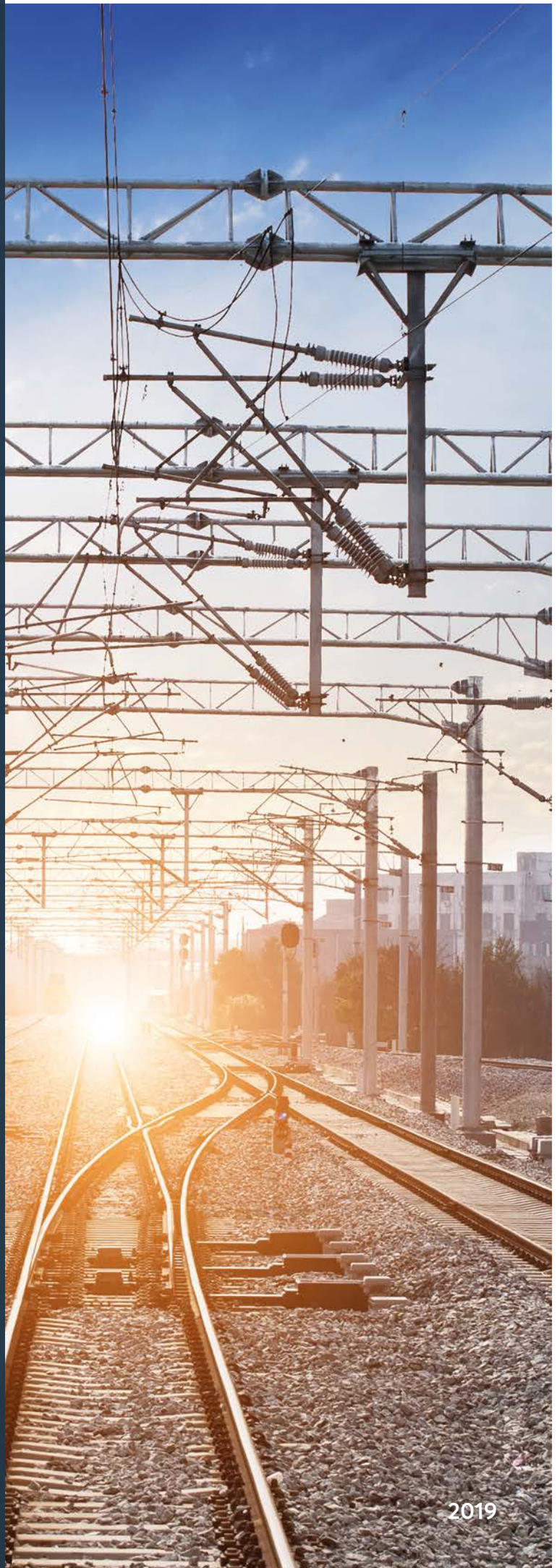




INNOVATIVE PILING  
SOLUTIONS FOR

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RAIL



2019





# HIGHER PRODUCTIVITY – SIGNIFICANT SAVINGS

EFFICIENT - FAST - VERSATILE - ACCURATE - SAFE



## INTRODUCTION

# RAIL EXPERTISE

Movax Oy is a Finnish, privately-owned company, established in 1993, which specialises in the design, development and manufacturing of excavator-mounted piling equipment with advanced control and information management systems. Movax Oy, which is part of the Terra Patris Group, is located in Hämeenlinna, Finland and represented by a network of partners all over the world.

The comprehensive range of MOVAX piling equipment includes vibratory-type, side grip PILE DRIVERS, impact-type, hydraulic PILING HAMMERS, PRE-AUGERS and telescopic PILING DRILLS. In support of the piling process MOVAX develops and manufactures MANIPULATORS for handling purposes. To complete the range of piling equipment MOVAX also develops and manufactures MULTI-TOOL PILING LEADERS.

MOVAX piling and handling equipment is controlled with the state-of-the-art MOVAX Control System (MCS).

The MOVAX Information Management System (MIMS) is utilised to monitor the piling project and how individual piles have been driven (mPILING MANAGEMENT), as well as the operation, performance and condition of the MOVAX piling equipment (mFLEET MANAGEMENT).

MOVAX is not merely piling equipment but a most efficient, fast, flexible and versatile, accurate and safe way-of-working - the MOVAX way-of-piling - which results in a higher productivity and thus significant time and cost savings in a wide range of applications and different type of works and tasks.

Movax Oy is strongly committed to continuously develop its products and services, and is today the world's leading developer of excavator-mounted, modular side grip pile driving technology. Movax Oy has several patents and its trademark, MOVAX®, is registered all over the world.

With more than 2,000 units delivered - to more than 60 countries, on six continents – Movax Oy is a truly proven supplier of innovative piling solutions.

[www.movax.com](http://www.movax.com)

## MOVAX WAY-OF-PILING

The MOVAX way-of-piling offers a total solution for handling, pitching, driving and extracting piles which leads to higher productivity and significant overall cost savings. The MOVAX piling equipment can be changed fast and flexibly to handle multiple and varying tasks.

The MOVAX Control System is used to control all MOVAX piling equipment for maximum accuracy, safety and ease-of-operation. The MOVAX Information Management System (MIMS) provides essential information about the piling process and the MOVAX piling equipment itself.



# MOVAX PILING EQUIPMENT FOR A WIDE RANGE OF APPLICATIONS

for higher productivity and  
significant overall time  
and cost savings



## PILE DRIVERS

for handling, pitching, driving and  
extracting piles



## PILING HAMMERS

for driving load bearing piles and  
assisting in sheet pile driving



## PILING DRILLS

for cast-in situ piling



## PRE-AUGERS

for pre-augering and assisting in  
installation of piles



## MANIPULATORS

for handling different type of  
profiles and piles





# MOVAX PILING EQUIPMENT



## SIDE GRIP PILE DRIVERS

...are the optimum solution for a wide range of piling requirements and a variety of site and soil conditions - especially in the most demanding conditions when a high-degree of precision is required, and for piling in sensitive environments and when limited space or access is available. The same unit can handle, pitch and drive piles and is capable of accomplishing the whole process without the need of manual handling or assisting machinery.



## PILING HAMMERS

...are utilised to drive load-bearing piles and to assist in sheet pile driving, even in the most difficult soil conditions. MOVAX piling hammers are the optimum solution to complete a pile installation after reaching refusal with a side grip pile driver or when load testing is required.

## PRE-AUGERS

...are designed for pre-augering and assisting the MOVAX side grip pile drivers and piling hammers in the driving of different type of piles in difficult soil conditions.

## PILING DRILLS

...are designed for cast in-situ piling. MOVAX piling drills are especially suitable for sites with confined spaces and when limited space or headroom is available.



## MANIPULATORS

...are designed for handling and pitching of piles, poles, masts and electric overhead gantries.





## MOVAX CONTROL SYSTEM

...for fast, precise and  
accurate control -  
and safe operation

## MOVAX INFORMATION MANAGEMENT SYSTEM

...for increased information  
and awareness, optimum  
performance



## PRODUCTS & SERVICES

# MOVAX CONTROL & INFORMATION SYSTEMS

## MOVAX CONTROL SYSTEM (MCS)

The MOVAX Control System (MCS) links the excavator or rail roader with the MOVAX side grip pile driver, piling hammer, piling drill, pre-auger and manipulator - as well as the MOVAX Multi-tool Piling Leader. The system controls the auxiliary hydraulics of the excavator and all the functions of the MOVAX piling and handling equipment. The system utilises inclination and pressure sensors to monitor for instance the pile driving process – thus assisting the operator to achieve better efficiency, increased productivity and higher accuracy.



## MOVAX INFORMATION MANAGEMENT SYSTEM (MIMS)

The MOVAX Information Management System (MIMS) provides essential information about the piling process and the pile installation as well as about the MOVAX piling equipment itself.

The MIMS hardware which is connected to the MOVAX Control System - and installed onto the excavator, rail roader or other carrier - is utilised for data collection and transfer. The MIMS HW includes a fully integrated 3G/GPS-system providing the remote connection as well as the location of the carrier and the MOVAX piling equipment.

## mPILING MANAGEMENT

mLogbook, a mPiling Management data suite tool, is a documentation and a documentation and reporting tool which provides essential data related to the piling process. The MOVAX side grip pile driver report includes information about the verticality and penetration rate whereas the MOVAX piling hammer report includes information related to the load bearing capacity (vs. the set criterion) of the pile.

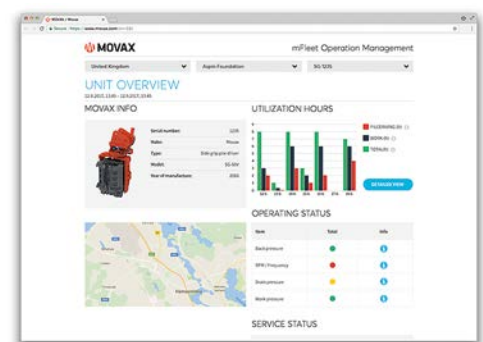


mLogbook requires MCS Pro or MCS Pro+auto.

## mFLEET MANAGEMENT

mFleet Management consists of a set of data suites which provide essential information about the operation, performance and condition of the MOVAX piling equipment. The mFLEET Management is further designed to assist in troubleshooting, diagnostics and analysis as well as for fast and efficient customer technical support. The information stored in the mCLOUD data storage is accessed through a web-based user interface.

The mFleet Management reporting tool provides basic operational information about the MOVAX piling equipment, including operational and service hours, rpms/frequencies, pressures etc. as well as the global positioning data. mFleet Management furthermore provides tools for maintenance, diagnostics and analysis.

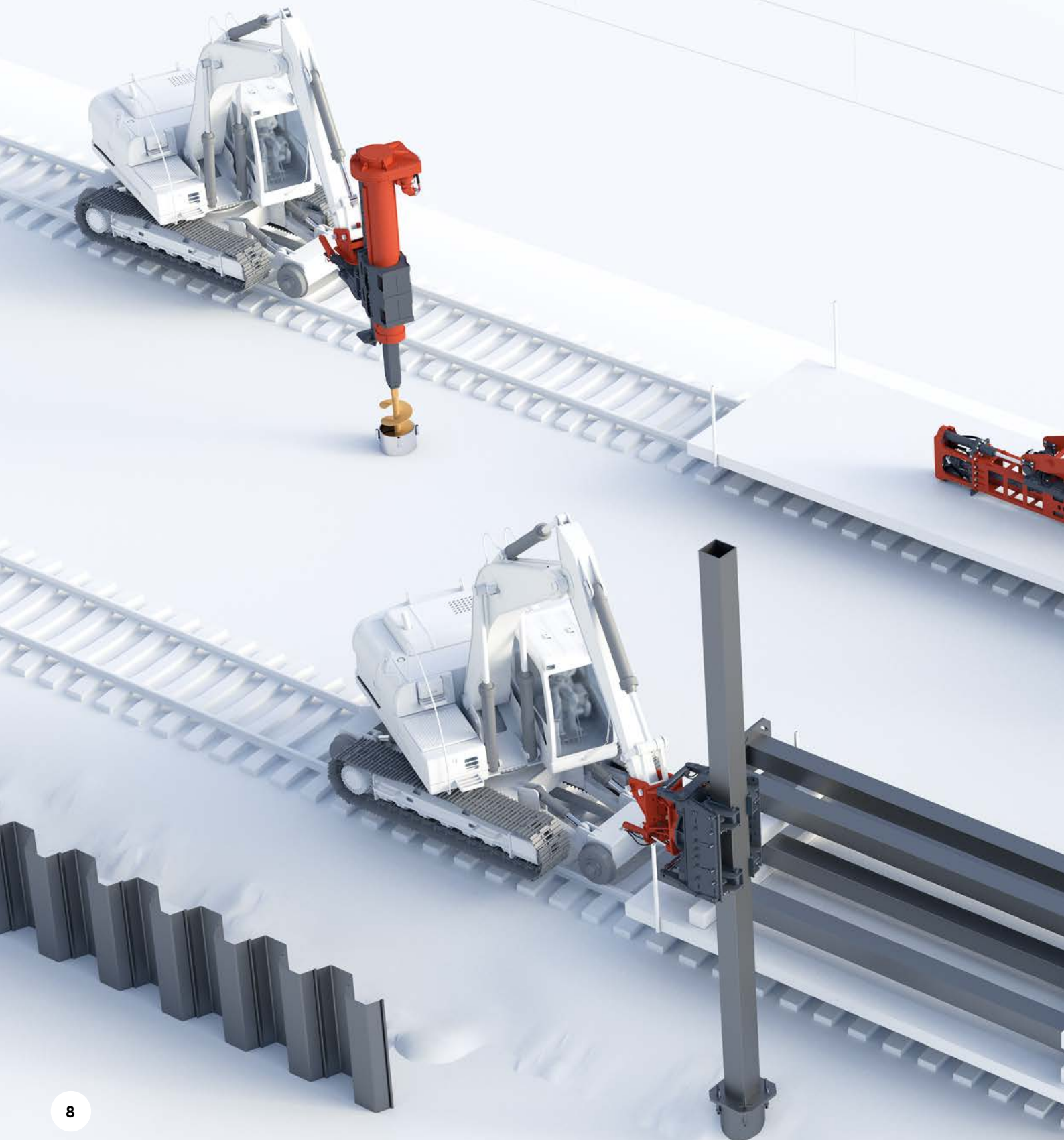


mFleet Management is compatible with MCS Lite, MCS Pro and MCS Pro+auto.



MOVAX WAY-OF-PILING

# RAIL





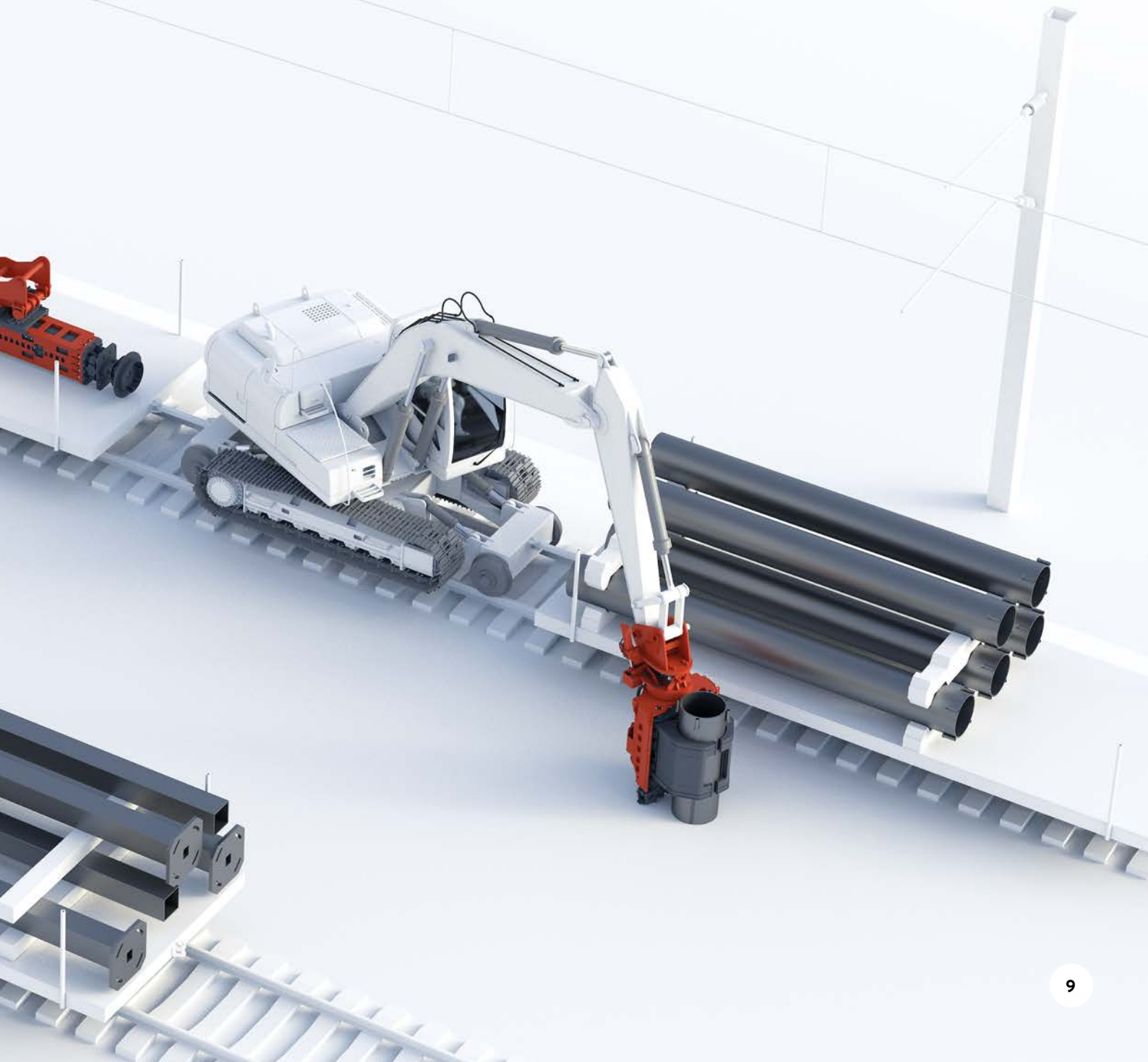
# TOTAL SOLUTION FOR PILING AND HANDLING

MOVAX piling equipment provides the optimum, and most productive, solution for the construction of permanent/temporary retaining walls and piled foundations when working on the rail roads, including:

- general rail construction and rail repair work,
- construction of underway passages and platforms,
- construction of piled foundations for electrical overhead lines, traffic signal posts and traffic signs,
- construction of noise reduction walls etc. as well as,
- handling of piles and installation of electrical overhead gantries and traffic signal posts

The MOVAX way-of-piling and -handling provides a total solution with optimised logistics, superior handling and pile driving capabilities for all site and soil conditions. The MOVAX piling and handling equipment is fast, efficient, versatile, accurate-to-operate and inherently safe - and especially suitable when limited space or headroom is available. MOVAX information management system provides detailed information about the piling process ensuring the highest quality piling and foundation installation.

The MOVAX way-of-piling provides the optimum and most comprehensive solution for piling companies working on the tracks.





# PROVEN, GLOBAL EXPERTISE

for the benefit of numerous customers in a wide range of applications all over the world.



## REFERENCES

# RAIL



Rail road electrification  
UK



Underway passage  
FINLAND



Soil nailing  
BRAZIL



Traffic signals  
POLAND



Rail road repair  
GERMANY



Passenger access way  
FINLAND



Embankment drain  
FINLAND



Rail road electrification  
GERMANY



Rail road electrification  
INDIA



Underpass for storm drains  
INDIA



Rail repair  
POLAND



Rail road electrification  
UK

# MOVAX WAY-OF-PILING

Higher productivity and  
significant savings



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