HEIDELBERG Cloud.
IT security and data privacy.

The HEIDELBERG® Cloud is our central platform for remote maintenance and our portfolio of digital services and applications. In operation worldwide since 2004, it enables you to connect your HEIDELBERG equipment and software products over a secure and flexible cloud service to the HEIDELBERG Service Center. With the HEIDELBERG Cloud, we provide you with fast, efficient and comprehensive support for machine operations, productivity improvement and, of course, troubleshooting.

We are constantly improving our technology platform to be able to offer you state of the art services now and in the future. To this end, it is necessary to analyze the existing data and use the information gathered to design new services. As our customer, you can always rely on the fact that when HEIDELBERG is connecting remotely to your machine, appropriate security standards for data transmission and data storage are taken into account.

The HEIDELBERG Cloud offers you this and more. Find out more about our wide range of digital services and applications. Learn in the following about the special security policies and regulations that apply to our technology platform and how they integrate into the general security concept of the Heidelberger Druckmaschinen AG.

One technology – various applications
We offer various solutions to increase availability of your machine and productivity of your print shop, as well as to avoid downtime.

Service Tools
· Remote Service
· eCall®

➔ **RemoteService@heidelberg.com**

HEIDELBERG Customer Portal Applications
· Print Shop Analytics with Insights, Performance Benchmarking & Performance Advisor Technology (PAT)
· Equipment Status Report
· Netprofiler
· Predictive Monitoring
· eShop

➔ **HEI.Portal@heidelberg.com**

Remote Service

Remote Service, which is the interactive remote access to your machines and software systems from HEIDELBERG, enables our experts to quickly fix malfunctions and provide you with operating assistance – worldwide and at any time. Please note in some cases, HEIDELBERG uses third party software to support this service. These tend to differ from time to time so therefore they will not specifically be named here.

eCall

eCall ensures direct access to our HEIDELBERG Service. In the event of a malfunction, the machine will automatically inform the operator. He/she can request help immediately at the touch of a button and transmit all relevant data and information for error diagnosis directly within this message. We process incoming messages with the highest priority. You will receive a qualified return call within the shortest possible time.

HEIDELBERG Customer Portal

It is the digital customer portal for all cloud-based digital services and apps, including all Prinect apps. It connects Prinect Workflow, Prinect apps, service, administration, training, knowledge and much more. The Customer Portal is a web application that is secured on a high level with technical and organizational security measures (Such as web application firewall, DMZ, virus checks of attachments in a sandbox). Access to the Customer Portal is protected via cautiously selected user-role and rights concepts with individual login and password protection (HEIDELBERG Account & Zaikio ID*).

You are responsible for and in full control of the administrator account for your organization. All security requirements are regularly checked by means of internal and external penetration tests and audits and updated to the latest state of the art. The Customer Portal is hosted at the cloud service provider Amazon Web Services (AWS) and thus combines the high security level of the cloud platform with Heidelberg's own high
standards for information security.

*To access HEIDELBERG Customer Portal, you need to create a HEIDELBERG Account. The HEIDELBERG Account is based on a Zaikio ID for authentication and authorization. By creating your personal Zaikio ID, you can access the HEIDELBERG Customer Portal digital services and use Zaikio's Print Media Portal at the same time. Zaikio itself is a wholly owned subsidiary of the Heidelberger Druckmaschinen AG.

Print Shop Analytics – Insights

Insights provides you with an overview of relevant key performance indicators from your production, such as OEE, productivity, setup-time and waste that are evaluated and interpreted. Target-actual comparisons provide you with insight into the productivity of your machine and allow you to identify hidden potential or problems. If set target values are not achieved or significant deviations from the target values occur, you will be notified and receive concrete suggestions for measures to solve the problem and optimize the process.

Print Shop Analytics – Performance Benchmarking

The Performance Benchmarking reports provide detailed insight into the job-specific performance of the machine in the respective market segment. The position within the segment can be measured anonymously, improved, tracked and compared to competitors. This makes it possible to identify hidden potential in the portfolio and remain competitive within the industry. In addition, Performance Benchmarking shows the distribution of all order segments on the respective machine in proportion to the production volume and thus reflects the job portfolio.

Print Shop Analytics – Performance Advisor Technology

The digital performance advisor PAT is an automated advisory service in the HEIDELBERG Customer Portal, which is based on artificial intelligence. PAT continuously analyzes the available operating and production data, recognizes potential for improvement and recommends appropriate measures for optimization. For each identified case, the user receives a notification and assistance in implementing the measures in the form of documentation or further services, such as online training.

Equipment Status Report

This app provides a continuous report on the technical condition of the machine. For this purpose, selected machine data is recorded and displayed monthly. In case of anomalies or significant changes compared to the previous month, you will be informed via the digital performance advisor PAT and can take measures to improve technical availability.

Netprofiler

The HEIDELBERG Netprofiler is used for colorimetric calibration of color measurement systems. You perform this yourself on site. The identified data is transferred to HEIDELBERG via remote service. Subsequently, you receive an e-mail containing a report with all reference values as well as a certificate confirming the accordance of the measuring equipment with ISO 9001.

Predictive Monitoring

Predictive Monitoring supervises the intelligent sensors of the machines via a Big Data analysis platform. Technical data is transmitted, analyzed and evaluated. If a parameter moves outside a pre-defined normal range, the service expert receives a notification from the system. Following, he/she creates task lists with possible service measures such as maintenance, cleaning, adjustment or replacement. Depending on the priority, either this results in an immediate service operation/call or an inclusion in the next maintenance. Monitoring reduces unplanned intervention to a minimum and ensures maximum machine availability: Unplanned downtimes are reduced by up to 20 percent.

eShop

With the HEIDELBERG eShop you can easily and conveniently purchase consumables and goods, retrieve technical and safety data sheets, as well as check your orders and view your purchase history via a web-based application and your mobile device. No matter where you are and when you want to order, the HEIDELBERG eShop is available around the clock.

Our IT security for you.

Our internet-based services meet the strictest security requirements and are regularly updated to the latest standards.

Comprehensive IT-security

IT-security is constantly evolving and facing new challenges, be it due to new threats or changing technological possibilities. Against the backdrop of the growing importance of digital solutions, information security is a high priority at HEIDELBERG. At the core of our information security strategy is our information security management system (ISMS), which was established in accordance with the internationally recognized ISO 27001 standard. This has enabled us to integrate information security holistically in the development and operation of our HEIDELBERG Cloud services. The common goal is to constantly optimize the security measures for our products.

Your production systems (machines and software) are connected to the HEIDELBERG Cloud via a secure, Internet-based communication channel (HTTPS with TLS 1.2/TLS 1.3). We use this to access the customer system directly or to transmit relevant data for the various applications.

With the following measures, the HEIDELBERG Cloud offers security at a very high level:
· HEIDELBERG is ISO/IEC27001 certified
· Regular internal vulnerability scans and penetration tests performed by external specialists
· Internal and external security audits

Data transmission and communication

For HEIDELBERG Remote Services, an IoT client is already preinstalled on the machines and Prinect servers. This software is designed in a way that it does not allow any "external" contact with the machine. Any connection to the preset HEIDELBERG service center is established directly from the machine.

The HEIDELBERG Cloud is used to store and process machine- and device-specific or other technical data, for example, software and totalizer statuses, licenses, machine configuration, technical job data such as paper format, print speed and number of waste sheets, or information on the process flow, usage data such as technical resource consumption or information on machine consumption. In this context, HEIDELBERG always complies with the General Data Protection Regulation (GDPR).

Depending on the purchased or subscribed services and cloud-based products, different types of data are transferred:
· Permission for interactive remote access by the HEIDELBERG service employee (desktop sharing) and transmission of sending diagnostic data for Remote Service.
· Transmission of software installations and software statuses to determine the correct update packages for remote software distribution.
· Transmission of the alert notification containing the diagnostic data and request for support from the HEIDELBERG service team with eCall.
· Targeted transmission of production data for analysis with Equipment Status Report and Print Shop Analytics (Insights, Performance Benchmarking & PAT).
· Transmission of calibration data for color measurement systems with HEIDELBERG Netprofiler.
· Targeted transfer of technical data for analysis and early fault identification with Predictive Monitoring.

If none of these services and cloud-based products are activated, the HEIDELBERG Cloud communication platform remains completely deactivated.

Connection to the Heideberg Cloud

The Internet destination addresses of the HEIDELBERG Cloud are stored at machine delivery. When a contact is established, the HEIDELBERG Cloud itself is connected via a secure communication channel. The machine contains a globally unique identifier and a certificate, which are also pre-installed upon delivery. The HEIDELBERG Cloud is also equipped with digital certificates proving that the destination addresses are really those of HEIDELBERG and that no third-party is pretending to act on behalf of HEIDELBERG. The corresponding certificates are regularly updated via secure procedures.

Internet standard protocols and HTTPS encryption

The HEIDELBERG Cloud is consistently built on Internet standards and always uses state-of-the-art technologies to secure communication between you and the HEIDELBERG Cloud. In detail these are HTTPS/TLS for certificate exchange.
· The machine does not require a fixed IP address, or one known on the internet but uses a local IP address of the internal network. For external communication, applica-

tion-specific gateways – known as Proxys – can be used as required by your infrastructure.

· Transmissions from the machine to the cloud are end-to-end encrypted. The communication is therefore confidential even within your local print shop network.

Data storage

The data will only be stored and processed for the duration required during the provision of the services and will be deleted afterwards if there are no retention obligations for legal reasons. As far as necessary, the data will be processed and stored for the duration of the software use.

Data protection and training

Before a HEIDELBERG employee is granted access to the HEIDELBERG Cloud, he/she is briefed on IT security and data protection issues and signs a non-disclosure agreement. This agreement regulates the confidential handling of data to which the HEIDELBERG employee has access through his/her user account in the service center. Information is collected by HEIDELBERG employees exclusively for the provision of services or for product improvements.

Furthermore, the data is used by the local Sales and Service Units (SSUs) or the Heidelberger Druckmaschinen AG to improve quality management and develop the machines and service products, as well as for innovations and Customer Relation Management purposes. These employees have also been instructed accordingly in matters of IT security and data protection and signed a non-disclosure agreement.

Advanced user management and permissions

HEIDELBERG employees' access to the HEIDELBERG Cloud and any information related to personal accounts is only granted on a need-to-know basis and following the least-privilege principle. When accessing the platform, the HEIDELBERG employees follow a defined and secure authentication procedure based on modern standards. This ensures reliable identification of HEIDELBERG employees, as the concept only allows personal user accounts. There are no anonymous users and no group accounts.

Machines that are connected to the HEIDELBERG Cloud are only visible in the portal to the selected HEIDELBERG employees, who have access permission and have also been trained to work with the respective product line. Beyond the approval of individual remote services, individual confirmation by the operator on the customer-side is always required for each interactive access. Only pressing the "Remote Service button" (telephone receiver symbol) enables an authorized HEIDELBERG employee to directly access the user interface and thus interactively analyze malfunctions with the operator on site or to provide assistance to the operator. This activated status is displayed to the operator on screen, always making it transparent. Moreover, he/she can follow exactly which menu steps the HEIDELBERG employee goes through and which screen views they see. The HEIDELBERG employee's name is displayed during the access in the operation. Of course, you can end this remote access at any time.

For the HEIDELBERG Customer Portal applications and the associated data, we use a strict role concept that only grants access to certain data to those employees who are authorized because of their internal role and function.

Standardized and secure service workstations

All HEIDELBERG employees work with standardized service PCs that are constantly supplied with the latest virus protection, security updates and secure configuration by central IT departments. This effectively protects the entire chain of all systems involved, from the machine to the service PC.

Infrastructure and Data Centers – Amazon Web Services

The HEIDELBERG Cloud is powered by Amazon Web Services (AWS), the industry's leading provider of IT cloud services. AWS is a comprehensive, constantly evolving cloud computing platform provided by Amazon. Data is transferred to the cloud in the form of records and stored and processed in an AWS data center in Europe (Ireland). In addition, an automatic backup is stored in the AWS region of Germany (Frankfurt). This offers you and HEIDELBERG a very high level of data security.