Museum pulls the public into the building, the ground floor of the extension to the Royal Library in Copenhagen maximises the threshold of public space and attracting visitors into the institution.

**Sustainable Design:** Architecture is about creating a better framework for human life and development as well as about considering the nature and resources of the planet from a global sustainable perspective. As architects, we have not only the opportunity but also the responsibility to design a better world. Sustainability is not solely a question of CO2 reduction. Sustainability will be approached holistically, with consideration of all the social, environmental, health and economic aspects of the project.



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#### Built and Unbuilt projects/

##### Halmstad Library/Sweden/2005

- 1/The library sits over the river Halmstad
- 2/ The project was planned around the existing trees on the site
- 3/ The idea of the building is about the beautiful landscape that surrounds it

##### University of Oxford Chemistry Building/ Competition/2009

- 4/The 20,000m2 building responds to the grain and scale of Oxford's science area and provides a frontage for a new public square
- 5/The building is a showcase for the department of chemistry

**Educational architecture in Denmark reflects the wider Scandinavian tradition for democracy in the workplace, based on a particular view of society that embodies values of welfare, openness and equality.**

We embrace this tradition through the creation of joyful, healthy, light filled and dynamic spaces conducive to contemporary ways of learning and teaching. Adaptability and flexibility are central to the functionality of these projects. As communication and information flow is now dependent on rapidly evolving digital technologies, the buildings must be prepared for the future—for new technologies and the resulting new ways of learning. Our buildings are designed to get people together and provide places for interaction and socialising, planned to provide meeting places and to provide routes for 'paths to cross'. And attention is paid to the quality of the interior space—scale, views, light, ventilation, acoustics and materiality. When there are so many choices of where to work, so many commercial diversions, people should want to be in these buildings. The more the buildings are used, the more dimensional they become and thereby the greater the pull becomes to use them.

We understand that educational architecture is first and foremost to provide for the needs of the students and the teachers. It is also for the institution—the opportunity to make manifest the values and priorities of the school/college/university. With competition to attract the best students and staff, good learning and working environments can help competitiveness. Architecture can also provide recognisable and memorable symbols for an institution.

We have selected two projects we consider relevant to the ABP/MSD project to demonstrate the character and expertise of the practice in relation to the Academic Environment:

**1/2/3/4/The University of Aberdeen New Library, Aberdeen**

The project demonstrates:

- Our approach to the design of a stimulating and comfortable student focussed academic environment of a similar scale to ABP(15,000m2)
- Our approach to sustainable design; the library has achieved BREEAM Excellent, the highest rating under BREEAM 2006: UK's measurement of sustainability.
- Our approach to the integration and design of the public realm; SHL designed the connecting public plaza as an extension of the building
- Our response to the issue of future flexibility; servicing runs under a raised floor allowing internal partitions to be rearranged as required in the future.
- Our response to the desire of the University to have an exciting and distinctive building as a symbol of the values of the institution.
- Our creative ability to find unique architectural solutions within a typical Higher Education building budget
- Our ability to provide an integrated design solution; SHL provided architecture, landscape and interior design for the project

**Project Description:** The New Library will replace the existing University library. In addition to the collections and study areas, the new library includes an exhibition space and a state of the art book conservation studio.

Central to the original competition stage design concept was the idea that the library could and should be very visible, and become a landmark both for the University and the city. Rather than blending into the scale of its existing surroundings, a simply and elegant 10-storey tower stands out in the Aberdeen skyline. Visual lightness and airiness in combination with its proportionality, materials palette and clean lines lend the building a timeless quality. The facade is designed to serve as a climate buffer, changing in response to specific qualities of light or images projected onto it. During the dark winter months, it will be visible as a glowing landmark. A large organic opening that cuts through the floors at every level, creating continuous visual connections throughout the full height of the building. In contrast to the orthogonal geometry of the exterior, the atrium's curvilinear opening lends the interior a more organic architectural expression while also creating spaces for adjacent study areas.

The 15,500m2 project is currently out to tender with completion due in March 2011.

**5/6/7/8/9/Performers House, Silkeborg, Denmark**

The project demonstrates:

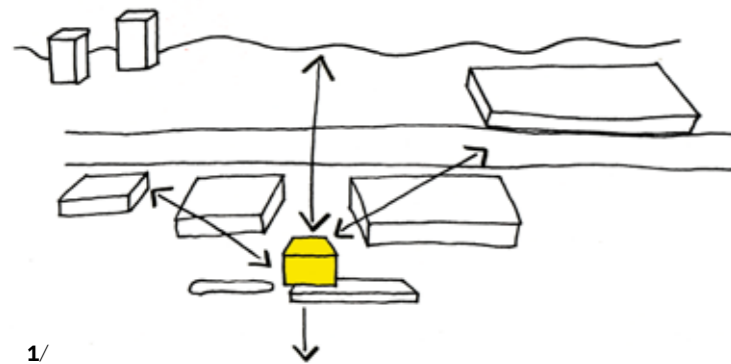
- Our approach to the design and delivery of a creative student focussed learning environments, with particular emphasis on flexibility and robustness of space
- Our ability to work to a tight project budget without compromising ambition or quality

**Project Description:** Completed in 2007, Performers House is a new international performing arts college for actors, musicians and dancers. A modern interpretation of a Danish folk high school, Performers House combines performance areas, classrooms, living accommodation and social spaces, to create optimal and joyful learning conditions for its students.

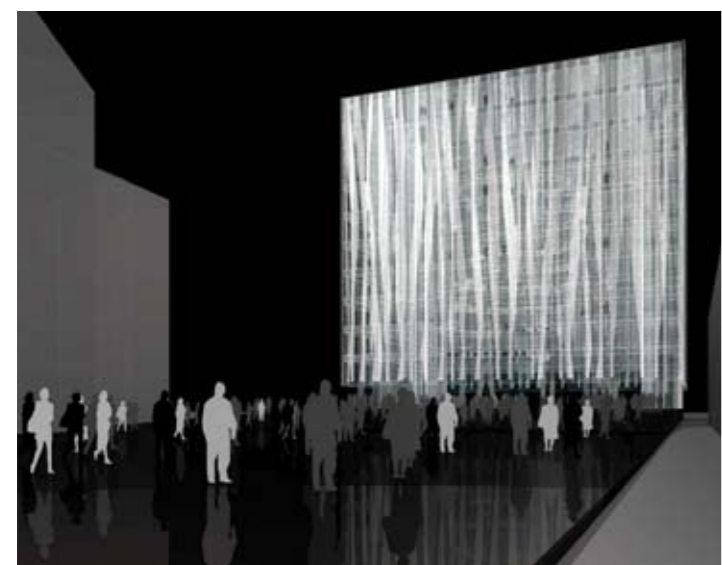
Performer's House is located in a former industrial town on Denmark's longest river. Housed on the site of an old paper mill, the project combined the re-use of an existing building, the old boiler house, with new accommodation. The spaces between the buildings are configured to create new dynamic outdoor spaces for performances and activities, reinforcing connections and integration with the local community.

Inside, the spaces are configured to provide for maximum flexibility. Internal folding walls and curtains can be opened and closed, providing endless potential for varying interiors. The facade is equally versatile; shutters on the main stage fold back and glazed sections can be opened, making it possible for passers-by to hear music or catch glimpses of theatrical performances.

The architectural style and choice of materials are simple and bold. The facade of raw corten steel was a deliberate choice to create a simplified building volume expressing the area's industrial heritage.



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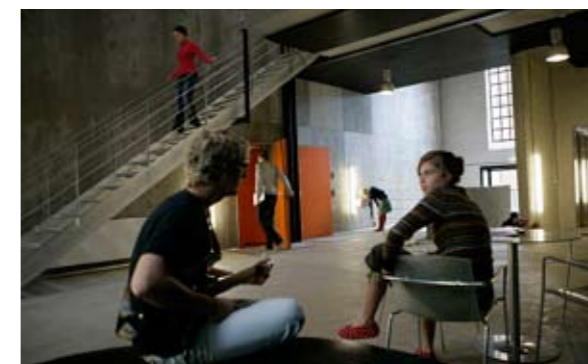
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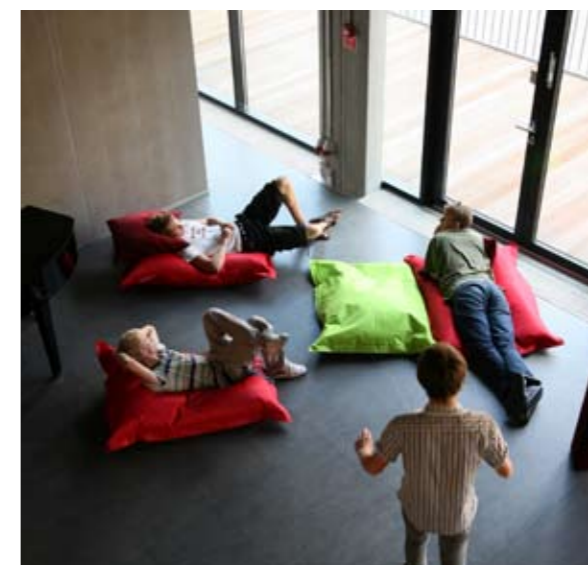
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**City of Westminster College, Paddington Green, London: We have chosen to use our City of Westminster College project as a demonstration of our approach to the design of an environment for a diverse student body with a broad spectrum of learning/teaching/socialising/exhibition spaces with particular emphasis on spaces for interaction and chance meetings and flexibility of space.**

This Further Education college is the new flagship building for the College, redeveloping its central London Paddington Green site. The new state of the art building will have world class facilities to support the College's extensive and growing range of vocational and academic courses. Won through an RIBA design competition in 2006, the 25,000m2 College, procured through a Design and Build contract, is scheduled for completion in July 2010.

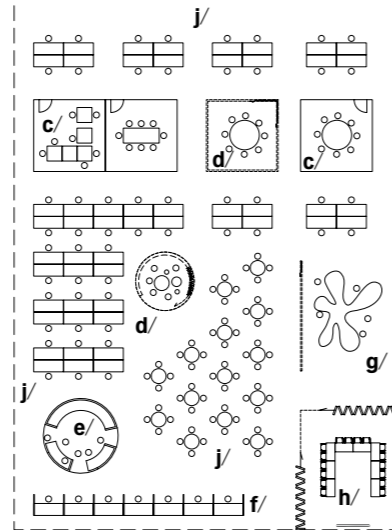
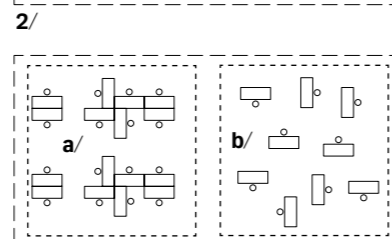
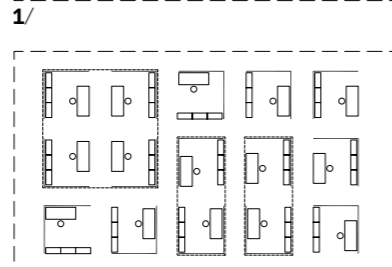
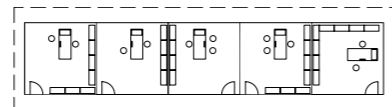
The college is designed as a simple, yet bold, open and colourful geometric form that rotates around a dynamic inner atrium—permitting a flexible organisation of the building. Intended primarily for teaching purposes—both for continuing education and standard qualifications in technical, academic and arts subjects for students aged between 16-35—the building also accommodates public functions—a theatre, café and meeting rooms at ground floor. The remaining six floors accommodate academic and teaching facilities, offices, staff areas and a gym. The two upper floors are primarily dedicated to academic courses and nursery facilities. The indoor open atrium ensures visual connections through the building, fostering interaction and synergy between the various departments. The building actively engages with its surroundings by virtue of its form: voids cut deep into its mass create spaces that reach right up to the building. On one side it opens up to Paddington Green Park, while opening out onto the city on the other.

The interior of the college was driven by:

- **New functionality for new teaching methods:** Evolving methods of curriculum delivery are moving away from passive teaching and increasingly focusing on IT and teacher assisted open learning and group study, putting emphasis on the Open Learning zones and social spaces which constitute a large area of the new build. Furniture pieces that can work well in a variety of layouts and bespoke space dividers which function as teaching walls are some of the elements we have successfully introduced to the project.
- **Diversity:** The new building will be home to a diversity of individuals with different needs, therefore the interiors need to provide a range of environments that students can identify themselves with while maintaining the sense of whole.
- **Identity:** The interiors need to reflect the shared collective identity of City of Westminster College and enhance it. A sophisticated yet inviting milieu encourages its students to be curious, to aspire and learn from each other. It is an institution with state of the art facilities that simulate real life professional work settings, effectively preparing the students for the future.
- **Seamless integration with architecture:** Clean, light-washed, modern spaces are complemented by careful use of materials, textures and colour, allowing different internal atmospheres to flourish. Robust materials and simple detailing fulfill the functional requirements of a heavily used educational facility and decrease the lifetime maintenance costs.

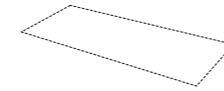


Working model/Testing room and furniture layouts

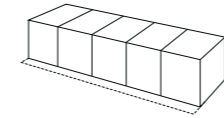


**Studies for different learning situations/**

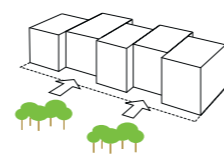
- 1/ Cells/private learning/contemplative space
  - 2/ Semi private/varying degrees of interaction
  - 3/ Multi-functional/combining cells and semi private space
- a/ Allows clusters of groups in open plan medium interaction
  - b/ Individual study spaces in open plan areas encourages interaction
  - c/ Private meeting rooms/workshop rooms in open plan areas/acoustic and visual separation
  - d/ Semi-private/spontaneous clusters/pods can be screened off when not in use/ visual separation/mobile work-benches
  - e/ Specialist research areas
  - f/ Individual study zone
  - g/ Lounge/flexible area/can be screened off
  - h/ Formal teaching/seminar room acoustic folding wall/video conferencing facilities
  - j/ Open plan/different seating arrangements



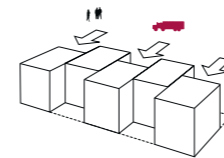
**Site/**



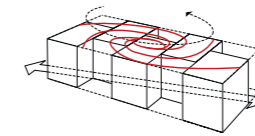
**Scripting of programmatic sequence and flow/**



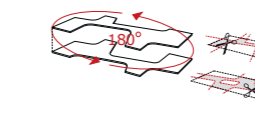
**Exterior/ Interior connections/**  
Interface with the park creating landscaped public square, allowing green to flow into the building



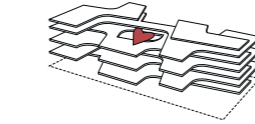
**Exterior/ Interior connections/**  
Interface with infrastructure/ access creating public squares, defining edges and activating facades



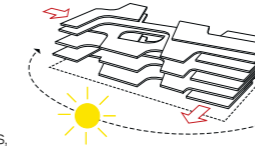
**Public with Private/** Vortex/ Gallery Street Vertical and horizontal permeability and flow



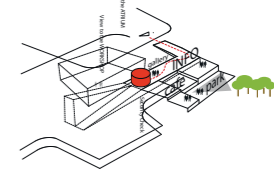
**Simple Geometrical Concept/** Opens up possibilities to create highly diverse and flexible spaces



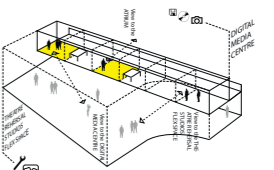
**Openness with Intimacy/** Vortex as heart of the building



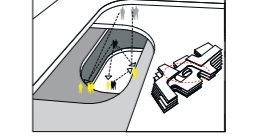
**Responsive Form/** Responds to context and environmental parameters



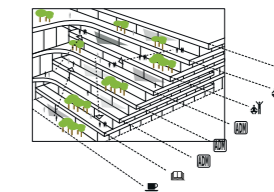
**Gallery/Street interface/** Visual connections with interior functions and landscape



**Open/ Flexible Geometry/** Creating surprising possibilities for inspiration

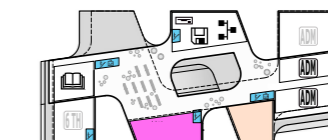
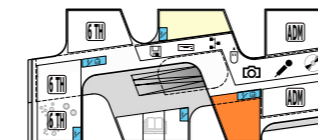
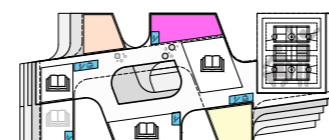
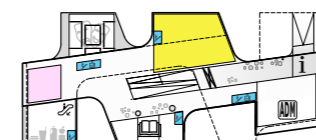
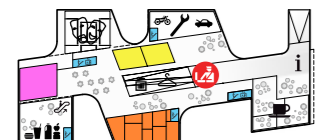


**Vortex/** Atrium as space of intense synergy/



**Expressive Exterior/** Reflecting the vivid and diverse world of the interior

**Conceptual diagrams/**



Diagrammatic floor plans/

**The new Faculty of Architecture, Building and Planning must be a showcase for the future of building design in terms of its attitude to sustainability. In the design of every aspect of the project, from its orientation, to how windows are opened, to what the chairs are made of, there is the opportunity to be innovative, creative and responsible. This design team will treat the project as a piece of advanced research in itself, building upon our past experiences and bringing the next level of innovation to the design. This will be an exciting process to be shared with the University and the ABP/MSD student community.**

Schmidt Hammer Lassen Architects is committed to sustainability and sustainable design both within our offices and on all of the projects we design. Through our 'Environmental and Sustainability Policy', our 'Green Manifesto' and through continual training, all of our staff have a good knowledge of green specification, recycling opportunities and responsible material sourcing. Sustainable design is embedded into our design process and a Green Audit is an integral part of our stage review process.

We have teamed with Arup (see page 5) in particular for their expertise with sustainable design. Arup have the distinction of being able to cover not just the building related issues but also strategic sustainability which will be a key issue in positioning the ABP building in the international spectrum.

**Approach:** Our approach to the design for the ABP/MSD is to design the building in such a way that its dependence on active systems, and therefore energy use, is reduced to an absolute minimum. This will be achieved through a variety of ways, but is likely to include the following:

- maximising daylighting
- using natural ventilation wherever possible
- maximising thermal mass to facilitate night-time cooling
- reducing solar gain and glare
- use of renewable energy or low or zero carbon energy sources

This agenda optimises the building's environmental performance primarily through passive means and energy efficiency. A range of technologies for meeting the energy demand would then be appraised to assess the suitability for implementation on site. Feasibility of each technology would cover a number of factors, including whole life costing/payback periods, maintenance, appropriateness to the site and the project.

**Building Physics:** With Arup, an appropriate level of simulation would be undertaken at each stage of the design process using specialised software. The ability to use Arup's technical and analytical experience to interpret, communicate and apply the result of complex simulation results is an essential part of the design process. This process can be shared with students as the design of the building progresses and when it is complete. Arup can provide the following analytical capabilities:

- Energy consumption and carbon emissions
- Daylight and glare
- Thermal comfort (human comfort prediction)
- Natural/mechanical ventilation
- Facade performance (heat gain/loss, reflectivity, radiant effects, shading)

**Measuring sustainability:** The University has stated that the building will need to demonstrate an outstanding level of environmental performance, expected to be a 6-star Greenstar rating (or equivalent) using green Building Council of Australia rating system. This method of measurement will allow the building to be effectively benchmarked against other buildings using the system's standard quantitative measurements.

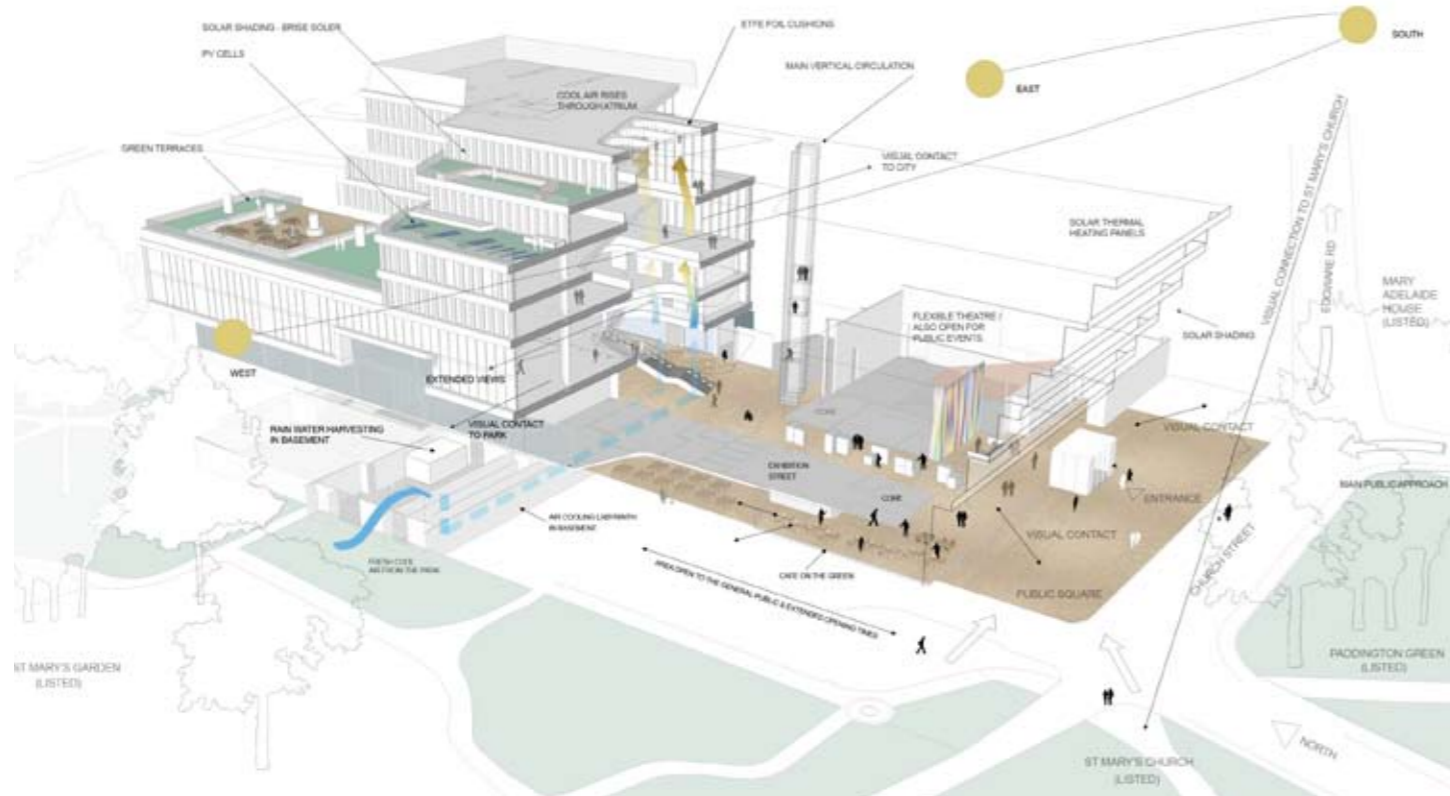
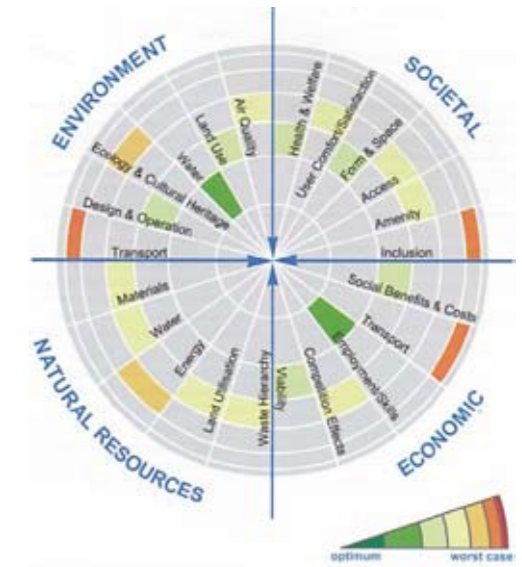
In parallel, it may be desirable for the University to employ Arup's SPeAR® tool; a more qualitative assessment that asks the client what is important to them rather than imposing on the client what should be important.

Arup's SPeAR® (Sustainable Project Appraisal Routine) tool seeks to provide a structured process for planning, assessing and reporting on sustainability in its most holistic sense by addressing issues of environment, natural resources, society and economics.

The key output of a SPeAR® appraisal is a SPeAR® diagram (right). The diagram provides a graphic illustration of the diverse issues that may be considered when assessing the sustainability of a project. SPeAR® appraisals can highlight where a project performs poorly in terms of sustainable principles and areas which require optimisation, or where the balance between positive and negative needs to be investigated in more detail.

The design team are able to assist the University of Melbourne by:

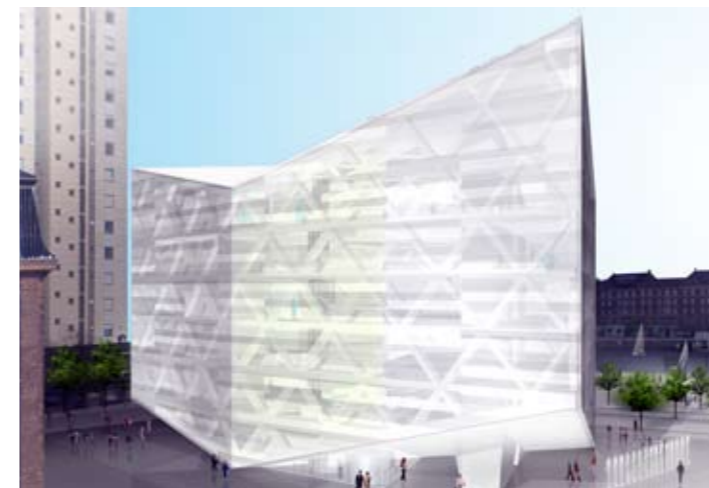
- defining sustainability for the University of Melbourne and the architectural design of the ABP new building;
- planning and designing for sustainable outcomes across a multidisciplinary project team;
- supporting the achievement of environmental performance aspirations;
- assessing and informing sustainability aspects of design and ongoing performance; and
- communicating sustainability and sharing the process with the Faculty community.



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**1/ City of Westminster College/London/2010**

- The college has been designed to exceed—in terms of the amount of energy generated from renewable sources—the sustainability requirements of 'The London Plan' and the local Borough's targets
- The form of the building responds to its orientation, each floor of the stepped south-facing facade provides shade for the floor below and there is external solar shading on the east and west facades
- Construction materials have a high thermal mass keeping the building warm in winter and cool in the summer.
- Heating is mainly provided by biomass boilers assisted by photovoltaic panels
- The building reuses its rainwater and has a green roof.
- The central atrium is naturally ventilated, with fresh air supplied by a labyrinth of fresh air ducts at basement level

**2/The University of Aberdeen New Library/ Aberdeen/2011**

- Consisting of an irregular pattern of insulated panels, the 50% solid high performance glazing reduces solar gain and heat loss
- Photo voltaic cells supplement the building's energy requirements
- The building reuses its rainwater
- An energy efficient system of displacement ventilation is employed

**3/Nycredit Headquarters/'The Crystal and the Cloud'/2009**

- A highly insulated triple glazed facade helps achieve exceptionally low energy consumption; at 70kWh/m2 the building consumes 25% less than required by legislation
- Photo voltaic cells significantly supplement the building's energy requirements
- Night-time cooling; the building is ventilated naturally through the facade to maintain optimal internal temperatures

**Joint Venture: We are expressing interest in this project jointly with Melbourne based Billard Leece Partnership Pty Ltd. Through a joint venture arrangement with BLP, we will be able to provide the local knowledge and required registrations for the project.**

Schmidt Hammer Lassen Architects and Billard Leece Partnership share the values and aspirations required to achieve the highest quality of design for the new Faculty building and together have the required expertise and experience. SHL and BLP would work together through all stages of the project, with Schmidt Hammer Lassen Architects taking design lead. The allocation of work would shift as the project develops with SHL having a leading role in the design development stages and BLP have a leading role in the construction documentation and construction stages.

For the design development stages of the project, SHL would have key senior personnel based in Melbourne and a permanent representative based in Melbourne throughout the project.

**Design Team:** For engineering and specialist consultancy services, Arup is proposed as part of our design team. SHL and BLP have worked with Arup on numerous projects internationally.

**Schmidt Hammer Lassen Architects:** Alongside libraries and other public and cultural buildings, Schmidt Hammer Lassen Architects has significant experience in the design of learning spaces and educational buildings relevant to this exciting task for the new Faculty of Architecture, Building and Planning for the University of Melbourne. Educational projects include a School of Performing Arts in Silkeborg, Denmark (2007); Thor Heyerdahl College in Larvik, Norway to be completed this year; the new City of Westminster College due to be completed in 2010 and the University of Aberdeen New Library due to be completed in early 2011.

The practice is led by six partners who share a common philosophical approach toward the design process. With six Partners, there is a distribution of projects that allows each partner to be closely involved and directly hands-on—interfacing with the client at meetings and presentations—and behind the scenes, with the teams within each office.

Schmidt Hammer Lassen Architects provides architecture, master planning, urban design and landscape architecture services; Schmidt Hammer Lassen Design provides interior design and product design services. Please see our website [www.shl.dk](http://www.shl.dk) for more information.

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**Billard Leece Partnership:** Founded in 1995, the 95-strong Melbourne based practice specialises in the design and delivery of education, health, multi-unit housing, and urban planning

The practice of Billard Leece Partnership is founded on a commitment to quality in design. Architectural expression and urban design emerge out of a considered, comprehensive and correlated assembly of building forms and components. Design is about finding a best-fit rationale that addresses and reconciles the imperatives of cost-effective construction, the vicissitudes of the client brief and the over-arching commitment to an Australian architectural heritage.

BLP operates state-of-the-art CAD technology and is at the forefront of developing CAD technology in 3D documentation, working closely with the software developers. BLP use 3D modeling as a design tool, as a means of presentation, and in the production of construction documentation.

**Arup:** Arup is a global organisation of designers, engineers, planners and business consultants, founded in 1946 by Sir Ove Arup. It has a constantly evolving skills base and works with local and international clients around the world. We pride ourselves on taking a high-quality, design-led approach which has made us the engineer of choice for the world's leading architects. Arup continue to lead the industry in technical and digital innovation which will provide tangible benefits throughout the design, documentation and construction phases of this project.

Arup's solutions are cast within a framework that encompasses and is driven by clever innovative and integrated design, balanced by fundamental criteria, notably buildability, cost efficiency and finally programme. Arup is actively engaged with the planning and delivery of education facilities across the globe. Their extensive education experience include all types of facilities such as secondary and university buildings, class rooms, lecture theatres, laboratories, and auditoria; and ranges from new build and extensions through to the modernisation of existing buildings. Arup understands that the educational design and planning process must deliver effective, adaptable and innovative learning environments for students and educators.

Delivering sustainable outcomes on all projects is Arup's objective. Their focus on designing educational facilities as visible demonstrators of practical sustainable technologies is part of their commitment to building for a sustainable future.

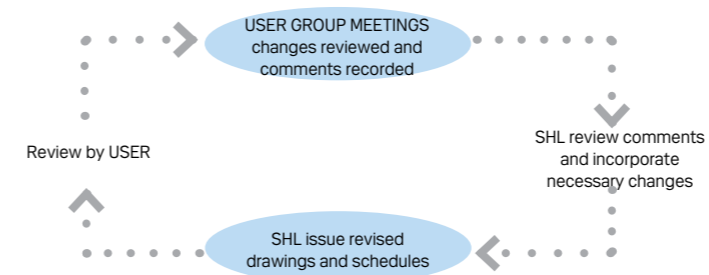
**Committed Leaders and Senior Team:** Arup understands that the success of such projects is ensuring a dedicated and appropriate level of key senior leaders who are engaged throughout the project's development and execution. Arup's leaders who will be responsible for the delivery of this project are renowned for designing and delivering outstanding engineering for many of the landmark buildings in Melbourne, across Australia and internationally.

**Design Process:** We have developed a structured design process that manages in parallel the development of the design brief, the design and its coordination with other disciplines and the cost framework of the project.

The Development of the Brief: The development of a clear and agreed brief for the new Faculty project is a fundamental part of the design process. Every 'user' of the building will have their own concerns and knowledge. Our task as architect is to resolve and prioritise the different requirements within a single architectural solution, resolving conflicts in the brief where they might arise.

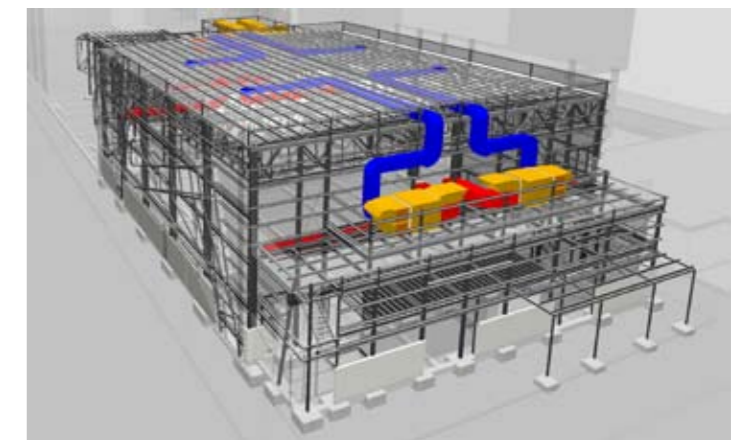
SHL has led the briefing process on a number of complex projects each involving detailed consultation with multiple User Groups as well as other stakeholders such as planners and conservation groups. In the experience of SHL, the briefing process is very valuable in creating good channels of communication with the wider client body and a creating a sense of shared ownership of the project. As architect we see ourselves responsible for explaining the project to all those who are involved with it, at every stage of the project.

By way of example, for the University of Aberdeen New Library, four User Groups were formed. 'Briefing Workshops' took place to understand the aspirational, spatial, organisational and technical requirements of the project. This initial brief and criteria for the project was analysed and presented back to the client in both a quantitative and qualitative way in the form of adjacency diagrams, tables and descriptive text as a document signed off at key stages by the client. In order to help the User Groups discuss their needs and ambitions, the existing spaces and capacities of the library were measured to make a comparison and other libraries were visited as points of reference.



**Conceptual and Schematic Design Development:** As the brief is being developed we will develop the ideas and approach generated during the competition in the forms of diagrams, sketches and three dimensional models. We will explore the volumetric, organisational and tectonic possibilities in relation to the physical characteristics and scale, orientation, views and access requirements of the site. Before any single solution is developed, SHL will explore a number of possible solutions; a process of discussion, proposition, comment and re-proposition.

**Cost Planning:** 'Cost Planning' is an integral part of the design process. A cost framework for the project would be developed at an early stage, examined against other projects of this type in similar contexts. As the design concept develops the options will be analysed against the budget to ensure that the final concept design direction will be within the budget.



**Detailed Design Development: Optimisation and Integration:** As the design develops advanced technologies and software will be used by the design team to provide highly optimised and integrated solutions. These will vary from modelling of geometry for repetition and rationalisation, to the interactive optimisation scripts developed to reduce tonnage or maximise structural efficiency.

**Advanced Building Modelling:** Arup is the clear industry leader in the field of advanced digital engineering and building modelling. They will bring to this project unrivalled geometric, building and analytical modelling skills for the benefit of design development through to construction efficiency and logistics. Use of total building modelling allows the team to 'virtually' construct and hence assess and improve coordination. This means that every structural element, penetration and level change will be fully resolved and all ducts, conduits and plant will be included.

Drawings are one output from a model, but the advanced modelling capability of Arup means that the team can work from the earliest sketches all the way to a virtual construction dress-rehearsal where we provide construction planning linking project programmes to models. By producing a virtual model of building system components, it is possible to effectively visualise and manage design coordination, thereby improving confidence in the design and reducing the chance of late changes and clashes between building systems on site. (Example of Arup model above).

**A Research and Education Virtual Model:** For this project Arup proposes to offer their virtual model for research and education. This means access to their digital content through design and construction to be then used as a resource over the life of the building. This will also apply to any extended services we offer from our modelling approach, such as:

- Accurate quantity take-off and associated cost estimate
- Construction programming and phasing
- Component scheduling and direct manufacture
- Facility management and assessment.

**Coordination:** The Virtual Building approach allows the design team to respond quickly and effectively to both planned and unplanned change in a coordination fashion. The interaction between the building services systems (electrical, mechanical and hydraulics), the structure and the external facades can be extremely complex. By producing a virtual model of building system components, it is possible to effectively visualise and manage design coordination, thereby improving confidence in the design and reducing the chance of late changes and clashes between building systems on site.

**Publications:** The work of the practice has been extensively published in Denmark and internationally. In 2008 Birkhauser published 'Outline', a monograph on the work of Schmidt Hammer Lassen Architects with a preface by Barry Bergdoll, Philip Johnson Chief Curator of Architecture and Design at MoMa, New York.

**International competition success:** The practice regularly takes part in international competitions. Recently we were awarded the commission to design Scandinavia's largest library: the new Urban Mediaspace in Aarhus, Denmark, above and right.

We are currently awaiting the decision on the winner of the competition for the International Criminal Court in the Hague, pictured below. Schmidt Hammer Lassen Architects is one of the three placed finalists.



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**Selected Awards:**

**Mies van der Rohe nominations**

- 2005 The Frigate Jutland visitor Centre, Denmark
- 2000 Royal Library, Denmark

**Performers House, Denmark**

- 2008 Emirates Glass Leaf Grand Prix Award 2008
- 2008 Emirates Glass Leaf Award, in the category Mixed-use Buildings
- 2007 Highly Commended in MIPIM AR Future Project Award, Mixed-Use

**Birkerød Sports Centre, Denmark**

- 2008 The Danish magazine "Byggeri" (Construction) "Building of the Year 2008"
- 2008 Rudersdal Architectural Prize
- 2008 World Architecture Festival, shortlisted

**Halmstad Library, Sweden**

- 2007 SFF's Helgjutet Award 2007
- 2006 Kaspar Salin nomination
- 2006 The Municipality of Halmstad Architecture Prize

**Växjö City Library, Sweden**

- 2005 Kronoberg County Architecture Prize
- 2005 SAJK Architecture Prize
- 2004 Växjö Municipality Architecture Prize
- 2004 Kaspar Salin nomination

**ARoS Museum of Art, Denmark**

- 2004 Aarhus Municipality Architecture Prize
- 2004 FX Best Museum Award
- 2004 The In Situ Prize

**Nykredit Headquarters, Denmark 3/**

- 2002 FX International Interior Design Award in the category Best Office Building
- 2001 Copenhagen Municipality Architecture Prize

**Royal Library, Denmark 1/**

- 2003 Du Pont Benedictus Award
- 2001 Nykredit Architecture Prize
- 2000 Mies van der Rohe Award nomination
- 2000 Copenhagen Municipality Architecture Prize

**Katuaq Culture Centre, Greenland 2/**

- 1999 The Eckersberg Medal
- 1998 The Nykredit Architecture Prize 1998
- 1998 Danish Arts Foundation Award

**MIPIM Awards**

- 2009 MIPIM AR Future Award, Mixed-use, for the new DGI City (Sports Complex) in Holbæk Harbour, DK
- 2008 Winner of MIPIM AR Future Project Award, Office Buildings - Amazon Court, CZ
- 2007 Highly Commended in MIPIM AR Future Project Award, Mixed-Use - Performers House, DK
- 2007 Winner of MIPIM AR Future Project Award, Residential - Skyttehusbugten, DK
- 2006 Highly Commended in MIPIM AR Future Project Award, Big Urban Projects - Spiladós Conference & Concert Centre, IS