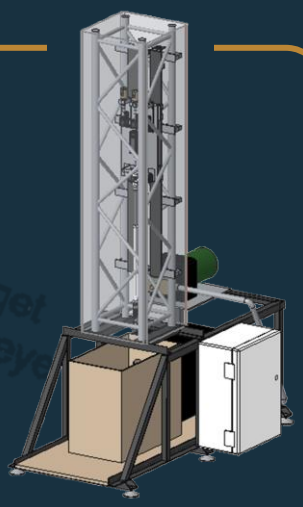
TODO

WORK PACKAGE

TITEL : Development of Vibration Measurement Unit for the Rig



WOPA.Nr: 0003 CONTEST YEAR: 2023/2024 ISSUED BY: C. SOILEMEZIDIS

University of Clausthal SPE Student Chapter

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Drillbotics® is a prestigious international university competition where teams from around the globe collaborate to design and develop an autonomous directional drilling rig. This challenge merges engineering expertise with innovation, aiming to revolutionize the drilling industry while promoting collaboration and hands-on experience.

OBJECTIVE

DEADLINE: 31st February 2024

To design, develop, and integrate a vibration measurement unit that can effectively monitor and measure vibrations in the drillstring.

OUTCOME

Upon project completion, the rig will be equipped with a fully operational vibration measurement module, offering real-time insights into drillstring vibrations. The student, having gone through this comprehensive exercise, will be adept at using Kicad for PCB design and will have foundational knowledge in programming microcontrollers using C.

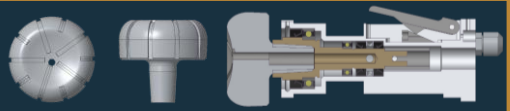
Student Work Packages

Students interested in hands-on experience and applying their academic knowledge are encouraged to take on these work packages. If you're keen to express interest, apply for a work package, or seek more details, please contact us. It's up to you to decide whether the task aligns with your skills and interests. If you lack experience in the highlighted fields (in BLUE), seize the opportunity to learn with us. Don't worry; the primary requirement is motivation. This journey is all about learning and growing.

DESCRIPTION

The student will embark on a project to create a specialized vibration measurement unit for the rig. The process begins with familiarizing oneself with Kicad, a software essential for PCB design. Under guidance, the student will draft and refine the PCB layout tailored for the specific requirements of the rig's measurement unit. Concurrently, the student will delve into basic C programming, crafting code to enable the measurement unit's functionality. This unit will be equipped with a dedicated sensor, whose primary role is to detect and quantify vibrations in the drillstring. Throughout the project, the student will receive valuable advice on the design nuances of the module and best practices in coding for optimal performance.

CONTACT



drillbotics@tu-clausthal.de

Certificate of Completion for Work Packages

Upon successful and timely completion of the designated work package, and if the specified outcomes are met, a certificate will be issued to the individual responsible for the task. This certificate stands as an official recognition of the individual's diligence, skill, and commitment to the project.

Complexity grade

1.	20h	3.	60h	5.	100h
2.	40h	4.	80h	6.	>100h

Complexity grade

6
5
4
3
2
1

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