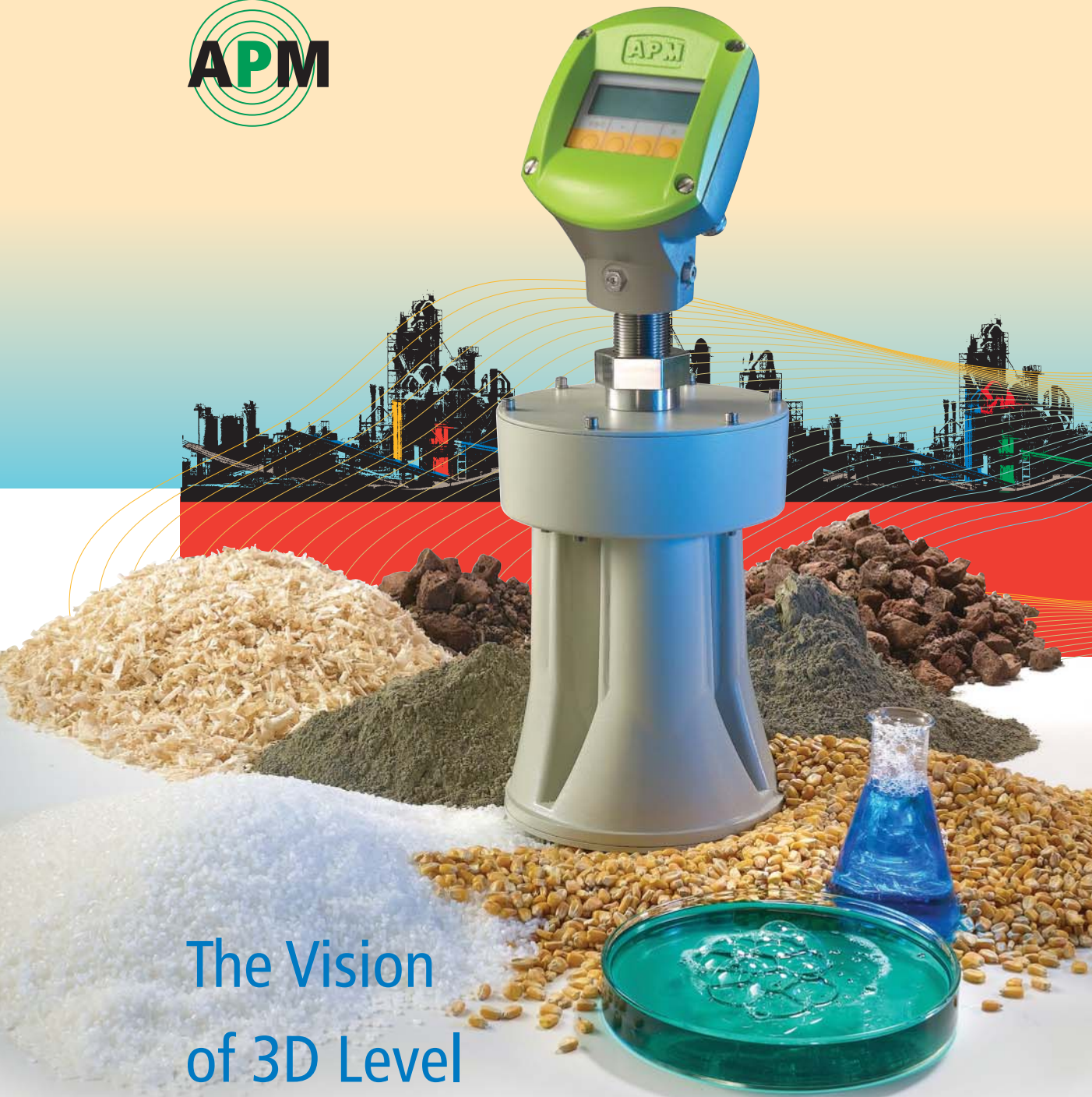


# 3DLevelScanner



The Vision  
of 3D Level  
Measurement

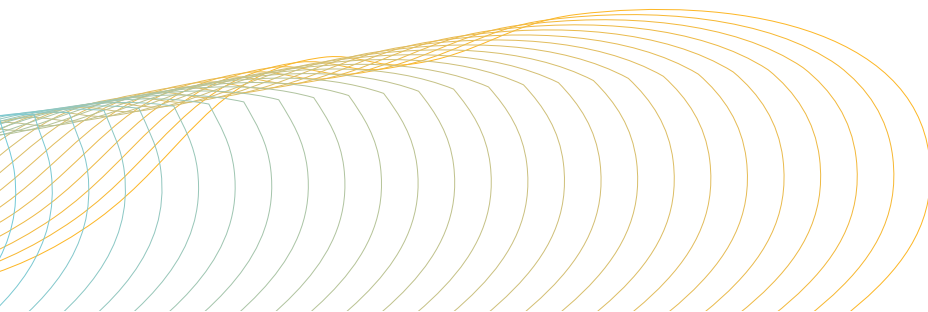
LEVEL MEASUREMENT HAS NEVER

The **APM 3DLevelScanner™** - an innovative new family of devices that takes the guesswork out of measuring the level, volume and mass of materials inside a silo or open bin.

**No more inaccurate calculations based on a single sample point**

The **3DLevelScanner™** employs an array of microphones that **measures and maps the entire surface area**, and a patented algorithm that processes this information and generates a **3-dimensional map**. This unique device can then **accurately determine the volume and mass of material**, enabling an unrivaled degree of process measurement and inventory control.

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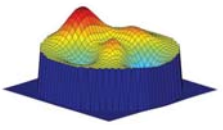
BEEN SO SIMPLE AND ACCURATE

8.50

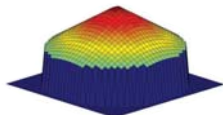
8.00

7.50

7.0



3D mapping of the surface area

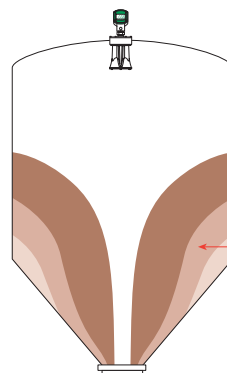
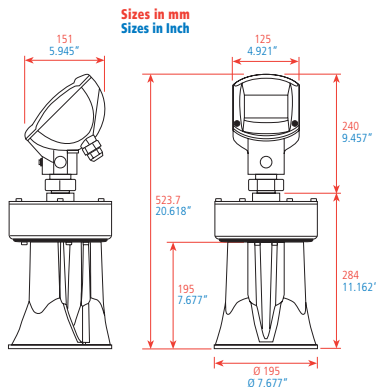
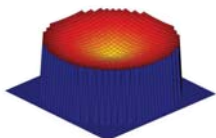
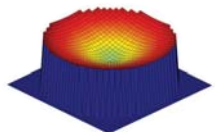
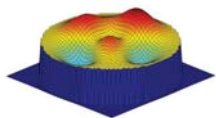


# vision of

# 3D

## How Does it Work?

The 3DLevelScanner employs a 2-dimensional array beam-former to send low frequency pulses and receive echoes of the pulses from the contents. The device's Digital Signal Processor samples and analyzes the received signals. From the estimated times of arrival and directions of received echoes, the processor obtains and generates a 3-dimensional image of the surface that can be displayed on a remote screen.



### Cement Silo

Dead cement loads that randomly form over time can be mapped with the 3DLevelScanner



# Level Measurement

## Advantages of the 3DLevelScanner

### 3-D Mapping takes you to new places

The 3DLevelScanner can [measure the level, volume and mass of materials in new applications that prior technology could not reach](#). It measures practically any kind of material stored in practically an unlimited variety of containers, including large open bins, bulk solid storage rooms and warehouses, mapping loads that randomly form over time inside silos, and many other previously inaccessible challenging applications.

### 3-D Mapping for Accuracy Like Never Before

No more guesswork or inaccurate calculations. 3-dimensional mapping delivers [true and absolute surface level values, volume and mass](#) inside a silo or open bin.

### Double the Performance - Half the Price

The 3DLevelScanner works with both bulk solids and liquids, providing unprecedented performance at a fraction of the cost of competing solutions.

### Reliability and Durability

Designed and built for reliable, dependable performance. Uses three independent channels to transmit and receive. The instrument is also explosion proof certified (ATEX).

### Operating Convenience

The system's easy-to-read 3-dimensional map, and the broad range of data it provides, make it the most convenient and efficient tool for level measurement on the market.

### Sophisticated Sensors

A built-in temperature sensor detects the interior temperature inside the silo and compensates for the influence of temperature on the signal running time. Sensors are unaffected by material type and need no calibration. Non-contact measurement makes the system appropriate for even the most sensitive materials.



**Chemical industry**  
**Aggregates industry**  
**Food and Beverage industry**  
**Pulp and Paper industry**  
**Petrochemical industry**  
**Pharmaceutical industry**  
**Environment and recycling industry**  
**Water and waste water industry**

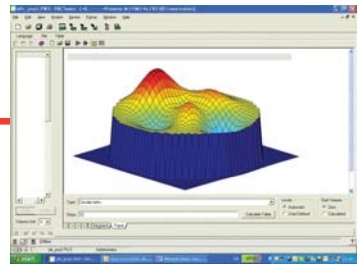
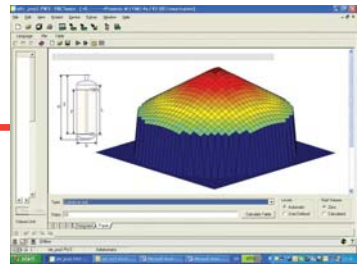
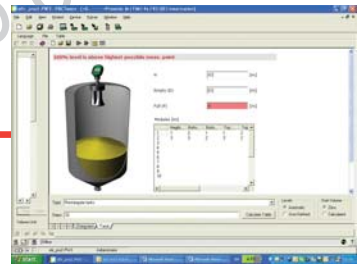
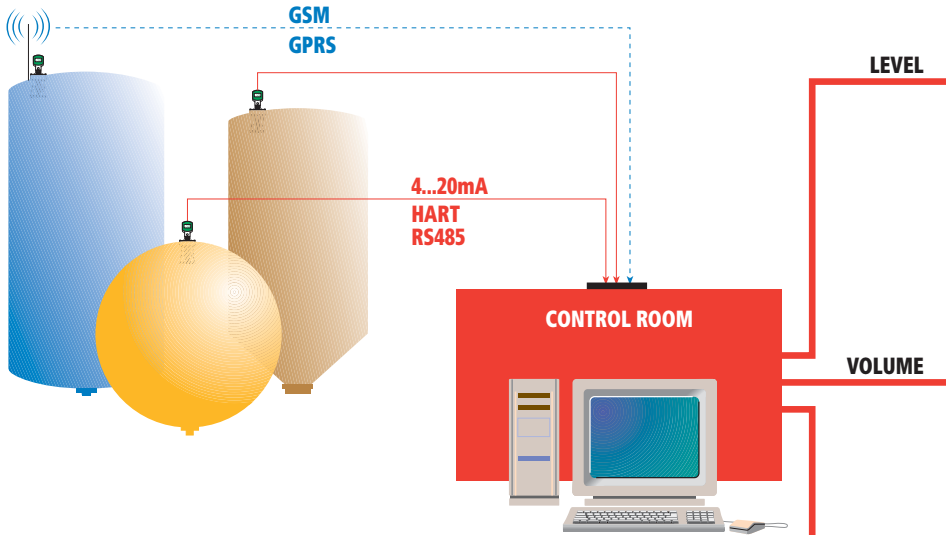


### **The Benefits of Using the 3DLevelScanner**

Truly accurate material measurement can dramatically improve operational efficiency and management capabilities, and translate into major cost savings and a fast return on investment.

Process control, inventory management, tracking, and usage forecasting are easily and accurately supported. As efficiency is enhanced and waste is reduced, production is streamlined, deliveries can be optimized, and costly emergency fills eliminated.

Interfacing with most automated control systems, the 3DLevelScanner enables remote measurement and data delivery. This not only eliminates the need for time-consuming and dangerous manual measurements, but reduces workman's compensation insurance expenses as well.



### Other Technical Capabilities

- Unaffected by material type (no need for special calibration)
- Measuring range up to 70 meters
- Unaffected by conditions such as dust or filling noise
- Loop-powered technology (leads to cost-effective installation)

### Operation and Communication

- Four-line plain text display provides easy step-by-step instructions and integrated help texts for initial configuration
- "Remote control" via 4...20 mA/HART, RS485, GSM, GPRS, is facilitated by APM's operating system software
- Graphic support and online help
- Extensive functions for measurement analysis
- 3D graphical analysis of the material surface



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