

Surface Engineering Research at CSIRO Manufacturing Business Unit

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It has long been recognized that surface engineering can augment drastically the performance of a material. We at CSIRO have been developing plasma-based thin film deposition processes over the past three decades. CSIRO employs a range of PVD and CVD facilities for the synthesis of advanced thin film materials. Our focus is on the application of thin films and nanostructures science for industrial applications and highly advanced instrumentation. Through changing the functionality of surfaces, we can enhance optical, biological, chemical, structural and electrical properties and create sensors used in gas, SERS active substrates, hybrid electrodes for energy storage and optical devices. In this paper, our various capabilities with examples of applications are presented.