Structural-Safety formed in 2011 with the amalgamation of the Confidential Reporting on Structural Safety (CROSS), and the Standing Committee on Structural Safety (SCOSS). Its objective is to improve the level of structural safety in buildings, bridges and other specialist structures through the publication of confidential reports which highlight key learnings, generate and disseminate feedback to the construction industry and influence cultural and regulatory change.

Structural-Safety’s principle sponsors, supporters and funders are the Institution of Structural Engineers, the Institution of Civil Engineers and the UK Government’s Health & Safety Executive. Structural-Safety regularly publishes reports on issues of safety, with reports reviewed by a panel of experts and published with comments highlighting key outcomes so similar issues or failures can be avoided. The Reports deal with all phases of a structure’s life, the vast majority relating to the design, construction and operations’ phases.

In his presentation, Dr Soane highlighted some of the identified risks which frequently appear in the Structural-Safety Reports and Alerts, including issues of competence, fasteners and fixings, poor communication between parties, temporary works and falsified documentation. There’s an increase in risk when these separate factors act in combination. He added “Before most, if not all, collapses there are pre-cursors elsewhere and if these are recognised, and lessons learned from them, then more serious events may be prevented.”

Structural-Safety also looks for trends when Reports received from across the UK and the world all bear a common theme or issue. Trends are highlighted in Alerts which are distributed to the readership of the Structural-Safety Reports. “When there is a collapse the consequences are catastrophic for all concerned so it is of immense value to identify why failures occur and to work out to prevent them,” Dr Soane said.

“We must respect the past and mistrust the present, if we wish to provide for the safety of the future.” Joseph Joubert (1754-1824)
Recent CROSS Reports cover a wide range of construction materials, from concrete, formwork, reinforcement, fasteners, masonry, soil, timber, glass and stonework as well as structural steel. Reports also cover issues such as temporary structures, cranes and lifting, the bracing of structures during construction, connection details, software, certification and documentation.

A specific report (369) was from a reporter who had noticed an increasing trend in the substitution of lighter weight sections of a similar depth in domestic construction. In one instance, a 200UC46 was substituted for the 200UC60 specified by the engineer. The correct size had even been shown on the delivery ticket despite the substitution of a lighter section. The CROSS Report findings stated “...this is a serious matter, particularly if the substitution of undersized sections is deliberate...” and that “...A builder, or fabricator, who substitutes a smaller size, is likely to be in breach of contract (or worse) and may leave himself open to prosecution should anyone be harmed in the event of a collapse...”

A recent Alert highlighted the increase in “anomalous” documentation seen in the UK. Through investigating several reports which had exhibited similarities, SCOSS identified numerous instances where the certification of various proprietary products stated compliance with the Standards had been met, but was found subsequently not to be the case. Comments in the SCOSS Alert said the country of origin should be sought and independent third party verification considered appropriate, “...irrespective of the certification provided by the manufacturer or their agent...”.

Reports and Alerts can lead to cultural change in industry as well as new recommendations and change in building codes. Changes now taking place in the UK include action by the UK Highways Agency on bridge concerns, increased UK Government inspections to address issues of anomalous documentation and guidance documents issued by the UK BCSA (British Steelwork Contractors Association) on steelwork issues.

In February 2011 Engineers Australia set up a subcommittee to initiate a proposal for Australian structural engineers to utilise the UK CROSS system. Progress to date has been slow. Structural and Civil engineers who support this initiative should voice their support by sending correspondence to their local representative in the Engineers Australia - Structural or Civil College.

Contact details are available at the following link: http://www.engineersaustralia.org.au/structural-college/groups

It is hoped that engineers in Australia will soon be able to participate in the scheme and begin sharing information on lessons learnt. In the meantime access to Reports and Alerts generated by CROSS and SCOSS are available to Australians on the Structural-Safety website. The website also offers a free subscription email service to Structural-Safety Alerts and Reports.

These postings, though not local, have relevance in the Australian and New Zealand context. Engineers and other building professionals concerned with the structural safety of their projects could benefit from the key learnings and expert comments provided in these valuable broadcasts.