# Modeling and Simulation of the stress generation involved in producing multi-layer assemblies from Controlled Expansion (CE) alloy materials

## Objectives:

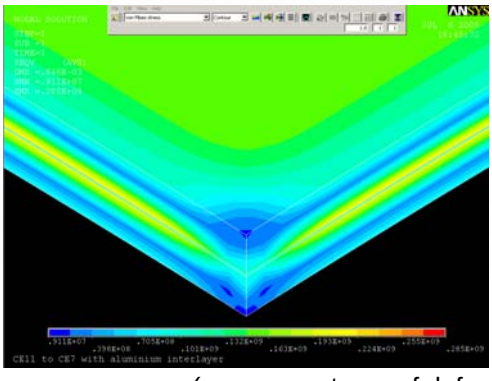
- Development of behavioural models for laminar CE alloy assemblies, including options ustilising Aluminium interlayers.
- Build analysis model representations of existing CE alloy and Aluminium assemblies
- Develop materials library for use in future analysis for further use within PATENT
- Assess the validity of the models generated through comparison with physical protoypes.
- Highlight limitations and make recommendations for future developments

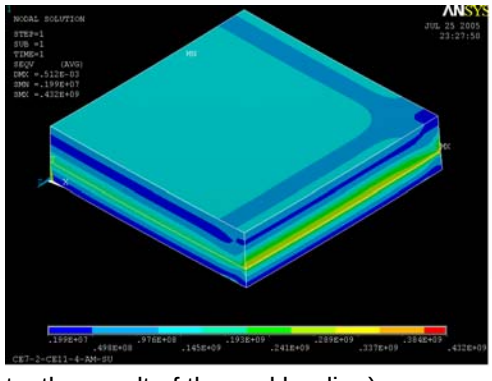
## Partners involved:

- Centre for Rapid Design and Manufacture (CRDM Ltd)

## Industrial Assistance:

- Sandivik Osprey Ltd (Physical prototype manufacture and measurement)





(screen captures of deformation plots, the result of thermal loading)

## Offer to industry:

- Behavioural models for stress generation and deformation due to manufacture, and in service thermal cycling

**Contact:** S. Taylor (s.m.taylor@lancaster.ac.uk)

**Project status:** All initial development and analysis completed, requirements outlined for future developments