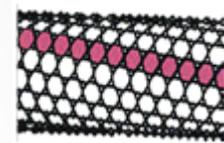




CBC 2014-2020
SOUTH-EAST FINLAND - RUSSIA
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Republic of Finland



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)**



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Republic of Finland

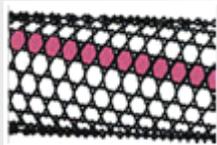
BUDGET



Lead Partner (LUT): 297,5k €



P1 (SPbPU): 210 k €



P2 (STC): 209,4k €

Total: 716 966 €



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

**LIGHTWEIGHT HYBRID WOODEN
COMPOSITE MATERIALS
FOR SUSTAINABLE CONSTRUCTION
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;

Product Installation, Maintenance

STC

LUT

SPbPU

- Modules conditions monitoring after end of project

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



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

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

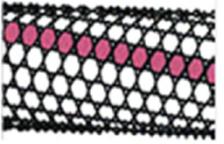
MAIN RESULTS AND FUTURE EXPECTATIONS



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



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

POLYTECH Peter the Great St. Petersburg Polytechnic University

LUT University

CBC 2014-2020 SOUTH-EAST FINLAND - RUSSIA

Continued monitoring of timber structures

Galina Kozinets
Petr Chernov
Natalia Muromtseva

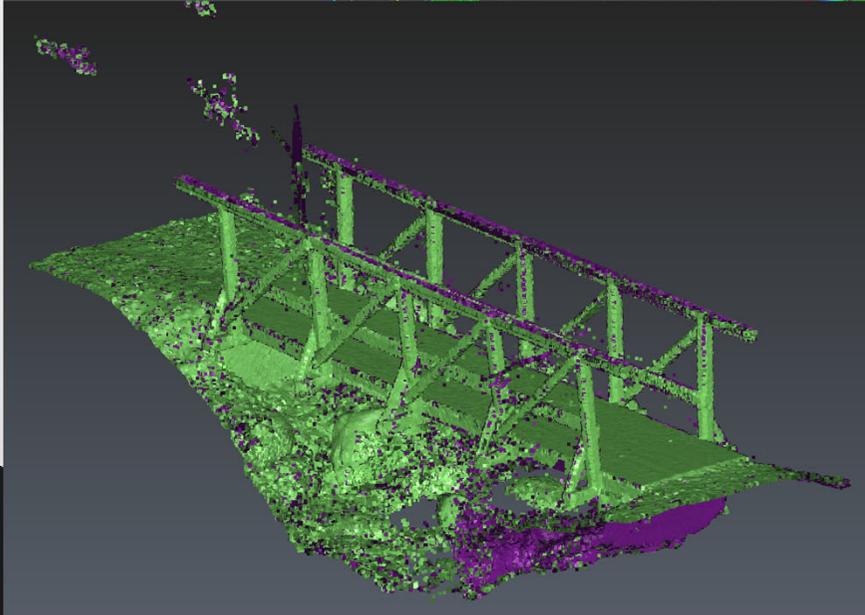
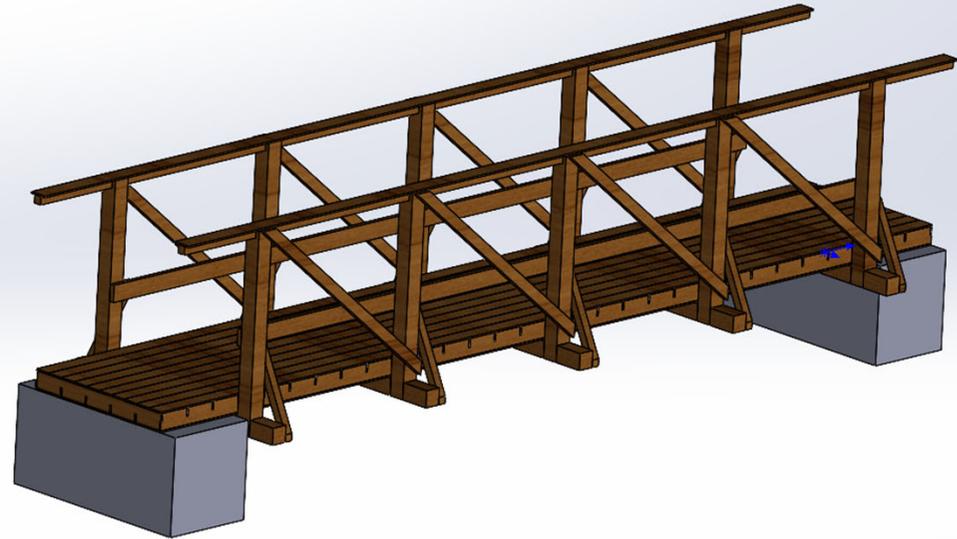
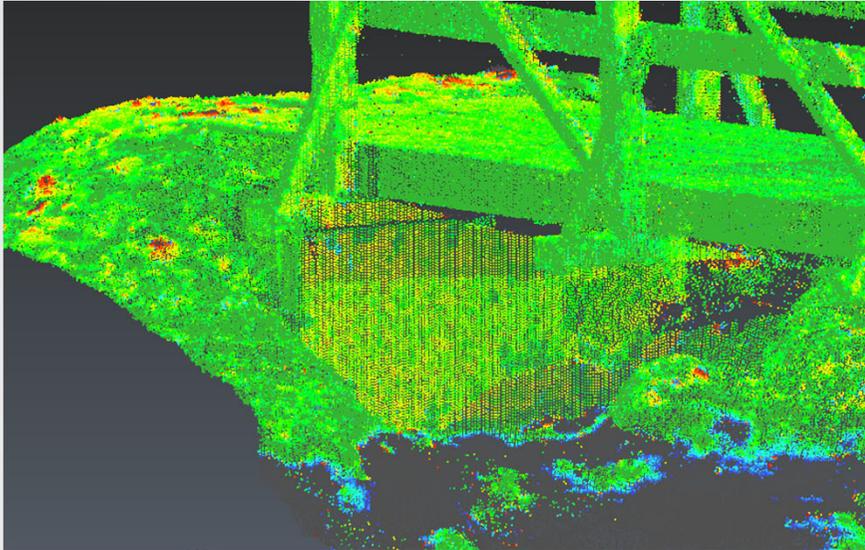
Performance of ceramic coatings can be improved by:

- 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

