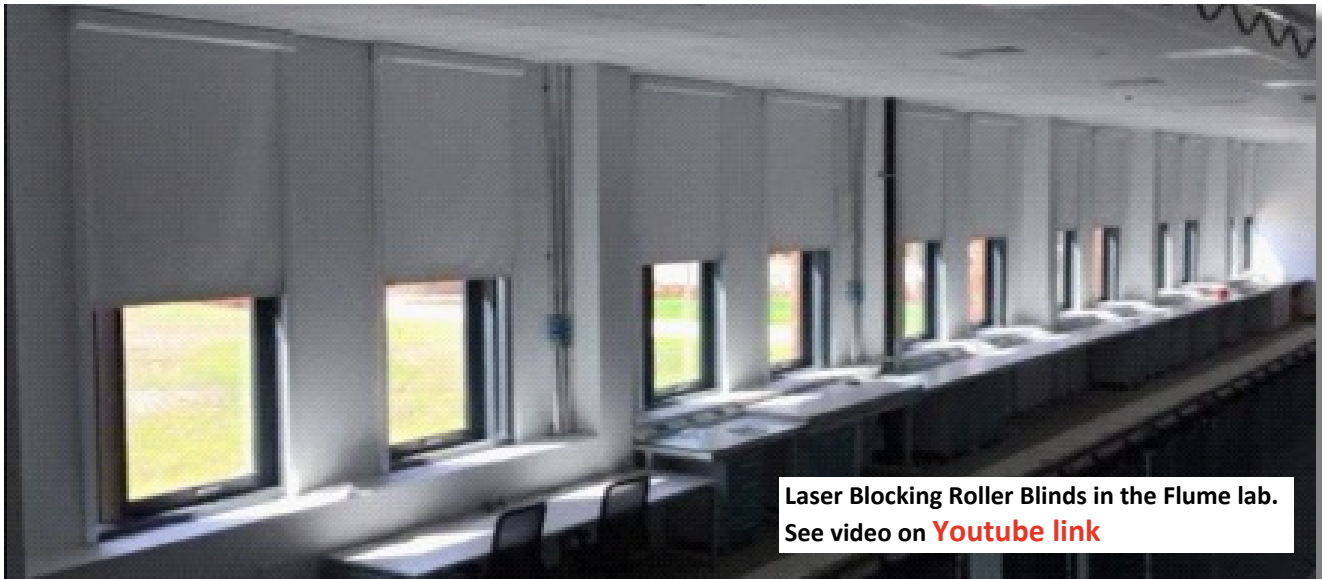


# Swansea University

## ESRI Flume Lab – Certified Laser Safe



### Energy Safety Research Institute



The Energy Safety Research Institute (ESRI) at Swansea University concentrates its research in the energy sector.

The Institute is supported by industry sponsors. It focuses on the safety issues surrounding the development and expansion of existing energy processes, as well as the safe deployment and integration of new 'green' energy technologies.

The design and construction of a new 3,800sqm building enables the University to develop the quality and scale of its research efforts in the areas of energy and safety.

The Institute has an international focus and is a constituent member of the Global Energy Safety Institute (founded in Houston, Texas in 2011), a sister Institute of the Energy and Environmental Systems Institute at Rice University, Houston and an associate of the National Corrosion Research Centre at Texas A&M (supported by BP in North America).

### ESRI Flume – Certified Laser Safe with Laser Blocking Roller Blinds

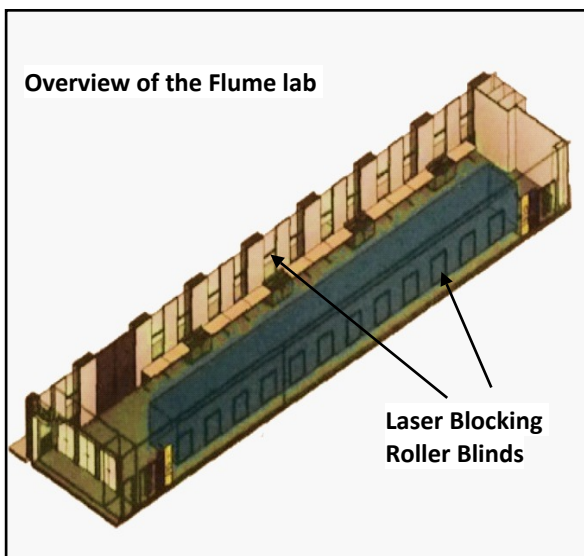
As part of their research program ESRI installed a large 30m long wave tank (or flume) where they use lasers for measurement and analysis. This large room had to be made laser safe for personnel in the surrounding area. This meant that all of the doors and windows had to block the laser light beams while the lasers were in operation. The rest of the time the doors were being used and the windows had to let daylight in.

The problem was resolved by Lasermet who manufactured and installed a total of 27 motorised laser blocking roller blinds - all synchronised and linked, together with the doors, to the [ICS-6 Laser Interlock Controller](#), which only permitted the laser to be enabled once all the doors and blinds were closed. The operation of a dual channel interlock switch located at the bottom of each roller blind confirmed to the controller that each blind was closed.

ESRI chose to have fully motorised blinds over manually operated versions as it would have taken over an hour and a half to close all 27 blinds. The closing and opening of the blinds was recorded and can be seen here on this [Roller Blind Youtube link](#).

The overall flume room can be seen overleaf...

## ESRI Flume – Certified Laser Safe...



A video of the roller blinds in action on the opposite side of the lab is available on [Youtube here](#).



Dual Channel Interlock Switch

*Lasermet's Dual Channel Interlock Switch is located at the bottom of each roller blind.*



### How does it work?

The roller blinds and interlock switches are connected through a dual channel circuit to the ICS-6 Interlock Controller. The Interlock Controller only permits the laser to be fired once all of the interlock switches have connected. Dual channel switches are safer as they have normally closed and normally open contacts. All must operate to ensure a true connection.

Lasermet's ICS-6 "ELiSe" conforms to ISO 13849-1 Performance Level 'e'. [Read more...](#)