

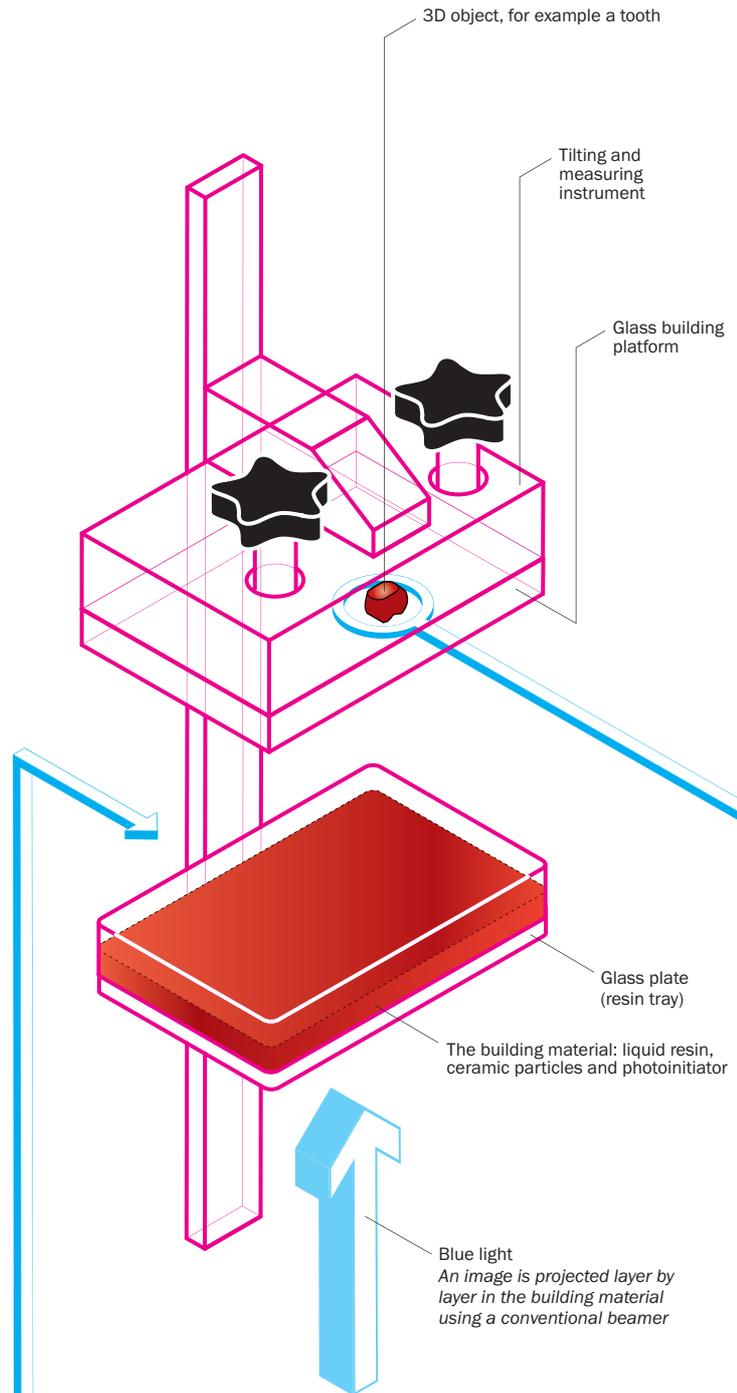
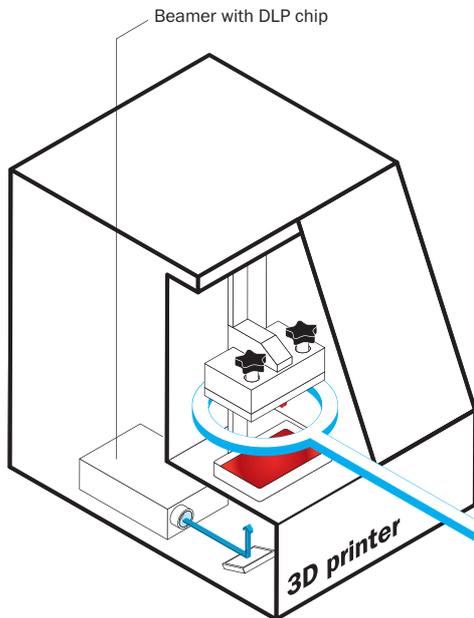
TEXT and IMAGE: *Ruiter Janssen*

3D PRINTING NOW WITH CERAMICS TOO

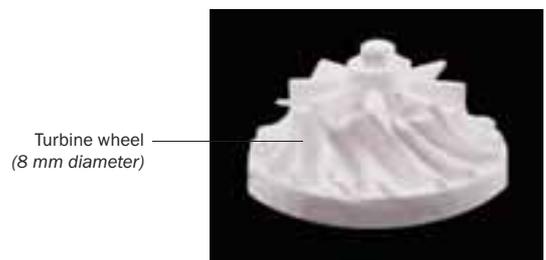
Advantages like full design freedom, low costs for small production runs and short time-to-market have great appeal and prompt a lot of interest from all kinds of markets and sectors. So far the technique has often been limited to prototyping. Since the end of the nineties, TNO has been actively developing new processes for layer-wise production methods with a focus on layer-wise manufacturing of functional components or products.

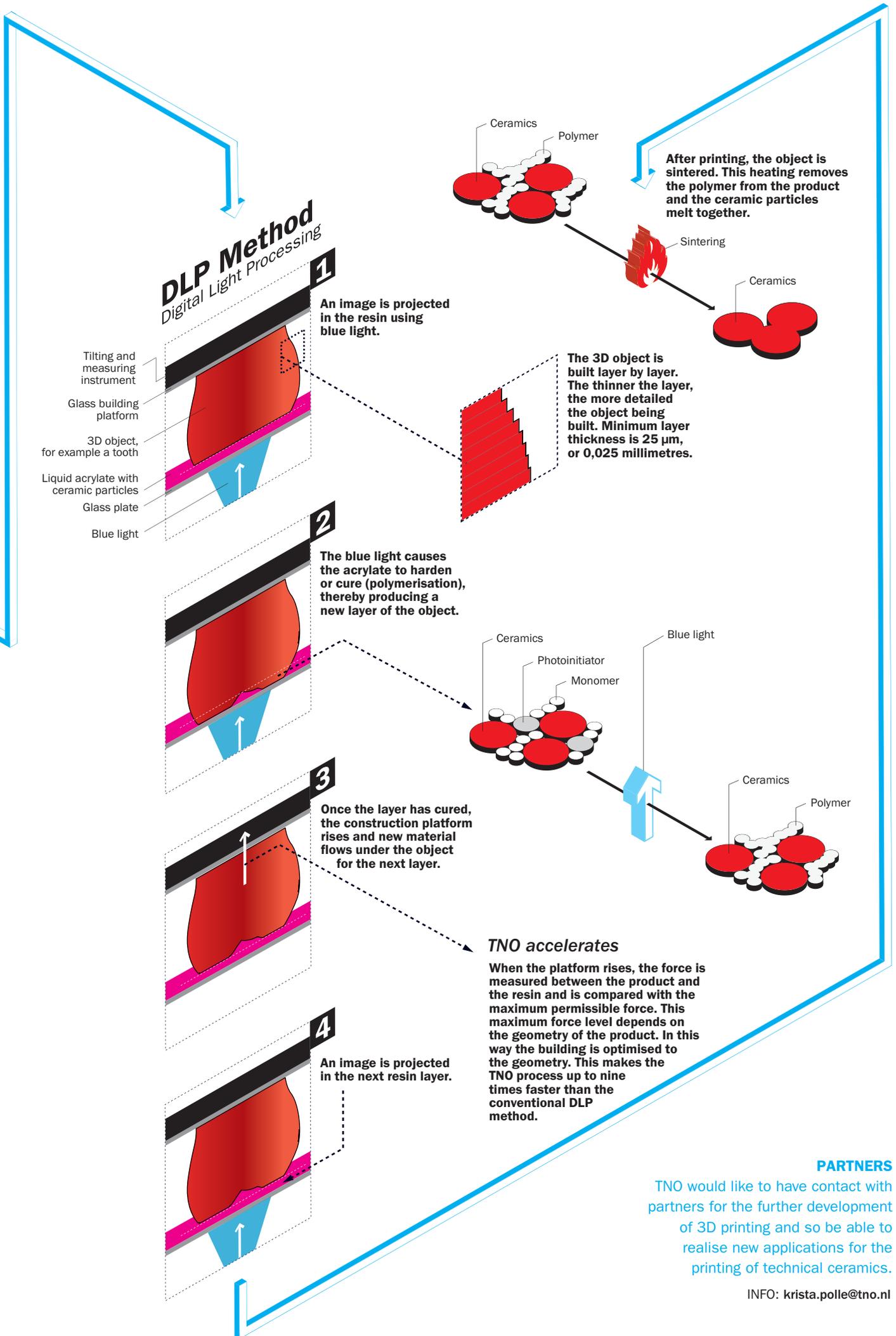
One of TNO's focal areas in the field of 3D printing is the processing of ceramic materials. Technical ceramics like aluminium oxide and aluminium nitride have significant advantages such as high temperature and corrosion resistance. These advantages, coupled with the benefits of 3D printing, bring new areas of application within reach.

One of the print technologies on which TNO is focused is the DLP method, whereby a product is constructed layer by layer by projecting an image in the building material using a projector. The combination of DLP with measuring and control engineering produces an intelligent 3D printing system able to rapidly process highly viscous materials like ceramic slurries. This development is still in its infancy but given years of experience with 3D printing techniques, initial results are highly promising and progress is coming fast.



Example of printed object





PARTNERS

TNO would like to have contact with partners for the further development of 3D printing and so be able to realise new applications for the printing of technical ceramics.

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