

Title: Advanced laser for industrial lithography

Objective

We will develop a compact and effective laser for Mycronic AB's lithography system. The prototype will be evaluated in the systems and be a starting point for productization.

Abstract

The aim of this project is to develop a laser prototype for optical lithography and evaluate it technically. The laser will be a so called diode-pumped solid-state laser based on a patent filed laser concept developed at the laser physics group at KTH. The lithography application requires good beam quality, low noise, low energy consumption and an output power exceeding half a watt at a wavelength of 413 nm. The laser is intended to replace the expensive and high energy consuming Kr-ion laser used today in the world leading mask writers produced by Mycronic AB. The concept has been tested in a feasibility study with positive results (Advanced lithography laser, Dnr 2017-03558). Also included in this project is SLF Svenska Laserfabriken AB, a company where a number of key competencies has been gathered to enable development and production of new innovative lasers. For SLF, the laser means access to a new innovative laser platform that can be further developed to reach other markets. The project will also lead to improved contacts between the researchers at KTH and the development group at Mycronic. Ph.D. students will furthermore acquire important technical knowledge and insight from working directly with a front-line high-tech company.

Co-ordinator: Peter Unsbo

Project manager: Fredrik Laurell

E-mail project manager: flaurell@kth.se

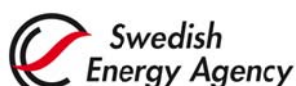
Phone: +46 (0)701667448

Other project partners: Jesper Sallander och Tord Karlin, Mycronic AB, Carlota Canalias och Staffan Tjörnhammar, SLF Svenska Laserfabriken AB

Total cost of project: 3 060 000 SEK

Total grant: 1 530 000 SEK

With support from:



**STRATEGIC
INNOVATION
PROGRAMMES**