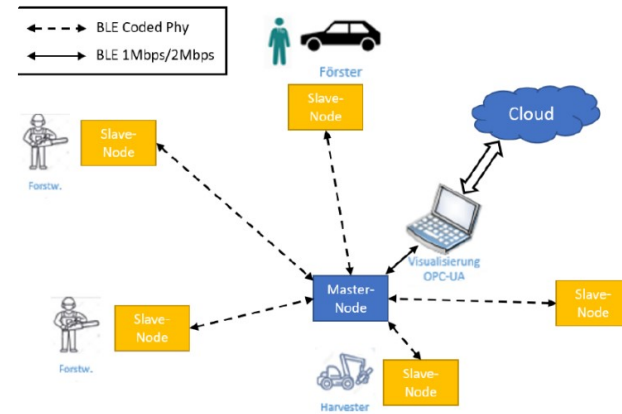


# Co-worker safety 4.0 | Work safety improvement system for forest operations



*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.

## PLUS DE DÉTAILS

---

| DÉFI CONCERNÉ  | DOMAINE  | TYPE DE SOLUTION                     |
|--|--|--------------------------------------|
| 4. Assurer une main-d'oeuvre bien formée à travers le développement attractif de compétences et la formation | Perturbations forestières, risque, réponse aux calamités<br>Produits, marchés, commerce<br>Récolte, infrastructure, logistique | Machines et équipements intelligents |
| MOTS-CLÉS  | SOLUTION DIGITALE  | INNOVATION                           |
| Sensor node; BLE; work safety  | Oui  | Oui                                  |
| PAYS D'ORIGINE   | ECHELLE D'APPLICATION  | DÉBUT ET FIN D'ANNÉE                 |
| Suisse   | Nationale  | --                                   |

## INFORMATIONS DE CONTACT

---

### PROPRIÉTAIRE OU AUTEUR

BFH Bern University of Applied Sciences

Martin Ziesak

[martin.ziesak@bfh.ch](mailto:martin.ziesak@bfh.ch)

<https://www.wh40.ch/interview-rosset-ziesak/>

### RAPPORTEUR

BFH Berne University of Applied Sciences

Moritz Dreher

[moritzkaspar.dreher@bfh.ch](mailto:moritzkaspar.dreher@bfh.ch)

LOGO DE LA BONNE PRATIQUE

---

LOGO DE L'ORGANISATION PRINCIPALE

---



Berner Fachhochschule  
Haute école spécialisée bernoise  
Bern University of Applied Sciences

---

PROJET SOUS LEQUEL CETTE FICHE D'INFORMATION A été CRéÉE

Rosewood 4.0

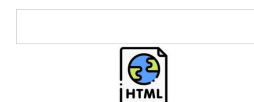
DATE DE PUBLICATION

12 août 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

