ABSTRACT
CSIRO in association with Futuris Automotive and Deakin University are developing a versatile route to mass produce composite automotive seats. The composite structure replaces the traditional steel frame and the associated inflexibility of design variation due to the large capital cost of manufacturing pressed and welded steel structures. This approach uses a 3D knitted aramid fibre perform. The preform is inflated by a bladder within a light weight heated clamshell mould then infused with resin. There is minimal fibre and resin waste while altering a seat design is possible by modifying the computer based knitting program and machining new clamshell inserts.

A key advantage of this knitted composite technology is in the capability to achieve a high strength light weight structure that may be tailored to include additional reinforcement fibres in specific load bearing zones.

This presentation will show some material test results and a prototype seat that meets a range of automotive requirements.