



**ENHANCED
DRILLING**

enhanced-drilling.com

Who we are

From design to completion, we provide specialist drilling technologies and expertise that can solve some of the offshore industry's biggest well challenges.

From risk-reduction technologies to environmentally beneficial systems. We create cost-effective, benefit-enhancing solutions for the offshore energy industry.

Our technologies help clients around the world to solve challenges on all types of subsea wells, from the top-hole to all the way down to the reservoir. Around the world our track record from the field is enviable, with over 1000 wells surpassed for our RMR® (Riserless Mud Recovery), EC-Drill®, CTS (Cuttings Transportation System) and EC-Monitor™ technologies.



Best-in-class wells

The drive to find solutions and to innovate has always been in the backbone of Enhanced Drilling and continues to be so. From humble beginnings in 1987 to World Class Oil-Service today, our multi-disciplined team and competence help us to always reach further and to explore new approaches to how we drill and complete best-in-class wells in cooperation with our clients.



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Continuous innovation

With constant development of new technology, we are leading the way when it comes to the next generation drilling solutions that deliver enhanced safety, reliability, cost effectiveness and environmental benefits.

Our newest addition of solutions is the complete Managed Pressure Drilling (MPD) system, where our clients gain all the flexibility and advantages of a Controlled Mud Level (CML) system, whilst avoiding Surface Back Pressure (SBP) disadvantages.



Benefits from the MPD system include:

- ⬡ Reduce drilling days
- ⬡ Reach stranded reservoirs
- ⬡ Extend production life
- ⬡ High uptime and lower OPEX
- ⬡ Fast deployment time



Reliability is a key factor in Enhanced Drilling's culture. We exercise stringent quality controls on all our equipment and services. This ensures safe, efficient, and reliable operations for our clients. (Pictured) Service, adjustments, and quality assurance is also a large part of the tasks we execute at our headquarter in Bergen (Straume), Norway.

Achieve zero discharge with our technologies

EC-Monitor™

EC-Monitor™ builds on methodology and experience regarding accurate volume control gained from more than 1000 CTS, RMR® and EC-Drill® operations over the past 35 years.

EC-Monitor™ reduces the risk for blowout by enhanced kick detection in all stages of well construction, hence, greatly improves the protection against unwanted events. The system enables the possibility to adjust the situation before well control actions are needed.

EC-Monitor™ can also be used for dynamic flow checks. This greatly reduces the time spent on flow checks. EC-Monitor™ reduces well construction time, resulting in less Green House Gas (GHG) emissions per well.

This EC-Monitor™ is the next generation enhanced kick and loss detection and has been selected as a finalist for the World Oil Awards 2022 in the category for Best Well Integrity Technology – a nomination and recognition we are proud to be awarded with.

EC-Drill®

EC-Drill® is an MPD system based on a CML technique. By using the EC-Drill® system, the operator can simplify the well design, drill longer sections, and reduce the amount of steel, cement, and drilling fluid used to build the well. This, together with the potential saving of rig days, can assist in saving large amounts of GHG emissions. In mature fields, the EC-Drill® system can be used to reduce fluid losses in depleted reservoirs. This can help extend the life of mature fields and increase the use of existing infrastructure. The EC-Drill® system can also be used during well completion to increase future

production. This can increase output from each well and reduce the need for drilling new wells to maintain production.

RMR® – Riserless Mud Recovery

The RMR® system is a risk-reduction tool that enables the drilling of a better quality, and more stable top-hole, with less environmental impact. It is a Dual Gradient Drilling system, which makes it possible to return drilling fluid and cuttings to the installation without discharge to the seabed. In addition to enabling volume control in top-holes and thus mitigating the risk of shallow flow into sea, with RMR®, it is possible to reuse and recycle the mud during RMR® operations in comparison with conventional drilling where cuttings and drilling fluids are discharged directly to sea. As such, materials used in the production of drilling fluid will be reduced. The contribution will vary depending on the drilling fluids used. The technology gives operators the possibility to reduce the time to drill top-hole casing string(s), resulting in less material used per well and less GHG emissions. The RMR® technology protects life below sea as it opens up the possibility to avoid discharge of cuttings and drilling fluids (chemicals) to sea during top-hole drilling.

MPC® - Managed Pressure Cementing system

The MPC® system provides a cost effective method to achieving barrier integrity and safe isolation of problematic zones in top-holes, even in challenging narrow pressure window scenarios. The system provides precise control of the annulus pressure and flow during and after the cement job. The increase in pressure from heavier cement and viscosity

can be compensated for at weak zones, preventing losses to the formation. While the annulus pressure is monitored and increase if Gas and shallow water hazards are present, a simple yet effective pressure control to mitigate the risk of shallow flow during setting of cement. MPC® is a safety-enhanced system. In the case of a loss or influx, rapid action can be taken to prevent a situation from escalating. Any gain or loss can be rectified both quickly and easily.

The system, which is the perfect partner to RMR®, can use conventional cement rather than costly foam or lightweight variants while still achieving effective isolation.

CTS – Cutting Transportation System

CTS is designed to remove cuttings from the drilling center and pump it to a predetermined location. The CTS is often used to keep the well area clean to avoid costly cleanup operations after drilling. This saves rig time and makes future tie-ins easier, safer, and faster. If the well is located in an environmentally sensitive area, such as the presences of corals on seabed or spawning grounds, it might not be possible to dump the cuttings close by the drill center. CTS can then be used to pump cuttings to a safe location up to several kilometers away. The alternative to using CTS includes recovering the cuttings to surface and transporting it by vessel onshore or to a safe off-shore location. This considerably increases the carbon footprint of the operations. It is also possible to move the drill center to a safe location, but this can increase the well complexity and the drilling time. By using CTS instead, it helps reduce the carbon footprint.





Fokus på vår teknologiske framtid



Vi i VisionTech er opptatt av samspillet, og sammen med kunder og samarbeidspartnere finner vi teknologiske løsninger som tar oss videre. I tett samarbeid med Nutrimar har vi levert styresystem til kyllingfabrikken på Frøya. Ta kontakt om du ønsker en samarbeidspartner for å ta frem gode automatiseringsløsninger.

www.visiontech.no

VisionTech 

Enhancing our Commitment to Sustainability

We all have a responsibility to protect the environment and our natural resources – and for as long as oil and gas is required, the sector must operate as efficiently and responsibly toward the environment as possible. We aspire to not only reduce our own footprint, but to continue bringing products and services to market that reduces the industry's footprint as a whole.

Our vision is to be the global leader in clean offshore well-bore pressure and volume control.



Zero-emissions technologies & HSEQ (Health, Safety, Environment and Quality)

For more than three decades, Enhanced Drilling has delivered innovative well construction and completion technologies that, with our “closed system” solutions for seabed and marine protection, reduces both negative impact on life below water and GHG emissions, whilst improving safety and efficiency.



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Environmental goalsetting

Enhanced Drilling is committed to support the United Nation's Paris Agreement and Sustainable Development Goals (SDGs) to create a better future and a more sustainable world for all by 2030.

We have made great progress in our environmental journey and our long term vision is that Environmental, Social and Governance (ESG) will be incorporated in everything we do at Enhanced Drilling. So far, all indicators point to employees of Enhanced Drilling prioritizing the following five SDGs:



Design and development of mechanical, electro & hydraulic equipment.

- Advanced CAD capabilities and calculations.
- For one of parts to complex assemblies.
- Product development & designs according to customer request / specifications.
- Total supplier with fabrication, machining, assembly & manufacturing capabilities.
- For marine, subsea & land-based applications.
- Certified in conformity with NS-EN ISO 9001:2015.

For more information about our standard products and services, see our webpage: <https://www.gntsolutions.no>

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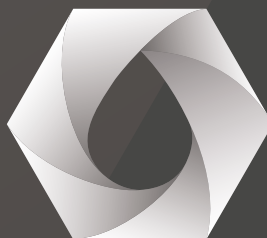
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IKM Elektro AS

- et fremtidsrettet konsultentselskap

IKM Elektro AS har røtter som går 100 år tilbake,

med betydelig opparbeidet kompetanse innenfor
motorservice, Ex og elektroområdet.

*Vi har dedikerte ressurser for alt fra prosjektutvikling til
gjennomføring. «Produkter og tjenester». Verkstedet vårt er
sertifisert for produksjon og vedlikehold av Ex-utstyr, og med
hjelp av våre prosjektledere, ingeniører og teknikere kan vi
garantere full tjenesteyting på alle nivåer.*

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Våre sertifikater

IKM Elektro har lang erfaring med å levere kvalifiserte
konsulenter til store og kompliserte prosjekter.

**Achilles Utilities NCE 2019 / DSB Autorisasjon / EKOM
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NS-EN ISO 14001:2015 / NS-ISO 45001:2018**



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