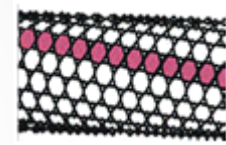




CBC 2014-2020  
SOUTH-EAST FINLAND - RUSSIA  
Funded by the European  
Union, the Russian  
Federation and the  
Republic of Finland



# SUSTECH KS1253

1.11.18-30.9.21



Funded by the European Union,  
the Russian Federation and  
the Republic of Finland

**LIGHTWEIGHT HYBRID WOODEN  
COMPOSITE MATERIALS  
FOR SUSTAINABLE CONSTRUCTION  
TECHNOLOGY (SUSTECH)**



CBC 2014-2020  
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Republic of Finland

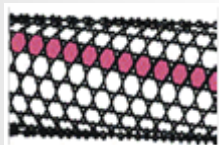
## BUDGET



**Lead Partner (LUT): 297,5k €**



**P1 (SPbPU): 210 k €**



**P2 (STC): 209,4k €**

**Total: 716 966 €**



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**LIGHTWEIGHT HYBRID WOODEN  
COMPOSITE MATERIALS  
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TECHNOLOGY (SUSTECH)**

# PROJECT STRUCTURE



## Sustainable Technology

- Engineering drawings and architectural drawings of constructions;
- Related documentation

Product Design & Documentation

STC

- Presentations at conferences, articles, teaching
- Professional development of national parks staff

Dissemination of information about technology and project results

SPbPU

LUT

- Urban design and environment (challenges that need solutions);
- Installation at Vepsky National Park (Leningrad region) and Lappeenranta region;
- Modules conditions monitoring after end of project

Product Installation, Maintenance

STC

LUT

SPbPU

Method and Material Development

STC

- Carrying out the analysis of raw materials;
- Development of technological equipment for material processing

Constructions Manufacturing

STC

- Producing components and constructions manufacturing

Quality Testing

LUT

SPbPU

- Testing of material on physical properties and mechanical performance; durability



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**LIGHTWEIGHT HYBRID WOODEN  
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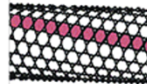
# MAIN RESULTS AND FUTURE EXPECTATIONS



LUT UNIVERSITY  
LUT School of Energy Systems  
LUT Mechanical Engineering

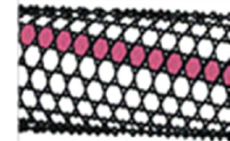
## INFLUENCE OF WEATHERING CONDITIONS ON THE PERFORMANCE OF CERAMIC AND POLYMERIC COATINGS ON WOOD

M. Sc. student Daria Zhgut, D. Sc. Marko Hyvärinen, Professor Timo Kärki



Continued monitoring of timber  
structures

Galina Kozinets  
Petr Chernov  
Natalia Muromtseva



## SUSTECH project invites you to participate in the International workshop “Sustainable Construction”

SUSTECH project press release

On November 27, within the framework of the project “Lightweight hybrid wooden composite materials for sustainable construction technology” (SUSTECH), the

*Performance of ceramic coatings can be improved by:*

addition of impregnating primer or binder layer on the untreated wood surface

application of low-viscosity coating - deeper penetration of the coating into the wood – greater adhesion strength

plasma treatment of the wooden substrates – higher level of water repellency of wood

*Performance of polymeric coatings can be improved by:*

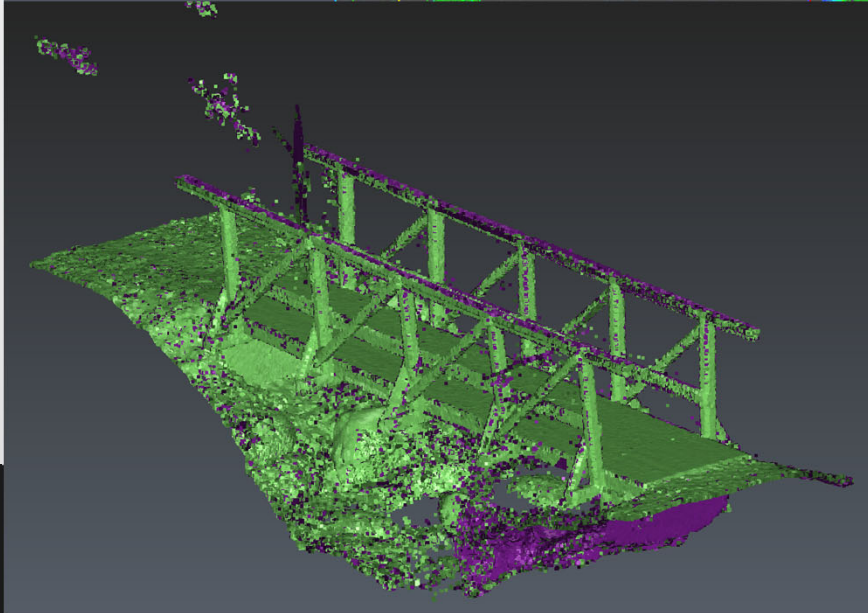
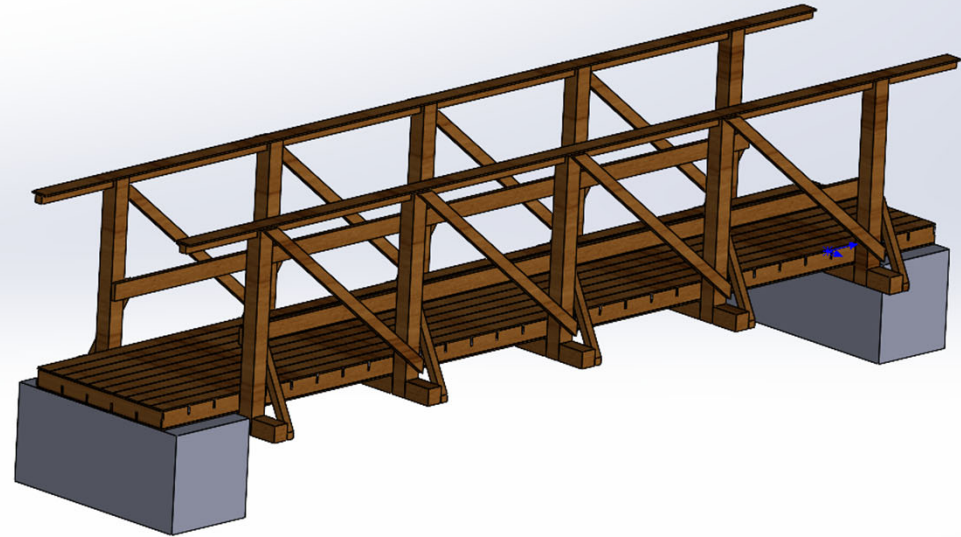
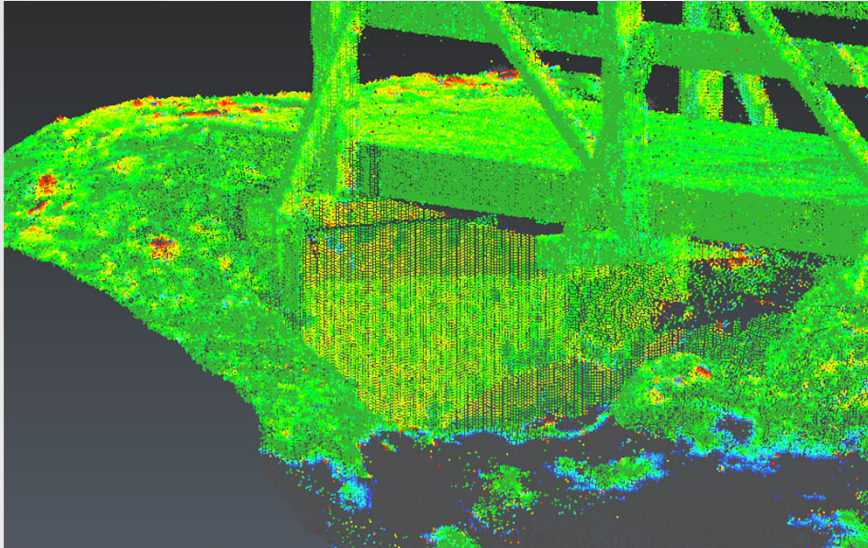
the addition of 2% zinc oxide (ZnO) nanoparticles in the coating formulation

application of nanoflakes of graphene in the coating formulation

usage of stabilizing systems (ultraviolet absorbers, free radical scavengers and peroxide decomposers)



# MAIN RESULTS AND FUTURE EXPECTATIONS





# MOMENTS OF THE PROJECT

