

## Development of mechanoluminescent thin films for real time stress detectors

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I N V E S T I N G   I N   Y O U R   F U T U R E

Project No: 1.1.1.1/20/A/138

Duration: 01.04.2021. – 30.09.2023.

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Project partner: Sidrabe Vacuum Ltd, B.A.Sc. Matiss Piesins.

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About project implementation (01.04.2021 – 30.06.2021)

Within the start-up phase of project, No.1.1.1.1/20/A/138 “Development of mechanoluminescent thin films for real-time stress detectors” preparation and equipping of laboratory equipment for planned technological research was performed.

In particular, a planar circular magnetron for RF sputtering has been set up and tested. Adjustment of the vacuum coater substrate holding equipment for the required aluminum plate material has been performed. Ion beam gun has been installed to perform substrate surface cleaning and plasma pretreatment.

A price survey was conducted for necessary target and substrate material procurement. Materials have been purchased and delivered.

An experimental study of optimal coating parameters for the development of mechanoluminescent thin films has been started. Initial literature survey has been done to provide guidance for starting values of key process parameters. Microscope glass slides have been used as test samples to measure deposition rate of the investigated material. Initial samples are being prepared using ZnS doped with 0.5% Mn.