TODO
WORK PACKAGE

TITEL : Development of Magnetic Field Azimuth Measurement Module

WOPA.Nr: 0006   CONTEST YEAR: 2023/2024   ISSUED BY: C. SOILEMEZIDIS

SPE International
University of Clausthal
SPE Student Chapter

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ite drilling & production

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.
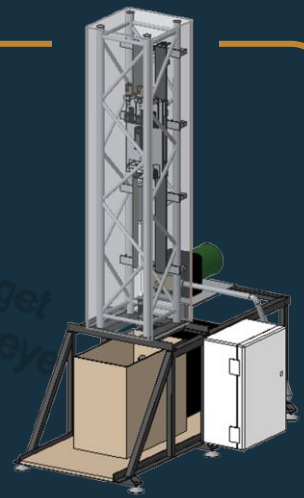
OBJECTIVE   DEADLINE: 01st February 2023

To design, develop, and integrate a PCB module responsible for activating the magnetic field, a crucial component for azimuth measurement.

OUTCOME

By the end of this task, the rig will be equipped with a dedicated module for magnetic field control, bolstering its azimuth measurement capabilities. The student will gain hands-on experience in PCB design through Kicad, soldering, C programming for microcontroller applications, and system integration within a complex rig environment.

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

This task centers on the design and creation of a module that governs the magnetic field used to measure azimuth. Students will start with designing the PCB using Kicad, progressing to its manufacturing phase where they'll solder the necessary components onto the board. Following the hardware setup, the focus will shift to the software aspect. The student will be tasked with writing C code tailored for the module, ensuring it functions cohesively within the larger system and seamlessly integrates with the rig.

CONTACT
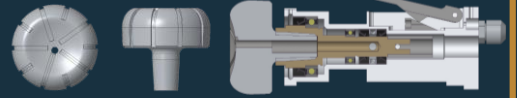
drillbotics@tu-clausthal.de

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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MECHANICAL	ELECTRICAL	ADMINISTARTIV	PROGRAMMING	AI	DESIGN