



## DIGITAL SUPPORT OF EDUCATIONAL METHODS IN SITUATIONS COMPLICATING PRACTICAL TRAINING ON CNC TECHNOLOGIES IN FIELD OF WOOD PROCESSING (ROBODIG)

Identification number: 2021-1-CZ01-KA220-HED-000023098

Budget: 114 906 EUR

Implementation period: 01.02.2022 - 31.01.2024

Partners: Mendel University in Brno, Technical University in Zvolen, Poznań University of Life Sciences, Higher Vocational and Secondary Technical School in Volyně



**About the project:** Technical fields in the wood industry are not very appealing to the younger generation, due to factors such as low social recognition and compensation that often do not reflect the challenges of studying. Additionally, the overall perception of teaching methods contributes to this issue. Consequently, the current teaching approach does not align with social development and fails to communicate effectively with today's youth, who are immersed in the digital world of the internet and rely on media they engage with daily, where video plays a major role. One of the greatest challenges in the practical training of CNC technology is the high number of students in each group. The complexity of operating these machines necessitates an almost individualized approach so that every student can develop the necessary skills. Currently, these challenges are intensified by the long-lasting coronavirus crisis, which has highlighted the difficulties surrounding the teaching of practical skills and the demonstration of CNC technology. Without practical demonstrations, students are left with only theoretical knowledge. The main objective of the project is to produce sets of professional instructional videos that will focus specifically on practical procedures in CNC woodworking technology. These videos will support both theoretical and traditional teaching by illustrating concepts in practice and facilitating future lessons in virtual and augmented reality. They will also serve as a teaching resource that remains effective during crisis situations requiring distance learning. An additional benefit of these videos is that they will enhance the appeal of theoretical information through the use of modern digital media. This concept will enable the transfer of practical knowledge to numerous student groups while preserving the advantages of an individualized approach.

### Outputs:

- Introduction - <https://youtu.be/jpAAqMU2uEM>
- Basic principles of CNC's - <https://youtu.be/Wp3lwLeg-CM>
- Tooling I. - <https://youtu.be/xDktKe-MNMc>
- Tooling II. - <https://youtu.be/8lXJuyhxq9c>
- Service and maintenance of CNC - [https://youtu.be/aHN8LVJ8\\_rY](https://youtu.be/aHN8LVJ8_rY)
- Nesting CNC's - <https://youtu.be/8AT9rkzL0Qk>
- CNC drilling centers - <https://youtu.be/pOajQiwslIM>
- CNC for timber constructions - <https://youtu.be/eCOGYcOjVJY>
- Instructions for preparing CNC programs in Alphacam - Basic operations - <https://youtu.be/6UG0dLLUHBq>
- Instructions for preparing CNC programs in Alphacam - 3D surface machining - <https://youtu.be/RKFzEb-ZsOo>
- Robots in wood processing industry - <https://youtu.be/TtaZNmwCwZw>
- Alternative CNC Technologies for Wood Industry - <https://youtu.be/NMKLJtbyfcs>



Co-funded by  
the European Union