

MDES

Multidesign engineering AS

Independent engineering company that is passionate to solve challenges within a timely manner and with high quality.

Your preferred engineering and consultant company.

Gets it done!

[MDES.no](https://www.mdes.no)

WHAT WE CAN DO

- **MECHANICAL DESIGN:**

- Small or large developments. From concept design through to detailed design including calculations, simulations and other documentation. Facilitation prototyping, testing and production as needed. Core area of competence is down-hole tool design and related equipment as well as subsea and topside wells equipment. New designs, upgrades and modifications, cost analysis, failure investigations and subsequent improvements.

- **PROJECT MANAGEMENT:**

- Any scope – small or large. Advice on project definitions, criteria, planning and follow up. Design, manufacturing, assembly and testing, outsourcing, quality systems implementation, patent applications and drawings.

- **DESIGN ADVICE IN PROJECTS**

- Design reviews, FMECA, failure investigation, cost analysis and improvement.

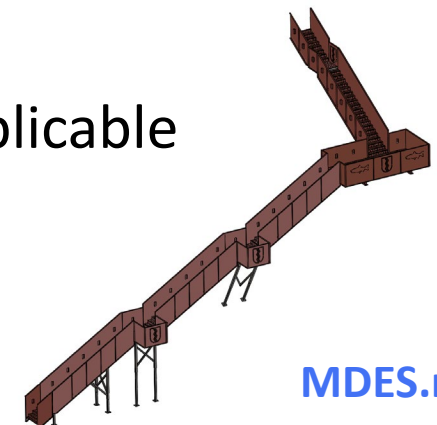
- **TECHNOLOGY AND IP EVALUATION**

- For example in a due diligence process.



REFERENCE PROJECTS

- Designed, tested and patented several tool-designs within well completion and intervention technology – including ISO 14310 & ISO 14998 qualified equipment.
- Technical lead in projects like well construction equipment, intervention equipment – both coil tubing, wire line, completion and logging tools. Topside equipment and mining-equipment construction. Projects carried out according to Norsok, IMDG code, DnV GL and various API & ISO-standards
- Experience with metallurgy, materials, heat treatment and steel making processes like forging, casting, rolling of bar and plates, oxy cutting and all types of machining operations.
- Designed / manufactured several medium and high-pressure test cell for validation testing, FAT testing and similar. According to relevant standard such as NS-EN 13445 Unfired pressure vessels or similar.
- New development of a barrier verification tool.
- New development of a formation testing tool.
- Outdoor hiking trail staircase in Sauda according to Tek 10 and applicable Eurocodes



PROJECT TASK EXPERIENCE



- 3D modelling and design
- Documentation like calculation reports including FEA analysis, assembly manuals, operations manuals quality specification and procedures.
- Manufacturing drawings – machining, welding, forgings.
- Process documentation – top level, engineering and manufacturing.
- Integration between Solidworks Enterprise PDM and Axapta in a global company
- ISO certifications and annual revisions for engineering processes
- General business development and understanding the customer needs
- Hands-on - prototype assembly and testing
- Experience with patent process and drawings

SOFTWARE KNOWLEDGE

- Solidworks 3D CAD design software
- Solidworks Simulation FEA analysis
- Solidworks Enterprise PDM – data management
- Autodesk Inventor 3D design software
- AutoCAD
- Autodesk Inventor Vault – data management
- MS office including MS Project and MS Visio
- MathCAD, MATLAB and Smath
- SAP, MS Dynamics, Mamut business software
- Ansys & Abaqus

INHOUSE SOFTWARE POOL

- Solidworks 3D CAD design software (5 licenses)
- Solidworks Simulation FEA analysis (3 licenses)
- Solidworks Enterprise PDM – data management (7 licenses)
- DraftSight Enterprise (2 licenses)
- ANSYS Mechanical Enterprise (1 license)
- MathCAD Prime (1 license)
- + MS office including MS Project and MS Visio

WORKSHOP CAPACITY

- Assembly and testing area



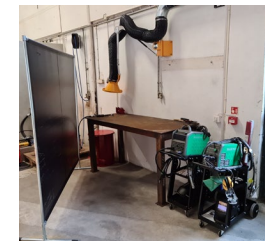
- Milling machine
- 75t hydraulic press
- Maximator HP fluids pump (20.000 psi).
- Logging equipment for pressures up to 2000 bar and temperature sensors



- Test pit that can accommodate assemblies up to 15 m length.
- Industri and Ultrasonic washer
- Overhead cranes



- Welding equipment in a separate welding and grinding area



SUMMARY

- 6 design engineers with broad multidiscipline background and extensive management experience.
- We have long experience with business administration and financial management in small to medium size oil service and technology companies
- Combined we have decades of experience of designing, producing and testing downhole completion and intervention tools.
- Extensive engineering and project management experience.
- Global engineering team experience from large international service companies
- 5 Years of topside experience such as upgrades and new design of temporary equipment.

REFERENCES

Archer

VERTICE OIL TOOLS



EXEDRA



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