PROGRAMME

Integrating a multi-axial machining centre and laser hardening for prototypes and small complex series

Lessons learned in the Flanders Make project “Intlas”

Thursday 29 September 2016
Ter Elst, Kattenbroek 1, 2650 Edegem

15h00  Welcome

15h15  Introduction into the Flanders Make project “Integrated Laser Hardening for prototypes and small series complex components”
       Anje Van Vlierberghe, Project Leader, Flanders Make

       Hardening complex mechanical components for prototypes and small series is a time-consuming process entailing accuracy risks. In this presentation, you’ll get introduced in the Flanders Make project, in which we deal with this challenge by introducing a multi-axial machining center including laser hardening.

15h30  Development of a laser head and proof of concept
       Benjamin Peeters, Research Engineer, KU Leuven

       In the project, we developed a setup for oscillating laser hardening of 3D surfaces and components, and integrated it in a DMG MORI NTX2000 machining center. This setup is used for different tests a.o. on C45 steel.

15h40  Integration of laser technology in machining centre
       Anje Van Vlierberghe, Project Leader, Flanders Make

       Challenge: the development of a controller for a “laser head” integrated in a machining center. In order to maintain the quality of the workpiece, it is important to reach the desired hardness without melting the surface, for complex 3d-shapes.

16h10  Metallurgy of oscillating laser hardening: a complex process
       Olivier Malek, Engineer Precision Manufacturing, Sirris

       In this presentation, we zoom in on the complex metallurgical aspects of oscillating laser hardening.
The Strategic Research Centre for the Manufacturing Industry

16h30  **Economic value of integrated laser hardening**  
Olivier Malek, Engineer Precision Manufacturing, Sirris

Integrated laser hardening will trigger a resolution in the way in which industrial partners manufacture prototypes and small series of mechanical components. The whole production chain, i.e. machining operations and laser hardening, must result in a high-quality component that meets all pre-set requirements and is manufactured in a drastically reduced lead time.

16h50  **Wrap-up & next steps**  
Anje Van Vlierberghe, Project Leader, Flanders Make

17h00  **Q&A**

17h15  **Network drink**