

# Thermal processing in powder metallurgy. Metal injection moulding and binder jetted metal 3D printing.

The powder metallurgy (PM) industry is based on the efficient use of material in powder form to produce products. The main process method is press and sinter, the powders are pressed into simple shapes before being heated to just below melting temperature to allow the powders to fuse together (sinter) and form a solid part. This is the process used to make cutting tool inserts and form the ceramic insulator of spark plugs.

Two PM processes being used to produce products with far greater shape complexity are metal injection moulding (MIM) and binder jetted metal 3D printing. MIM uses injection moulding machinery from the plastics industry to mould the powder into shape, from here the powder form is sintered in a furnace to form the solid part. Binder jetting uses the 3D printing process to binder powders together and build the powder shape, the shape is then sintered in a furnace to form the finished part.

You are invited to attend a presentation by Claus Joens, president of US company Elnik Systems. Claus has been involved in the PM industry for many years researching and developing state of the art thermal processing furnaces. He has kindly offered to share the very latest of industry developments while he is here in New Zealand.

The presentation will be held at the Wintec Rotokauri Campus, Hamilton. Visitor parking access Gilchrist Road.

Tea/coffee refresh 10:30 am for an 11 am start.

Lecture theatre rkLg.14, Wednesday 30 May 2018.

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