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## LASER FOR MASS PRODUCTION OF FUNCTIONALISED METALLIC SURFACES

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### DELIVERABLE D8.6

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## BROCHURE

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<b>Contract number :</b>	768636
<b>Project acronym :</b>	LASER4SURF
<b>Project title :</b>	LASER FOR MASS PRODUCTION OF FUNCTIONALISED METALLIC SURFACES

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## DISCLAIMER

The content reflects only the author's view and the Commission is not responsible for any use that may be made of the information it contains.

## VERSION CONTROL

Version	Date	Contributors	Sections Affected
1	05/04/2018	Rodriguez, Ainara; Barnsted, Corinna	All

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## EXECUTIVE SUMMARY

This deliverable contains the project brochure, that will operate as a tool to present the project and to support project communication at workshops, fairs and conferences.

## 1 INTRODUCTION

This deliverable contains the project brochure, that will operate as a tool to present the project and to support project communication at workshops, fairs and conferences. It has been designed by ESCI with the technical support of CEIT-ik4. The designed brochure will be uploaded to the project webpage and printed copies will be used for dissemination activities.

## 2 PROJECT BROCHURE



### 1) MEDICAL COMPONENTS

Antibacterial properties against mouth infections along with a surface enabling a good biological response by the surrounding tissues will deliver the new generation of dental implants.



### 2) ADVANCED BATTERIES

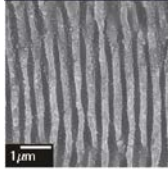
Enhanced adhesion and roughening of the current collector will allow controlled changes in the current collector surface in a very cost-effective and fast way (0.1 min/cm<sup>2</sup>). It will also improve the electrochemical properties of battery current collectors.



### 3) LINEAR ENCODERS

Tuning the reflection properties on the scale will make the encoder less prone to misalignments.

Applying a specific type of pattern or roughness onto the surface in order to change its properties using laser technology offers a significant commercial potential. This is because it allows **improved product performance without altering the surface's chemical composition or adding any coatings**. Femtosecond LIPSS will enable high resolution features (<1µm) in very precise locations with **cost-effective process times**.



WHAT ARE LIPSS?

Laser Induced Periodic Surface Structures (LIPSS) are naturally created by the interaction of ultrashort pulse laser beams with a surface. High resolution features (in the range of 100 nm-1 µm) can be defined in precise locations of the component.

**DLP - Direct Laser Interference Patterning**

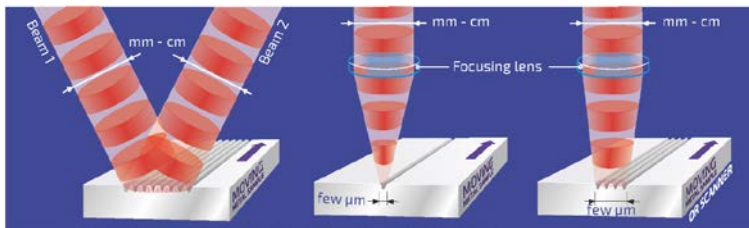
- Nano pattern possible
- Patterning on precise location possible

**DLA - Direct Laser Ablation**

- Low processing

**LIPSS - Laser Induced Periodic Surface Structures**

- Higher resolution
- Much faster processing than DLA



Laser4surf

LASER FOR MASS PRODUCTION OF FUNCTIONALISED METALLIC SURFACES

[www.laser4surf.eu](http://www.laser4surf.eu)



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### 3 CONCLUSIONS

The designed brochure will be uploaded to the project webpage and printed copies will be used for dissemination activities.