

Swinburne Commons

Transcript



Title: Looking from the outside in (Research at Swinburne)

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My name's Prof. John Wilson. I'm deputy dean of the Faculty of Engineering and Industrial Sciences. And I'm also the director for the Centre for Sustainable Infrastructure.

I'm Riadh Al-Mahaidi. I am professor of Structural Engineering and the director of the Smart Structures Laboratory.

The title of this lab is the Smart Structures Laboratory. And it's a large facility. It's got a floor plan of 20 meters long, 8 meters wide. And it's got these unique reaction walls in one of the corners, 5 meters high.

And with that, we can actually test a number of specimens. We can actually load those specimens up and test them to destruction. We can proof-test items for industry, as well.

And we've basically got a number of very, very large actuators. And actuators are like hydraulic jacks. And they range in capacity from 10 tons to 200 tons.

Swinburne University of Technology, when they were planning this new Advanced Technology Centre, wanted a landmark laboratory on the ground floor. And they wanted that to be highly visible to the public.

What this advanced testing technology does is that it saves a lot on testing real big, real structures. And instead we test smaller components, or some components of the structures that are critical. And the rest of the structure is sitting all on the computer.

So some of the projects we've got going on right now-- one of the early testings we're doing is for the offshore industry, looking at fatigue on large chains for ships. We've got other projects happening. That's looking at carbon-strengthening of materials. And that's the sort of technology that's been recently used on the West Gate Bridge.

We always, at Swinburne, pride ourselves on producing graduates which are pretty much industry-ready. And we pride ourselves on doing research which is quite applied. And it's got a lot of industry outcomes. And this laboratory gives us that facility to create a lot more testing for industry. And many of those tests led on to quite good applied research projects, as well, for our students.

Students do look for world-class facilities in order to conduct state of the art research that is very much in the area of, you know-- like, to address environmental issues, to address sustainable development of structures, sustainable development of transport infrastructure, and so on. So yes, this is going to attract top students from around the world. We already have got a number of students who have arrived to use this facility for that purpose.

It's actually a world-class facility, this one. It's real state of the art. It's a \$15 million facility-- great investment from the university. And we've also gone into collaboration with 11 other universities around the country to have some shared equipment so that we can do some state of the art testing here. But it also provides access for other universities to come and collaborate with us here, as well.