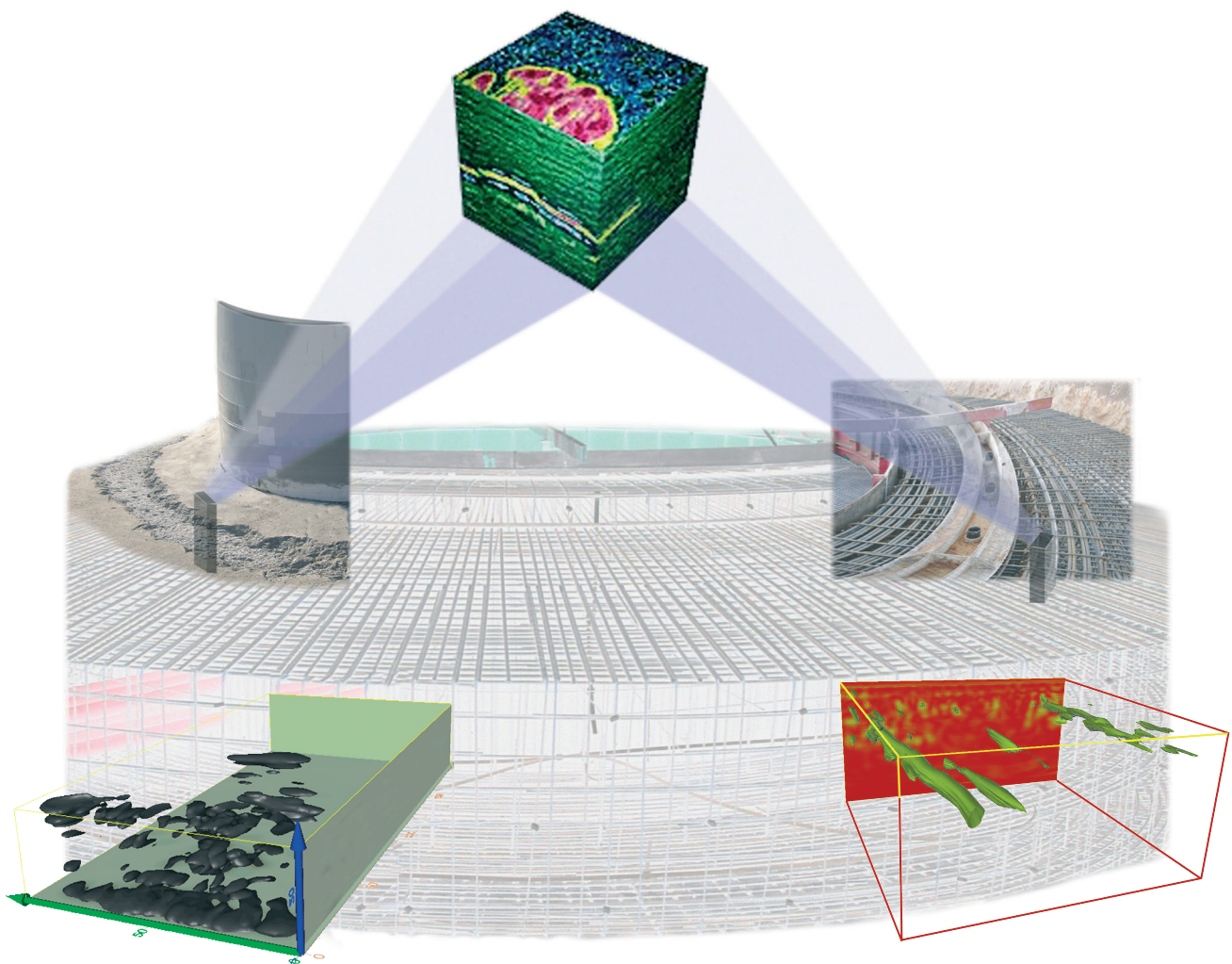




Revealing hidden failures in concrete foundation and towers



CONCRETE CARE provides non-destructible inspection of concrete components using specially developed methods and techniques.

CONCRETE CARE inspection services are particularly applicable in the field of wind turbine generators. Verified testing methods are used for inspecting concrete foundations and towers to detect various flaws, enclosures, cracks and material layers in foundation of wind energy turbines.

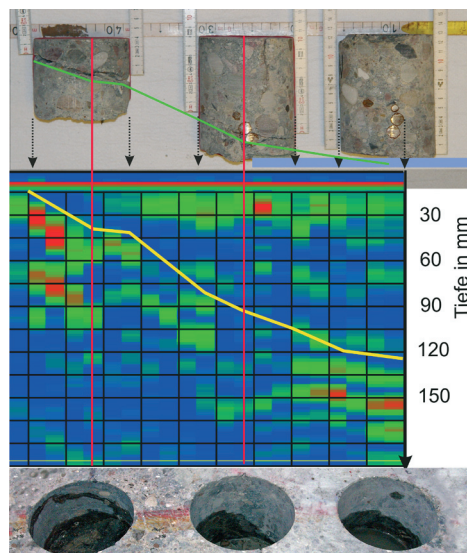
The current challenge: invisible cracks in foundation and concrete towers

In recent years a rising number of indications show that the 'internal security' of concrete-foundations, foundation-pillars and towers is not as flawless as we thought. Undetected cracks beneath the surface are common and over time these cracks increase in size, helped along by water seepage. Without detection and treatment, the cracks may become so large that pieces of the concrete foundation will shear off, leading to serious consequential damages.



The solution: verified in-depth analysis

Since the end of 2006 we have been working on a reliable method for detecting cracks, enclosures and layer-structure beneath the surface. The technique we have developed, after intensive research, is mobile and has been shown to provide reliable results. It has been subjected to a rigorous test over the past several months. The **CONCRETE CARB**-depth analysis will detect low lying cracks and make it possible, in a non-destructive way, to determine the extent of damage and give a qualified statement. Our clients receive an easy to understand assessment report as decision guidance for restoration and preventive measures. The non-destructive procedure, utilizing the ultrasonic technique, has been developed and successfully tested in cooperation with the Federal Institute for Materials Research and Testing (BAM) in Berlin.

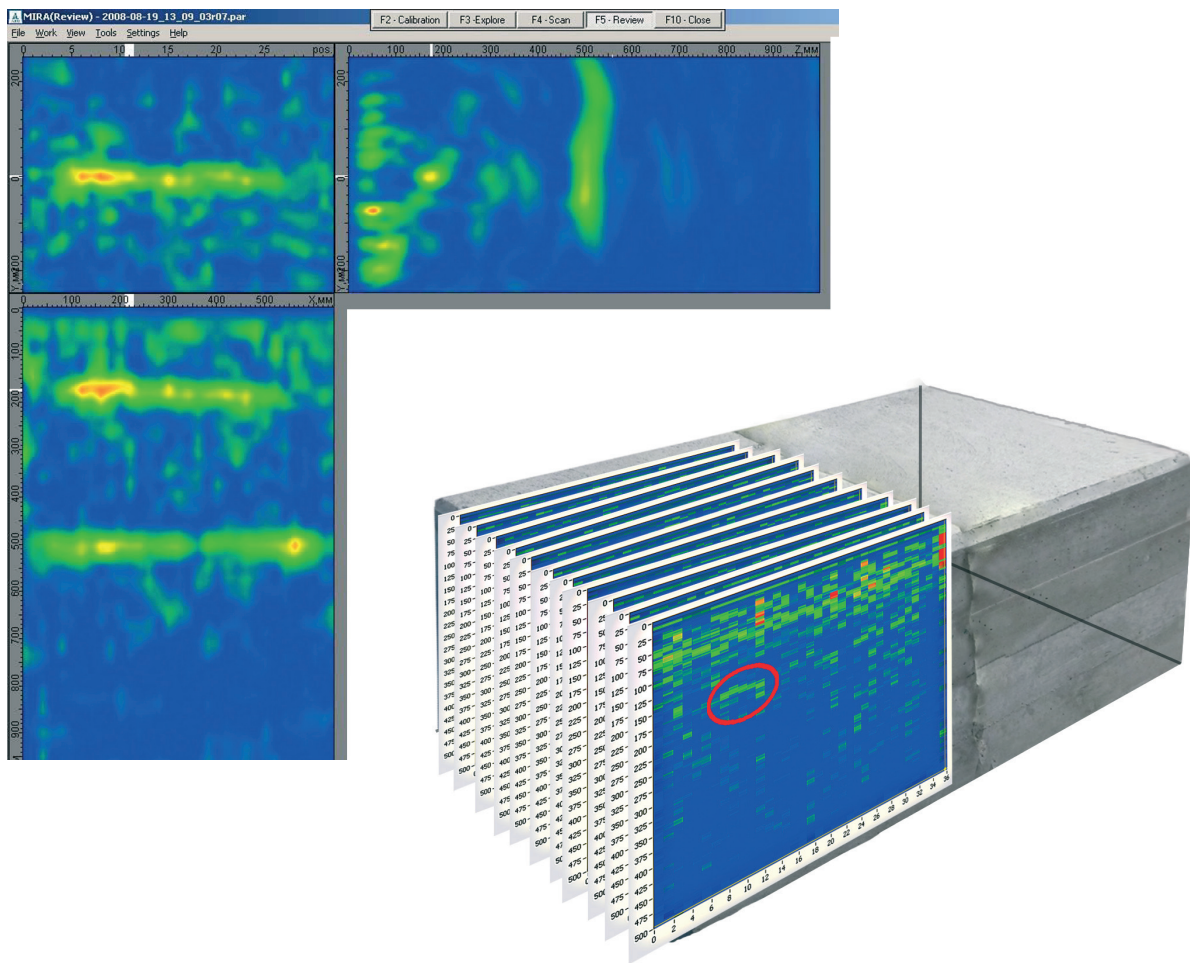


Data image and practice - verification of the test results through core hole drilling

Your reliable partner for in-depth views: Concrete Care

With a highly sensitive, non-destructive ultrasonic technique, we are able to determine the position, size and characteristics of the following imperfections and irregularities:

- depth of cracks which are visible on the surface.
- air-enclosures or other imperfections with an acoustic velocity significantly different from concrete up to a depth of 80 cm (32 inch) - (potentially up to 130 cm 50 inch) depending on the item and situation)
- cracks beneath the surface up to a depth of 80 cm (32 inch).
- objects with a density similar to steel up to a depth of 30 cm (12 inc) - (potentially up to 60 cm (24 inches), depending on size of the object)
- boundary layer, e.g. after applying a new layer of concrete or concrete substitute material in the course of restoration. (this way the quality of the execution can be determined)
- determination of wall thickness
- testing is even possible when the surface is coated with a waterproof surface protection

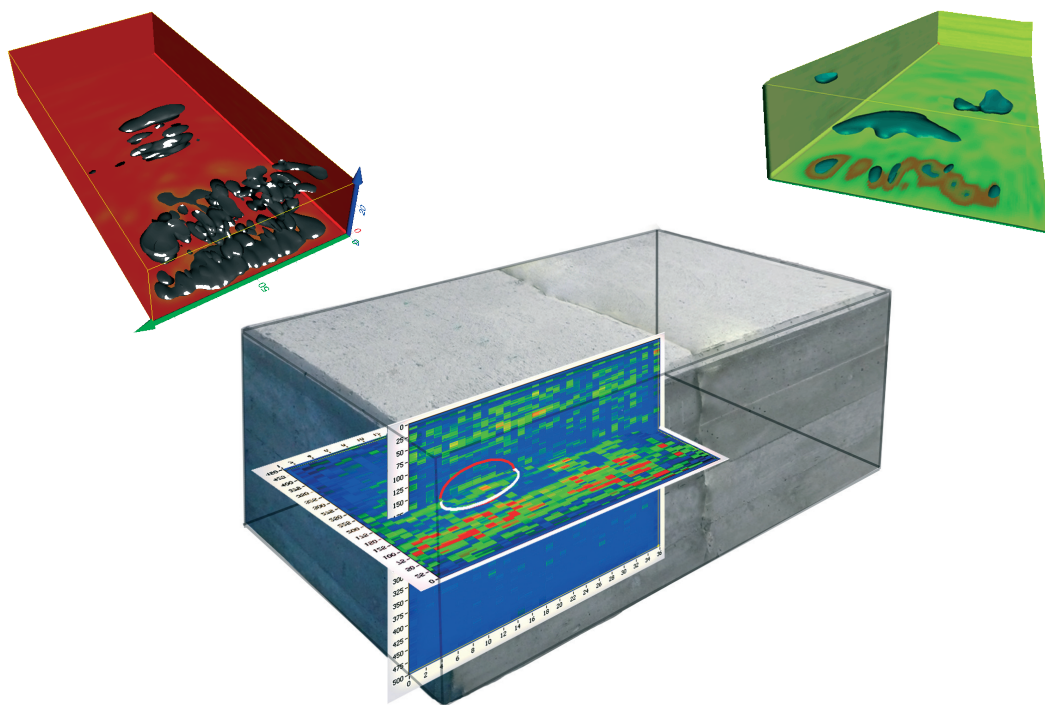


In a corporate research project together with the **Federal Institute for Materials Research and Testing (BAM)** and the **German Rotor and Tower Service GmbH & Co. KG (DRTS) CONCRETE CARE** will explore additional special cases to meet upcoming requirements of demanding inspection tasks.

Economical approach

In addition to trend-setting metering precision, the concrete care method stands out because of its road capability and economical application:

- can be utilized on liquid plastic coated surfaces
- it's independent from weather and location conditions
- the test equipment is light-weight, mobile and easy to use on location
- scanning of large surface areas can be conducted in a manageable time span
- initial findings can be delivered immediately after scanning
- fine tuned data and detailed statements, along with a meaningful assessment report can be delivered within a few days.



The advantages: fast, reliable, cost-efficient.

Since this method can be applied independent of the season and has a high degree of flexibility, it offers an economical preventive measure to insure the smooth operation of a wind turbine. The inspection procedure is carried out effectively and efficiently by competent personnel, requiring little or no interference with the operation of the wind turbine.

CONCRETE CARE will be your partner when it comes to providing security. As experienced experts in service for wind turbines we are used to managing our client's individual requirements!

concrete care
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