

## **Stress analyses for advanced composite and nano materials**

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**This seminar will cover three different topics: Advanced composite materials, Experimental stress analysis and Nano-materials.**

**For each topic, some items will be covered such as the main concept, types, properties and applications.**

**Advanced composite materials are Mix of two or more constituent materials with significantly different physical or chemical properties which remain separate and distinct on a macroscopic level within the finished structure.**

**When dimensioning components are subject to mechanical load so that they can properly perform their function, it is necessary to know the nature of the loads. In particular, it is important to determine the maximum occurring stresses, which ultimately define the dimensions. These stresses should be determined in advance and then tested by experiment. Experimental stress and strain analysis can therefore be regarded as a link between theoretical calculation and experimental evidence**

**Nanoscale materials are defined as a set of substances where at least one dimension is less than approximately 100 nanometers. Nanotechnology deals with structures sized between 1 to 100 nm and involves developing materials or devices within that size**