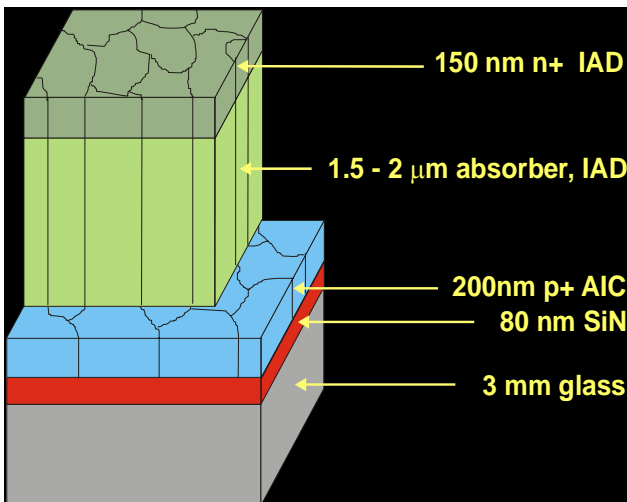


## Thin Film 'Crystalline Silicon on Glass' Technology

### Business Opportunity

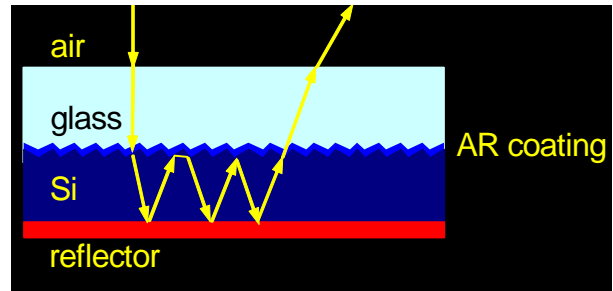
This new method of producing a seed layer of polycrystalline silicon, provides an increase in the uniformity and smoothness of the seed layer which will produce a higher quality end product, while reducing the costs and complexity of manufacturing. Continuous polycrystalline semiconductor thin films are anticipated to result in significant cost efficiencies leading to an increased uptake of photovoltaic energy by the world markets. The formation of polycrystalline semiconductor films at low temperature on low cost substrates (such as glass) is a simple and fast process, of interest for large area electronics and photovoltaics.



### The Technology

The alternative to traditional solar cells, which are made from expensive silicon wafer technology, is to deposit a thin layer of semiconductor on a supporting material such as glass. This invention provides a method of preparation for a uniform and smooth thin film of silicon that is a suitable platform for the construction of second generation solar cells.

This invention involves a fundamental step in the construction of polycrystalline semiconductor layers on foreign substrates at



low temperature (<650C) - the preparation of a continuous thin polycrystalline seed layer. To prepare a truly continuous thin film seed layer, the metal oxide interfacial film and the metal/semiconductor over layer, which develops during formation, must be removed ensuring that the quality of the underlying film is not detrimentally affected. This technology relates to a method that controllably removes the entire over layer and the interfacial film, resulting in a continuous silicon film with a wafer-like smooth surface. The surface continuity is substantially improved when compared to thin films produced by other technologies, providing a suitable platform as a seed layer or for device fabrication.

### Investment Opportunity

NewSouth Innovations is seeking a partner to undertake collaborative research to develop this technology to proof of concept stage.

### Further Information:

**Neil Simpson**  
Senior Business Development Manager  
T: +61 2 9385 6536  
E: [n.simpson@nsinnovations.com.au](mailto:n.simpson@nsinnovations.com.au)  
Ref: 04\_1842