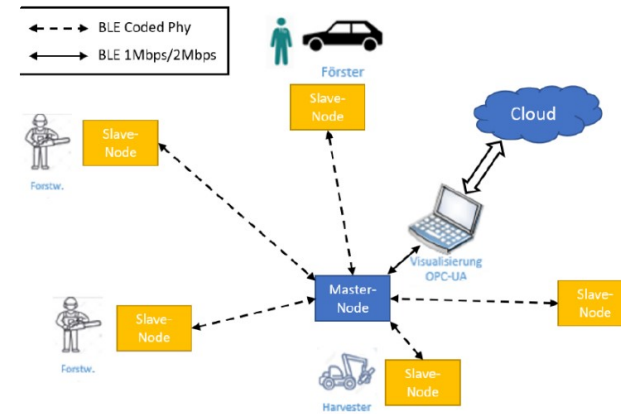


## Co-worker safety 4.0 | Work safety improvement system for forest operations



*Improvement of work safety through a new IT solution. A sensor node network connects to anyone involved (carrying such a node) and provides information about current danger situation over license-free band using Bluetooth low energy (BLE) .*

Improved work safety through a sensor node network which connects to anyone carrying such a node and provides information about the current danger situation over a license-free band using Bluetooth low energy (BLE). For example: in a tree felling operation with a harvester which is supported by a forest worker, any person with such a little IT-device in his / her pocket (such as supervision personal, field forester, ...) will get information about the position of the harvester and the work the harvester is doing. On the other hand, also the harvester has the information about these people. Risk alert warnings are sent to actors automatically, risk zones and risk status can be retrieved from actors, offenses of critical overlaps in risk safety zones are identified. The system is using u-Blox M8N GPS modules and map visualization on screens. The information gets translated to a danger situation depending on the individual work-situation (for example larger danger area when the harvester is cutting a tree than while driving). Communication of 150 - 700m, up to 9 slave nodes and battery allows 50h usage. GPS accuracy around 2.5m under forest conditions. The system may connect to a Cloud. This opens further data processing options, such as inclusion of passers-by via GSM-net or team-oriented data analysis for work-safety education needs.

## MORE DETAILS

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### CHALLENGE ADDRESSED

4.- Ensure a well-trained workforce through attractive skills development and education

### KEYWORDS

Sensor node; BLE; work safety

### COUNTRY OF ORIGIN

Switzerland

### DOMAIN

Forest disturbances, risks  
Products, markets, trade  
Harvesting, infrastructure, logistics

### DIGITAL SOLUTION

Yes

### SCALE OF APPLICATION

National

### TYPE OF SOLUTION

Smart machinery, equipment

### INNOVATION

Yes

### START AND END YEAR

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## CONTACT DATA

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LOGO OF BEST PRACTICE

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LOGO OF MAIN ORGANIZATION

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Berner Fachhochschule  
Haute école spécialisée bernoise  
Bern University of Applied Sciences

PROJECT UNDER WHICH THIS FACTSHEET HAS BEEN CREATED

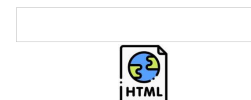
Rosewood 4.0

POST DATE

12 Aug 2021



This project has received funding from the European Union's Horizon  
2020 research and innovation programme under grant agreement No.  
862681



A TOOL FROM ROSEWOOD 4.0, DESIGNED AND DEVELOPED BY

