

# KTEG AUTODOKU

Automated documentation solution  
for the construction site



# About KTEG

## We think and act in terms of holistic system solutions

Our team has been developing and manufacturing specialised solutions for over 20 years – tailored to the unique characteristics of each industry. We address new and recurring challenges by developing comprehensive system solutions in our seven business segments. Our vision is to be the leading innovator for key machines and technologies on the construction site.

### HITACHI AND KTEG

The groundbreaking joint venture between Hitachi Construction Machinery and KTEG combines the best of two worlds: the reliable machines and comprehensive expertise of Hitachi and the agility and market proximity of KTEG.

Together, we set new benchmarks in the industry.

**HITACHI KIESEL**

**KTEG**

### BRINGING TOGETHER THE BEST OF TWO WORLDS.

#### KTEG ...

- is Hitachi's European research and development centre.
- is used as a secondary brand alongside Hitachi.
- can implement customer requirements in physical and digital form within a short time.
- focuses on progressive customers who seek innovative, highly developed technology solutions that give them a competitive edge.



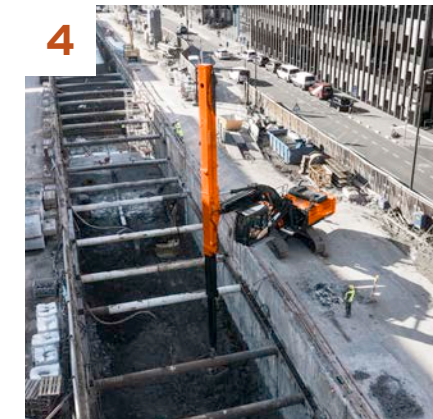
Research and development



Machines for the construction, material handling and compact machinery industries



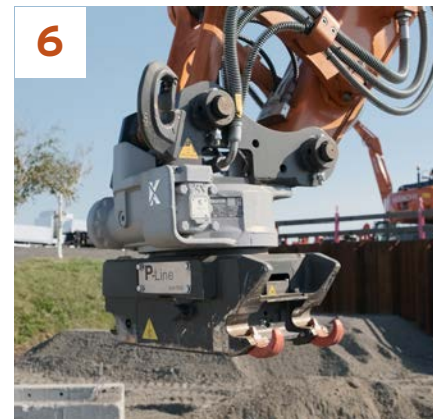
System solutions for zero emissions



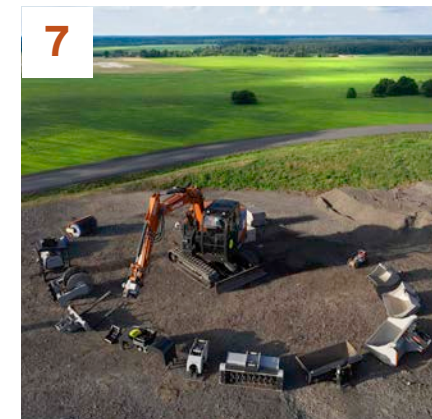
Custom solutions for the construction, material handling and compact equipment industries



Digital assistance systems



Quick-coupler systems



Attachments

### 360° VIEW AND A FOCUS ON THE CUSTOMER

Thanks to our expertise in product marketing, development, production, sales and service, we have an all-round view of the needs of our customers and apply our competence along the entire product life cycle.

### YOUR DEALER NETWORK

KTEG system solutions for sales, rental and service are available from Kiesel in Germany, Austria and Switzerland.

More than 40 dealers in over 25 countries sell KTEG machine and system solutions.



Find your dealer now!

# Why choose KTEG AutoDoku?

KTEG AutoDoku is revolutionising construction project documentation through advanced laser scanning technology. By providing precise digital survey data, it enables efficient compliance with regulatory requirements without the need for additional surveying specialists, helping to alleviate the skilled labour shortage. Its automated data capture saves time and resources, allowing you to focus on the core aspects of the project.

All collected data is securely stored in the cloud, enabling remote access and seamless processing. This digital solution ensures smooth collaboration and provides comprehensive, real-time construction documentation, meeting the demands of today's construction industry.

## PIPELINE AND NETWORK CONSTRUCTION



## TRAFFIC ROUTE ENGINEERING



## EARTHWORKS



### YOUR BENEFITS

Time savings thanks to automated digital documentation

Accurate recording of all installed utilities

Real-time visualisation of documentation in the cloud

Georeferenced tracking of construction progress

Shift-specific inventory and photographic documentation of the construction project

Real-time measurements for quantity calculations

Detailed recording of terrain profiles



## KTEG AutoDoku supports ...

### ... site personnel

through automated surveying, eliminating the need for manual, error-prone measurements. This enhances safety, productivity and accuracy. Seamless documentation is ensured via the digital twin.

### ... surveyors

by digitally recording the construction project, removing the need for time-consuming point-by-point measurements. Thanks to real-time data recording, AutoDoku automatically delivers survey data directly to the office, saving valuable time.

### ... contractors

by providing comprehensive insights into the construction project, enhancing traditional surveying data with a precise digital twin of the construction site. Obstacles and other critical details can therefore be quickly identified on site.

### ... clients,

such as municipalities – thanks to detailed project documentation, ensuring that even years later, all relevant information remains readily available thanks to secure cloud storage.



# The system and its functions





# KTEG AutoDoku at a glance



## Compatible with any machine

Thanks to its modular design, KTEG AutoDoku can be integrated into almost any excavator. The simplest solution is an upgrade for machines already equipped with KTEG CoPilot Professional, which includes a range of assistance systems. AutoDoku enhances the KTEG CoPilot by adding features such as tool recognition, excavator weighing, passive height and depth limitation, and an integrated 2D system.

Alternatively, KTEG AutoDoku is available as a manufacturer-agnostic system. By incorporating Leica sensors, it can be installed on any excavator.

## KTEG AutoDoku as a manufacturer-agnostic complete system:

All required components are provided from a single source, making the system compatible with any excavator

### YOUR BENEFITS WITH THE MANUFACTURER-AGNOSTIC COMPLETE SYSTEM

App-based visualisation and operation via smartphone or tablet

Manufacturer-agnostic solution

Proven components designed for the rigorous demands of construction sites

## KTEG AutoDoku as an upgrade for:



### KTEG COPILOT PROFESSIONAL

Platform for digital assistance systems featuring:

- Quick-coupler control
- Tool recognition
- 2D system
- Excavator weighing
- OQR Level (attachment levelling system)



### LEICA 3D MACHINE CONTROL

- Simple, robust and multi-functional, Leica's advanced control systems are designed to withstand the harshest conditions on construction sites.

## YOUR BENEFITS WITH THE UPGRADE VERSION

### Seamless integration into existing systems (KTEG CoPilot or Leica 3D)

Savings on duplicate hardware components

High-quality Leica sensors

Intelligent expansion of existing functions

### Cloud-based interface and analysis platform

Real-time transmission of recorded data and images

Allows integration of additional surveying tools in common formats



# Components and benefits

## SODEX CAMERA AND LASER SCANNER

The high-resolution camera delivers clear images, even under challenging conditions. The SodeX laser scanner captures up to 640,000 points per second, enabling the creation of a precise and detailed point cloud. Its high scanning speed allows for thorough data filtering and the generation of models, which are processed and made available automatically.



## GNSS ANTENNAS

The GNSS antennas provide high-precision positioning solutions that are compatible with all major GNSS constellations (GPS, GLONASS, Galileo, BeiDou). They combine high signal sensitivity with rugged durability, making them ideal for demanding environments such as construction and surveying applications.



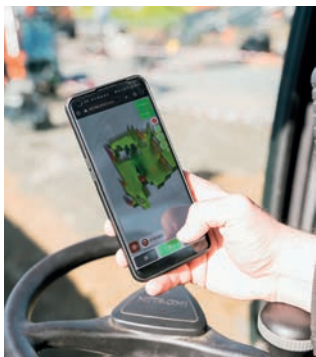
## LEICA ANGLE SENSORS

The Leica angle sensors ensure precise motion and position detection, even in demanding environments. Their seamless integration with Leica surveying systems ensures continuous and reliable data acquisition.



## TABLET/SMARTPHONE APP

The AutoDoku app provides an intuitive visualisation of surveying data directly on a smartphone or tablet, allowing for flexible and mobile use on site.



## YOUR BENEFITS

- Combination of sensors, camera system and software
- Innovative software for real-time surveying and processing
- Comprehensive and georeferenced documentation
- 3D data available from different time points for enhanced visualisation
- Complete site overview with all relevant parameters

- Ideal for documenting sewer and pipeline construction work
- All data is stored in the cloud for anytime, anywhere access
- User-friendly, intuitive operation
- From start to finish, all work during the project can be logged for seamless traceability
- No additional specialist personnel required

Correction data service required.



# Open cloud solution

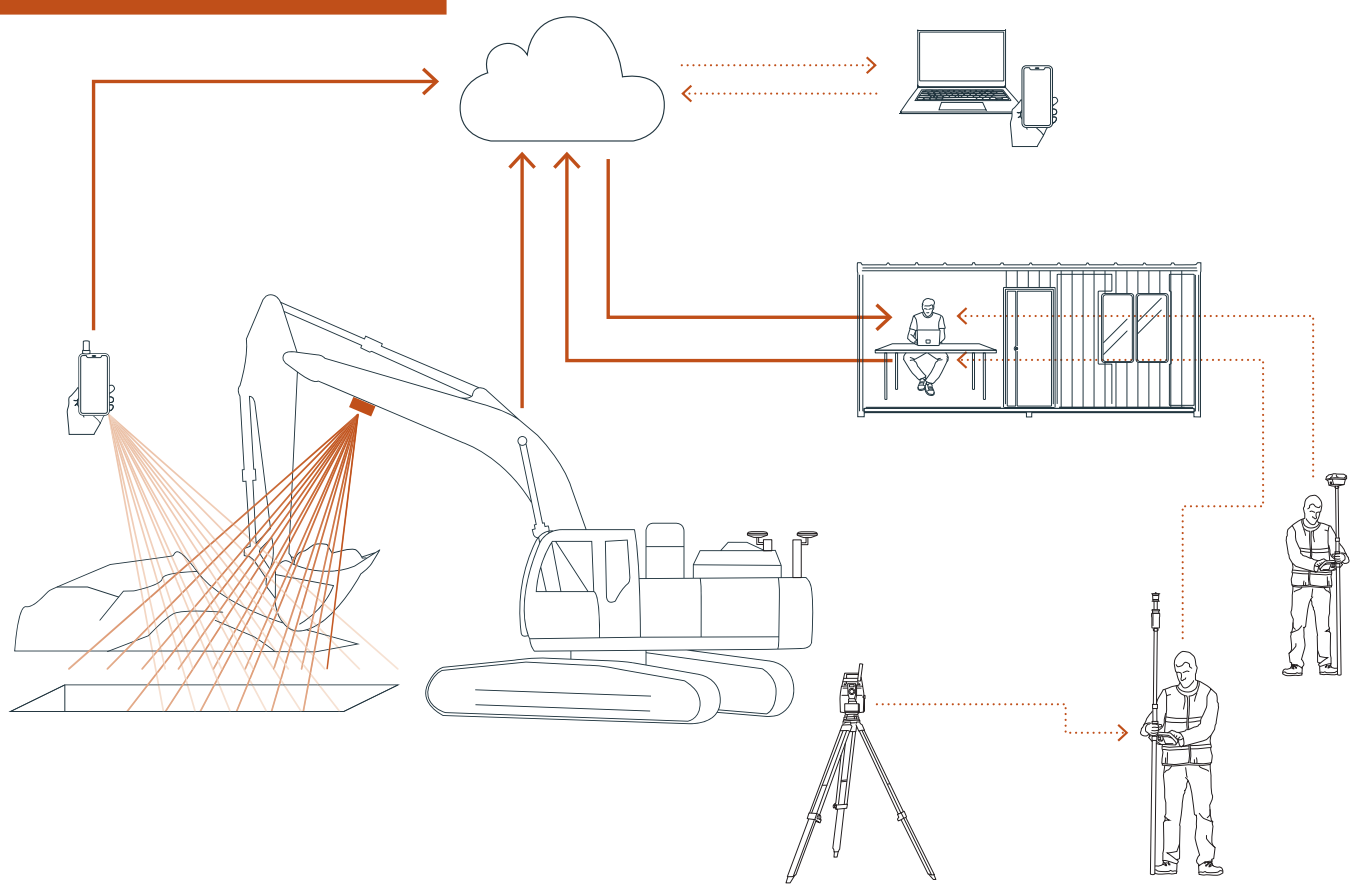
## Innovative software for real-time surveying and data processing

To successfully complete and bill a project on time, construction companies require a wide range of relevant data and documentation. Missing or incomplete information can lead to delays or even financial losses. The SDX Cloud ensures anytime, anywhere access to all project data, providing seamless remote availability and transparency.

- Access via laptop, tablet or mobile phone
- Track material movements
- Define rock categories and material targets
- Create custom reports and dashboards
- Import and export standard formats for further processing

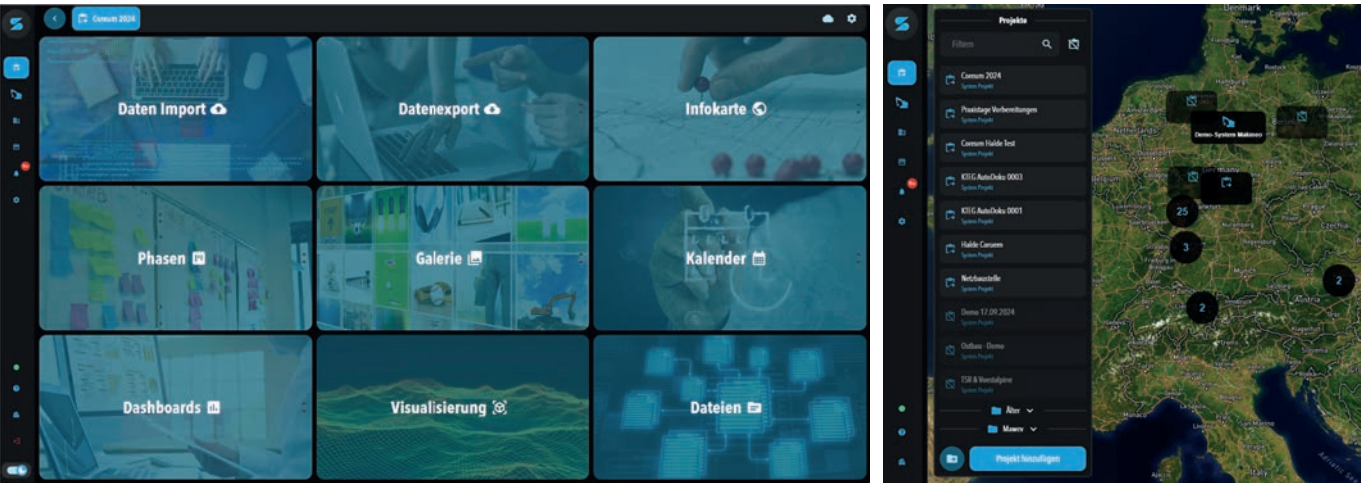


Import of common file formats from other systems is possible.





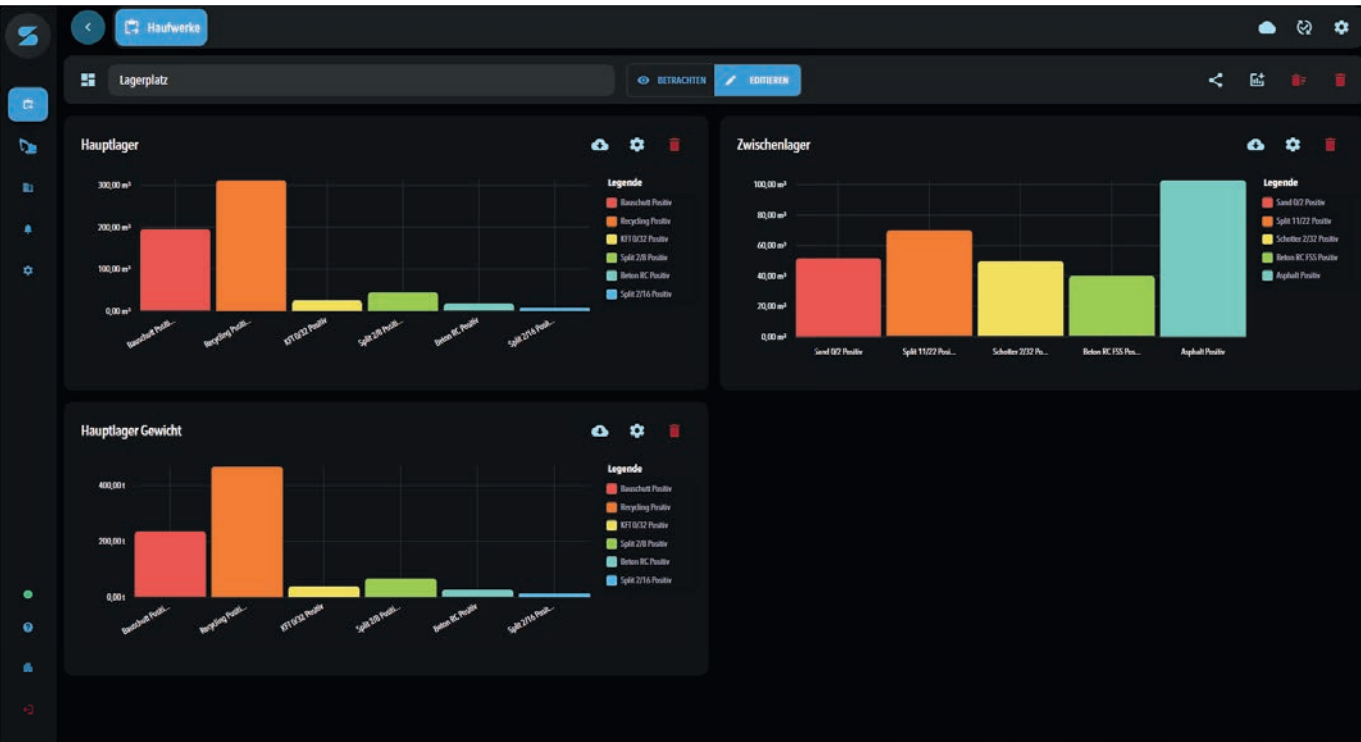
# User-friendly interface



## The Sodex Cloud simplifies modern work processes like never before:

- Efficient project management thanks to intuitive tools.
- Simplified visualisation - keep your projects in view with a clear map display.
- Quick access to all important functions for seamless operations.
- Maximum flexibility - access your projects from anywhere, on any device.
- Easy reporting with customisable dashboards for clear and fast analysis of earthworks.

The Sodex Cloud - your central solution for smart and productive project-based work.



# Versatile data processing



## The SDX Cloud is revolutionising the use of digital twins through maximum flexibility and efficiency:

- **Data import from various sources:** Whether from KTEG AutoDoku, drones or other technologies, all relevant information is seamlessly integrated.
- **Compatibility with standard data formats:** Point clouds in common formats can be easily incorporated, enabling a wide range of applications.
- **Data unification:** Different data sources are processed within a single, clear project environment, allowing for precise analysis and comparisons.
- **Embedding of planning data:** Upload planning files, such as DXF files, for a clear comparison between the plans and reality.



The SDX Cloud - your central hub for efficient management of digital twins and project data.



# Various visualisation options



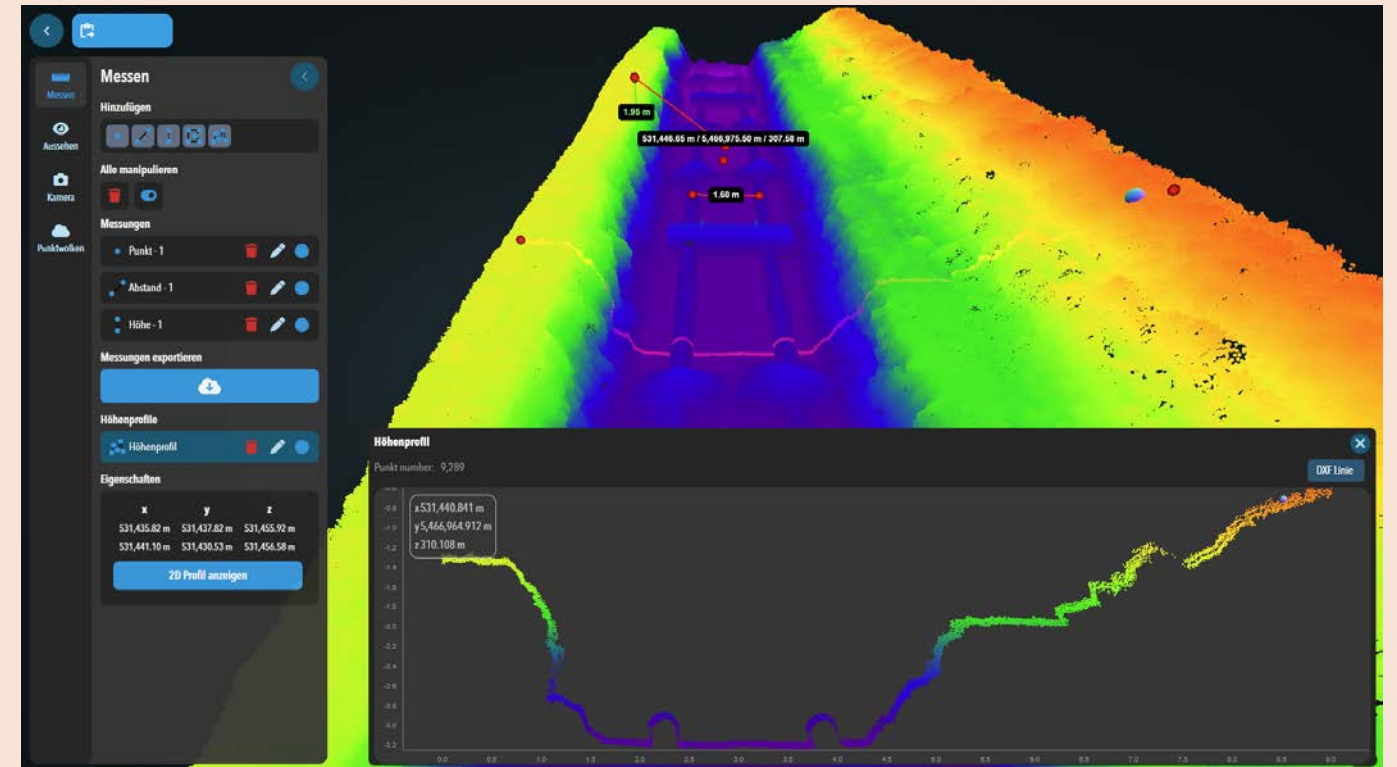
The Sodex Cloud offers versatile data visualisation options to efficiently present your projects:

- **2D views:** Clear and precise representations for detailed planning overviews.
- **3D visualisation:** Realistic models for intuitive project analysis and review.
- **Map-based display:** Visualise data directly on interactive maps for a geospatial overview.
- **Versatile display options:** Use heatmaps, coloured point clouds or pure intensity values, depending on the specific use case.
- **Time series and comparison views:** Track changes over time or compare design and real-world data side by side.

The SDX Cloud lets you visualise data in the way that best suits your project - flexible, clear and interactive.

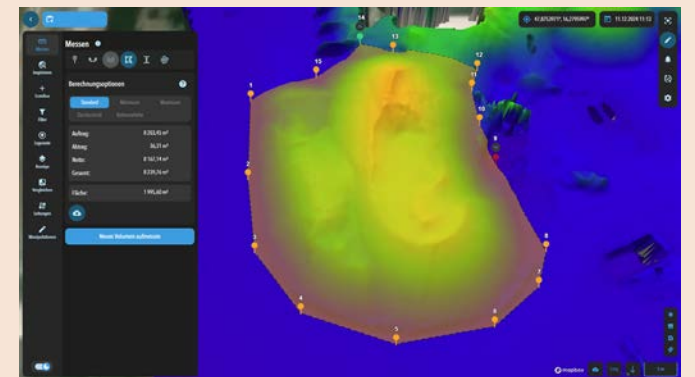


# Precision tools for civil engineering



The SDX Cloud provides easy-to-use tools that optimally support your construction projects:

- **Precise measurement functions:** Measure single points, lines, height differences and areas directly in your digital twin.
- **Dynamic volume calculation:** Determine volumes with continuous updates during the construction phase and define custom geofences for precise analysis.
- **Generate cross-sections:** Create cross-sections of your construction site and export them for further evaluation.
- **Image documentation and information:** Use captured images as visual documentation of your site and enhance them with notes.
- **Real-time construction progress:** Continuous recordings allow you to monitor, compare and visualise progress on your site at any time using charts and graphs.
- **Data export for further processing:** Easily export generated data in point cloud, Excel or CAD file formats.



The SDX Cloud gives you all the tools you need to manage your construction site efficiently and digitally.

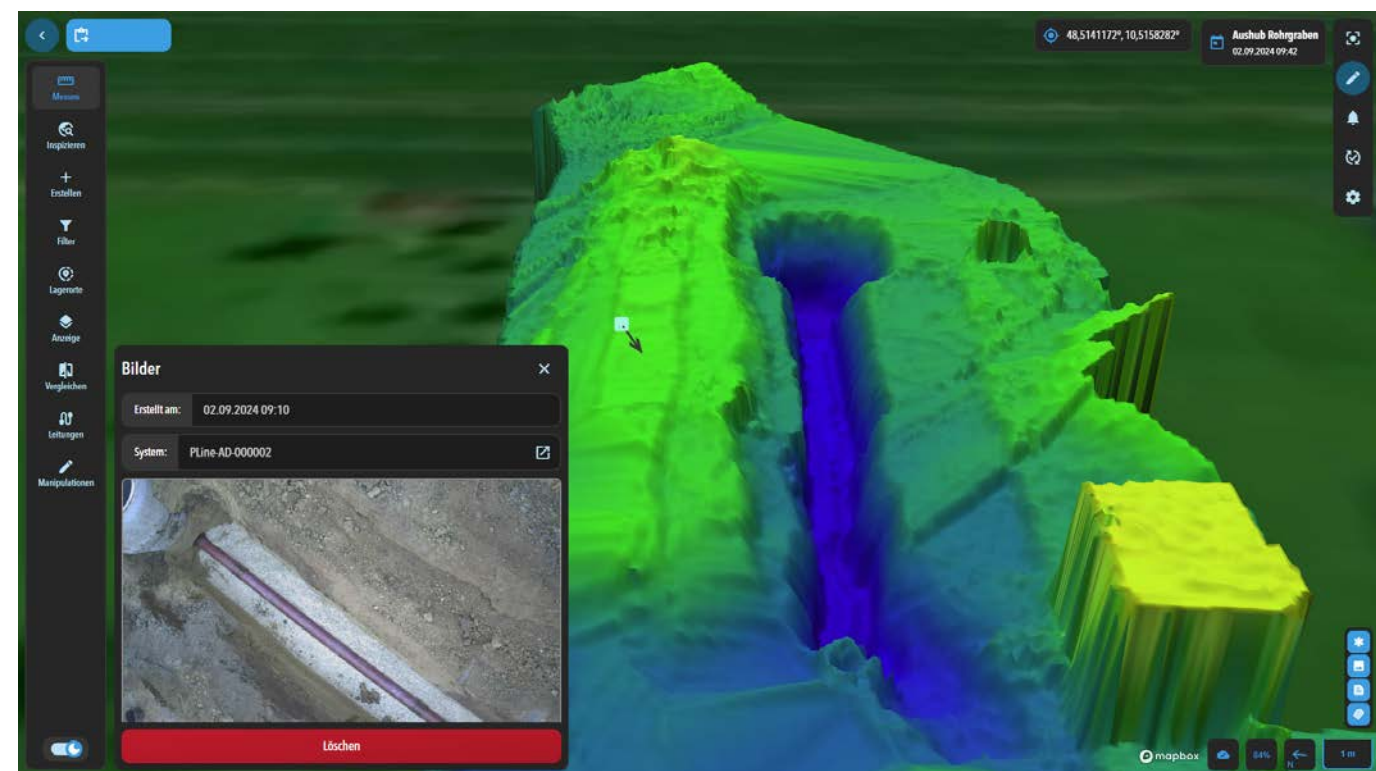


# Cloud solution for sewer and infrastructure construction

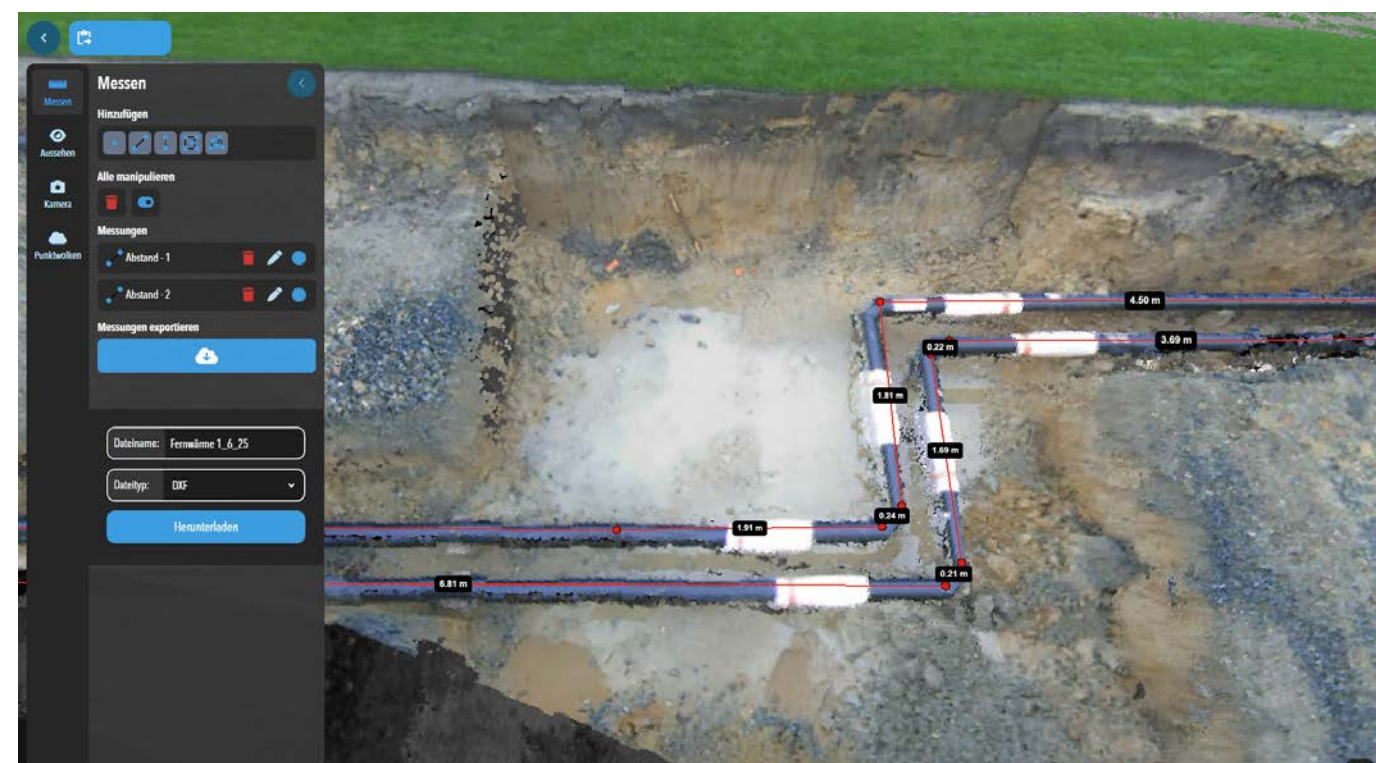
## KTEG AutoDoku - your key advantage for efficient site documentation and planning in sewer and infrastructure projects:

- **Digital twin, created directly from the excavator:** Generate and document your site's digital twin in real time during operations.
- **Georeferenced point clouds:** Data is transmitted with centimetre accuracy, e.g. via integration with Leica Geosystems machine control and positioning systems.
- **High-resolution site documentation:** Point clouds combined with camera images provide detailed and reliable information.
- **Capture key points:** Digitise junctions, building connections and other critical points directly using cloud-based measurement tools for data export.
- **Verify digital measurements:** Directly compare cloud-based planning data with the reality on the construction site.
- **Near real-time data availability:** The digital twin is provided almost in real-time, ensuring that all stakeholders are always up to date.
- **Colourised point clouds for extra clarity:** Clear visualisations highlight completed and pending tasks on sewer or utility construction sites, creating transparency for all stakeholders.
- **The perfect addition to the KTEG P-Line:** KTEG AutoDoku seamlessly integrates into the modular KTEG P-Line system, enhancing its functionalities.

KTEG AutoDoku lets you streamline your workflows and enhance the efficiency of your site documentation - an essential module for the P-Line!



Simple, georeferenced assignment of captured images, including the viewing direction. Important additional information can be added as notes.



User-friendly digitalisation tools enable users to quickly and efficiently create site plans and export them in formats such as DXF.



# Our partners

## MAKINEO - Your guide to the digital construction site

We firmly believe that the future of the construction industry is digital – especially on the construction site. That’s why we founded Makineo GmbH in 2021. We offer solutions and services that optimise your processes and gradually bring the digital construction site to life. By leveraging the latest technologies, we enhance efficiency and productivity. Through consulting and training, we help you build specialised expertise within your company, enabling you to manage future projects independently.

At the core of Makineo is our deep industry expertise. Our team of experienced professionals creates tailored, manufacturer-agnostic concepts adapted to your expertise, project requirements and specific application area.



Additional  
partners



Our portfolio includes products and services related to the connected construction site:

- Application consulting, sales and rental of construction machinery
- 2D and 3D machine control solutions, including for special-purpose machines
- Surveying products, mobile scanning solutions and digital services
- Commissioning, training and technical support
- The Makineo Academy offers seminars, training and courses on machine control, construction surveying and digital construction

Makineo helps you navigate the challenges of the modern construction industry safely and sustainably, equipping you with the tools and know-how to execute your projects efficiently and successfully. Together, we can take your construction projects to the next level!



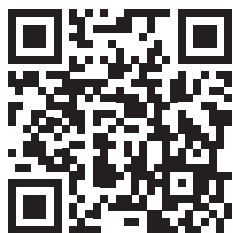






## YOUR DEALER NETWORK

More than 40 dealers in over 25 countries  
sell KTEG machine and system solutions.



Find your dealer now!

**KTEG GmbH**

**Kenki Technology Group**

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