



GLOBAL SPECIALISTS IN LEAD, ENGINEERING AND  
SYNCHROTRON BEAMLINE HUTCH MANUFACTURING

[www.calderlead.co.uk](http://www.calderlead.co.uk)



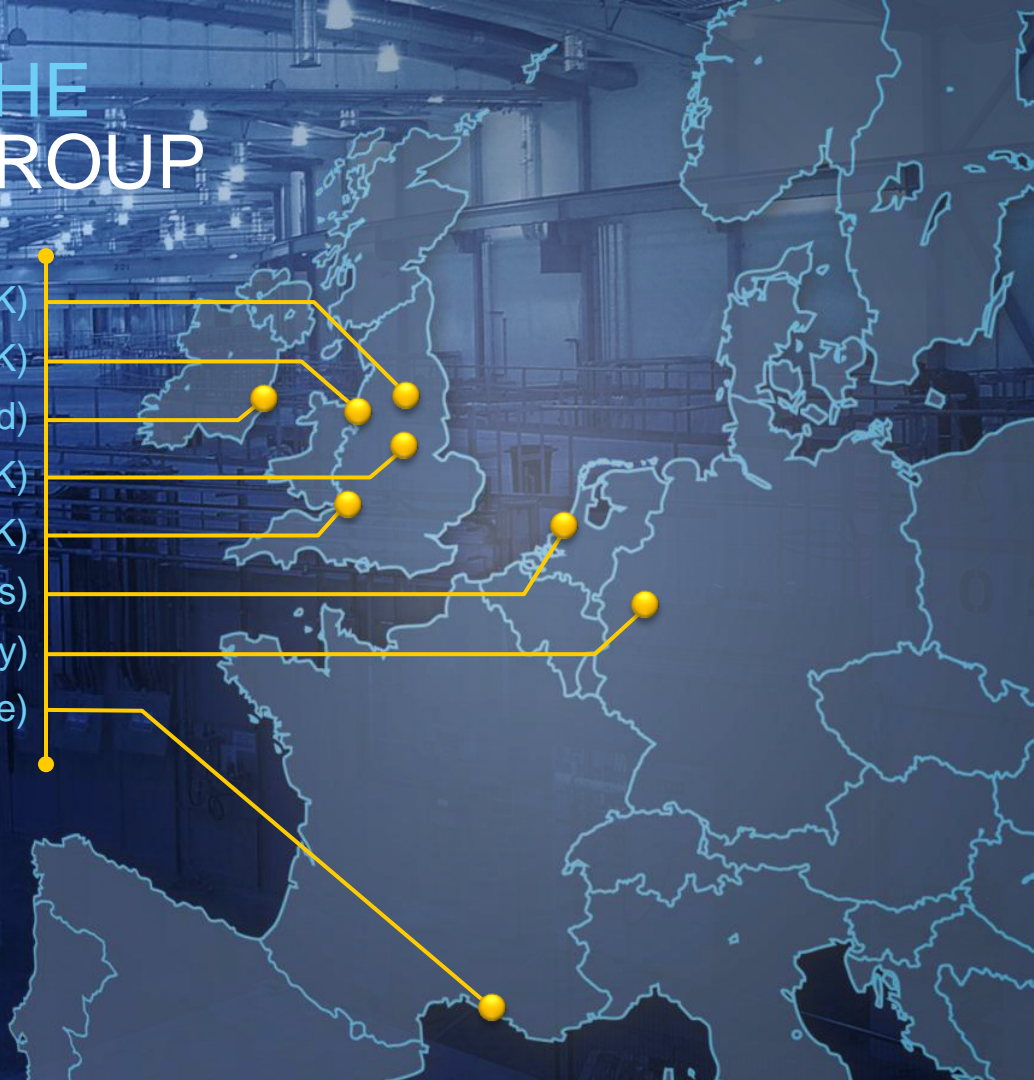
Lead is at the  
heart of our business

For over 200 years we have manufactured the very highest quality lead products and today provide our customers with engineered solutions from our purpose built state of the art special products facility in Chester, UK.

# PART OF THE CALDER GROUP

£160m  
engineering  
group with  
divisions in  
5 European  
Countries,  
employing  
over 520  
personnel

- Leeds (UK)
- Chester (UK)
- Dublin (Ireland)
- Nottingham (UK)
- Tewkesbury (UK)
- Rijswijk (Netherlands)
- Krefeld (Germany)
- Marseilles (France)



# A-DIVERSE MARKET

Supplying high  
quality radiation  
shielding products  
and services to a  
diverse customer  
base including

Nuclear Power



Research &  
Synchrotron  
Shielding



Defence



Building Products  
& Construction



Medical &  
Healthcare



Industrial





**BAE SYSTEMS**



Guy's and St Thomas'  
NHS Foundation Trust



East and North Hertfordshire   
NHS Trust



**ThermoFisher**  
SCIENTIFIC

# WORKING WITH INDUSTRY LEADERS



# TECHNOLOGY DRIVEN LEAD PRODUCTS

Packaging for the safe production, distribution and storage of radioactive isotopes



Battery terminals for automotive applications



Hutches or Enclosures for Synchrotron Shielding



# TECHNOLOGY DRIVEN LEAD PRODUCTS



Reactor shielding  
for nuclear  
defence



Shielding  
systems,  
containers and  
vessels for the  
Nuclear Power  
Industry



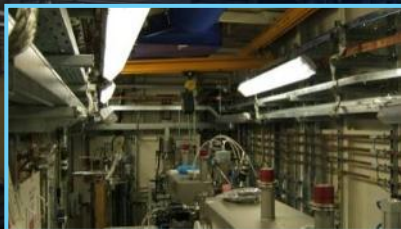
Lead shot for  
steelmaking and  
ballast



# A UNIQUE APPROACH



Calder is a global supplier in the field of synchrotron radiation shielding products and specialises in the design, manufacture and installation of lead-lined hutches.



Calder's radiation shielded hutch and enclosure rooms are custom designed, manufactured, and installed to meet stringent customer requirements and we are the only supplier with the manufacturing capability to carry out all the design, fabrication, machining and assembly work from our Chester Facility.

Calder hutch structures can incorporate a vast range and variety of design features



Hinged Door  
Chicanes,  
Removable lid  
Chicanes and  
Crane

Alignment  
Window/Survey  
Window



Hinged Doors

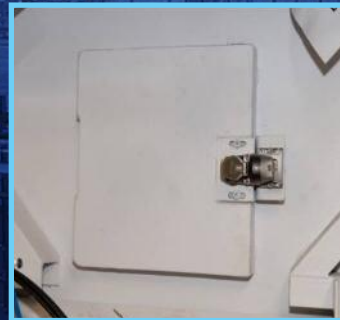
Calder hutch structures can incorporate a vast range and variety of design features



Chicanes, Lead Glass Viewing Window & Wall Panels



Alignment Window/Survey Window



Hinged Doors with Lead Glass Viewing Windows

Calder hutch structures can incorporate a vast range and variety of design features



Removable and/or Fixed Roof Panels



Bremstrahlung Wall



Cranes, Chicanes and Wall Panels



Calder hutch structures can incorporate a vast range and variety of design features

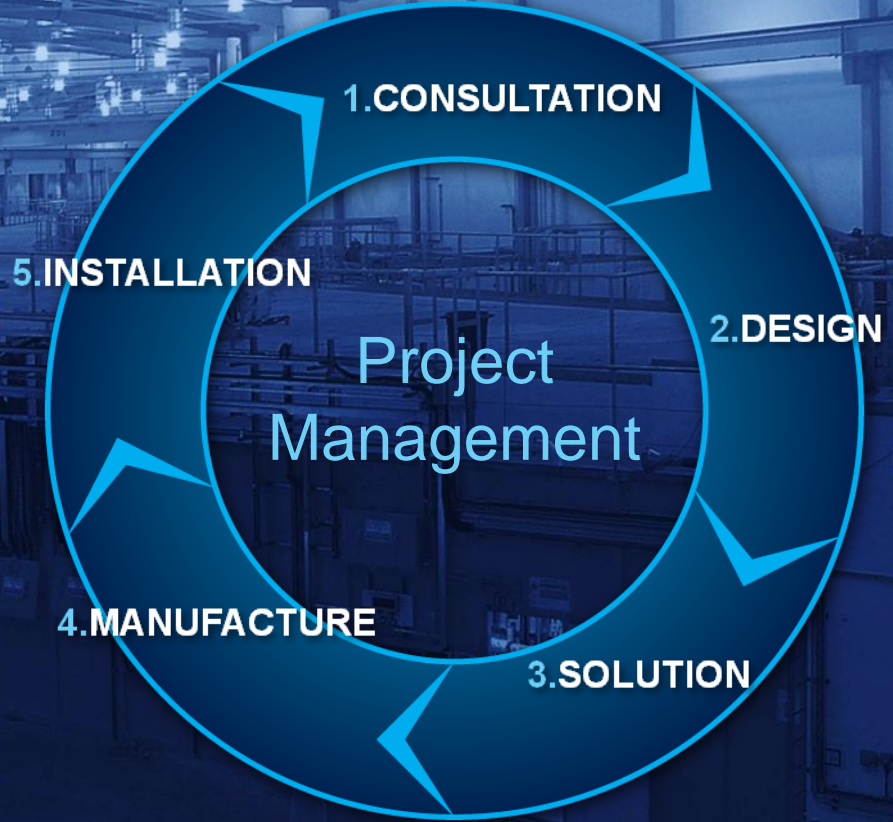


Sliding Doors

Transport Shielding



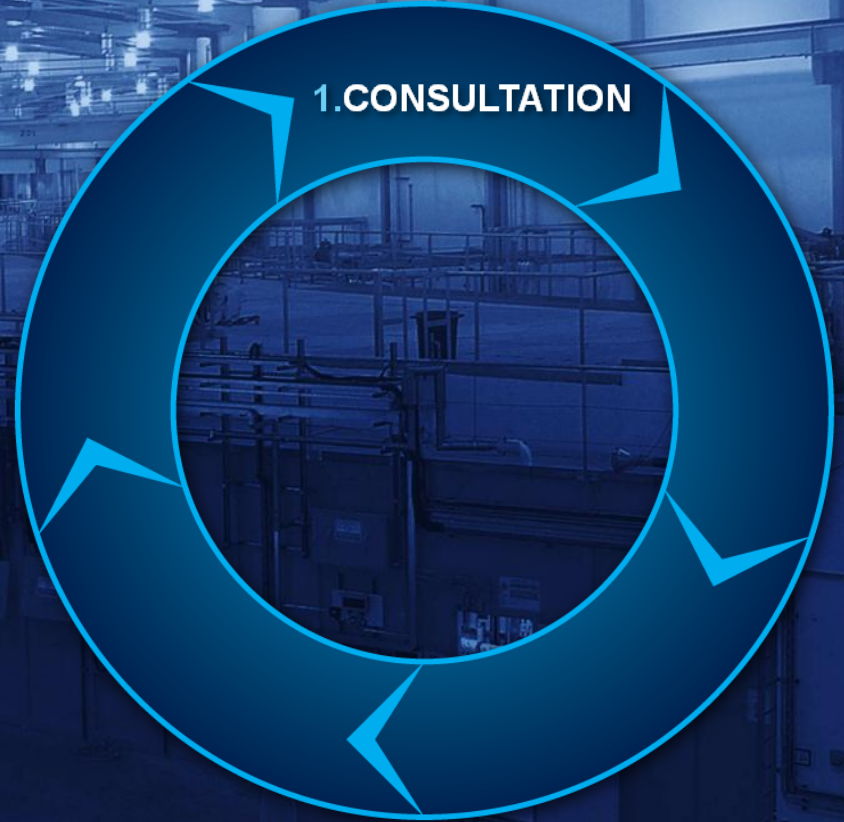
# THE CALDER CYCLE OF SERVICE



# THE CALDER CYCLE OF SERVICE

## 1. CONSULTATION

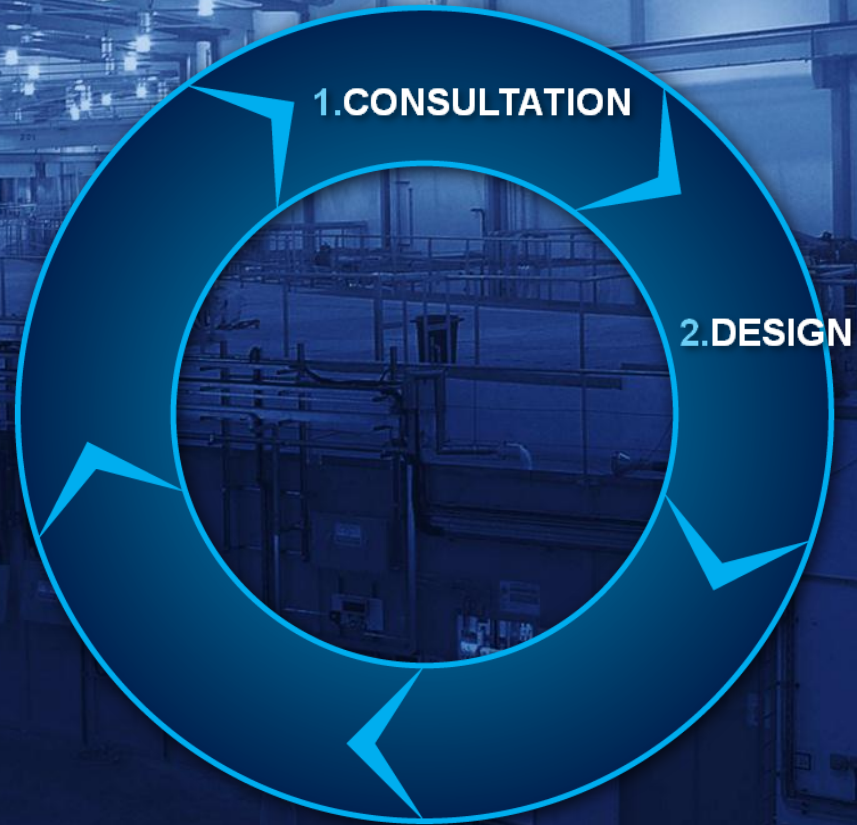
With years of experience, our team will provide best practice guidance on the issues to be considered at the very earliest stage of a project



# THE CALDER CYCLE OF SERVICE

## 2.DESIGN

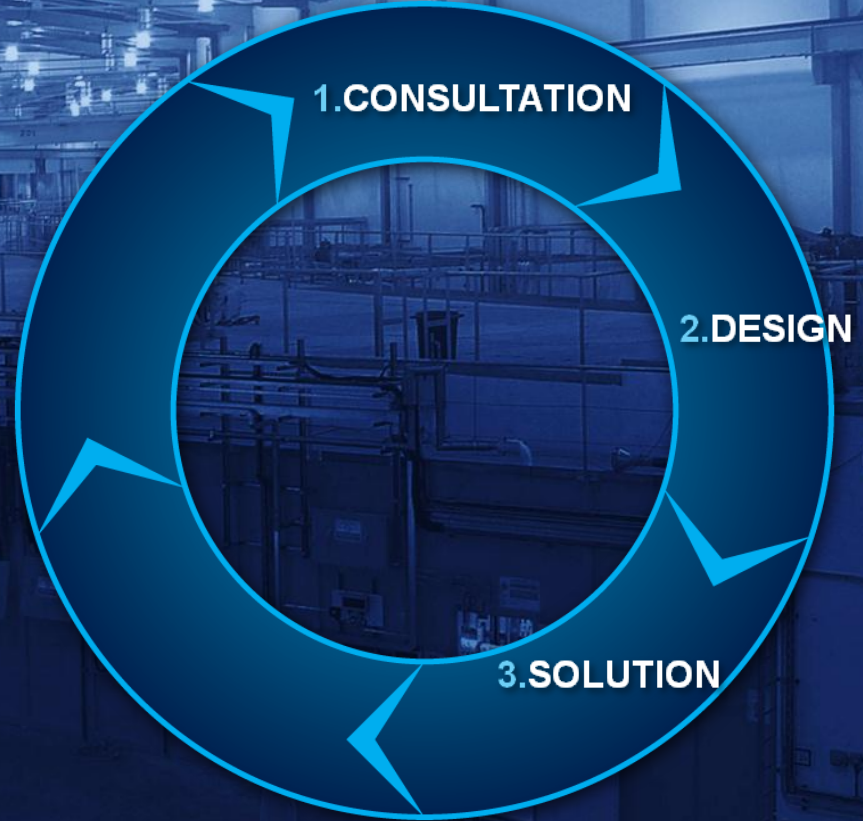
Using the latest 3D drawing and design software the Calder Project Team will deliver only the highest levels of design drawing and documentation required to satisfy current regulations, exceed expectations and deliver the most cost effective solution



# THE CALDER CYCLE OF SERVICE

## 3.SOLUTION

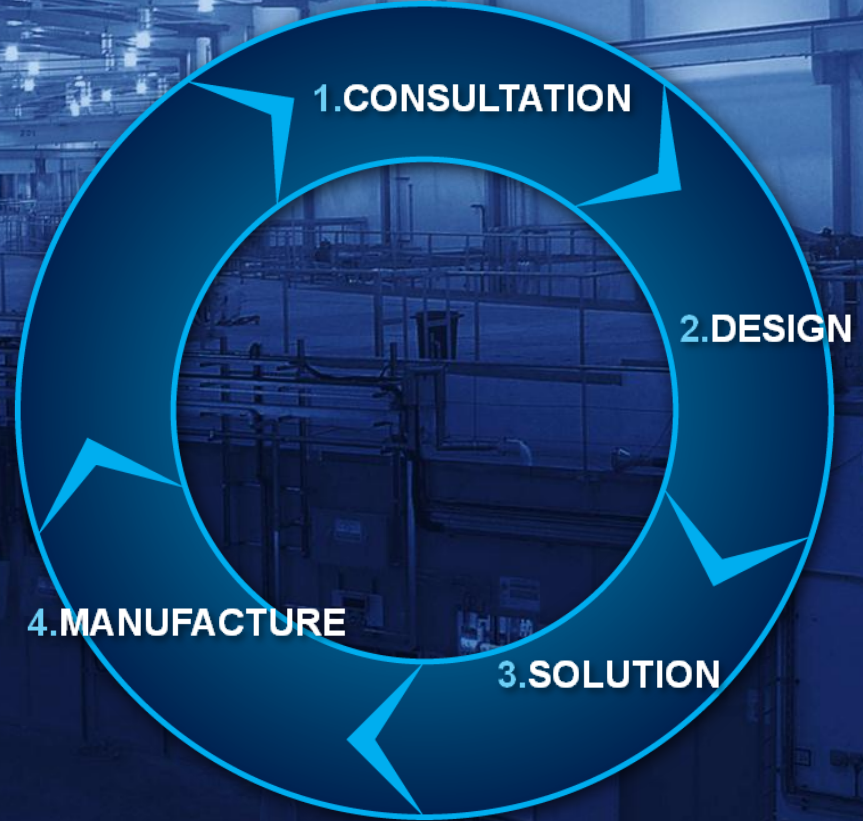
Our team of engineers and designers work closely with our clients developing the important working relationship that ensures the best possible solutions are implemented in a cost effective manner



# THE CALDER CYCLE OF SERVICE

## 4. MANUFACTURE

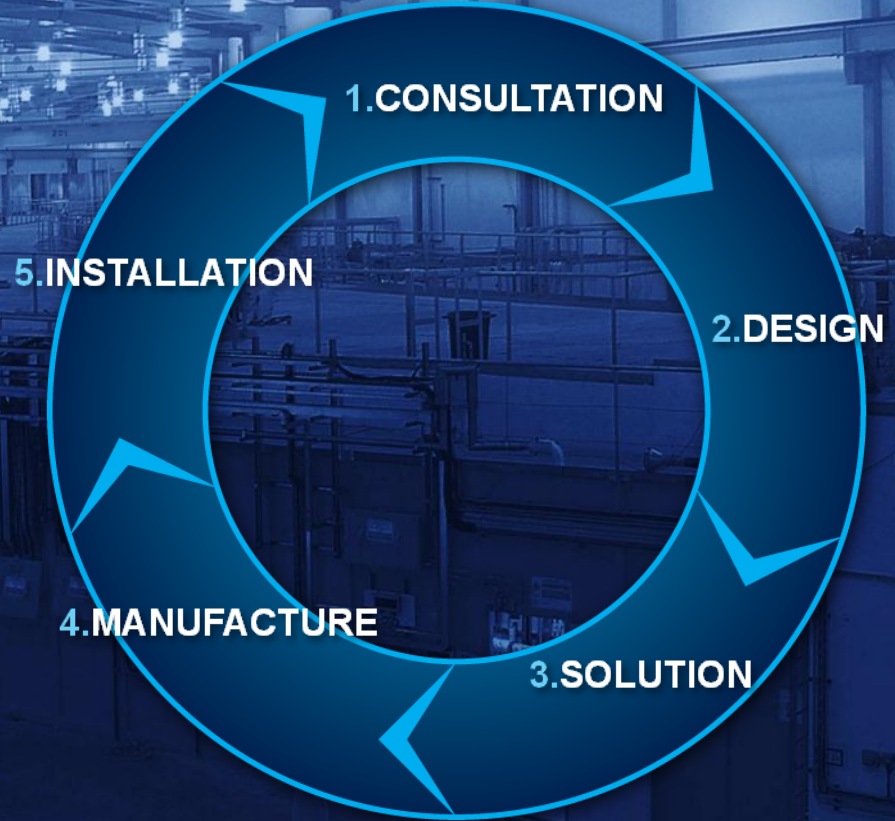
We undertake all work in-house using our own qualified technicians. We are the only manufacturer to control all aspects of the work and can therefore precisely control quality, cost and delivery schedules



# THE CALDER CYCLE OF SERVICE

## 5. INSTALLATION

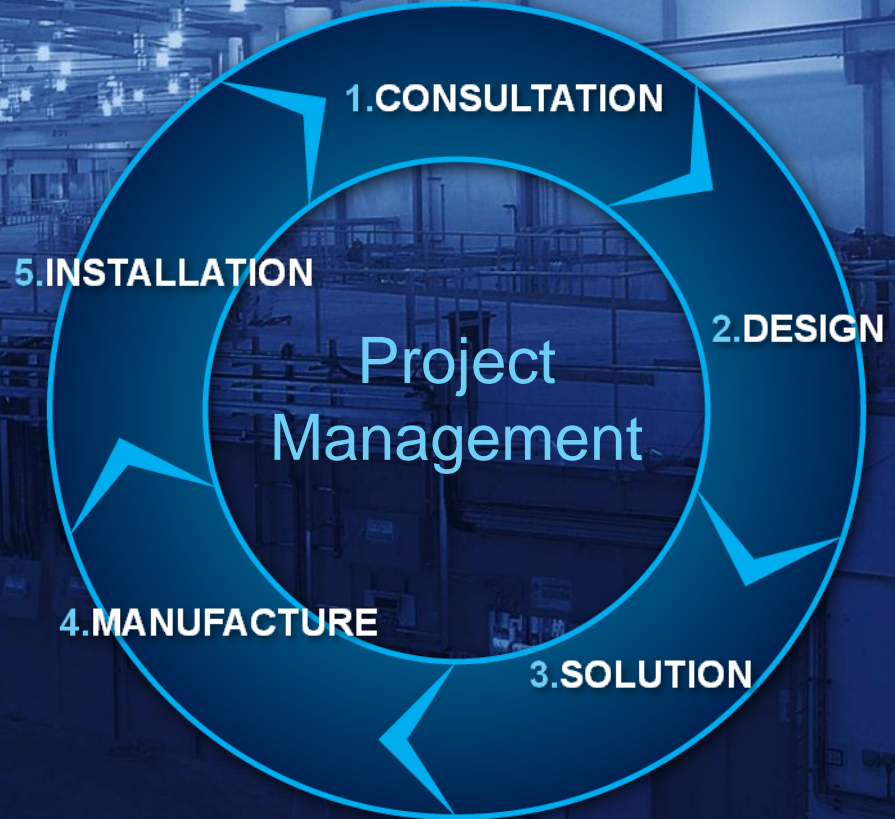
Our installation teams are highly skilled in the delivery and installation of specialist lead products. They recognise the critical nature of the task and understand that the safety of many people depends on the quality of their work



# THE CALDER CYCLE OF SERVICE

## Project Management

Our Project Management Team works closely with each customer to ensure that objectives and customer expectations are fully understood and fulfilled through a structured and process driven project management approach



# DLS CASE STUDY

Diamond Light Source (DLS), Oxfordshire, the UK's largest scientific investment for over 40 years.



In 2009 Diamond Light Source awarded Calder the contract for radiation shielded hutches on Diamond's longest beamline, the X-Ray Imaging and Coherence Beamline (I13) which stretches out to 250 metres. Consisting of an extended suite of radiation shielded hutches and transport shielding internal to the synchrotron building and a further suite of hutch walls in a standalone external building, the project presented a host of new challenges. A key requirement for the external building hutches was that the experimental floor had to be completely isolated from the hutch walls as any vibrations would affect experiments.

# DLS CASE STUDY

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The novel design solution implemented by Calder met this requirement through the installation of a suspended wall, a first for both DLS and Calder. Working in confined spaces in the external building with no overhead crane, Calder's Project Management Team worked with Diamond every step of the way, problem solving the new design challenges presented by this unique beamline.

**The project was completed in July 2010 on schedule and within budget despite an extremely time critical programme for Phase II of the build.**

# CALDER CONFIDENCE

*“Calder are competent designers, very helpful in coming to the right solution and responsive to our enquiries.”*

Richard Shortt

DLS Beamline Installation Manager, Diamond Light Source (DLS)

# CALDER CONFIDENCE

*“Calder has consistently proven to be a resourceful, responsive and reliable vendor. They have been professional, cooperative and enjoyable to work with. Furthermore, our experience has been that Calder has supplied a good quality product, delivered on budget and on a timely schedule.”*

CLS (Canadian Light Source Inc)

# CALDER CONFIDENCE

*“We would like to single out Calder’s attention to detail, quality of materials, reliability, and in particular the possibility to interact and work directly with highly skilled people at all stages of the process. In our view, these interactions and the opportunity to establish good personal communications have been very important and led to great efficiency.”*

Dr Agneta SVENSSON, Alba

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**Canadian Light Source Inc**, Canada

**ALBA Synchrotron Light Facility**, Spain



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