
# FLEX® Ground Penetrating Radar Systems for Concrete Inspection

GSSI

# THE STANDARD IN CONCRETE SCANNING

We know every jobsite presents unique challenges. Your safety and reputation require reliable, high-performing tools to reveal what's under the surface. Striking objects within concrete can lead to costly damage, safety risks, and delays.

Flex NX® and Flex LT® are the most powerful ground penetrating radar (GPR) concrete inspection systems we have ever built, with advanced dual antennas for the clearest imagery yet.

Before you cut, core or drill, use GSSI's concrete scanning systems to help locate rebar, post tension cable, and metallic and non-metallic objects accurately, efficiently and safely.

# FLEX NX®

## UNMATCHED FLEXIBILITY FOR THE TOUGHEST APPLICATIONS

- See down to 150 cm (60 in) in concrete
- Flex Mode rough out tool
- Wireless connectivity to optional satellite antennas
- Mirror and control connectivity with any mobile device
- Six lasers for precision marking

# FLEX LT™

## BUILT FOR MARK-AND-GO SCANNING

- See down to 75 cm (30 in) in concrete
- No wireless or internet connectivity to accommodate secure government and defense applications
- Built for value and affordability
- Colored markers for accurate markouts

## BOTH SYSTEMS INCLUDE

- Dual antennas for enhanced inspection
- Integrated software
- The rugged engineering GSSI is know for – IP65 rated
- Seamless integration with GSSI Fusion® reporting software
- Unmatched customer support, two year warranty and complimentary GSSI Academy training during the warranty period

# FLEX NX®

Flex NX provides you all-in-one simplicity, minimal navigation, and innovative data collection.

Flex NX, powered by Nexus, is today's most powerful and efficient concrete scanner, and it is brought to you by the most trusted name in the industry.

- Dual antennas
- Rapid 3D visualization
- Wireless connectivity to satellite antennas
- No subscription required

## WIRELESS MADE EASY

Flex NX® allows for effortless pairing of wireless NX accessory antennas using Tap-to-Connect technology as well as wireless data transfer.

## GET THE FULL PICTURE

Get the full picture using our one-pass cross polarization design to quickly and easily locate and identify targets.

## MAKE THE COMPLEX SIMPLE

Use Flex NX's innovative Flex Mode to quickly highlight areas of interest in real-time without complicated setups or grids.

## DELIVER RESULTS

Accurately mark your findings on the ground, then use GSSI Fusion to create and send interactive reports before you leave the jobsite.

SIMPLE

# FLEXIBLE

## TACKLE ANY JOB

The flexibility of your Flex NX and NX wireless antennas allows you to succeed no matter what the jobsite throws at you.

## CHOOSE YOUR SETUP

Flex NX and NX antennas are designed with a universal mount to help reduce fatigue and provide better ergonomics. Switch between the handle, extension pole or off-the-shelf mounting accessories.

## COMPLEX PROBLEMS, MANY SOLUTIONS

GPR data needs to be easy to collect and view. Flex NX provides multiple data collection and visualization modes, including the innovative and powerful Flex Mode. Now you have the flexibility you need to deliver trusted results.

# YOUR TRUSTED PARTNER

You trust GSSI, the equipment we make and the results that you get from your system. In return, your customer trusts you and the results you deliver.

Every product we offer, including Flex NX, is built and tested with your jobsite environment in mind. Extreme heat, cold, dust and water are no match for your Flex NX system.

## JOBSITE PROVEN

- Rated IP65
- -20°C to 50°C (-4°F to 122°F)
- High capacity Lithium-ion batteries

## WE'VE GOT YOUR BACK

In addition to our industry-leading two year equipment warranty, our promise to you is to provide comprehensive training, unrivaled customer support and world class expertise.

TRUSTED

# FLEX MODE

## ENHANCE YOUR WORKFLOW

Flex Mode, exclusively on Flex NX, is a quick and easy rough-out tool for enhancing your GPR toolkit.

Flex Mode will help in any situation, but it really shines in two key areas:

### CONGESTED, TARGET-RICH AREAS

Traditional 2D scanning is challenging for targets at multiple depths and orientations. Flex Mode reveals the layout of targets without the need for time-consuming grids.

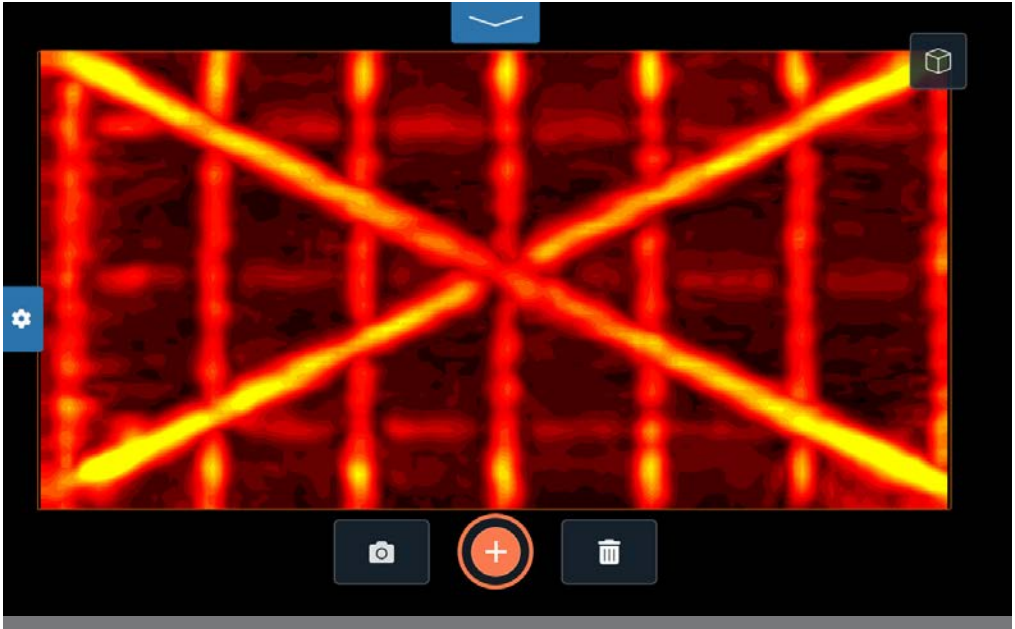
### DELIVERABLES

Today's clients demand more realistic GPR deliverables, and many find 2D profiles difficult to read. Flex Mode delivers impactful results that your customers can understand.

# A BETTER WAY TO VISUALIZE SLAB CONTENTS

Flex Mode generates top down GPR data in stunning detail without using grid pads or other grid layout methods.

Use **Top Down View** to scan a 120 cm x 60 cm (4 ft x 2 ft) area, and quickly slice from top to bottom to visualize slab contents and target orientation.

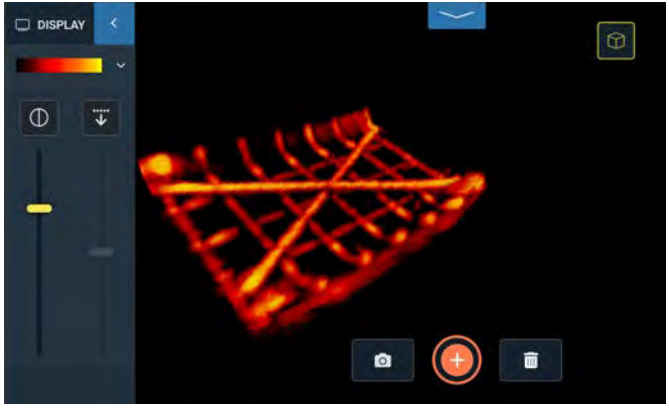


This example shows a Flex Mode scan in **Top Down View**. This dataset was collected with an average scan spacing of 2.5 cm (1 in), providing the resolution to distinguish two crossing conduits positioned above a rebar mat.

# A NEW DIMENSION OF ANALYSIS

Flex Mode incorporates a fully rotatable **3D Volume View** enabling data inspection at different angles. This feature adds a new dimension to field analysis by revealing vertical relationships between targets of interest.

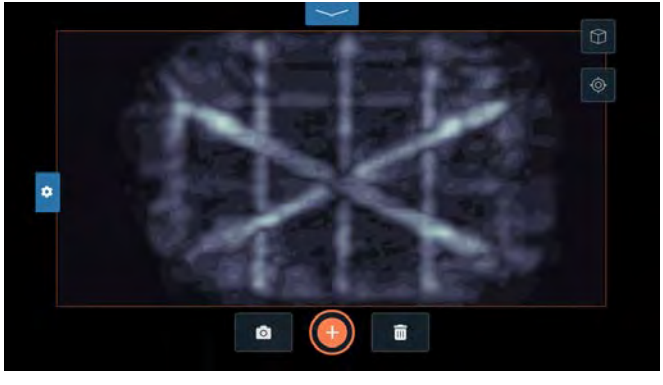
This example demonstrates the power of the 3D Volume View. The model was rotated to further prove that the crossing conduits were installed above the rebar mat.




# FOCUS ON THE AREA OF INTEREST

Flex Mode allows you to scan **your way**, whether you want to capture a broader context for targets or focus directly on your area of interest. Use Flex Mode to scan a smaller area to refine your mark out with no loss of resolution or image quality.

This example shows a refined Flex Mode scan in Top Down View. This scan did not fill the entire 120 cm x 60 cm (4 ft x 2 ft) area, but it still revealed enough detail to set the stage for a 2D mark out.



# NX ANTENNAS

Every jobsite presents challenges, and if you don't have the right tools you can't do the job properly. Flex NX accessory antennas were designed to keep you working in all situations.

## WIRELESS CONNECTIVITY

Simply tap your NX antenna to your Flex NX and start scanning. Already done? Next time you won't have to pair the antenna; just power on and go!

## RUGGED PERFORMANCE

NX antennas are built to the same standards as your Flex NX, so you can trust your entire system even in the harshest environments.

## FLEXIBLE CONFIGURATIONS

Quickly switch between cross polarization and side car scanning with the adjustable survey wheel.

# SCAN HARD TO REACH AREAS, WALLS & CEILINGS

The wireless NX25 accessory antenna is lightweight, compact, and perfect for scanning hard to reach areas, walls and ceilings.

The NX25 encoder wheel is repositionable for maximum flexibility, and the telescoping pole accessory helps with ergonomics and overhead work.

## NX25 SPECIFICATIONS

| | |
|---|---|
| DEPTH RANGE | 0-75 cm (0-30 in) |
| OPERATING TEMPERATURE | -20°C to 50°C (-4°F to 122°F) |
| IP RATING | IP65 |
| WEIGHT | 0.83 kg (1.8 lbs) including battery |
| DIMENSIONS | 11.2 x 11.2 x 10.4 cm (4.4 x 4.4 x 4.1 in) |
| SYSTEM CAPABILITY | Flex NX Only |

# SCAN THICK SLABS, SLAB ON GRADE & COLUMNS

The wireless NX15 accessory antenna is perfect for thick slabs, slab on grade, columns, or any situation where you need a solid combination of resolution and depth.

The NX15 encoder wheel is repositionable for maximum flexibility, and the telescoping pole accessory helps with ergonomics and overhead work.

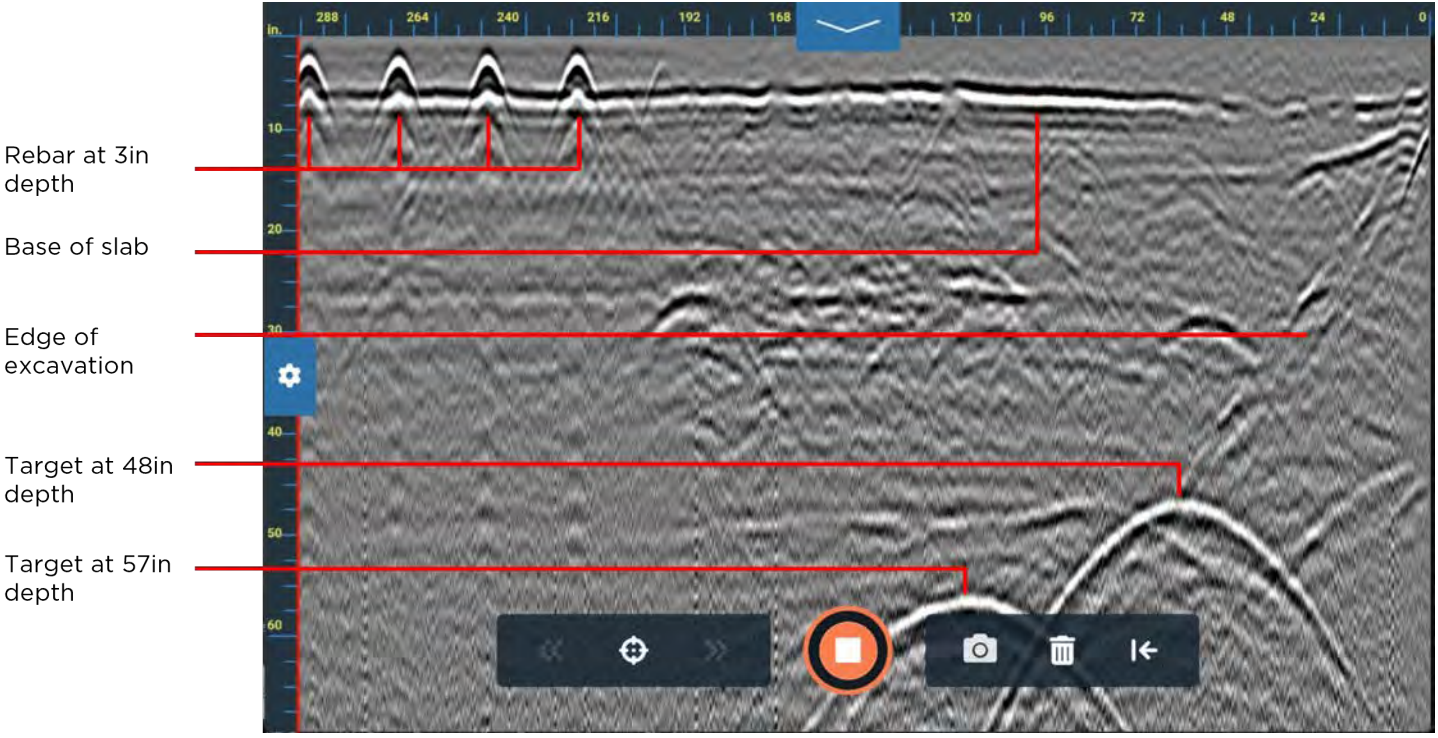
## NX15 SPECIFICATIONS

| | |
|---|---|
| DEPTH RANGE | 0-100 cm (0-40 in) typical,<br>0-150 cm (0-60 in)<br>based on site conditions |
| OPERATING TEMPERATURE | -20°C to 50°C (-4°F to 122°F) |
| IP RATING | IP65 |
| WEIGHT | 1.28 kg (2.8 lbs) including battery |
| DIMENSIONS | 13.2 x 13.9 x 13.9 cm<br>(5.2 x 5.5 x 5.5 in) |
| SYSTEM CAPABILITY | Flex NX Only |

NX15

# NX15: DELIVERING RESOLUTION AND DEPTH

Important targets could be installed below a concrete slab. Gain extra depth penetration while still resolving small, shallow targets inside the slab.



# FLEX NX ACCESSORIES

Use the Telescoping Pole with Flex NX to easily survey large areas or attach to a wireless NX antenna to reach new heights or get into hard to reach areas.

Adjustable Telescoping Pole

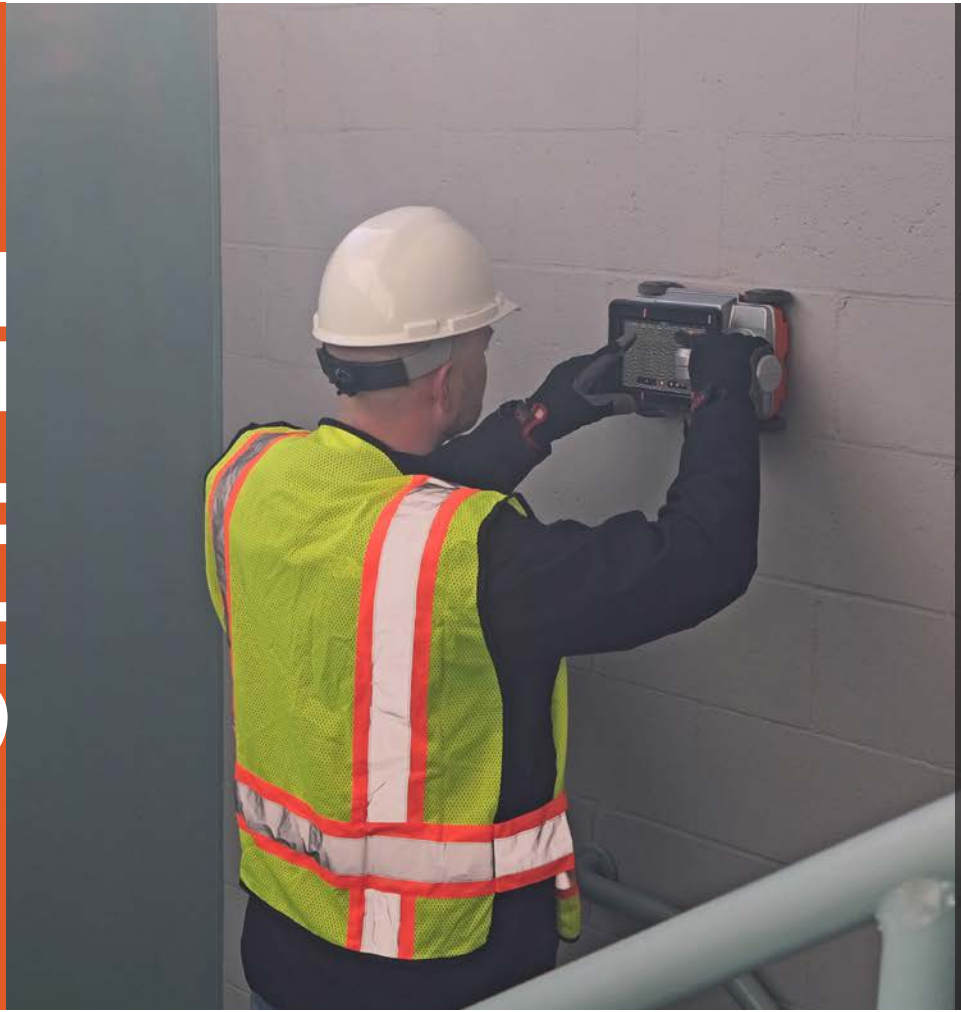
- Universal RAM Ball Mount
- Length: 52 cm x 122 cm (1.7 ft to 4.0 ft.)
- Fits inside Flex NX transit case
- Same pole for Flex NX, NX25, and NX15


# FLEX LT

Flex LT, powered by Nexus, is GSSI's newest handheld concrete scanning system. It is designed for contractors looking to locate and mark targets quickly and accurately without compromising on quality or cost.

The simplicity of Flex LT means that you can complete your work faster without the need for complex setups or additional equipment. Just scan, mark and go.

# SIMPLE



## ALL-IN-ONE SIMPLICITY

Flex LT has an easy to use interface with minimal navigation, no wireless pairing, 7 inch integrated touchscreen and requires no subscription.

## GET THE FULL PICTURE

Flex LT provides a complete view with one-pass cross polarization for efficient and accurate location of targets within concrete.

## NO REGULATORY RESTRICTIONS

Flex LT meets strict regulatory requirements, ensuring smooth operation on any jobsite. With no camera or wireless connectivity, it is ideal for government sites and other secure environments.

## DELIVER RESULTS

Accurately mark your findings on the ground, then use GSSI Fusion to create and send interactive reports before you leave the jobsite.

# FLEXIBLE

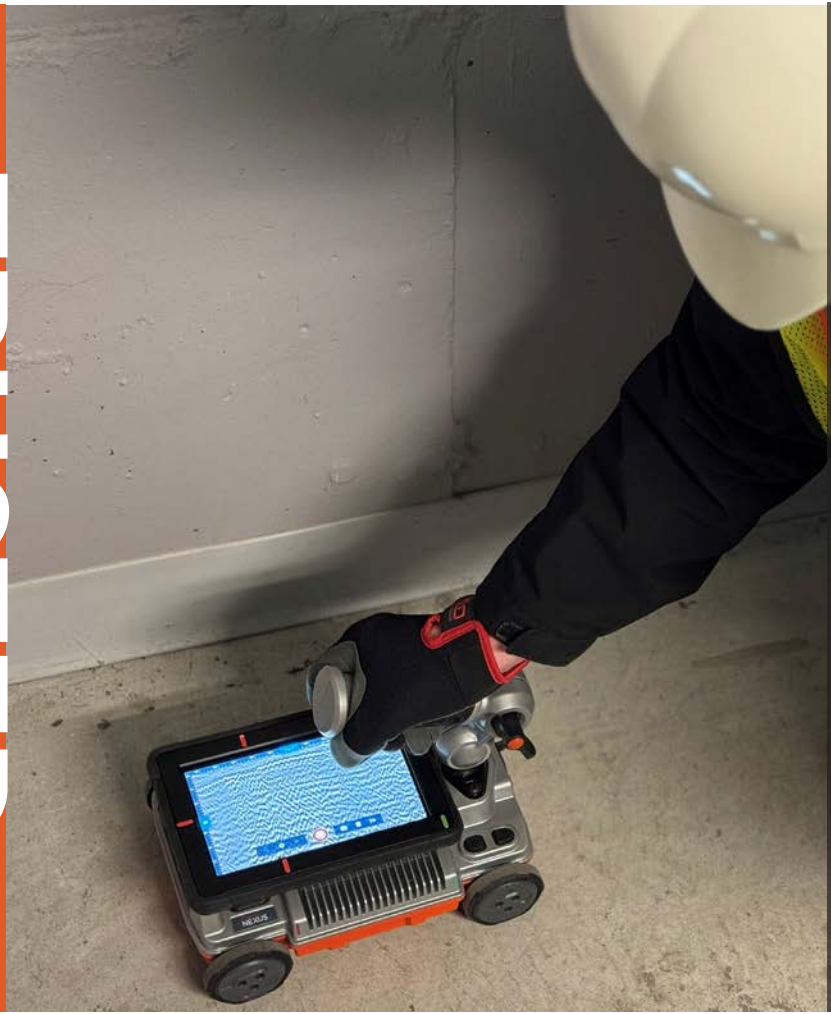
## GRAB AND GO

Flex LT fits easily into our new lightweight backpack for effortless deployment on the jobsite. Say goodbye to carrying heavy cases up flights of stairs.

## CHOOSE YOUR SETUP

The repositionable handle and universal mount are designed to improve ergonomics and reduce fatigue, giving you greater comfort and flexibility during field operations.

TRUSTED



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### JOBSITE PROVEN

- Rated IP65
- -20°C to 50°C (-4°F to 122°F)
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# ONE PASS CROSS POLARIZATION

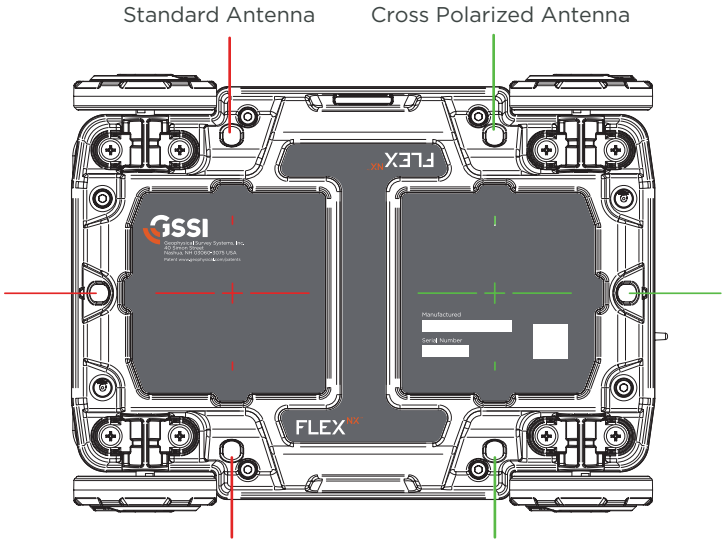
Flex NX and Flex LT use two antennas to maximize target identification and overcome the challenges of complex scanning jobs.

Don't settle for an incomplete image: see two datasets simultaneously and get the full picture!

**Simple Concrete Environments:** Use the **standard orientation** antenna in simple concrete environments to quickly highlight metallic targets.

**Complex Concrete Settings:** Use the **cross-polarized** antenna in situations where reinforcement is dense and other targets are expected within and below the slab.

**All Situations:** Scan with both antennas every time and be confident that nothing was missing.

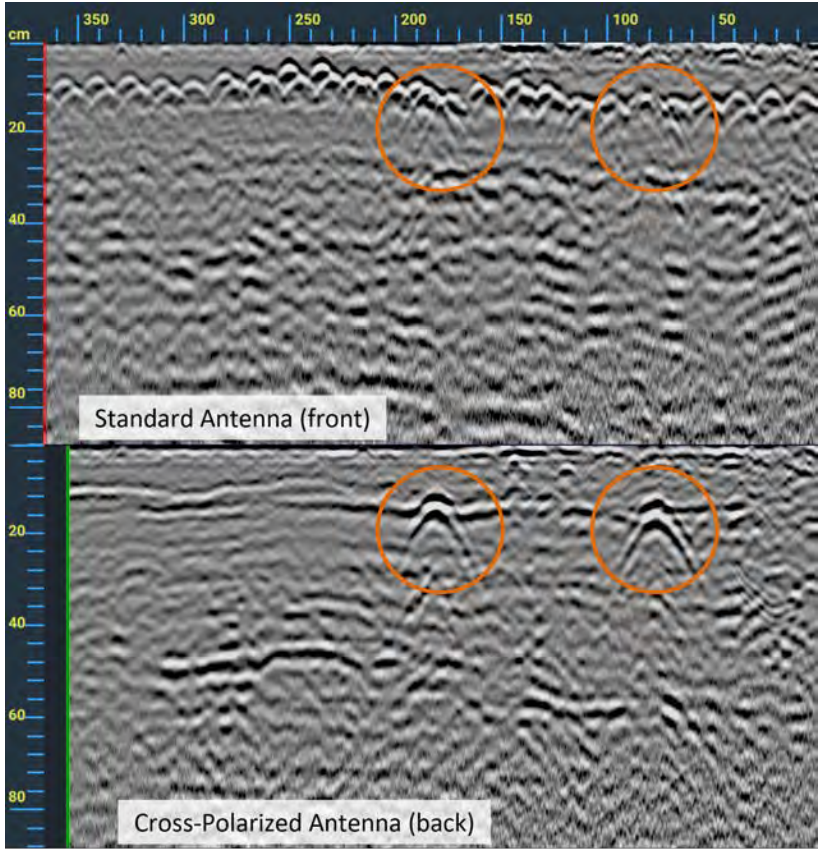



NOTE: Flex NX has lasers and Flex LT has colored markers

# GET THE FULL PICTURE

Flex NX and Flex LT are unrivaled in their ability to find **hidden** and **obscured** targets. Each system incorporates two built-in antennas for effortless one-pass cross polarization. Using two different, but complimentary, antennas increases the likelihood of detecting every target in the slab.

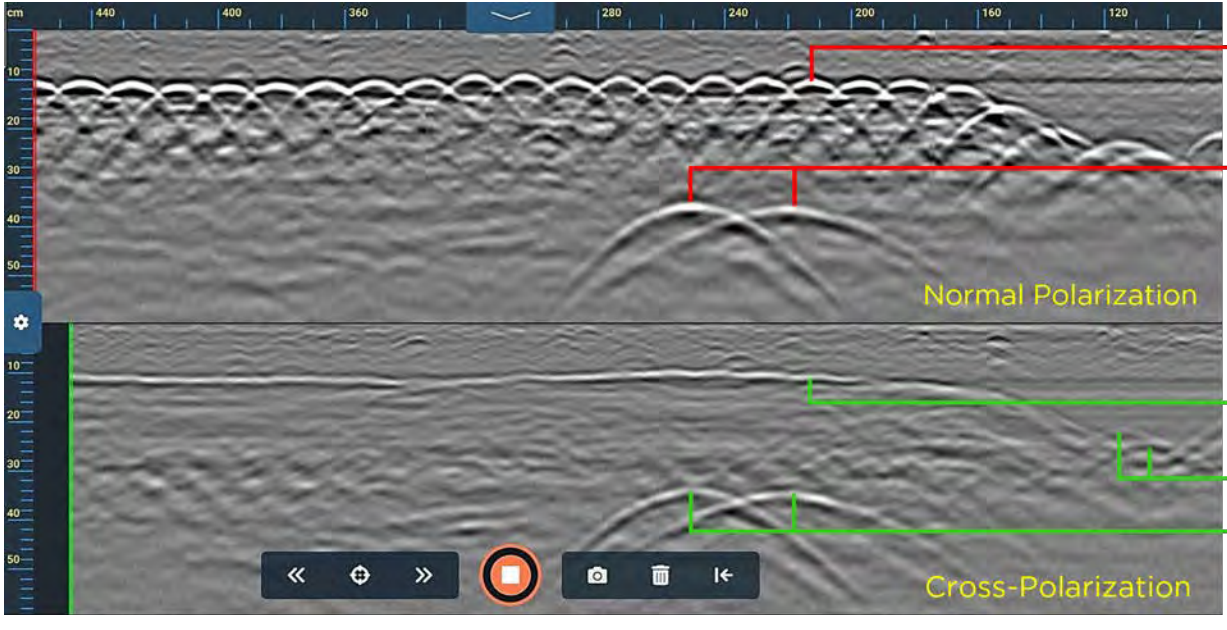
Flex systems are especially effective at distinguishing **post-tension cables** from rebar, locating **plastic conduits**, and confirming **slab thickness** in congested areas. Scan with two antennas every time, and ensure that no detail goes unnoticed.



# THE POWER OF ONE PASS CROSS POLARIZATION

Cross polarization provides a different way to view GPR data by reducing the visual impact of metallic targets and the tails of their hyperbolas. This means that non-metallic targets are more visible, and targets hiding below or next to reinforcement are more obvious.

Use both the normal and cross-polarized antennas in tandem to reveal more details and find targets that other scanners would miss.




Wire Mesh Targets

Utility Lines Below the Slab

Wire Mesh Layer and Base of Slab

Targets Hidden by the Mesh

Utility Lines Below the Slab

# CONCRETE INSPECTION DATA EXAMPLES

We want you to be confident and successful. A great place to start is familiarizing yourself with GPR data images from common scanning scenarios.

See below for data images and modeled visualizations for these jobsite situations:

**Scenario #1:** Dipping wire mesh and utilities below the slab

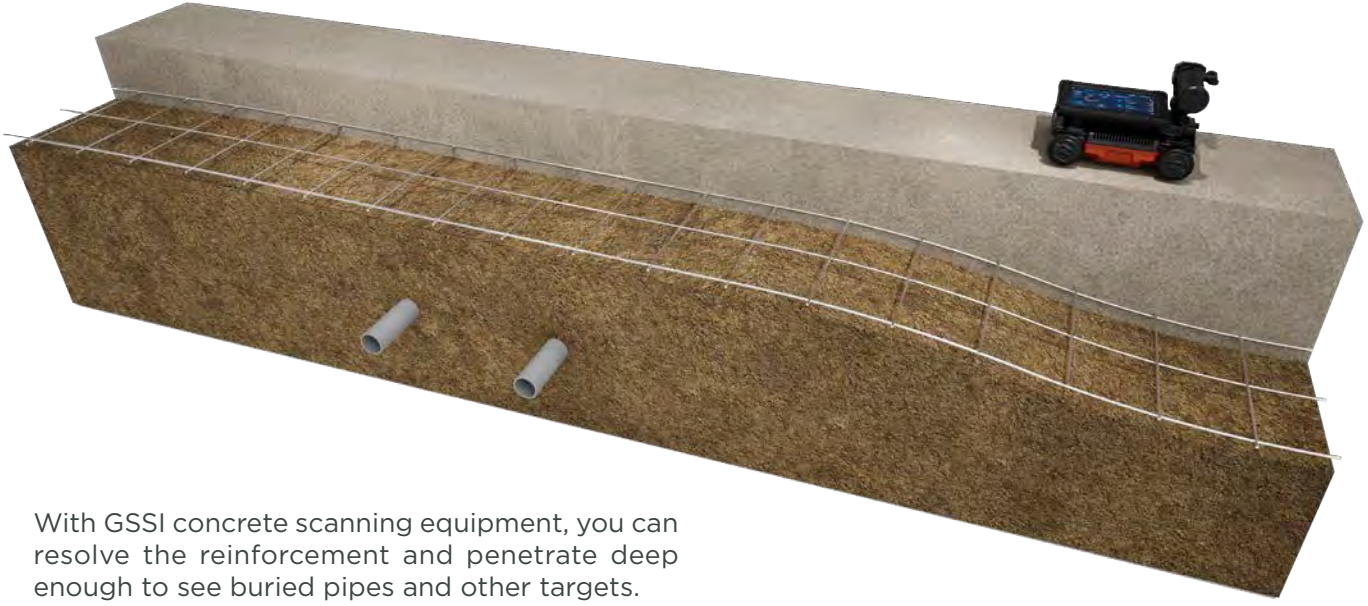
**Scenario #2:** A concrete slab with wire mesh and rebar dowel joints

**Scenario #3:** Double rebar layer in a poured concrete wall

**Scenario #4:** Post-tensioned cables in a parking deck

# SCANNING SCENARIO #1:
## Dipping Wire Mesh and Subgrade Utilities

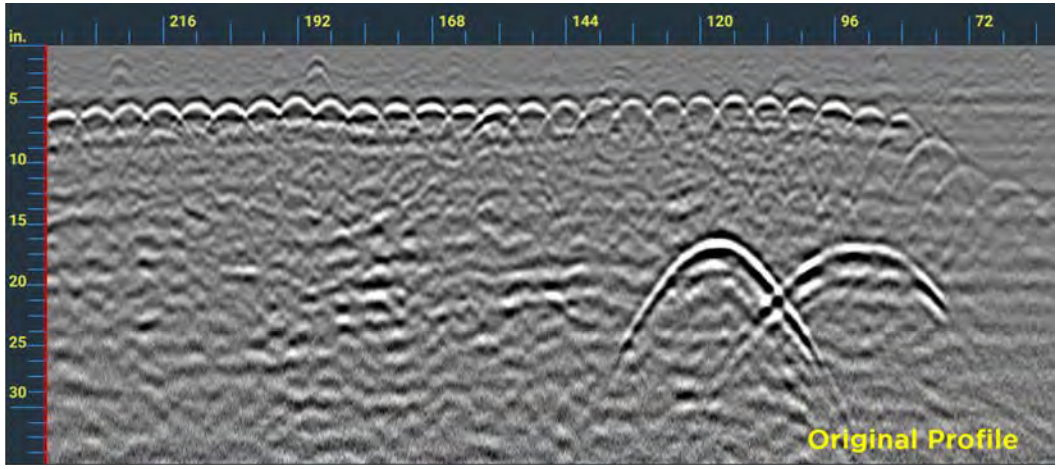
Wire mesh is a common reinforcement option for concrete, and is regularly spaced and arranged in a grid pattern. Unlike rebar, wire mesh is somewhat flexible and can occur at different depths across the slab.

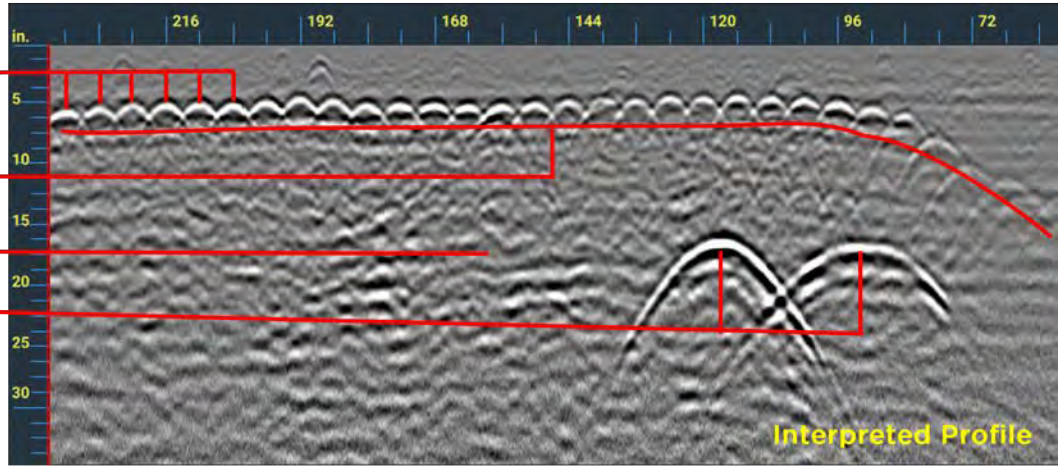


With GSSI concrete scanning equipment, you can resolve the reinforcement and penetrate deep enough to see buried pipes and other targets.

A common slab scenario is wire mesh reinforcement. Wire mesh targets are regularly spaced and are typically closer together than rebar. Each strand of wire creates a target.

In some cases, scanning jobs require more than just identifying what is in the slab. Flex NX and Flex LT let you see what is below the slab, helping to prevent unintentional damage to buried utilities.




Individual Wire Mesh Strand

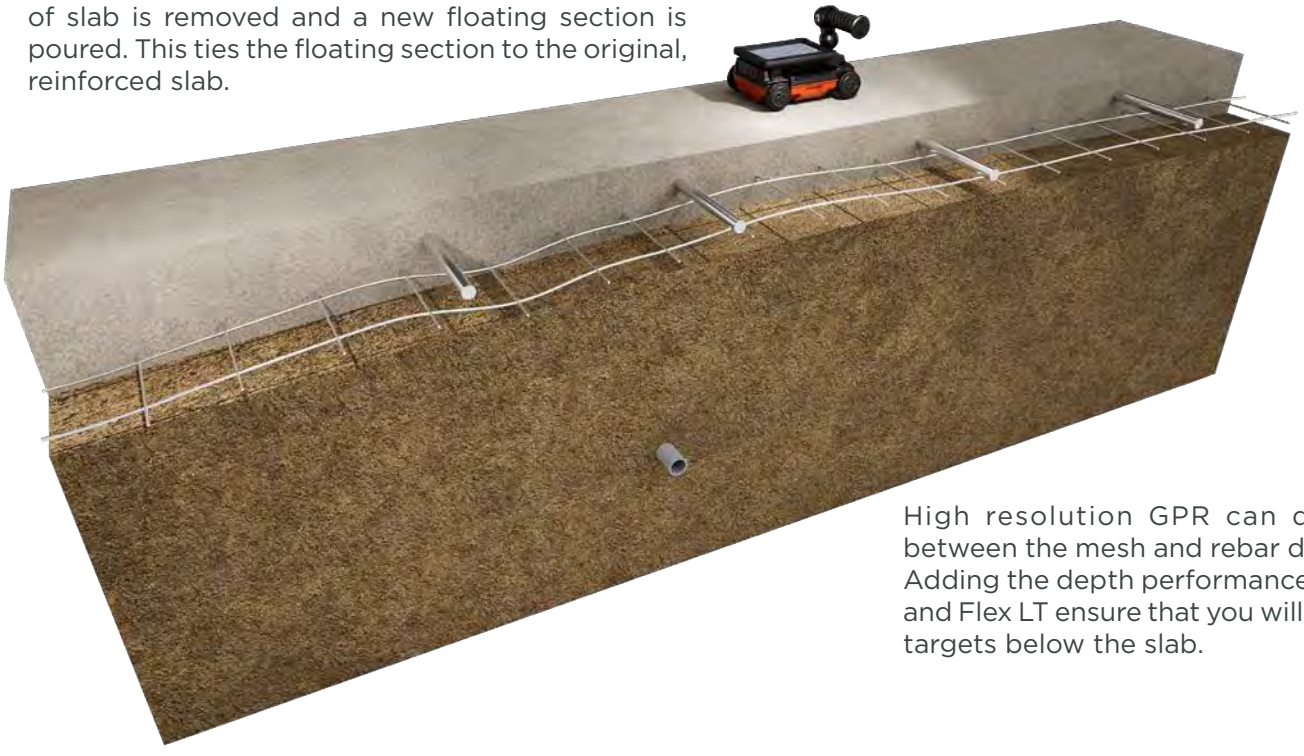
Wire Mesh Layer

Subgrade Soil Layers

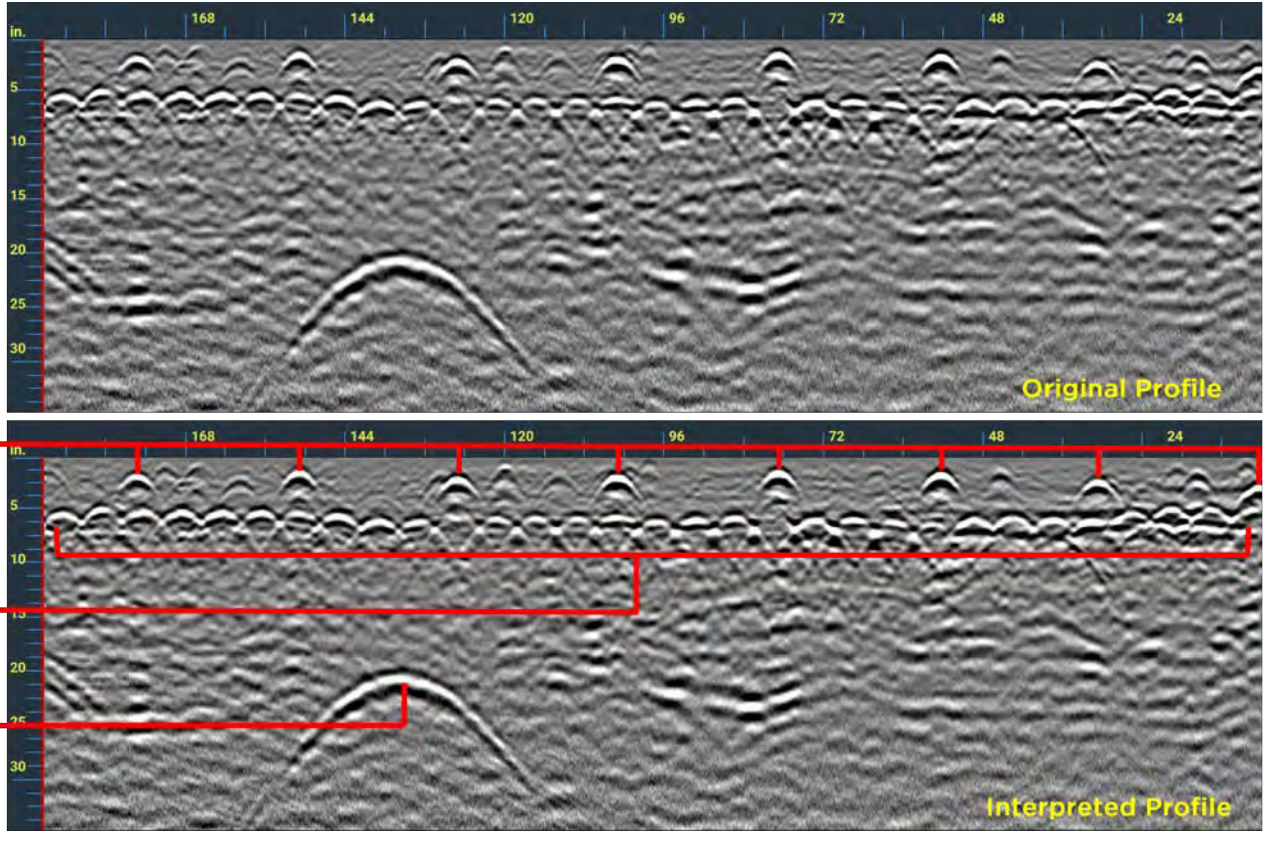
Subgrade Utility Lines

# SCANNING SCENARIO #2:
## Concrete Slab with Wire Mesh and Rebar Dowel Joints

Rebar dowel joints are installed when a section of slab is removed and a new floating section is poured. This ties the floating section to the original, reinforced slab.



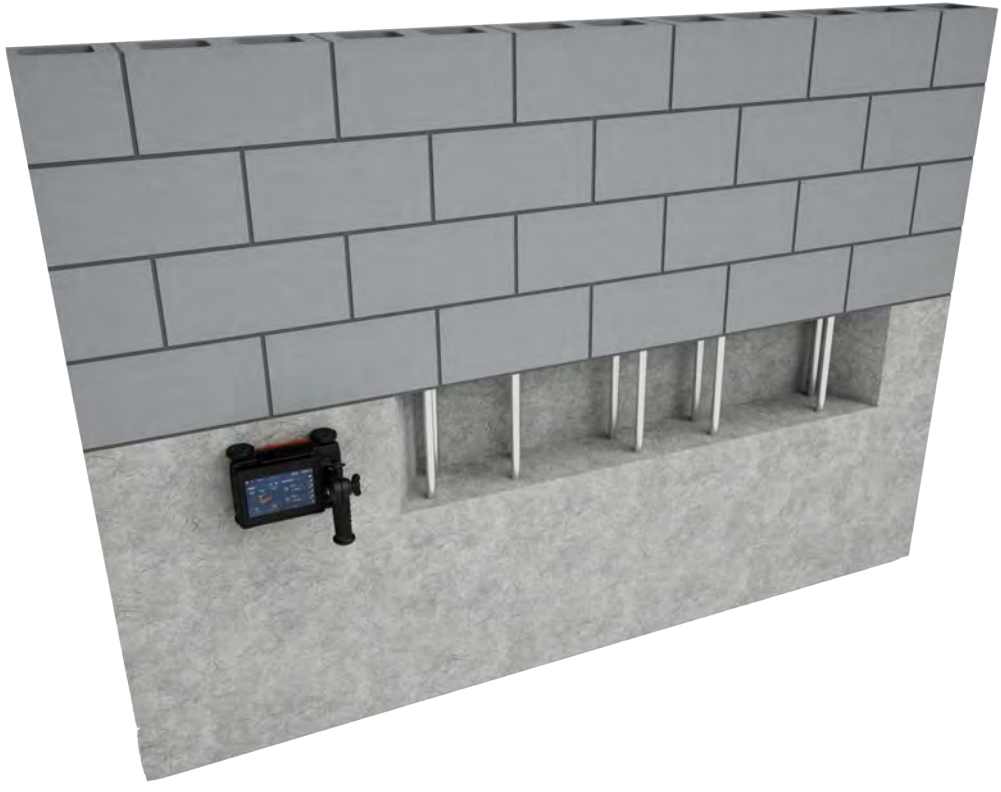
High resolution GPR can distinguish between the mesh and rebar dowel joints. Adding the depth performance of Flex NX and Flex LT ensure that you will also detect targets below the slab.


in.
168
144
120
96
72
48
24
5
10
15
20
25
30
Original Profile
Interpreted Profile
Rebar dowel joints 24 inches on center
Wire Mesh
Subgrade Target

# SCANNING SCENARIO #3:
## Double Rebar Layer in a Poured Concrete Wall

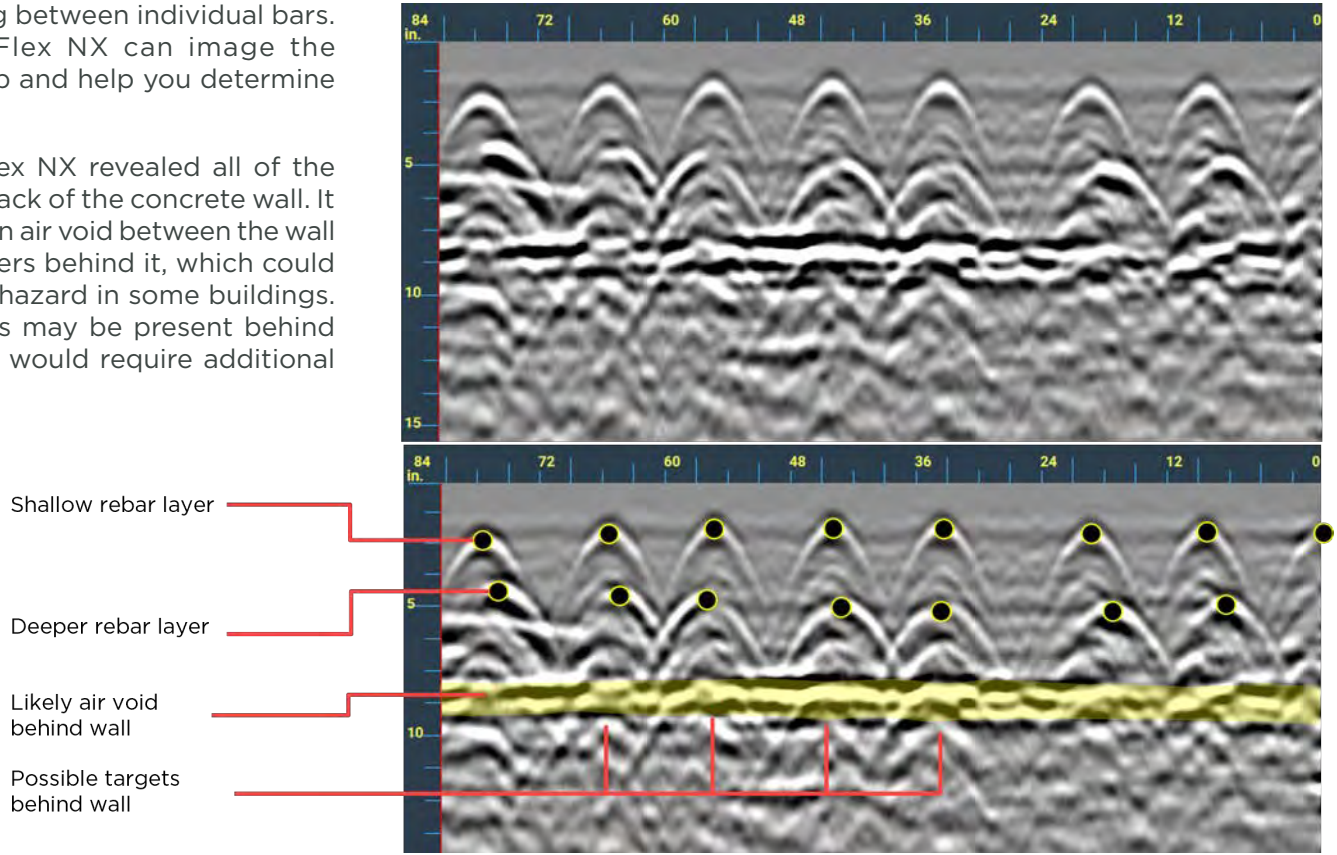
Structural walls must be heavily-reinforced to ensure proper load-bearing capabilities. But what if you are rehabbing a building and want to cut, core, or drill through a reinforced wall?

Flex NX offers the perfect combination of resolution and depth to ensure that each reinforcement target is individually identified, regardless of the wall thickness. In most cases, penetrating behind the wall can show unexpected targets and help you avoid them.

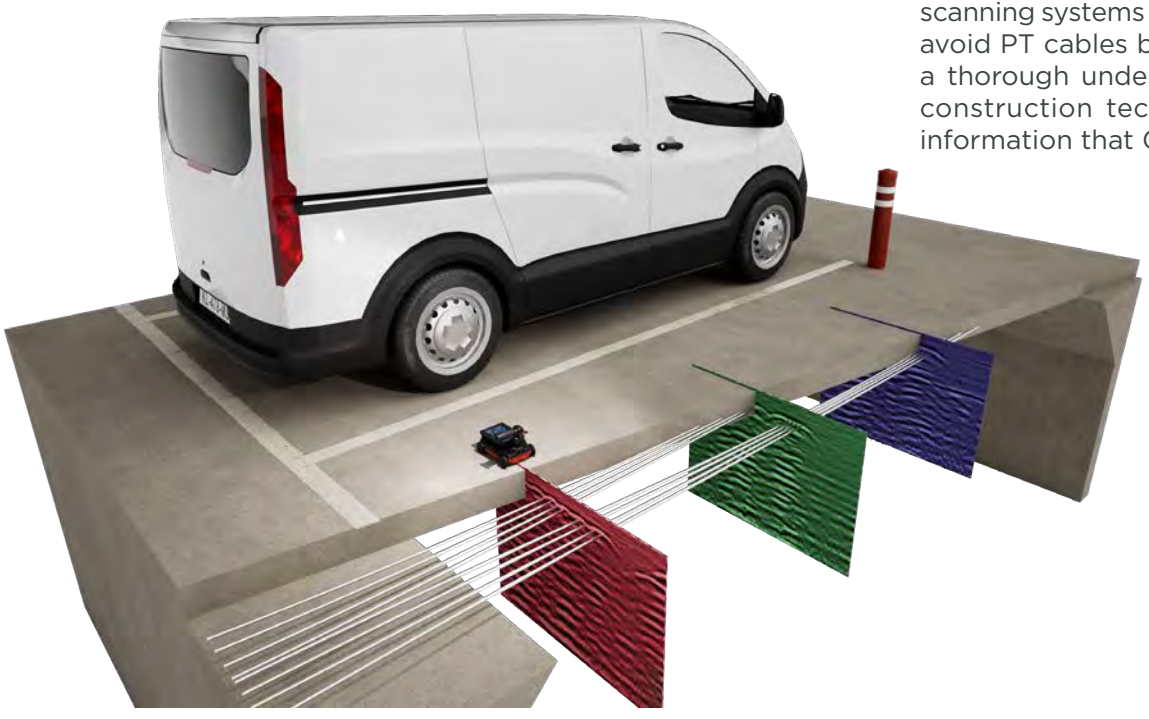


Flex NX can image multiple rebar layers and the spacing between individual bars. Additionally, Flex NX can image the back of the slab and help you determine thickness.

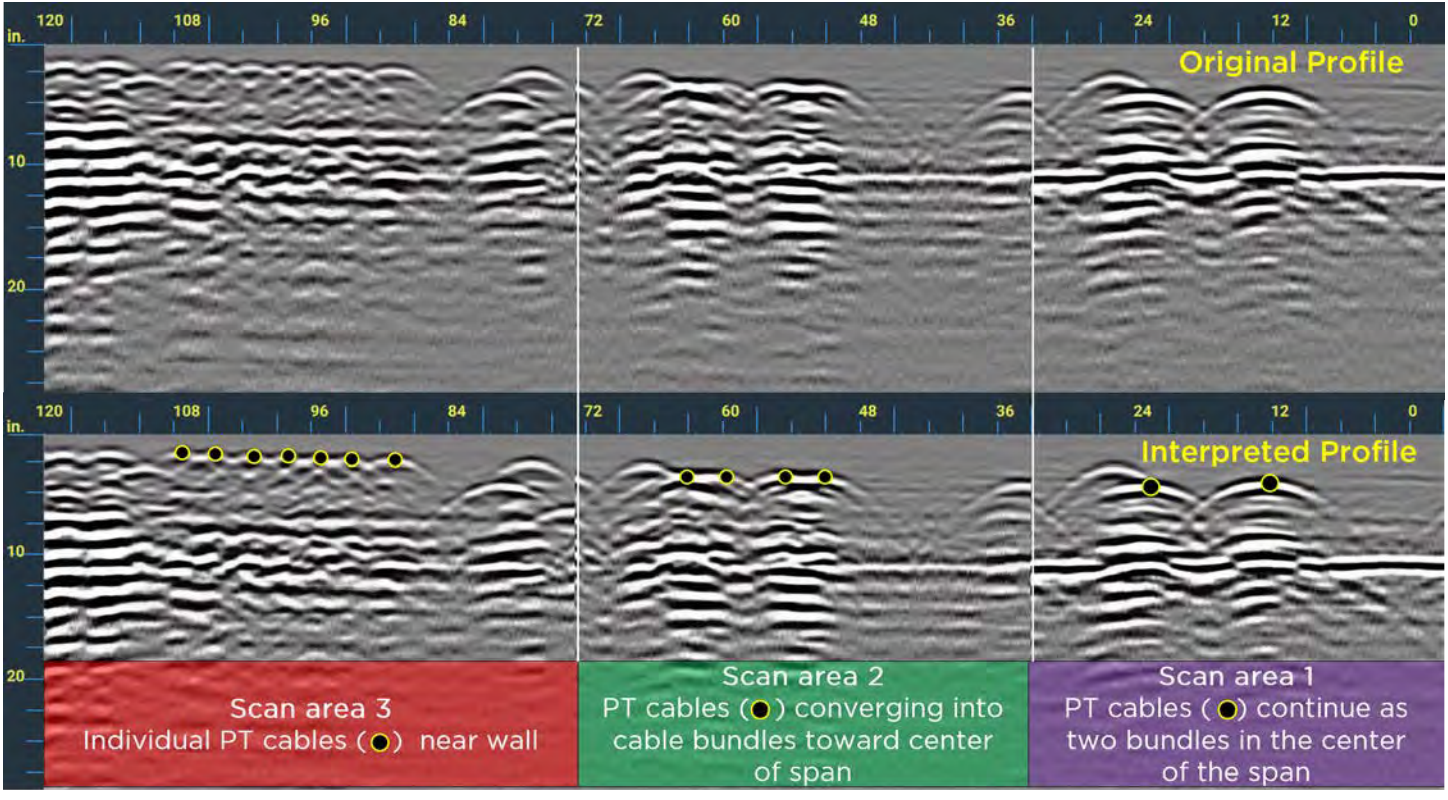
In this case, Flex NX revealed all of the rebar and the back of the concrete wall. It also identified an air void between the wall and the soil layers behind it, which could be a structural hazard in some buildings. Possible targets may be present behind the wall, which would require additional scanning.



# SCANNING SCENARIO #4:
## Post-Tensioned Cables in a Parking Deck



Use your Flex NX or Flex LT to identify the concrete structures, and their characteristics, for any given jobsite. These concrete scanning systems help you find, identify, and avoid PT cables but it is important to have a thorough understanding of the relevant construction techniques and the unique information that GPR provides.


in.
120
108
96
84
72
60
48
36
24
12
0
10
20
Original Profile
Interpreted Profile
Scan area 3
Individual PT cables ( ) near wall
Scan area 2
PT cables ( ) converging into cable bundles toward center of span
Scan area 1
PT cables ( ) continue as two bundles in the center of the span

# SPECIFICATIONS

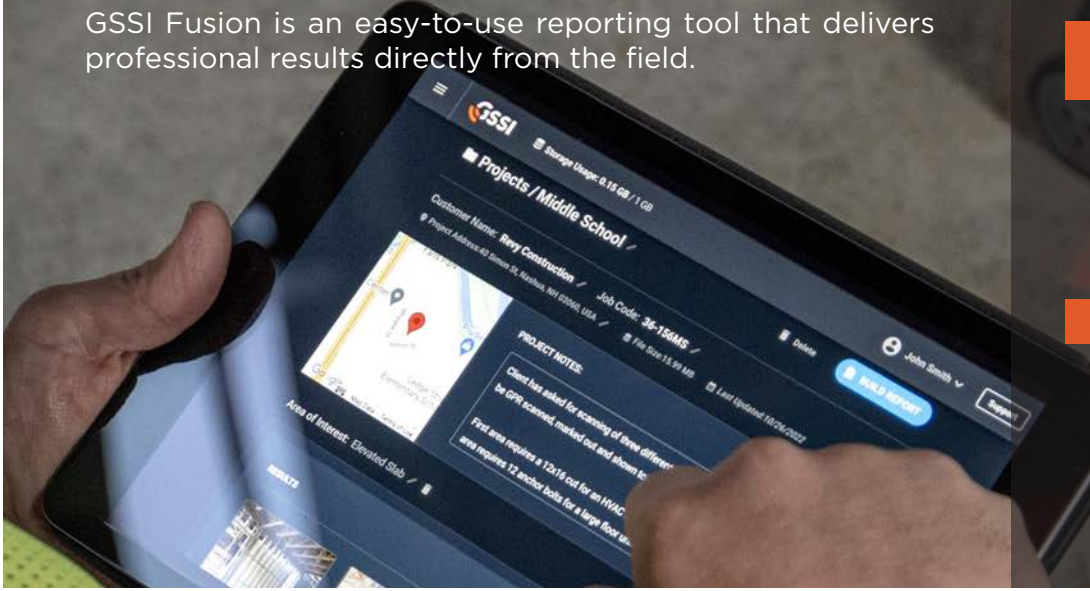
| | Flex NX® | Flex LT® |
|---|---|---|
| Depth range (in ideal conditions) | 0-75 cm (0-30 in) | 0-75 cm (0-30 in) |
| Dual antennas for one-pass cross pol scanning | ✓ | ✓ |
| Wireless remote control / viewing | ✓ | |
| Advanced positioning with Flex Mode | ✓ | |
| Marking guides | Lasers | Colored Markers |
| Tap-to-connect accessory antenna connectivity | ✓ | |
| Wireless project export | ✓ | |
| USB project export | ✓ | ✓ |
| Onboard file storage | 200GB | 50GB |
| Ergonomic repositionable handle | ✓ | ✓ |
| 17.8 cm (7 in) High Resolution Touchscreen | ✓ | ✓ |
| GSSI Fusion™ (.fsn) export | ✓ | ✓ |
| Wireless software update | ✓ | |
| Extension pole compatible | ✓ | ✓ |
| Battery life in hours (commercially available 5Ah) | 3 | 3 |
| Free software upgrades | ✓ | ✓ |
| Warranty | Two Years | Two Years |
| Subscription required | No | No |

# GSSI FUSION™

## DELIVER RESULTS

You take pride in a job well done. Showcase your commitment to excellence and rise above the competition by delivering reports that are as high quality as your markouts.

GSSI Fusion is an easy-to-use reporting tool that delivers professional results directly from the field.




### PURPOSE-BUILT REPORTING

A dedicated platform with a modern interface for creating polished, professional-grade reports tailored to client needs.

### FLEXIBLE & AFFORDABLE

Offers a free tier for single users and scalable pricing for teams, ensuring you pay only for what you need.

### OPTIMIZE DATA MANAGEMENT

Seamlessly imports Nexus project data, supports legacy datasets, and provides tools to edit, reorganize, and describe results with ease. Keep your data safe and secure.

### ON-SITE EFFICIENCY

Enables report creation and delivery directly from the field, saving time and ensuring timely communication with clients. Supports individual and team workflows, ensuring high-quality, visually impactful reports every time.

# TRAINING IS A BIG PART OF WHAT WE DO HERE AT GSSI

**3**
NUMBER OF FULL TIME TRAINERS

**59**
YEARS OF EXPERIENCE IN TEAM

**100+**
NUMBER OF CLASSES, YEARLY

**5K**
DEDICATED TRAINING SPACE (SQ. FT.)


# WE'VE GOT YOU COVERED

## FIELD SERVICE & REPAIRS

We proudly build and repair all our systems in the USA

## APPLICATION EXPERTISE

Talk with specialists and build a personal relationship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