

GUIDE BOOK DERRICK 2025

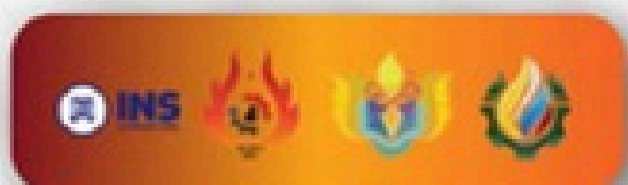


DERRICK
2025 Energy
Innovation
Action

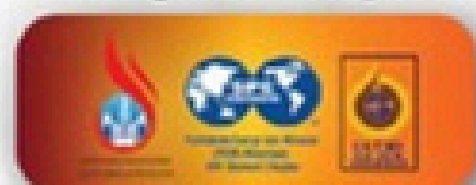


DRILLING FLUID COMPETITION

In Collaboration With:



Organized By:





BACKGROUND

As the global energy sector faces the challenge of meeting growing demand while reducing environmental impact, **sustainable practices** in petroleum engineering have become increasingly important. Among these, **drilling fluids play a vital role** in exploration and production. They maintain wellbore stability, control downhole pressure, cool and lubricate the drill bit, and transport cuttings efficiently—making fluid design a **key factor in drilling success**.

Recent innovations in drilling fluid technology focus on **developing eco-friendly formulations** using biodegradable additives and materials with better rheological properties. These advancements not only minimize environmental impact but also **improve performance—enhancing rate of penetration, reducing non-productive time, and lowering overall drilling costs** through smarter fluid management. Thus, drilling fluids are no longer just functional tools but **strategic assets that drive efficiency, safety, and sustainability in operations**.

With the theme “Advancing Drilling Fluid Design: Driving Performance, Efficiency, and Sustainability,” **DERRICK 2K25** highlights the need for creative and future-focused solutions. The competition invites participants to design next-generation drilling fluids that balance technical excellence with environmental responsibility, inspiring innovation that will **shape the future of petroleum engineering** and contribute to a more **sustainable energy industry**.

THEME

ADVANCING DRILLING FLUID DESIGN : DRIVING PERFORMANCE, EFFICIENCY, AND SUSTAINIBILITY

VENUE, DATE AND STATUS

- Venue : Online via Zoom Cloud Meeting
- Date : 6th December 2025
- Status : Online



GENERAL RULES

- The DERRICK 2025 Drilling Fluid Design Competition is open to all undergraduate students from universities worldwide.
- Each university may register multiple teams in the preliminary stage. However, only a maximum of 2 (two) teams from the same university will be allowed to advance to the final round.
- Each team must consist of a minimum of 2 (two) and a maximum of 3 (three) members.
- Team members may come from different majors but must be from the same university.
- Each participant can only be registered as a member of one team and cannot switch teams after registration.
- The competition consists of two stages: the Preliminary Round and the Final Round.
- A total of 8 (eight) teams with the best scores from the Preliminary Round will qualify for the Final Round.
- All communications, documents, and presentations must be prepared and delivered in English.
- Cases for both the Preliminary Round and the Final Round will be distributed to all teams via the official competition email on the specified dates.
- All reports, essays, and presentations must be original works that have not been submitted to or awarded in any other competition.
- Plagiarism in any form will result in immediate disqualification.
- All references must be cited according to the APA Citation Format.
- Failure to comply with the rules, submission format, or deadlines may result in point deductions of up to 10% or disqualification, depending on the severity.
- At least one representative from each team must attend the Technical Meeting. The exact date, time, and venue will be announced by the committee.
- Judges' decisions are final and cannot be contested under any circumstances.
- Competition rules and regulations are subject to change at the discretion of the committee. Any updates will be communicated via the official email to the team leaders.



COMPETITION FORMAT

A. PRELIMINARY SUBMISSION

- Abstract must include all parts of the case report (background, case analysis, conclusion, and solution).
- Abstract must be written in English.
- Abstract should consist of 250-450 words.
- Only team and member identities are allowed. Any university's identities and attributes are prohibited.
- Only the abstract should be submitted, and no attachments are allowed.
- Abstract should be submitted before 9th of November 2025 in .pdf format to dfdc@derrick2k25@gmail.com with subject and file name: **DFDC_DERRICK2K25_Team Name_PRELIMINARY**
- The eight best abstracts will be qualified to the final round.
- Teams that qualified to the final will be announce on 16th of November 2025.
- **Abstract format**
 - Paper size : A4
 - Margin : 4cm (Top & Left), 3cm (Bottom & Right)
 - Font : Times New Roman Bold (Title)
TimesNew Roman Regular (Content)
 - Spacing : 1,5
 - Alignment : Justified
 - Citation & References : APA Style



COMPETITION FORMAT

C. FINAL PRESENTATION

1. Final Presentation must be written in English.
2. Only team and team member identities are allowed. Any university's and attributes are prohibited.
3. Final presentation file must include content from the project report. Displaying different data or changing data is prohibited.
4. Each team will be given 5 minutes preparation, 15 minutes for presentation, and 45 minutes for the Q&A session.
5. Final presentation file should be submitted before 30th of November 2025, in .pptx format to dfdc@derrick2k25@gmail.com with subject and file name: DFDC_DERRICK2K25_Team Name_FINAL REPORT
6. Team who fails to comply with rules will be given 10%-point reduction.

D. COMPETITION DAY RULES

1. Participant must attend the presentation day and cannot be replaced by other.
2. The presentation and Q&A session must be delivered in English.
3. Participant are prohibited to use any university attribute and mention university identities.
4. During presentation & QnA, any external assistance is prohibited.
5. Each team will be given 5 minutes preparation, 15 minutes for presentation, and 45 minutes for the Q&A session.
6. Each team are responsible to display their own presentation file. The displayed file should not be different with file that submitted.
7. Competition Officials
 - Judges: There will be three judges.
 - Moderator
 - Timekeeper
 - Host
8. Team who fails to comply with rules will be given 10% point reduction.
9. Other rules will be represented at the technical meeting day, which will be held on 5th of December 2025.



COMPETITION FORMAT

B. FINAL PROJECT REPORT SUBMISSION

- Project Report must be written in english.
- Project Report should include (but not limited to):
 - Problem identification & Solution analysis
 - Drilling fluid design
 - Drilling fluid properties
 - Innovation
 - Health, Safety, Security, an Environment (HSSE) analysis
 - Economic analysis
 - Summary & Conclusion
 - References Note: additional evidence and laboratory tests are recommended
- Project Report Format:
 - a. Only team and team member identities are allowed. Any university's identities and attributes are prohibited.
 - b. Paper size : A4
 - c. Margin : 4cm (Top & Left), 3cm (Bottom & Right)
 - d. Font : Times New Roman Bold (Title)
TimesNew Roman Regular (Content)
 - e. Spacing : 1,5
 - f. Alignment : Justified
 - g. Citation & References: APA Style

Note: Other to those already stated, it all depends on the team's innovation. Project Report file should be submitted before 30th of November 2025, in .pdf format to dfdc@derrick2k25@gmail.com with subject and file name: DFDC_DERRICK2K25_Team Name_FINALREPORT. Team who fails to comply with rules will be given 10% point reduction.



JUDGING CRITERIA

1. Project Report : 50%

It consists of every aspect in a detailed way, completeness, and your engineering senses. These are some aspects that need to be highlighted:

1. **Troubleshooting:** Identify key issues in drilling and offer appropriate and efficient solutions.
2. **Conformance:** Ensure that the proposed solution is fit for purpose, technical standards, and the environment.
3. **In-depth Research:** Support the solution with strong scientific data and industry research.
4. **Drilling Fluid Design:** Design a drilling fluid that is innovative and suitable for the well conditions.
5. **Performance:** Show how drilling fluids improve drilling speed, well stability and formation protection.
6. **Cost Effective:** Calculate costs in detail and optimize without compromising performance.
7. **Innovation:** Propose new ideas that are proven to improve efficiency and environmental sustainability.
8. **Health, Safety, Security, and Environment:** Prioritize safety, security, and the environment by minimizing risks and waste.

2. Presentation : 15%

1. **Material Delivery:** The material is presented logically, easy to understand, relevant, and supported by in-depth analysis.
2. **Presentation Skills:** Participants deliver material with good body language, voice, and language, and able to improvise.
3. **Visualization:** Slide design is attractive, visuals are relevant, and the use of media effectively supports understanding of the material.
4. **Creativity:** Participants present original ideas and unique approaches and offer innovative solutions.
5. **Time management:** Participants able to manage presentation time efficiently and effectively.

3. Question & Answer : 35%

1. **Material Proficiency:** Participants demonstrate a deep understanding and able to explain the material simply and relevant to the question.
2. **Critical Thinking Ability:** Participants able to analysed questions, connect concepts, and provide innovative solutions.
3. **Communication Skills:** Participants speak fluently, use good language, and listen carefully to questions.

Judge's decisions are absolute and not contestable, and the winner will be announced at DERRICK 2K25 Awarding Night



REGISTRATION

1. Registration fee for DERRICK 2025 for Smart Competition are :

- **Early Bird :**
 - i. 100.000 IDR per Team for Domestic Students
 - ii. USD 7 per Team for International Students
- **Normal :**
 - i. 125.000 IDR per Team for Domestic Students
 - ii. USD 8 per Team for International Students
- **Extend (if possible) :**
 - i. 150.000 IDR per Team for Domestic Students
 - ii. USD 10 per Team for International Students

2. The teams that are selected for the final round have to pay the remaining fees :

- **300.000 IDR per Team for Domestic Students**
- **USD 19 per Team for International Student**

3. Submit the payment receipt to the link that will be given via email after the announcement of preliminary round result and sent your payment through :

- **BNI 1408613699 (Muhammad Rehan)**
- **BRI 010701135855500 (Naila Adinda)**



KEY DATES

- Early Bird Registration : October 9th– October 12th, 2025
- Normal Registration : October 13th– October 19th, 2025
- Extend Registration : October 20th– October 26th, 2025
- Preliminary Distribution : October 27th, 2025
- Preliminary Submission : November 9th, 2025
- Announcement Finalist : November 16th, 2025
- Final Case Distribution : November 16th, 2025
- Final Submission : November 30th, 2025
- Technical Meeting : December 5th, 2025
- Competition Day : December 6th, 2025
- Awarding Night : December 7th, 2025

PRIZES AND AWARDS

The winners of DERRICK 2025 Smart Competition will be awarded money and certificates

<i>Champion</i>	Rp 2.500.000	+ E Certificate
<i>1st Runner Up</i>	Rp 1.500.000	+ E Certificate
<i>2nd Runner Up</i>	Rp 1.000.000	+ E Certificate
<i>2nd Runner Up</i>	Rp 500.000	+ E Certificate

CONTACT PERSON

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