

Lattices: a new design paradigm in metal additive manufacturing



Dissemination event – LIGHT, an Innovate UK project, 26 April 2016

The design freedom offered by additive manufacturing offers exciting opportunities to create waste-free, lightweight metal parts in tool-less manufacturing environments. In practice this freedom is severely limited by the need to use structures to support overhanging sections.

Following two years of research into the industrial applications of using cellular lattice structures to produce lightweight products using metal additive manufacturing (AM) techniques, the LIGHT consortium will be sharing its findings at a dissemination event on 26 April.

Who should attend?

The content of this event will be useful to anyone from industries such as aerospace, automotive, medical devices, electronics and consumer products, especially:

- Design engineers
- Manufacturing engineers
- Product designers
- Research engineers & scientists
- Anyone involved in managing product development and manufacturing
- Technology and innovation strategists

Registration is FREE - [click here to register](#)

Date: 26 April 2016, 10am-2pm | Location: Bloodhound Technical Centre, Bristol, BS11 9QD

Programme

9:30-10:00	Registration and coffee	
10:00-10:10	Welcome & introduction to the project	Chris Jones, development manager, Delcam
10:10-10:30	The Bloodhound story	Mark Chapman, chief engineer, Bloodhound SSC
10:30-10:50	Key note: The value of AM for UK manufacturing industry	Robin Wilson, Innovate UK (formerly the Technology Strategy Board)
10:50-11:00	Introduction into the project and case studies	Jan Willem Gunnink, research & innovation manager, Delcam
11:00-11:20	Magna Parva case study: 'A Low Density Metal Lattice Structure for the Thermal Protection System of the Earth Re-entry Capsule'	Andy Cheney, senior engineer, Magna Parva
11:20-11:40	HiETA case study: A novel thrust nozzle - designed and manufactured using periodic lattice structures and additive manufacturing	Ahmed Hussein, technical lead, and Javier Vinales, design engineer, HiETA
11:40-12:00	Case study: Bloodhound	Mark Chapman, chief engineer, Bloodhound SSC
12:00-12:10	Summary	Chris Jones, development manager, Delcam
12:10-14:30	Lunch, meet the project partners & Bloodhound car tours	

Meet the project partners to find out more about their experience of the project, and their products and services.

Bloodhound chief engineer Mark Chapman will run group tours of the 1,000mph Bloodhound car throughout the afternoon. Delegates will be allocated to a slot during registration

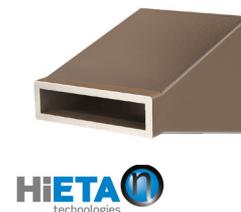
A buffet lunch will be served from 12:30pm

Places at this event are strictly limited and will be allocated on a first come, first served basis.

Register here: http://bit.ly/LIGHT_event

During the event, the project partners will share their findings from the project. The LIGHT project sought to test the capabilities of additive manufacturing technologies to the limit by producing demonstrator parts that were engineered to withstand extreme conditions. The three demonstrator parts were:

- A crushable earth re-entry capsule designed to protect samples during atmospheric entry, descent and landing
- A jet engine thrust nozzle with operating conditions of 500°C
- An air brake door hinge that must withstand 50kN of force



Additional information:

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