

# **Transforming Indonesia Drilling Training Center: Implementation of MINDCRAFT to Drive Revenue and Competency Development**

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## **Abstract**

In 2023, PT Pertamina Hulu Energi issued Decree No. Kpts-019/PHE000000/2023-S0 to reform the organizational structure of PT Pertamina Drilling Services Indonesia (PDSI), aiming to enhance agility and better support corporate business objectives. One of the key directives from this decree was the transformation of the Indonesia Drilling Training Center (IDTC) from a cost center into a profit center. This strategic move is expected to position IDTC as a new revenue stream for PDSI. Despite not being listed in the 2024 Corporate Work Plan and Budget, IDTC was included in the company's Revenue Recovery Plan in Q2 2024 due to unachieved revenue targets caused by several delayed projects. In response, the implementation of MINDCRAFT (*Module of Improving Drilling Crew Competencies Through Full Cycle Training*) by the PC Prove – MINDCRAFT team became a key initiative. MINDCRAFT not only generated significant revenue amounting to +/- USD. 780.000, but also delivered qualitative and comprehensive assessments of personnel competencies across five dimensions of competencies. Furthermore, MINDCRAFT improved operational efficiency by reducing the need for four separate external institutions into a single integrated solution operated by IDTC.

## **Keywords**

Development Methodology, Engineering Education, Innovation, Organization Agility, Process Optimization

## **Acknowledgements**

Gold Awardee – Drilling Innovation Forum 2024 (Pertamina Drilling Services Indonesia)  
Best Innovaton Winner – Drilling Innovation Forum 2024 (Pertamina Drilling Services Indonesia)  
Gold Awardee – Upstream Innovation and Improvement Awards 2025 (Pertamina Hulu Energi)

## **Biographies**

**Ng Willyam Wijaya** is a After graduating in 2016, he began his career at VICO Indonesia (a joint venture between ENI and BP) as an Analyst in Business Planning & Control. Building on his experience in the oil and gas industry, he transitioned in 2017 to a Key Account Manager role for oil and gas markets at a distributor of General Electric (GE) and ABB products. In 2020, he joined Pertamina Drilling Services Indonesia as a Driller, further strengthening his technical and operational expertise in drilling activities. And currently he is assigned as a Project Coordinator at Pertamina Drilling Services Indonesia in Kalimantan area. He holds multiple industry certifications, ranging from BOSIET by OPITO to the IADC Certification for Drilling Surface Supervisors. He is an active member of both the Society of Petroleum Engineers (SPE) and the Ikatan Ahli Teknik Minyak Indonesia (IATMI).

**Chair Rony** is a Bachelor of Science Mechanical Engineering, he graduated from the University of Indonesia, Depok, West Java, Indonesia. Joined PT. PERTAMINA Drilling Services Indonesia in 2009 as a Driller and built his career to become a Toolpusher, Assistant Manager Support, Manager Operation PDC, Drilling Specialist, and now as a Manager IDTC, which is a training and competency assessment centre in the upstream oil and gas sector. Known as an experienced in business services, which involved many challenging projects such as Manpower Services in PT PHR, Food & Lodging Services in PT PHE ONWJ, Heavy Transport & Lifting Equipment Services in PT PHE OK, Oil Boom Services in PT PHE OSES, and Project Mindcraft for Petrofund Namibia. He is also active in Continuous Improvement Programs, proven by receiving a Gold Medal from PT. PERTAMINA Present of CIP in UIIA 2019 and 2024. Chair Rony is a member of the Assessor LSP PERTAMINA – BNSP, which has been active in developing assessment tools and competency assessment since 2024.

**Muhammad Iqbal Shahputra** is a mechanical engineering graduate from Gadjah Mada University and currently serves as a Toolpusher at Pertamina Drilling. Since joining the company in 2020 as a Driller, he has contributed to several key projects, including the blowout handling at an illegal well in Keban Village and participating in the business development feasibility studies in 2022 and 2023. Beyond field operations, Iqbal has also served as an instructor and mentor in a drilling training program held by IDTC for participants from Petrofund Namibia, reflecting his dedication to knowledge sharing and international collaboration. He is an active participant in Continuous Improvement Programs (CIP) and was awarded Best Innovation Winner at the Drilling Innovation Forum 2024 for his outstanding contributions to operational innovation.

**Hilman Hilmawan** is a Master of Engineering in Mechanical Engineering; he graduated from Sriwijaya University, Palembang, South Sumatra, Indonesia. Joined PT. Pertamina Drilling Services Indonesia in 2009 as a Driller and built his career to become a Toolpusher and now a Rig Superintendent with coverage area in Sumatera-Java. He is also active in the innovation and continuous improvement convention program at the Pertamina Upstream oil and gas company level with Platinum achievements in 2019 and 2020 and Gold achievements in 2018 and 2024, then at the Pertamina Holding level with Gold achievements in 2019, 2020, 2021. He has two papers published internationally related to reducing non-productive time in mud pumps (2021) and the effect of repeated welding on temporary wellheads (2023). Hilman Hilmawan is an Assessor LSP Pertamina - BNSP (National Professional Certification Agency in Indonesia) for drilling - workover scheme member who has been actively developing and coaching employee skills and certification since 2023 and received an Honorable Award in Asesor Award 2023 and 2024. He is listed as a member of the Indonesian National Work Competency Standards of the Republic of Indonesia for the Rig Inspector scheme in 2024.

**Ardian Aminuddin** is a Bachelor of Science Mechanical Engineering, he graduated from Sebelas Maret University, Surakarta, Central Java, Indonesia. Joined PT. Pertamina Drilling Services Indonesia at 2007 as a Driller and build his career to became Toolpusher, Rig Superintendent and now as a Project Coordinator with coverage area in East Kalimantan. Known as an experienced Rig Superintendent which involved in many challenging projects such as Relieve Well Crater Merbau and Killing Well Blow Out Talang Jimar. He also active in Continuous Improvement Programs proven by receive a Gold Medal from PT. Pertamina Present of CIP 2021, 2022 and 2023, UIIA 2021& 2023, and HSE Ambassador 2023. Ardian Aminuddin is member of Asesor LSP Pertamina –BNSP which active to develop and coaching employee skill and certification since 2022 and receive Honourable Award in Asesor Award 2023.

**Aktrilianjas Ulpa** is a seasoned drilling professional with over 15 years of experience in Indonesia's oil and gas sector. Holding a Master of Management and a Bachelor's degree in Mechanical Engineering, he has built a progressive career at PT Pertamina Drilling Services Indonesia (PDSI), advancing from Toolpusher to Rig Superintendent and emerging as a trusted leader in integrated drilling operations and competency development. He has led mission-critical operations such as the Well Capping of Illegal Well Keban, the transformation of Rig #32.2 into a fully operational Drilling Rig, and the accelerated recovery of Rig #29.3/D1500-E. His strategic thinking and cross-functional coordination have repeatedly delivered high-impact results, both in operational continuity and revenue growth.

Ulpa is also a driving force in workforce development. In 2023, he pioneered the DWOS (Drilling Well On Simulator) program, providing immersive simulation training that improved decision-making and safety awareness for field

crews. He also initiated the MINDCRAFT platform—an integrated training and assessment system that turned PDSI's IDTC into a profit center with over IDR 7.3 billion in revenue within a year. Certified as an IADC Well Control Instructor, he has trained over 300 personnel, and since 2017, has served as a national competency assessor (LSP Pertamina-BNSP). He also contributes to national rig inspector certification development under Indonesia's Directorate General of Oil and Gas. His achievements have been recognized with multiple honors, including the Assessor Award (2022–2024), DWI Award, and CIP Best Innovation reflecting his unwavering commitment to innovation, safety, and operational excellence.

**Minar Prianto** is a Bachelor of Industrial Engineering, graduated from the University of North Sumatra, Medan, Indonesia. He began his career at PT Pertamina Drilling Services Indonesia in 2007 as a Driller and successfully advanced through roles as Toolpusher, Rig Superintendent, and currently serves as an Offshore Installation Superintendent (OIS). His responsibilities cover the coordination and management of Drilling, Workover, and Wellservice operations, ensuring safety, efficiency, and optimal performance in onshore and offshore activities. He is recognized as a highly experienced rig leader involved in critical and challenging projects, including being a key member of the Well Cap Team for the blowout fire control in Keban Musi, Banyu Asin, in December 2021. In addition to his operational expertise, Minar is an active contributor in Continuous Improvement Programs, evidenced by multiple achievements: Platinum Medal (Pertamina Quality Award 2018), Gold Medals and Best CIP (PT PDSI CIP Forum 2024), and the Upstream Improvement & Innovation Award (2024). Beyond his fieldwork, Minar is a certified instructor and assessor, actively involved in developing workforce competencies. Since 2023, he has served as a certified Assessor of Competency under BNSP LSP Pertamina and as a Well Control Instructor for IADC-accredited programs. He also contributes as a trainer with IDTC and a consultant in rig acquisition projects, notably with Timorgap in 2025. His contributions were recognized through multiple Assessor Awards from PT Pertamina in both 2023 and 2024.

**Dora Indah** is a Bachelor of Marine Science, he graduated from IPB University, Bogor, West Java, Indonesia. Joined PT. Pertamina Drilling Services Indonesia at 2001 as a Public Relation and build her career to become Commercial Contract & SA Process, Project Preparation & Evaluation, IPM & Non Rig Services Marketing and now as a Sr. Analyst Marketing with coverage area in East Java, East Indonesia, Geothermal & Others. Known as an experienced Marketing which involved in many challenging projects market segment for captive (Pertamina Group) and non captive market (Non Pertamina Group) such as VICO Indonesia, Talisman Energy (Talisman Saka Kemang, Talisman East Jabung B.V), Repsol, Petrochina Salawati, ExxonMobil Cepu Limited, Medco E&P, Medco E&P Tomori Sulawesi, Geo Dipa Energi, PT Pertamina Power Indonesia. Apart from the domestic market, concerned also contributes to market penetration overseas, such as Uzma Engineering Sdn. Bhd (Malaysia), Petrofund Namibia (South Africa) and Timor Gap-Timor Gas & Petroleo, E.P (timor Leste) She also active in Continuous Improvement Programs proven by receive a Gold Medal from PT. Pertamina Present of Continuous Improvement Program 2017, 2024, UIIA 2024. S he is also active in the sales to cash program, experienced ISO, Project Management, MBNQA (Malcolm Baldrige National Quality Award) programs, Risk register, and has competency about Indonesia local contain regulacy.