infraTest®
DIGITAL SOLUTIONS

We make infrastructure intelligent!

The infraTest Group

infraTest Testing Systems

► Production of laboratory equipment for asphalt / bitumen

Four subsidiary companies in Germany

► Soil mechanical and rock testing equipments

► Custom made equipment for the building industry

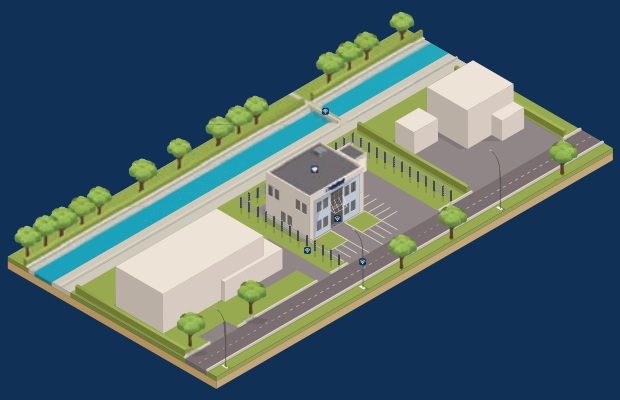
► Digital Solutions for the building industry

► Special mechanical engineering

The Company

infraTest Digital Solutions GmbH is a technology company based in Bochum and Brackenheim.

With our SaaS solution of idsCloud, we digitize the entire value chain in construction processes of infrastructure. In doing so, we use technologies such as sensor technology, AI and IoT components to capture all data of the process chains automatically and comprehensively.



infraTest® DIGITAL SOLUTIONS

idsCloud
Erfassung aller Prozessdaten in der Cloud

We work hand in hand with our industry partners and with research and development units, such as universities, and continuously develop our technology.

Through IoT and sensor technology, we achieve greater efficiency, cost-effectiveness and sustainability.

The two managing directors of infraTest Digital Solutions GmbH

Dipl.-Ing. Ersun Görener

CEO

Expert for laboratory equipment and digital infrastructure

Dipl.-Log. Daniel Simon

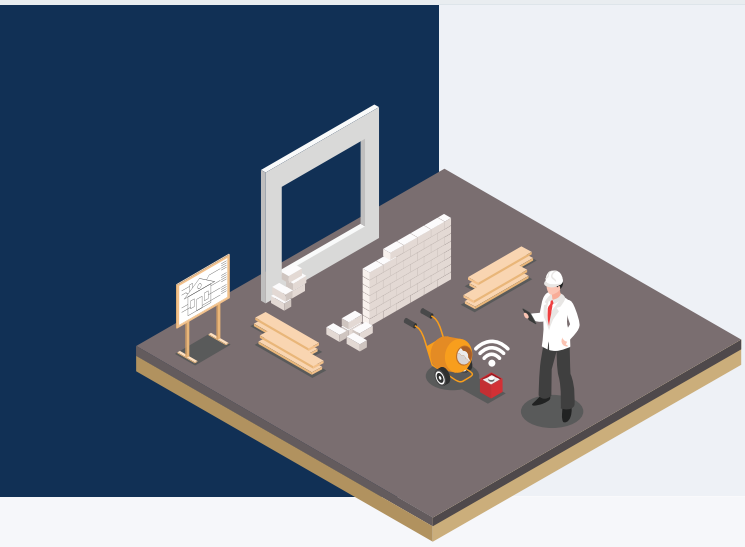
CEO

Expert for digitalization and data security

Our partners

infraTest® TESTING SYSTEMS

DATATRUSTEE The Compliance Provider

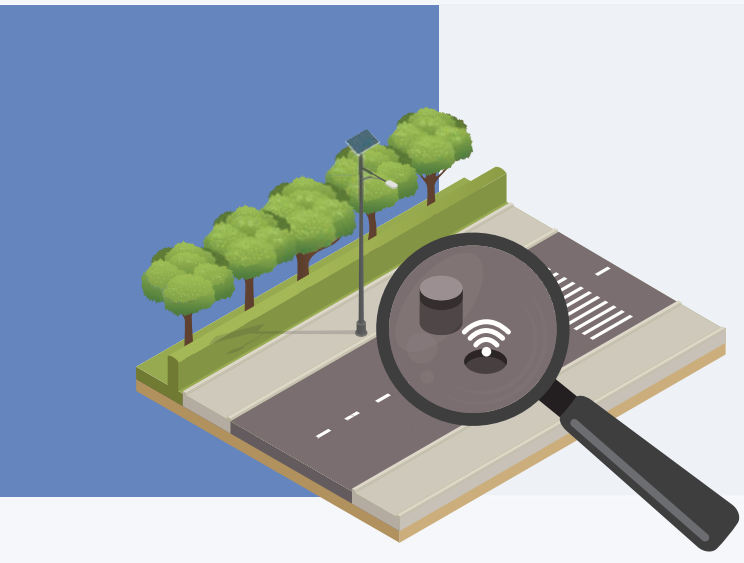


Digital concrete testing

We have digitized the complete process of fresh and hardened concrete testing (in the laboratory) incl. marking of samples with RFID tags or QR codes.

Intelligent road

We record temperature curves, deformations, traffic figures and traffic loads during the use of traffic areas in the asphalt layers or in concrete pavements.



Core Interface System

We can equip existing roads with an intelligent drill core and also retrofit our entire sensor technology into finished infrastructure.

IoT Gateway & Sensors

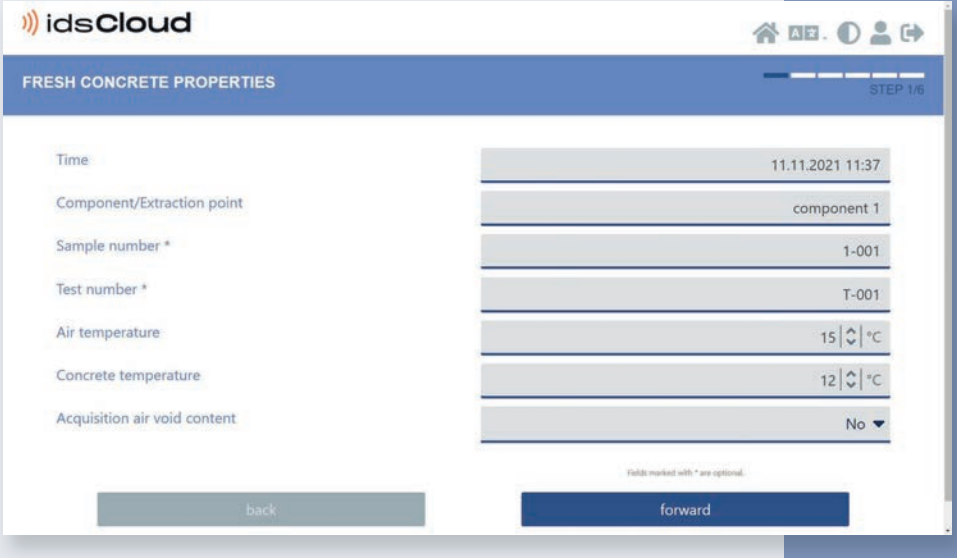
We network and monitor any environment, building or construction site with autonomous sensors and gateways and output all measurement data and alerts in our idsCloud.

idsCloud – the tech-first solution for your infrastructure processes.

idsCloud is the digital interface for infrastructure and testing technology – with its own tools for digital concrete testing or mix sample collection, for example. We connect all previously often analog processes across the entire value chain in infrastructure construction (roads, concrete construction) in a digital application.

All data is stored centrally and encrypted in German ISO27001-certified data centers.

Application example of our idsCloud: Concrete testing



Your advantages when using idsCloud:

- ► Central data collection of all processes in a secure digital app.
- ► Digital marking of test specimens
- ► Integration of machine data automatically via interface
- ► fewer sources of error & higher revision security
- ► More sustainable production processes & reduction of the CO2 footprint.
- ► intelligent data management
- ► statistical data evaluation

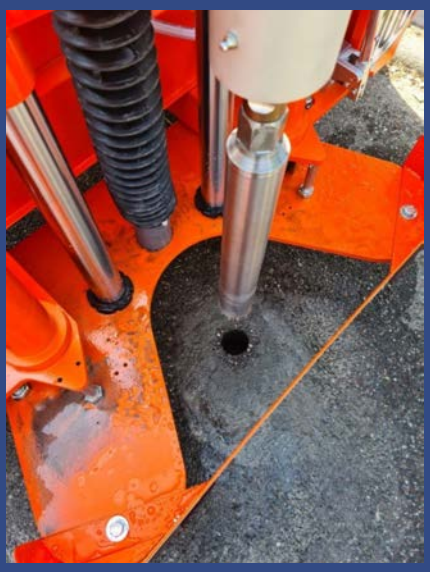
idsCloud
Capture all process data in the cloud

Core Interface System - the intelligent drill core

We retrofit roads with intelligent sensor technology and display all data live in our idsCloud. We can record the temperature values and the vertical acceleration at different heights.

Our Core Interface can be installed in any road with a core drill and grout. We use it to measure temperature at 6 different measuring points and can also record vertical accelerations.

The Core Interface transmits the data completely autonomously via LoRa radio technology from the road. No cabling is required. Every 2 to 3 years, only the battery needs to be charged, which can be done with a few simple steps.



Core drill with 70mm

idsCoreInterface

Backfilling with special resin

All data in the idsCloud

Data is transmitted 24/7 to the idsCloud. They are stored and displayed online.
CSV-data can be downloaded with one click for any time period.

idsActiveloggerTemp

The data logger is designed to log the temperature of four external Pt1000 sensors. The recording is made in a non-volatile electronic memory. The data can be transferred to a PC via USB-C. When the set limits are exceeded, alarms are indicated by LED, LCD and acoustically by the built-in beeper.

The instrument includes a traceable calibration certificate based on the requirements of the EN ISO/IEC 17025 standard.

idsActiveloggerTempGSM

The GSM data logger is designed to log the temperature of four external Pt1000 sensors. If the set limit values are exceeded, SMS and JSON messages can be sent via the GPRS data connection. The measured values can be sent to the idsCloud and viewed live at any time. The data can be transferred to a PC via the USB-C cable supplied.

The instrument includes a traceable calibration certificate based on the requirements of the EN ISO/IEC 17025 standard.

Technical data

idsActiveloggerTemp & idsActiveloggerTempGSM

Operating temperature	-30 bis +70 °C (GSM-20 bis +60 °C)
Memory	4x external temperature probe
Speicher	500,000 values in non-cyclic recording mode; 350,000 values in cyclic recording mode
Recording interval	adjustable from 1 s to 24 h
Display and alarm refresh	adjustable 1 s, 10 s, 1 min
Recording mode non-cyclic	data recording stops after filling the memory
Recording mode cyclic	after filling the memory the oldest data are overwritten by new ones
Real time clock	year, leap year, month, day, hour, minute, second
Power supply	Li-Ion-Akku A8200, 3,6V/5200mAh
Protection class	IP67
Accuracy	±0.2 °C; ±0.2 % of measuring range -100 to +260 °C
Resolution	0,1 °C
Dimensions	61 x 93 x 53 mm, with antenna 120 x 93 x 53 mm
Weight	approx. 270 g (including batteries)
Measuring range	-100 … + 260°C

Installation of our PT1000 sensors in hot asphalt

PT1000 - cable sensor (high temperature up to 260°C, fast response)

Our waterproof high temperature cable probes with fast response are equipped with a stainless steel covering sleeve, which protects the actual temperature sensor ideally against environmental influences and mechanical stress, thus offering optimal properties for a wide range of applications.

Protection class	IP67
Connection cable	PFA
connection cable length	1-100m (more on request)
max. operating temperature	-190°C... + 260°C

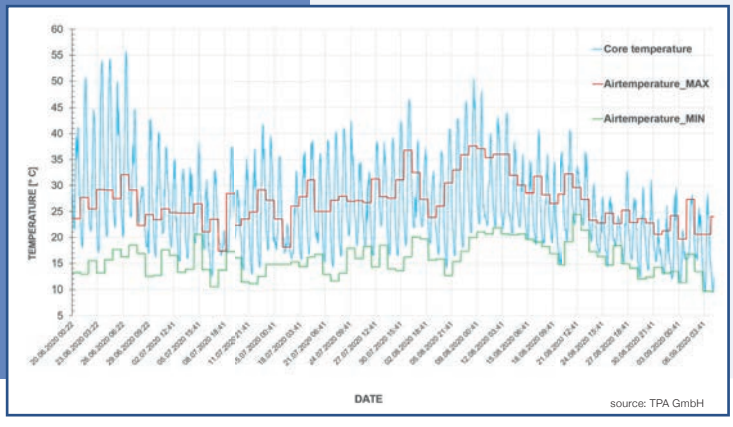
idsTempRFID - Monitoring and collecting temperature data in the asphalt layer

Features

- Special sensors which have integrated temperature measuring system and are placed during the paving
- Sensors measure and save the temperature in the integrated data memory
- Robust, resists high temperature and compaction energy

Data transfer

- Data transfer is made via RFID Technology
- Measures and saves the data during life time
- Data has to be read out in place
- Depending on the location of the sensors, it may be necessary to close off traffic.



Data storage

- Independently measurement at defined time intervals of the temperature in the road
- Internal data storage
- Programming and configuration also possible after installation (wireless)

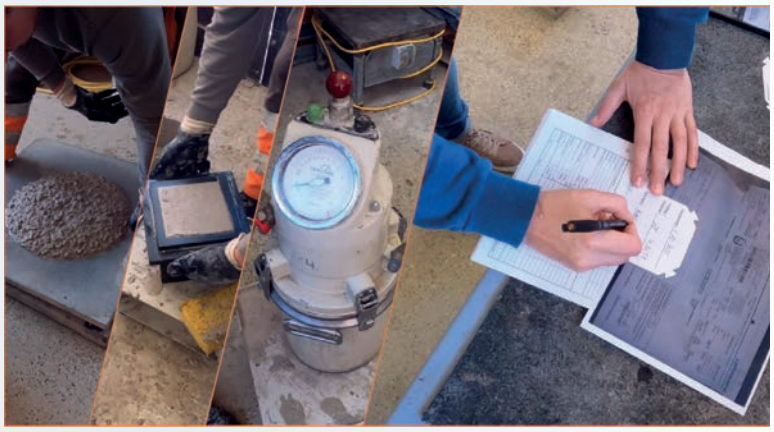
Usefulness of the measurement results

- Investigation of the temperature behavior in the asphalt core
- Consideration of the temperatures depending on external factors
- Research into the behavior of materials in the event of temperature differences
- Determination of the temperatures in the layer boundaries

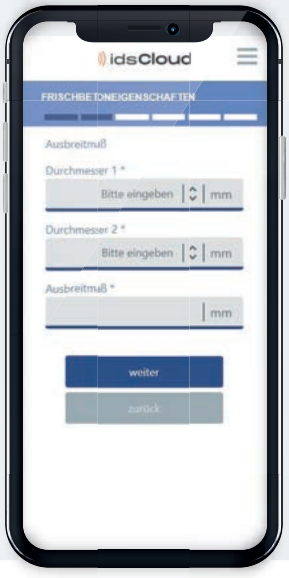
Application example of the idsCloud© for concrete

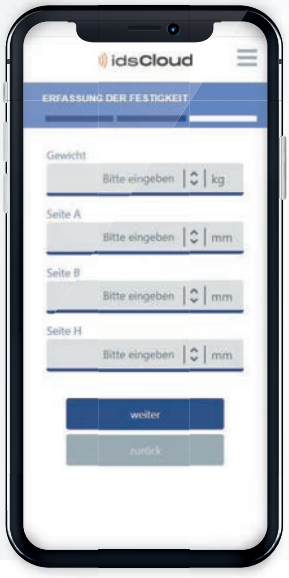
We digitize the complete process chain in industrial and test engineering processes with our cloud-based software, the idsCloud©. Through the use of sensor, RFID and QR code technology.

In doing so, we map numerous testing and documentation processes, including to comply with legal requirements and to and to create comprehensive test reports automatically.

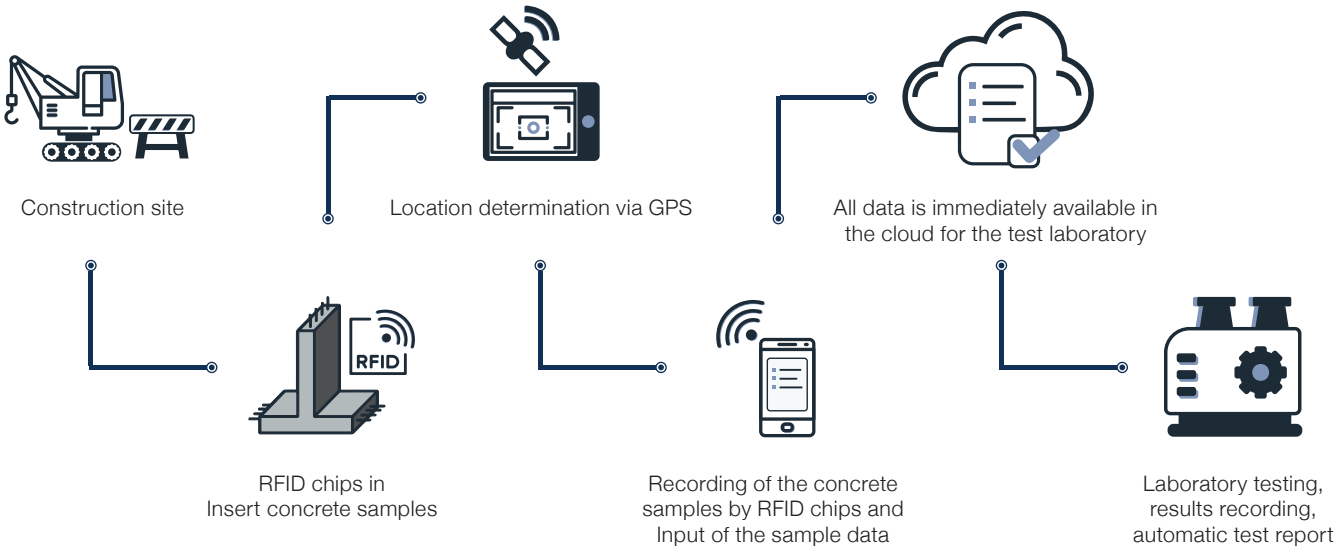


Central data collection in the app & storage in the cloud





This is how it works



infraTest Digital Solutions GmbH

Office Bochum
Sophie-Opel-Str. 17
44803 Bochum

Office Brackenheim
Wiesenbachstraße 15
74336 Brackenheim-Botenheim

+49 2327 3694097
info@infratestdigital.de
www.infratestdigital.de

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