



Share4.0

WoRkpackage report

WP3 – working base and pilot projects for share4.0

Version 1  
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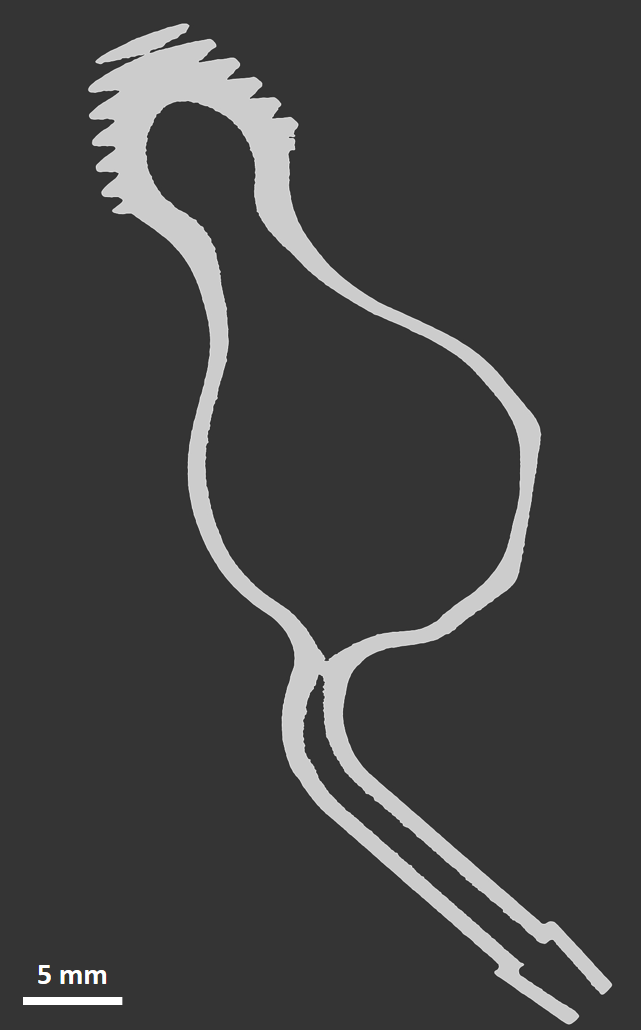
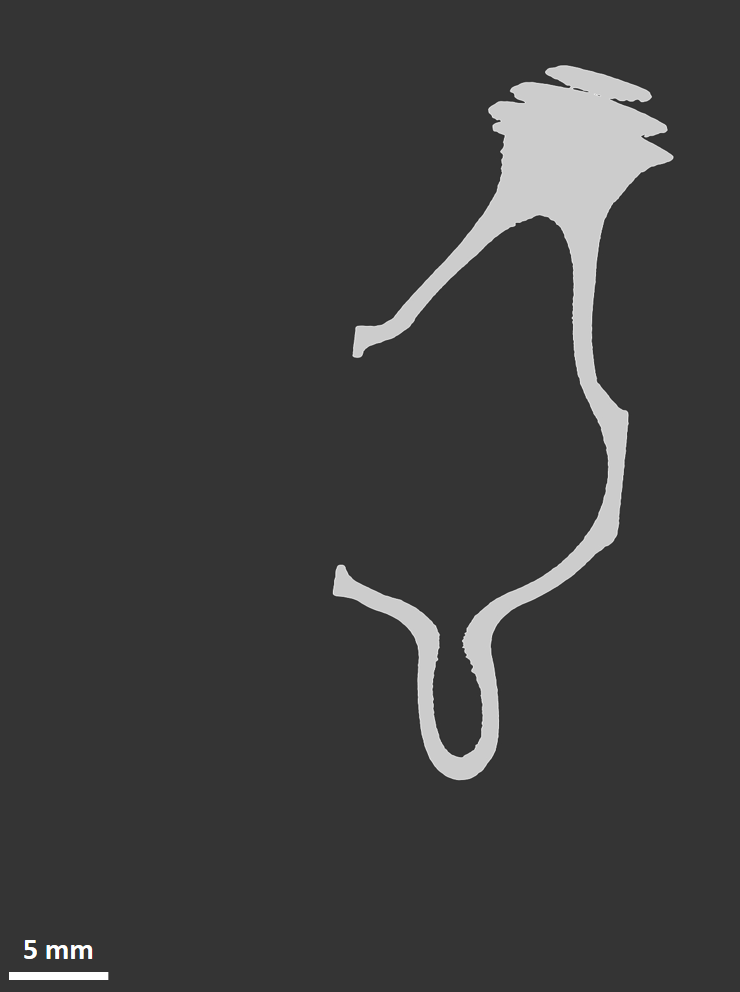
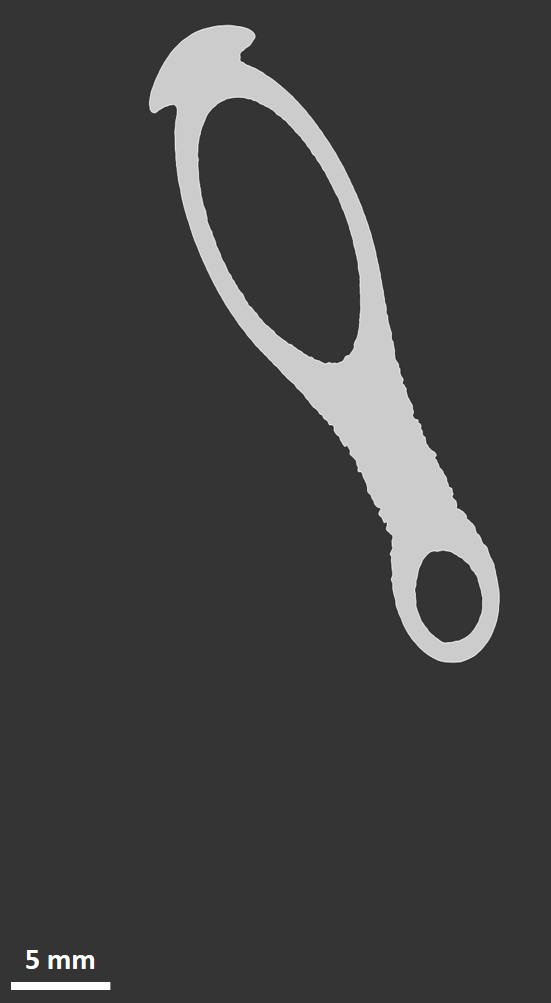
# CT investigation of component 3D printed within Use Case 1 – LEAP engine fuel noozle

LEAP engine fuel noozle (**Fig. 1**) 3D printed within Use Case 1 by FOTEC Forschungs- und Technologietransfer GmbH has been investigated by Institute of Materials and Machine Mechanics of Slovak Academy of Sciences by Computed Tomography (CT) using Nikon XT H 225 ST:

* [www.umms.sav.sk/6650-sk/nikon-xt-h-225-st/](http://www.umms.sav.sk/6650-sk/nikon-xt-h-225-st/)
* [www.nikon.com/products/industrial-metrology/lineup/xray\_ct/ct/xth225/](http://www.nikon.com/products/industrial-metrology/lineup/xray_ct/ct/xth225/)



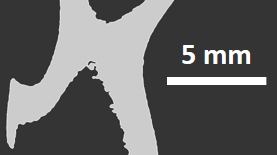
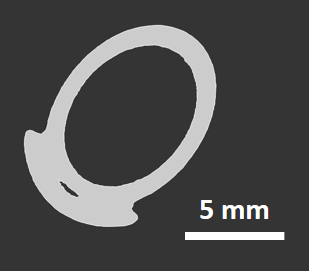
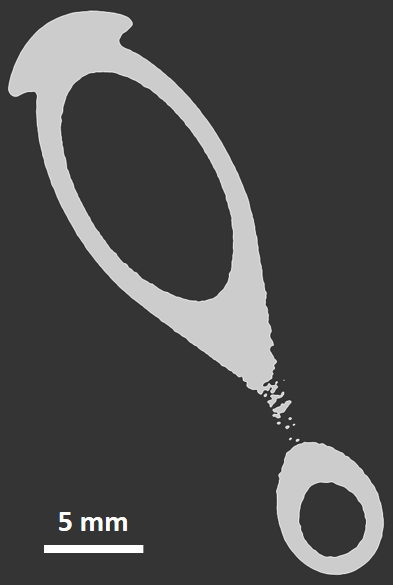
***Figure 1*** *LEAP engine fuel noozle.*

*a) b) c)*

***Figure 2*** *Cross-sectional areas of LEAP engine fuel noozle.*

Cross-sectional areas of LEAP engine fuel noozle in three perpendicular directions are displayed using CT in **figure 2**. As can be seen from **figure 3**, investigation using CT is the appropriate methodology for determining surface quality and detecting undesirable defects in the structure of parts produced by 3D printing.



*a) b) c)*

***Figure 3*** *Investigation of LEAP engine fuel noozle surface quality.*