Background
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Department of Industrial and Materials Science is hosting the competence center “Centre for additive manufacturing – metal (CAM²)” that involves broad network of national and international companies. Project will be done in collaboration between ABB corporate research in Västerås and IMS at Chalmers in the frame of CAM².

Description of the thesis work
Additive manufacturing opens up for many new exciting functionalities that can hardly be achieved by conventional manufacturing techniques. One interesting technique is Direct Metal Deposition (DMD) where a functional material can be added on top of a base material.

The present master thesis is focused on development of a DMD process for a specific material interesting for ABB products. The study will include synthesis, evaluation of material properties, as well as evaluation in more application specific tests. The overall goal is to understand how the printed structures perform and how that can improve ABB products in already identified applications.

This study will in the first step consist of designing experiments, synthesis of printed test samples and materials evaluation. In a later stage different surface textures will be manufactured using the best parameter settings. In a last step, test samples for application specific tests will be manufactured and tests will be performed and evaluated.

Finally, the thesis should provide guidelines on how to produce the materials and surface textures in the best way and demonstrate their added values for the selected ABB product.

Requirements:
We are looking for a master student with a profile towards material science. A solid background in additive manufacturing is an advantage.
Extent and time plan:
• Period (January-June 2019)
• Number of credits 30 ECTS/högskolepoäng(hp).
• The thesis is intended for one student

More information:
Recruiting Manager Santanu Singha, +46 21-34 51 72, will answer your questions. Union representatives - Sveriges Ingenjörer: Ulf Westblom +46 21 32 30 68. Unionen: Krista Andersson, +46 21- 34 02 85. Ledarna: Lenny Larsson +46 21-32 85 47. All other questions can be directed to Terese Björklund, + 46 21-32 80 75. Positions are filled continuously. Apply with your CV, academic transcripts and a cover letter in English

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