GMI 3D SOFTWARE

NEXT STAR

FIND THE UNKNOWN

VERSION 1.3.1

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Introduction

Next Star is a research and development company with the presence of educated engineers and researchers in the field of high level sciences such as electronics, software and artificial intelligence as well as in the fields of geophysics. Next Star Company is located in the leading technology country, Germany. Next year, after years of extensive research on geological sciences with the help of young and motivated forces along with experienced engineers in the field of geophysics and archeology, by examining the ancient features and characteristics of each geographical area, produces and develops a new generation of Intelligent and versatile imaging systems for accurate detection and positioning of hidden objects in the underground.

Production of systems based on magnetometry and analysis and processing of magnetic signals based on the method of processing and analysis of signals appropriate to each system with the highest accuracy in order to detect anomalies and find objects buried in the ground. The high antiquity of this method as well as the ability of air and ground harvesting in this area has caused more users to use this type of device.

Production and development of systems based on geo electric systems and EM and pulse systems in high and low frequencies and multi frequency and processing and separation of metals, GPR systems and geological radars, gravimetric systems and various modern methods is just one of the activities of Next Star Company, which shows a science-based foresight in order to advance the goals and satisfy customers.

Next Star devices can be used in the fields of archeology, military, industry, mineral deposit exploration, oil exploration, hole detection and geology, environmental studies, identification of buried metal objects, etc. Discovering all kinds of buried tunnels and underground holes, cables and pipes, as well as metal objects, coins, precious metals such as gold and silver, treasures and geological anomalies can be done with our company's devices. Next Star Company has used the most up-to-date technology in the world and based on the latest scientific articles in the fields of artificial intelligence in designing and manufacturing professional software in this field, and at the same time the simple method of working with these devices, Next Star It has become a popular option among users.

GMI 3D Software

Next Star Company is one of the leading companies in the field of manufacturing video metal detectors. One of the most important features of the company's products is the use of proprietary software produced by its engineers and specialists. This tutorial explains how to use GMI 3D software version 1.3.1, which is developed exclusively for Vega series products.

First, in order to be able to use the software, we must make sure that it is connected to the device. As you can see in the image, after the welcome screen is displayed, the activation screen is visible (Fig. 1).

Figure 1

In this section, in order to connect the software to the device more easily, the software asks users to allow access to GPS and Storage on their behalf. On the left is the terms of service, which the user must read carefully. Approval of this section by users constitutes acceptance of the terms of use of the software (Fig. 2).

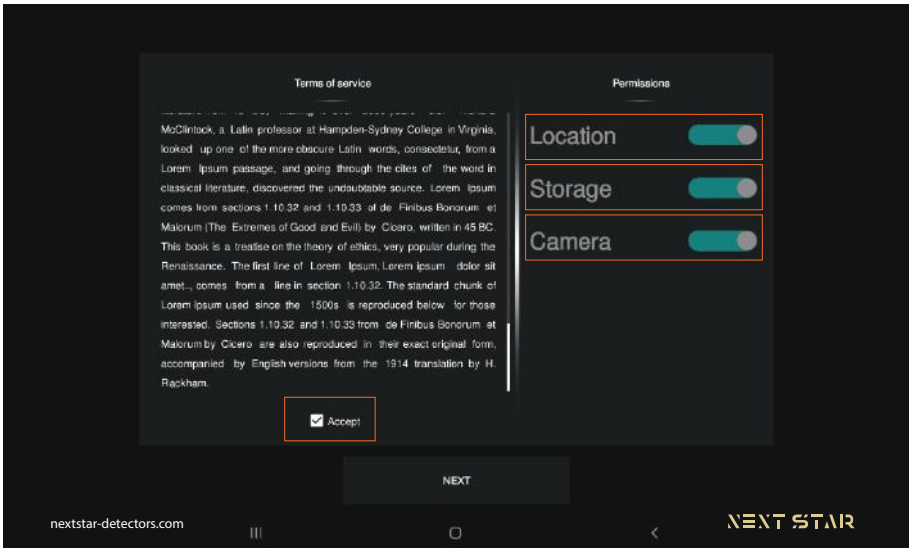

Figure 2

After this step, we turn on the device. Here it is necessary for users to enter the serial number they see on the device in the box I see in the image. After hitting the confirm button, we enter the software (Fig. 3). In addition, the user can enter the software by scanning the QR code on the device without having to enter the serial number.In addition, the user can enter the software by scanning the QR code on the device without having to enter the serial number.

Figure 3

We enter the main page. The most important icon on the home screen is the scan circle. The color of the circle indicates that the software is connected to the hardware, and the gray color indicates that it is not connected. Also, red, green and yellow colors indicate the battery level of the device. By selecting this option, we will enter the scan type selection page. This page consists of three general sections. Scan button, general and pre-scan settings, post-scan settings (Fig. 4).

Figure 4

We will be guided by tapping the circle on the scan selection page. From the four scan modes, select the Live Scan option (Fig. 5).

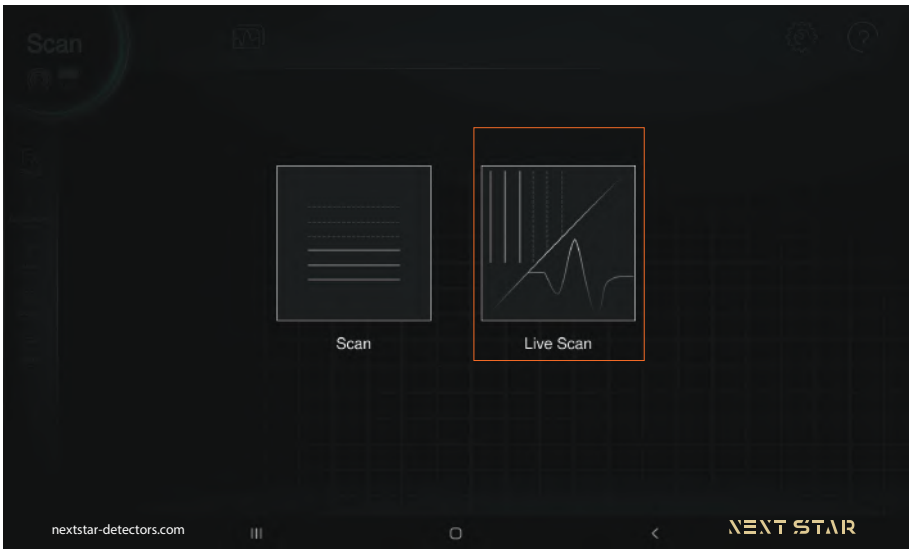

Figure 5

Live scan

Live scanning itself consists of two types, Direct live scanning and 360 live scan. By selecting the direct live scan, we enter this type of scan (Fig. 6).

Figure 6

Direct live scan:

As you can see in the image, in the top menu bar, there are several options for an accurate scan. We can return to the main screen by pressing the Home button (Fig. 7-1). The play icon starts the scan operation (Fig. 7-2) and the ground balance icon marks the start point of the scan (Fig. 7-3).

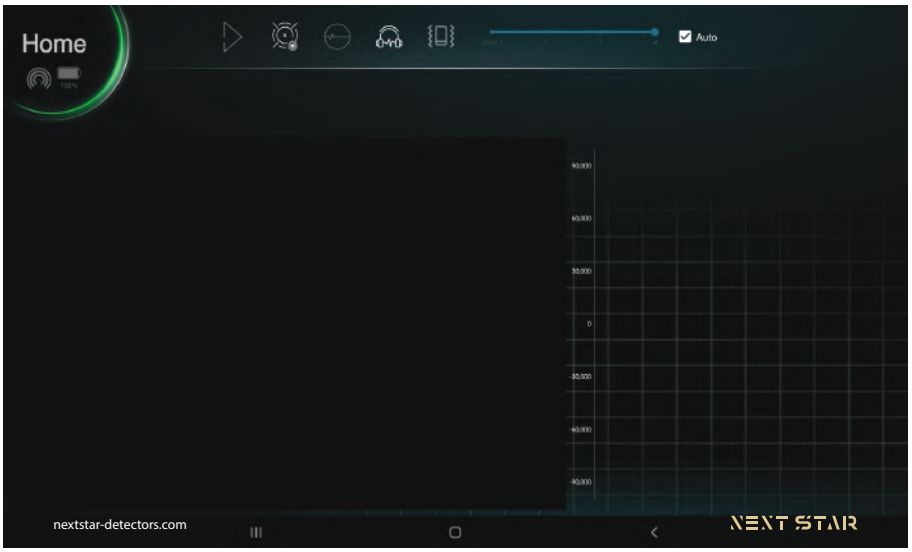

Figure 7

Selecting the noise canceling option opens a page where we can activate this option automatically or manually. If we select the automatic option, the software automatically removes ambient noise according to the environmental conditions. We can also manually adjust this option, in which case 4 will have the most noise cancellation (Fig. 7-4). Using the sound icon, users can enable or disable the scanning sound (Fig. 7-5). Using this option, you can activate the vibrate mode when finding an anomaly (Fig. 7-6). As can be seen in the image, the scan sensitivity level is manually adjustable. 1 is the lowest level and 5 is the highest level of sensitivity (Fig. 7-7). By checking the automatic sensitivity, the software will automatically determine the scan sensitivity level (Fig. 7-8).

To start the live scanning process, we must first do the ground balance. This operation can be performed in both software and hardware. Note that in hardware mode, the Ground Balance button must be held for at least eight seconds to retrieve the appropriate data for a correct scan. Clicking the Ground Balance button in the software starts this process. It is necessary to move forward in this type of scan and during ground balance (Fig. 8). One of the most important features of live scans is the noise canceling option, which activates the device to eliminate ambient noise. Enabling this option will make the scan results more accurate.

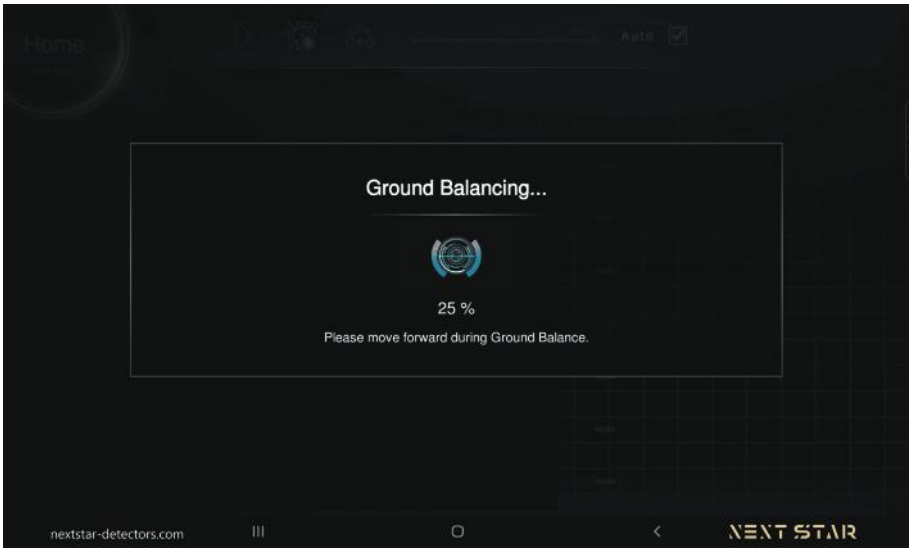

Figure 8

After the ground balance is completed and the play button is pressed, the scanning process begins. Two graphs are visible on the screen to see the scan results (Fig. 9).

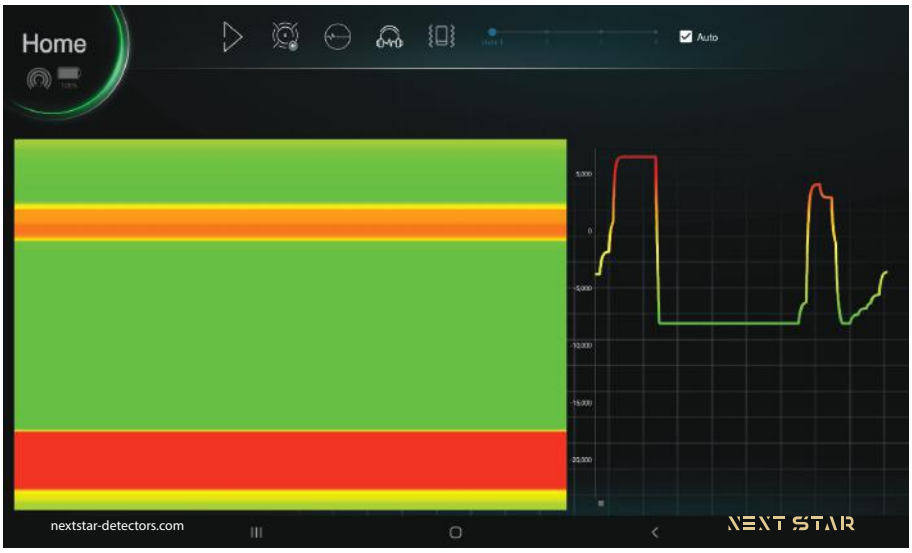

Figure 9

A line chart and a bar chart. By touching each chart, it can be shown in full size. (Fig. 10,11).

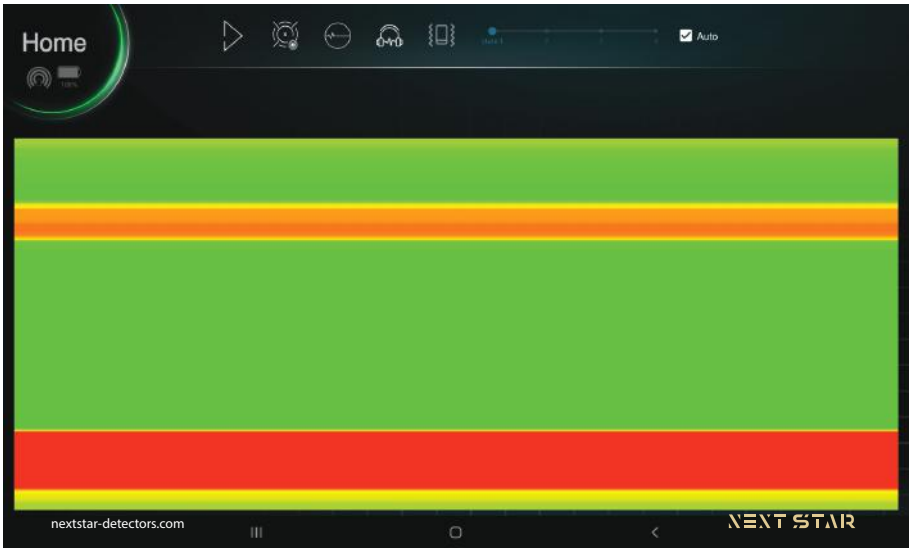

Figure 10

Figure 11

One of the most important features of live scans is the noise canceling option, which activates the device to eliminate ambient noise. Enabling this option will make the scan results more accurate (Fig. 12,13).

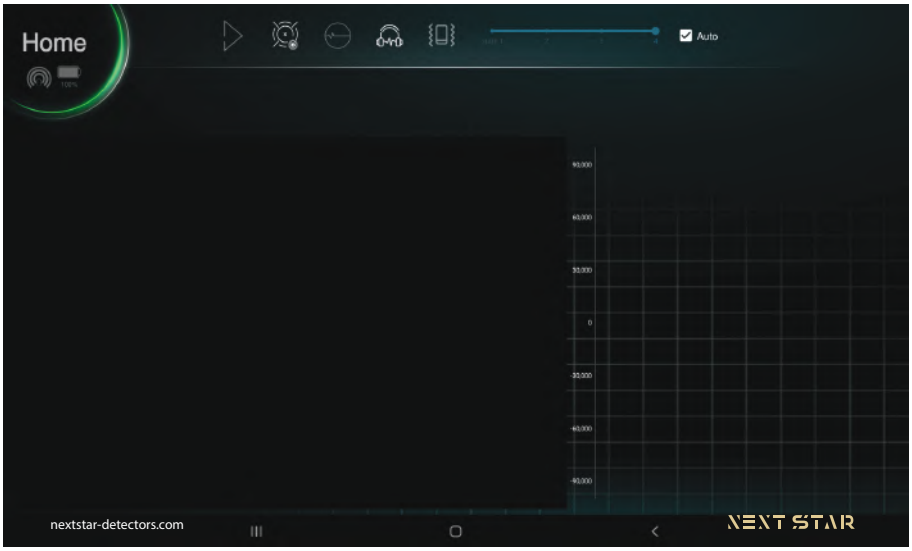

Figure 12

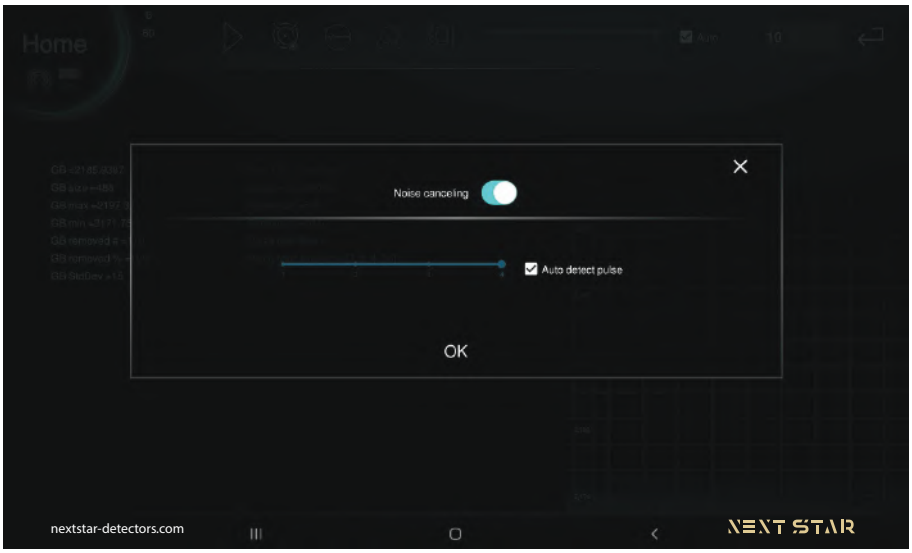

Figure 13

One of the important points in this type of scan is that by pressing the scan hardware button again or by touching the Ground Balance icon in the software, the Ground Balance option appears on the screen, which by selecting the yes option, the Ground Balance is done again (Fig. 14). And by selecting the option no, we will see the continuation of the previous scan. In hardware, by pressing the Newline button, the Ground Balance is done again and pressing the data button is a continuation of the scan.

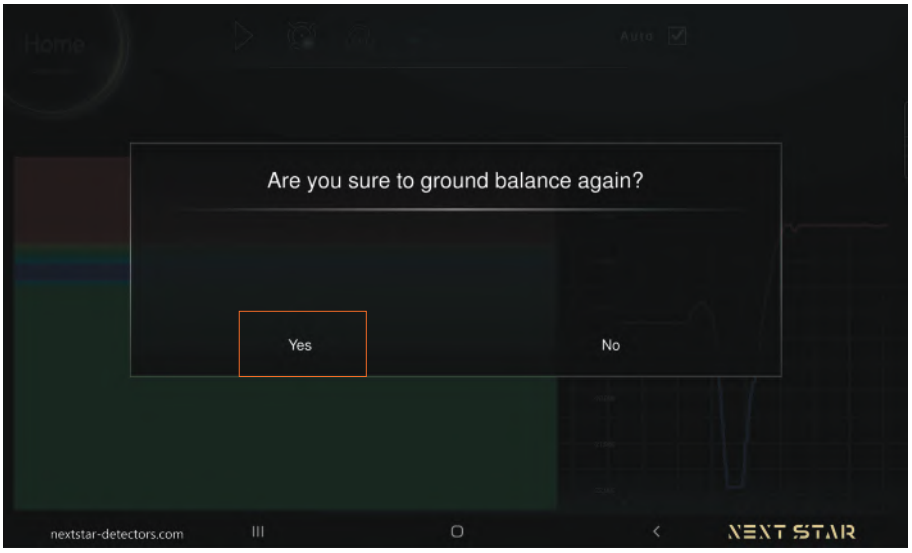

Figure 14

This type of scan is used to find the anomaly coordinates, determine the dimensions of the scan field, and also clean the first line for the main scans. This mode is very suitable for scans that do not require high depth analysis.

When the scan is complete and you touch the Home icon, you will be asked to exit this type of scan and return to the Home screen. Click Yes to return to the main page (Fig. 15).

Figure 15

360 Live scan:

The second type of Live scan is called 360 live. By selecting Live scan and then the 360 live option, we enter this type of scan (Fig. 16).

Figure 16

The features of this type of scan are the same as Direct Live scan. Press the Home button to return to the main screen (Fig. 17-1). The play icon is used to start the scan (Fig. 17-2). The Ground Balance icon, as before, specifies the location of the clean to start the scan (Fig. 17-3).

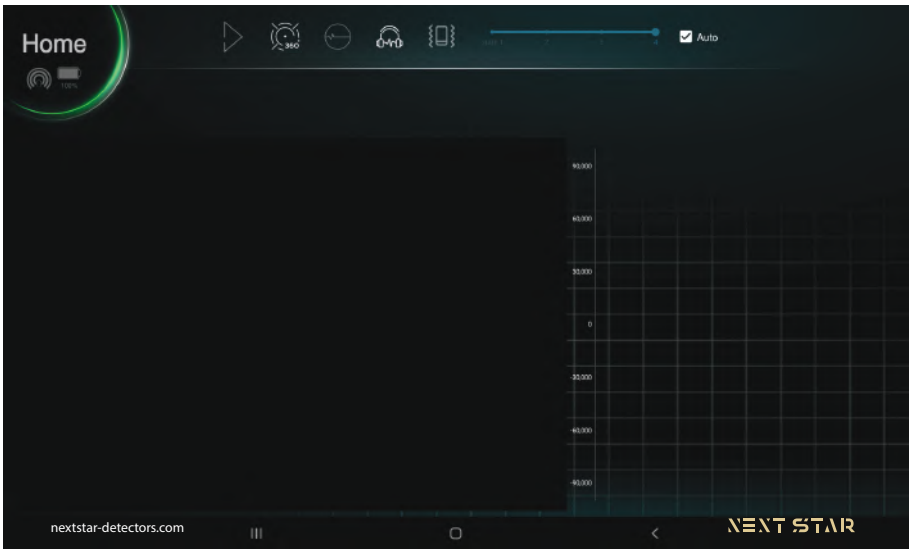

Figure 17

Selecting the noise canceling option opens a page where we can activate this option automatically or manually. If we select the automatic option, the software automatically removes ambient noise according to the environmental conditions. We can also manually adjust this option, in which case 4 will have the most noise cancellation (Fig. 17-4). You can turn the scan sound on or off using the sound icon (Fig. 17-5). Using this option, you can activate the vibrate mode when finding an anomaly (Fig. 17-6). As can be seen in the image, the scan sensitivity level is manually adjustable. 1 is the lowest level and 5 is the highest level of sensitivity level (Fig. 17-7). By checking the automatic sensitivity, the software will automatically determine the scan sensitivity level (Fig. 17-8).

To start the live scanning process, we must first do the Ground balance (Fig. 18). This operation can be performed in both software and hardware. Note that in hardware mode, the Ground Balance button must be held for at least eight seconds to retrieve the appropriate data for a correct scan. Clicking the Ground Balance button in the software starts this process.

(Fig. 16). Selecting the noise canceling option opens a page where we can activate this option automatically or manually. If we select the automatic option, the software automatically removes ambient noise according to the environmental conditions. We can also manually adjust this option, in which case 4 will have the most noise cancellation.

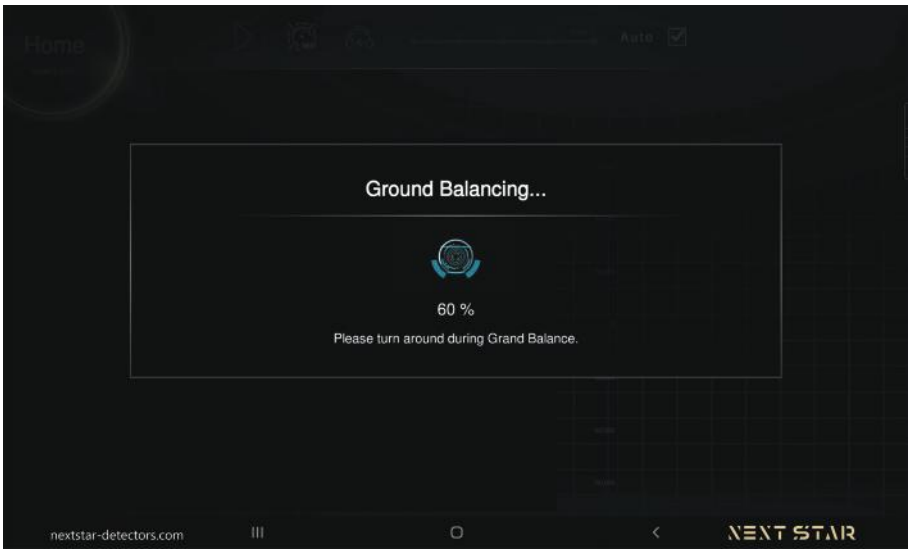

Figure 18

It is necessary in this type of scan and during the ground balance we have to rotate 360 degrees around us. If the rotation rate is not enough, the software gives us a warning about the lack of data received for the Ground Balance (Fig. 19).

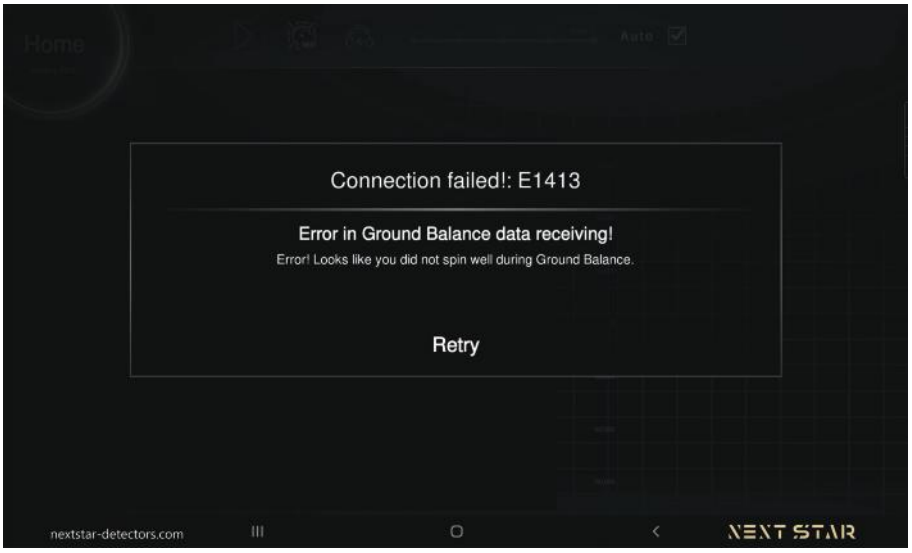

Figure 19

After the Ground Balance is completed and the play button is pressed, the scanning process begins. Two graphs are visible on the screen to see the scan results. A line chart and a bar chart (Fig. 20).

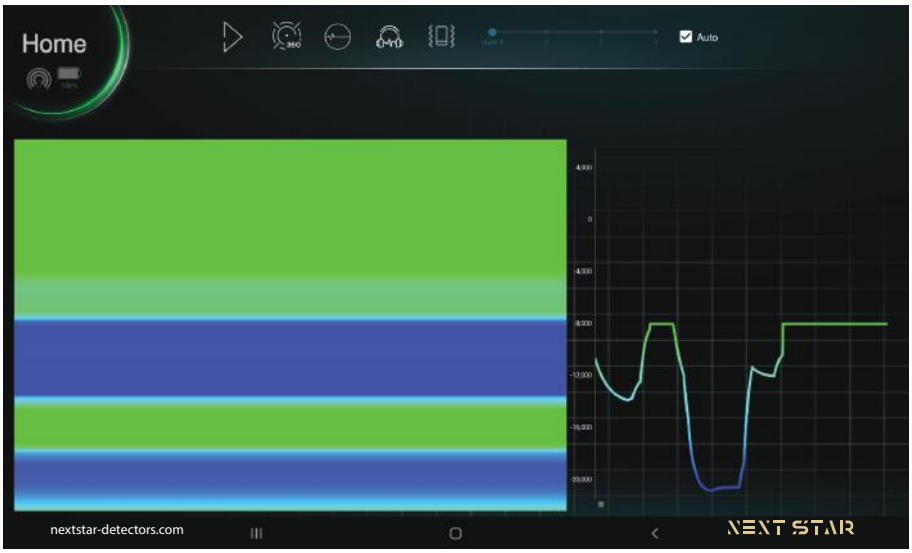

Figure 20

By touching each chart, it can be viewed in full size (Fig. 21, 22).

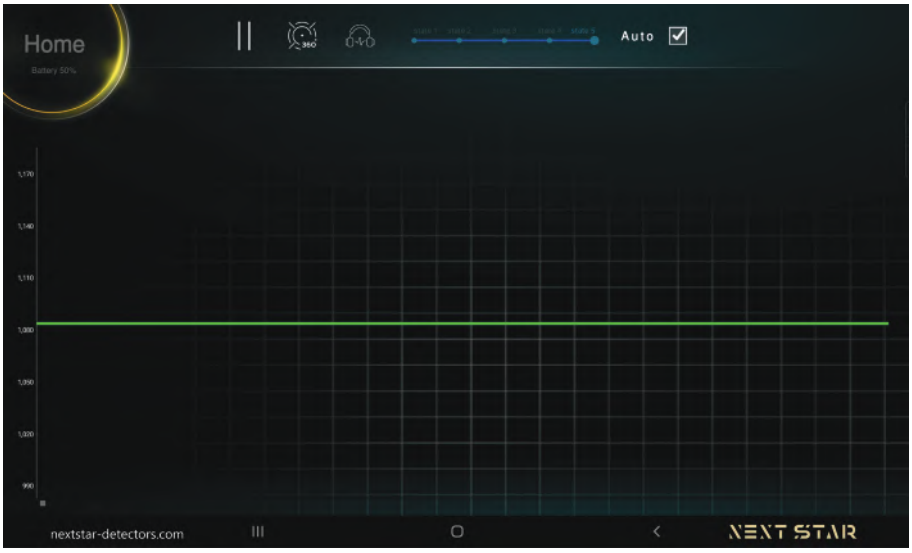

Figure 21

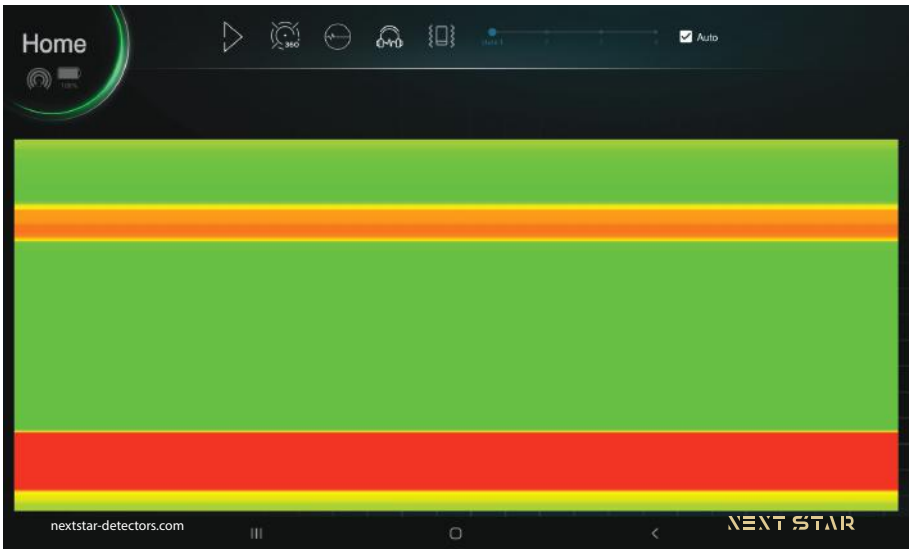

Figure 22

One of the important points in this type of scan is that by pressing the scan hardware button again or by touching the Grand Balance icon in the software, the Ground Balance option appears on the screen, which by selecting the Yes option, the Ground Balance is done again (Fig. 23). And by selecting the option no, we will see the continuation of the previous scan. In hardware, by pressing the Newline button, the Ground Balance is done again and pressing the data button is a continuation of the scan.

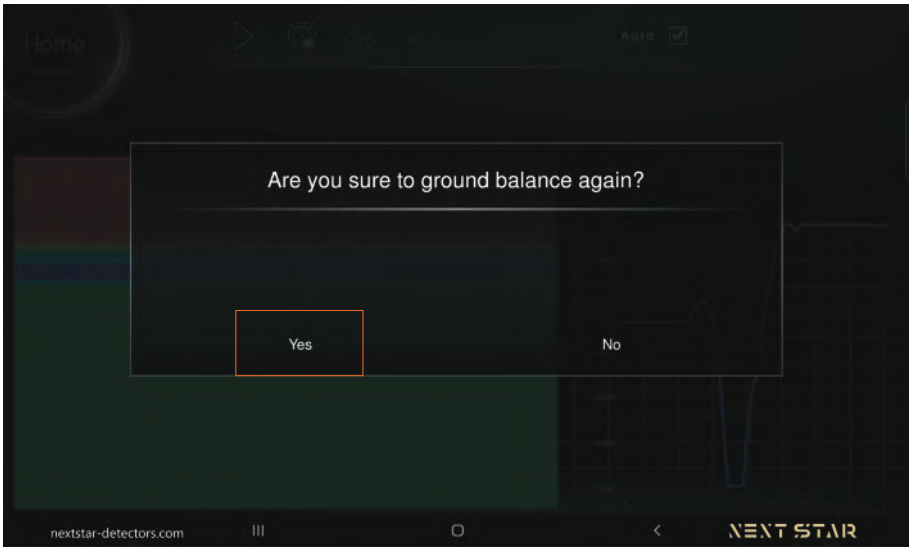

Figure 23

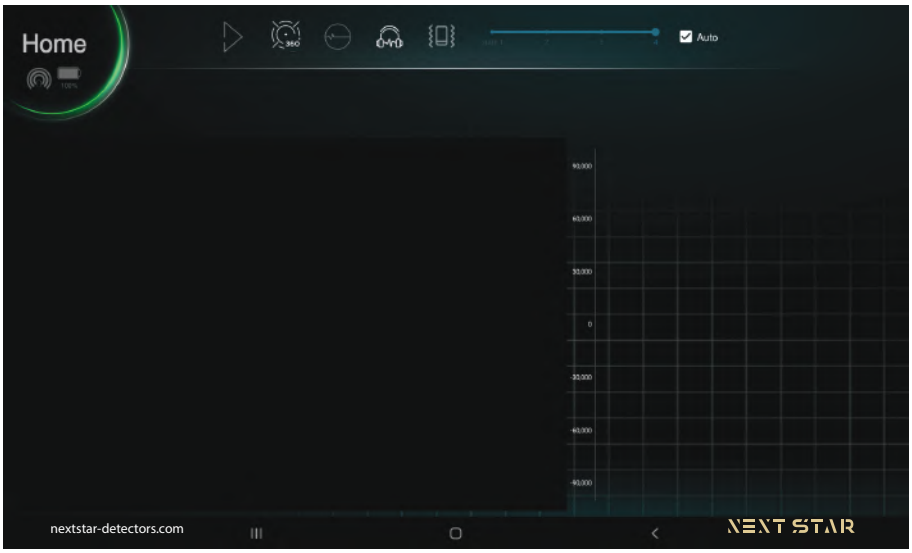

Figure 24

One of the most important features of live scans is the noise canceling option, which activates the device to eliminate ambient noise. Enabling this option will make the scan results more accurate (Fig. 24,25).

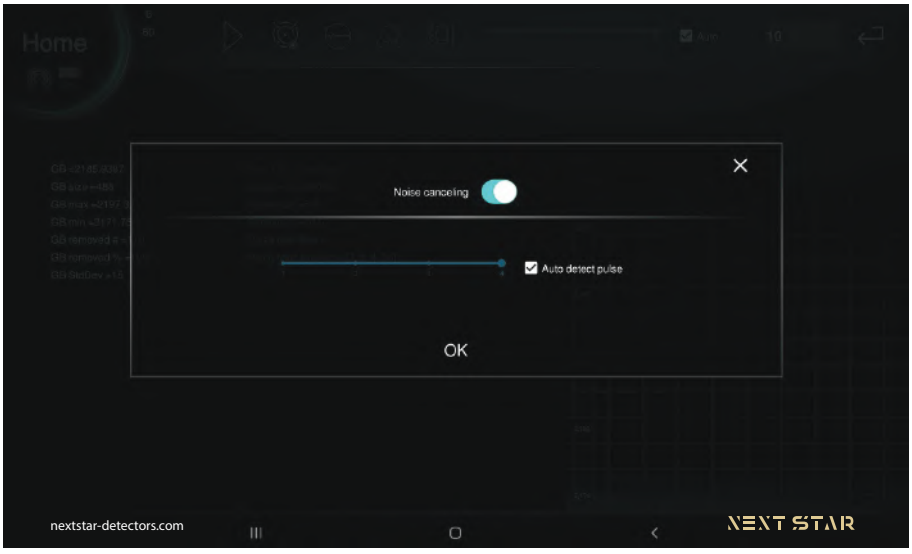

Figure 25

This type of scan is used to find the anomaly coordinates, determine the dimensions of the scan field, and also clean the first line for the main scans. This mode is very suitable for scans that do not require high depth analysis.
At the end of the scan and by touching the home icon, a question is asked to exit this type of scan and return to the main page. Click Yes to return to the main page (Fig. 26).

Figure 26

Auto scan

According to the previous scans, enter the scan selection page and this time we select the Auto scan (Fig. 27).

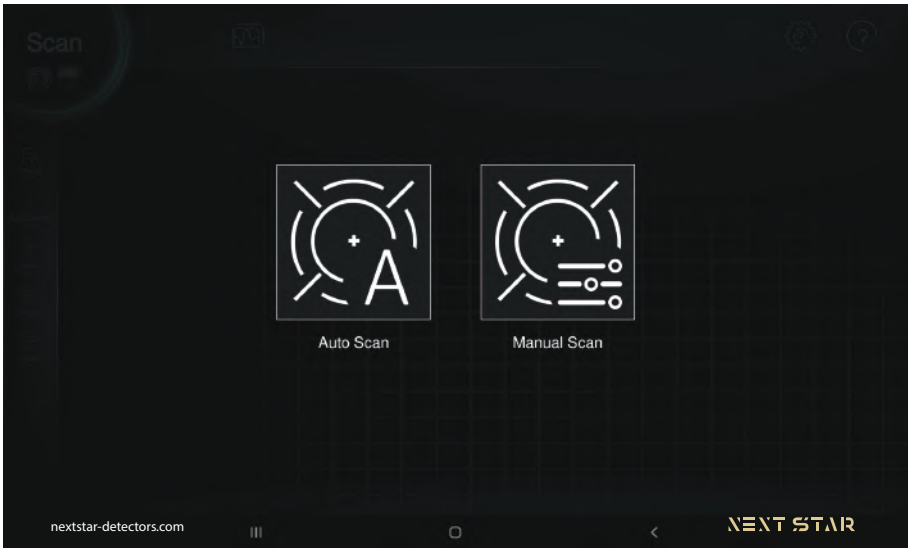

Figure 27

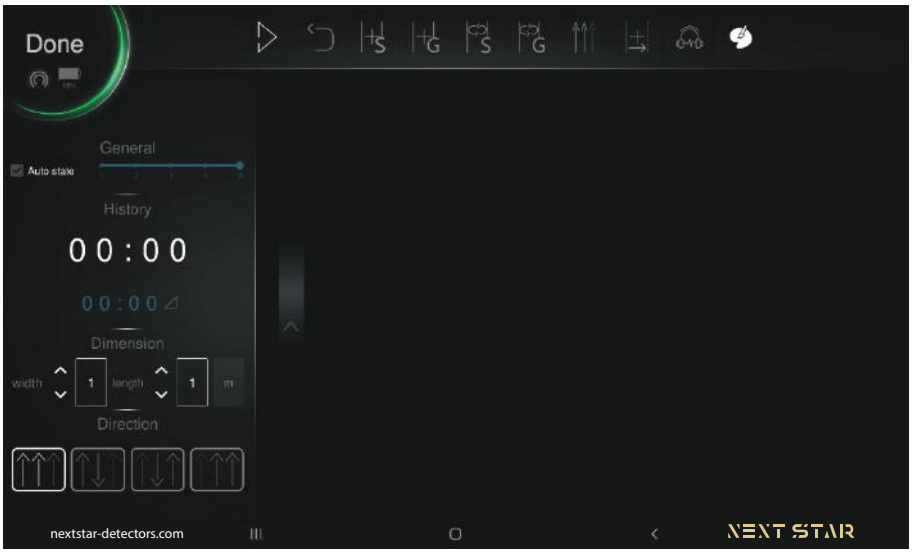

Figure 28

First you need to specify how to navigate. There are four directions in GMI 3D software. The first mode is parallel scanning starting from the bottom left of the scan location (Fig. 28-1). Zig-zag scanning from the bottom left is the second mode of direction (Fig. 28-2). The third direction is parallel and from the bottom right (Fig. 28-3). The last shape is a zigzag from the bottom right (Fig. 28-4). After choosing direction, we must write the width and length of the scan field in the specified areas, which should be several times the size of the anomaly. In this part, small arrows are placed next to each part, which we can easily change the size by tapping each one (Fig. 28-5).

The time field shows the duration of the ongoing scan, as well as the scan time of a line (Fig. 28-6). In this section we can enter the number of repetitions of eavh line (Fig. 28-7). In the status section, 5 modes are set for sensor sensitivity, of which 1 is the lowest mode and 5 is the highest number for sensor sensitivity (Fig. 28-8). Sensor sensitivity can be determined manually. Sensitivity is also determined intelligently by ticking automatically (Fig. 28-9). Clicking on the start icon, like the previous scans, starts the line scanning process (Fig. 28-10). The undo icon also disables the latest changes (Fig. 28-11). After scanning each line and hitting the Newline S icon, go to the new line and start scanning it (Fig. 28-12). Newline G is used when line scanning is incomplete for any reason. By tapping this option, the line continuation scan will be done intelligently (Fig. 28-13).

Hitting the sound icon can also mute or unmute the scan sound (Fig. 28-14).

The speaker icon plays the scan sound live. The technology used in this section is S2A,

which converts the signal into audio (Fig. 28-15). Disable scaning color is done with color option (Fig. 28-16). By activating these options, we can enable countless scans of each line. At the end of these iterations, a report of the scans performed is provided to the user so that she can compare the results of these scans (Fig. 28-17). Using the option, the user can switch between zigzag and parallel scan modes in each part of the scan (Fig. 28-18). Using this option, the user can add a new line on the left or right side of the scanned field to continue scanning(Fig. 28-19).

To start a Normal scan, we first specify how to navigate.

One of the Normal scan options is line repeat. By selecting the line repetition number, we specify the number of scans to be performed on each line.

Then we have to determine the degree of sensitivity of the sensor, which can be adjusted both manually and automatically.

Pressing the start button starts the scan. After the scan and pressing the pause button, the scan will stop.

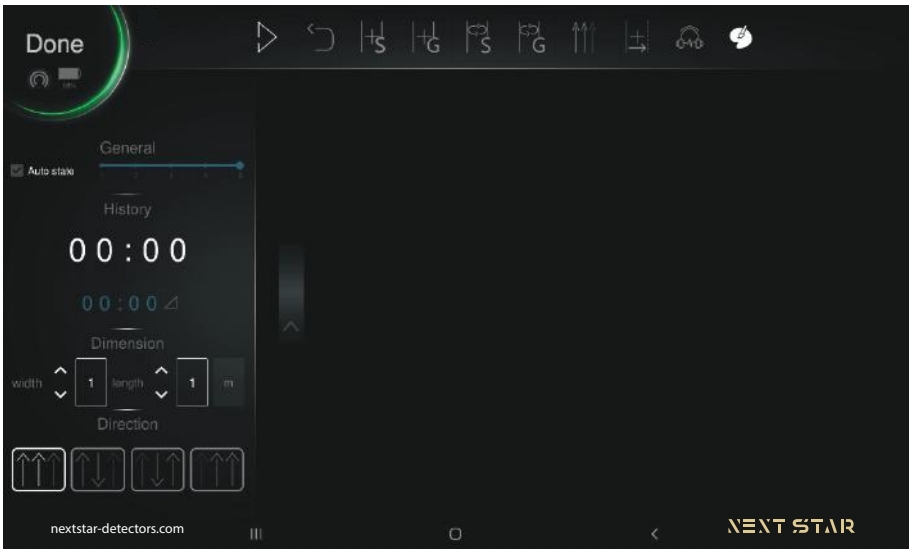

Figure 29

In this form of scan. we have a line repetition that repeats each line as many times as we have selected. As shown in the picture, by scanning the line, the number changes from 2 to 1 and the scan of that line is repeated (Fig. 29).

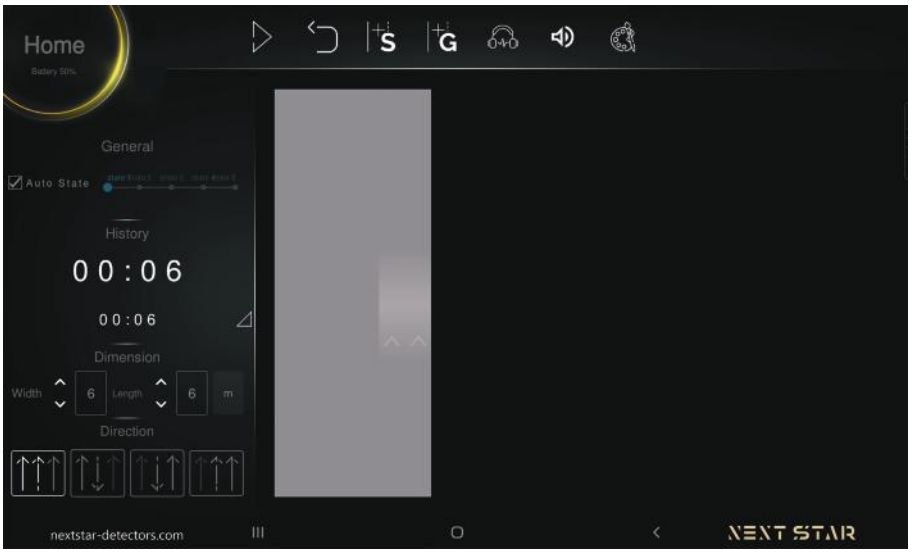

Figure 30

Another feature of Normal scan is the ability to enable or disable color scanning (Fig. 30). Those who want to have a very accurate scan are advised to disable this option during the scan and after the scan, activate the color option and see the exact location of the anomaly (Fig. 31).

Figure 31

When scanning, the sound and color on the scan map indicate the location of the anomaly. After completing the scan and pressing the home button, we want to return to the main page. After the scans are completed, you can see the length, width and depth of the anomaly.

When the scan is complete, the software asks if you want to save the scan. Selecting Yes will save the scan with the name of your choice in the box (Fig. 32).

Figure 32

Manual scan

Go back to the main page and select the scan and Manual scan option again (Fig. 33).

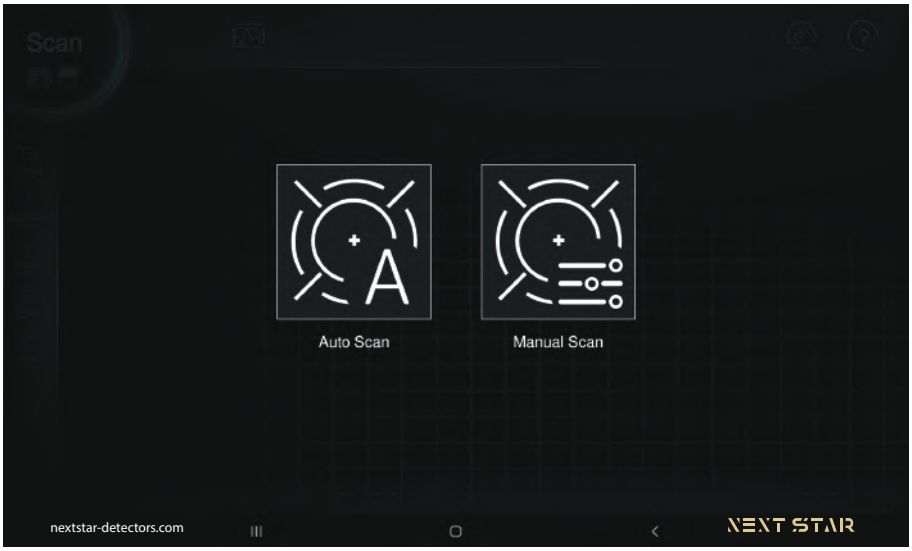

Figure 33

The fixed option of this page is also the home icon. By clicking on it, we can return to the first page at any time.

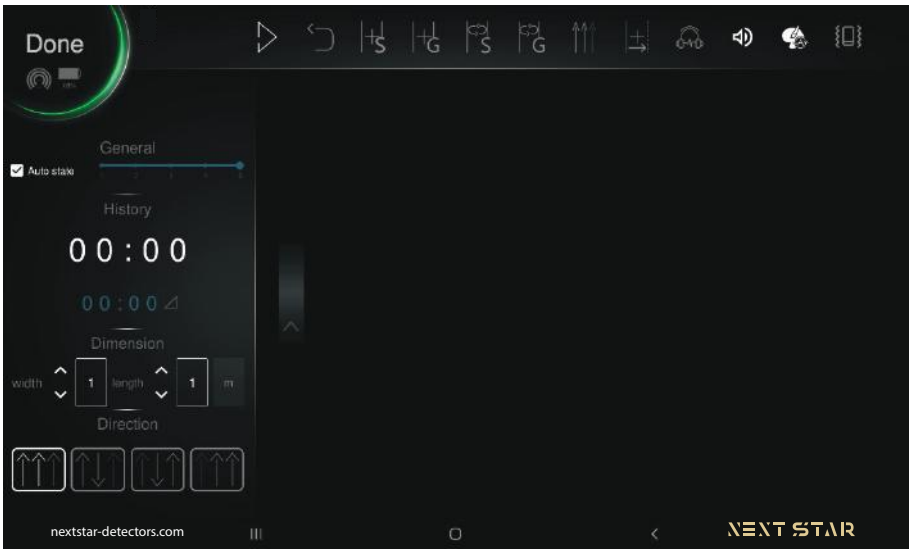

Figure 34

At the bottom of the page and as you can see in the image, we can choose one of the four scan direction modes. Scans can be done in parallel and from the bottom left, in which case the scan starts in parallel lines from the bottom left of the ground (Fig. 34-1), zig-zag and bottom left, in which case the scan is done back and forth in two directions (Fig. 34-2), parallel and The bottom right, where the scan shape is parallel and the starting point is at the bottom and right of the map (Fig. 34-3), and the fourth scan direction mode is zig-zag and two-sided with the starting point at the bottom right of the map (Fig. 34-4).

After selecting the type of navigation, the length and width of the ground to be scanned should be written in the boxes we see in the image. These dimensions must be clearly several times the length and width of the anomaly. In this part, small arrows are placed next to each part, which we can easily change the size by tapping each one (Fig. 34-5).

In the time section, the duration of the ongoing scan is displayed (Fig. 34-6).

In the mode section, just like live and linear scans, the sensitivity level of the sensor can be determined from 1 to 5, with 1 being the lowest sensitivity and 5 being the highest (Fig. 34-7). Sensitivity is also determind intelligently by ticking automatically (Fig. 34-8).

The play icon is used to start the scan, which is used here as in previous scans to start the scan. Starting the scan can be done both hardware and software (Fig. 34-9).

Here is a new option called undo that is used to disable the last change (Fig. 34-10).

In this type of scan, we have two modes of Newline. After scanning one line, we can start scanning the next line by tapping Newline S (Fig. 34-11). Newline G is one of the special features of this software, the way it works is that if we leave the scan in the middle of the work, we can use this feature to generalize the information of the scanned parts of the line to the continuation of the line (Fig. 34-12). There is a number on both of these icons that indicates the number of repetitions of the scan on each line. Using the sound icon as in previous scans, you can turn the scan sound on or off (Fig. 34-13). The speaker icon plays the scan sound live. The technology used in this section is S2A, which converts the signal into audio (Fig. 34-14). Disable scanning color is done with color option (Fig. 34-15).

After making the required settings described in this section, and clicking the start button, the scanning process begins. Scan time and scan time of each line can be seen on the right. Colors and sounds in this type of scan can indicate the exact location of the anomaly. As you can see in the image, if the scan stops in the middle of the road, the scan will be completed automatically by tapping the Newline G option (Fig. 35).

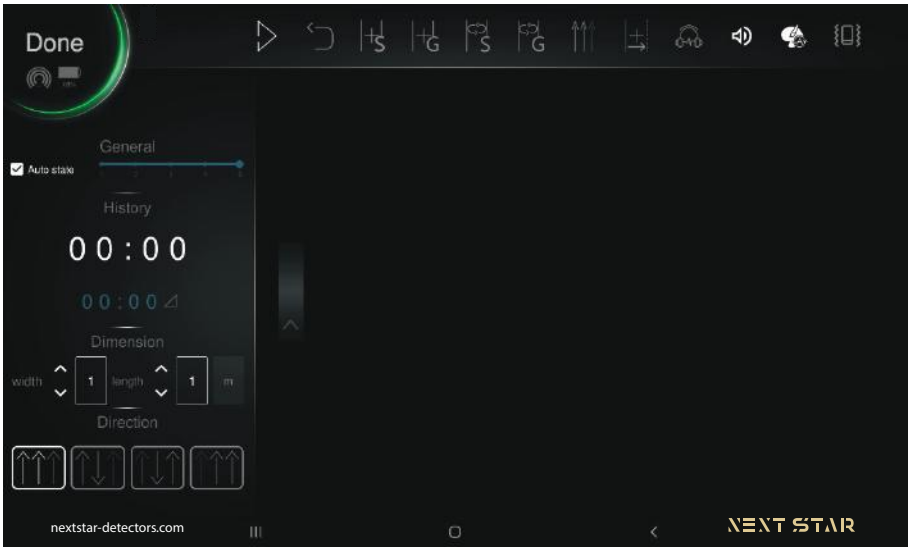

Figure 35

Another feature of unique scan is the ability to enable or disable color scanning (Fig. 36). Those who want to have a very accurate scan are advised to disable this option during the scan and after the scan, activate the color option and see the exact location of the anomaly.

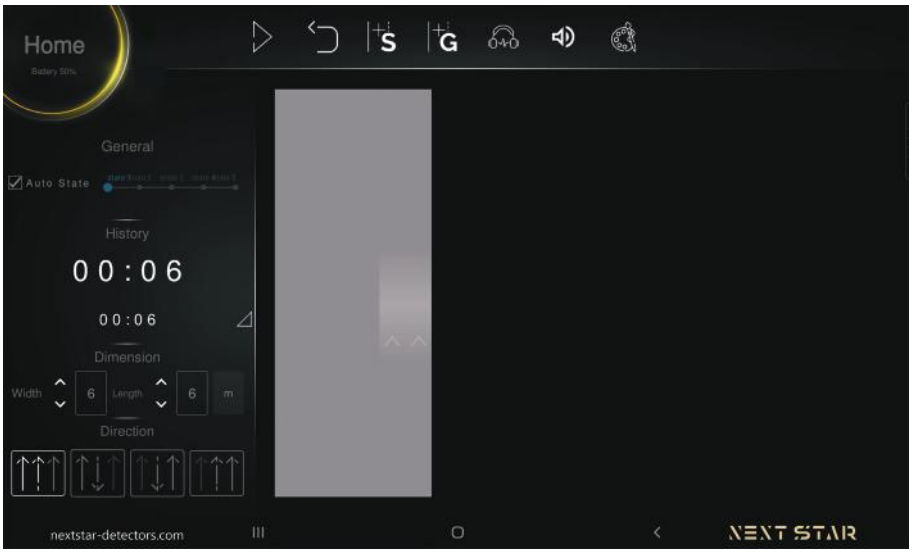

Figure 36

After the scans are completed, you can see the exact location of the anomaly from the start of the scan. Also in this section, the exact depth of the anomaly location can be seen. When the scan is complete, the software asks if you want to save the scan. Selecting Yes will save the scan with the name of your choice in the box (Fig. 37).

Figure 37

Then a three-dimensional plot of the scan is available to users to be able to analyze with the desired settings (Fig. 38).

Figure 38

Figure 39

As you can see in the image, by selecting the gallery icon, a new page containing the saved scans as well as the icons of the gallery section will be seen. the first icon in this

section is the select option. By calling on this option, all saved scans will be selected. or the selected scans can be unselected (Fig. 36-1).

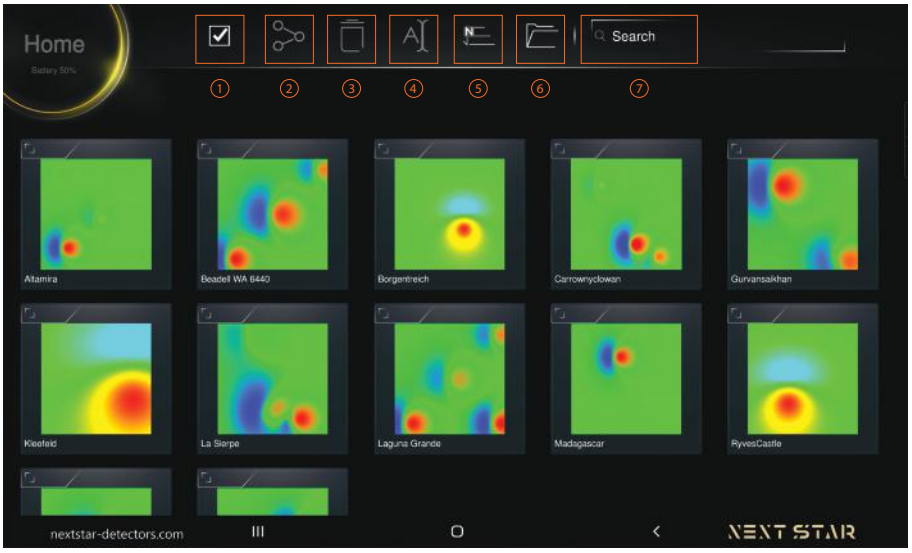

Figure 40

The next icon is share, the selection of this icon allows the user to share their selected scans through different applications and messengers with the people they want. (Fig. 40-2)

By selecting the delete option, you can delete the selected scans (Fig. 40-3).

The next option is rename, which can be used to change the name of the scan (Fig. 40-4). It should be noted that in this option you can select only one scan and rename it.

Easier access to scans is possible through the sort option. With this option, saved scans can be sorted by different items. Among these options, we can mention sorting according to Modify. In this sort, the files are sorted based on the latest changes made to them. The next sort is location-based, in which scans that are stacked in the same location are stacked together. Files can also be sorted by name and time (Fig. 40-5).

Loading files stored in the system on the software is possible through the open folder option (Fig. 40-6).

The last icon in the gallery section is Search, which you can find as easily as possible by typing the name of your desired scan (Fig. 40-7). By selecting each scan, we can see its 3D plot and make the desired changes on them.

Saved scans can be analyzed with a variety of options provided by the software. These options can be seen in the menu on the left (Fig. 41).

Figure 41

Let's start with the effect option (Fig. 42-1). The effect option provides users with other options for analysis (Fig. 42-2). In this section, you can see the scanning process, as well as the 3D scan plot as a wireframe. You can also view the 3D plot from different angles.

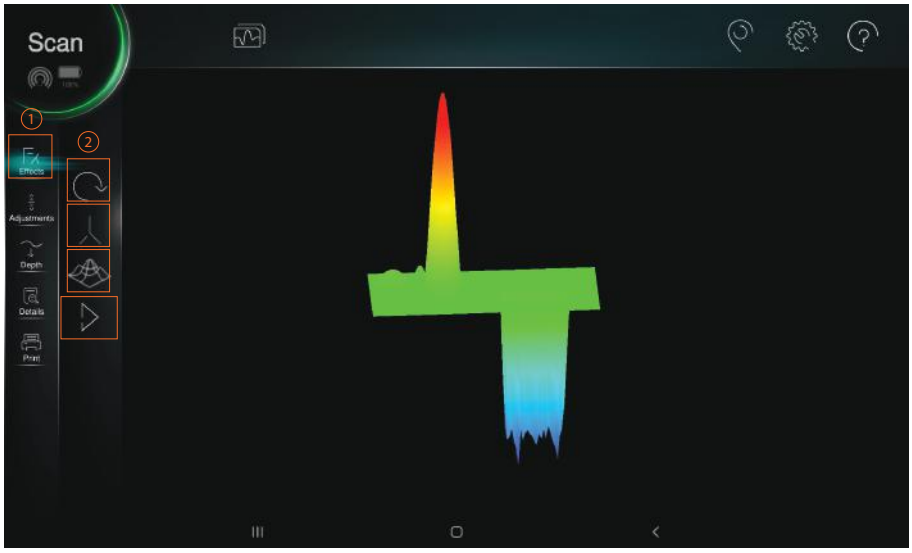

Figure 43

By clicking the start icon in the effects section, we can see the scanning process performed at high speed.

Important features of this section include determining the origin of the scan and the exact

location of the anomaly. Using this feature, we can see the anomaly from the origin of the coordinates (Fig. 43).

By tapping this option, the 3D plot will reach its largest size. By touching this icon again, the size returns to its previous state.

By pressing the undo button, the applied changes will return to the first state.

In the adjustment section, we can change the color of the 3D plot (Fig. 43.1). Six color schemes for this section are embedded for users to create a more accurate image of the 3D plot. In this version of the software, by changing this option, the color of all 3D plots will change.

Figure 44

One of the best features of scanning analysis is the 3D mode option. By activating this option, the scanned ground plot is displayed in three dimensions and in three axes. By disabling it, we can see the plot in two dimensions (Fig. 43-1).

Resizing the 3D plot can be done using the scale option for detailed examination in this section (Fig. 43-2).

In the depth section (Fig. 44-1), you can choose the shape of the target from the shapes of sphere, cube and cylinder (Fig. 44-2).

Activate soil type manually or automatically (Fig. 44-3). According to the selected option, the exact coordinates of the anomaly in the scanned location map are provided to users in the form of length, width and depth.

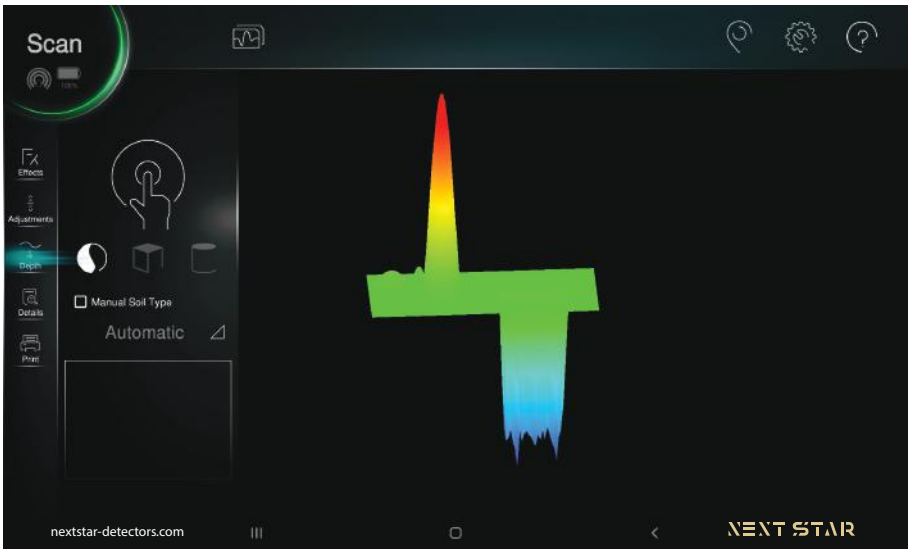

Figure 45

In the detail section, we can saw details of the exact coordinates of the scan, the exact dimensions of the scanned ground, and the time and date of the scan. Writing notes in the box we see in the picture is another feature of this section (Fig. 46).

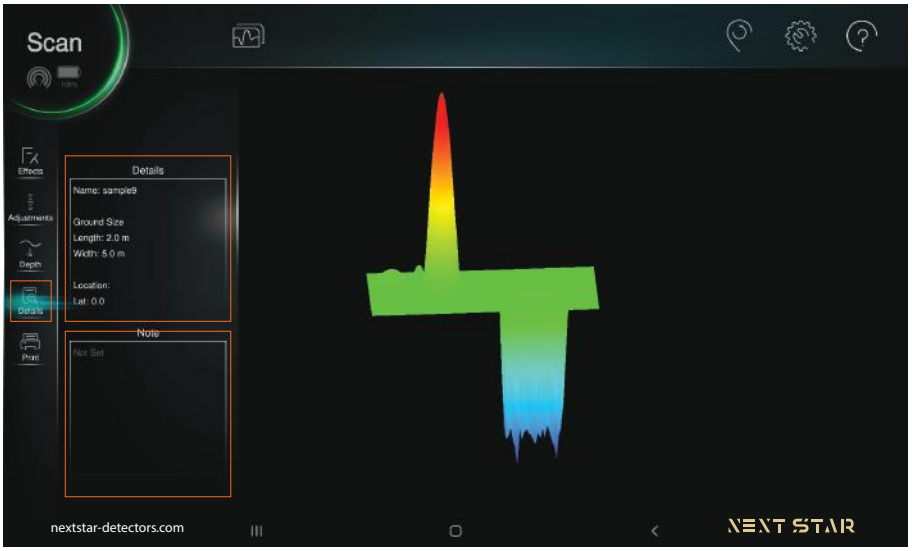

Figure 46

In the print section, we can also output our scans in jpeg, pdf and encscan formats. We can also disable options that we do not need to print (Fig. 47).

Figure 47

Using the GPS icon, the exact coordinates of the scan location can be viewed (Fig. 48).

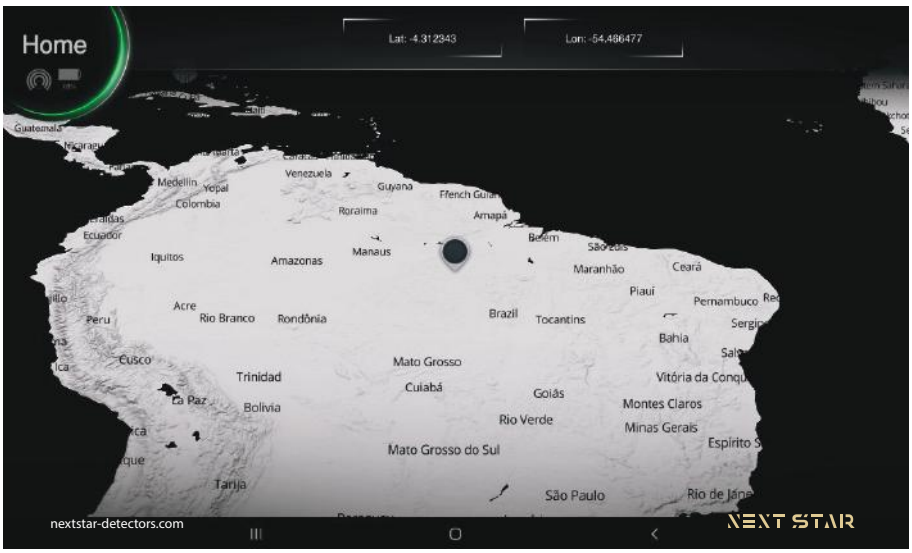

Figure 48

The settings icon of the GMI 3D software supports different languages for use around the world, which can be selected through the setting menu. Other features of this section can also access the serial number entered to use the software. In this section, you can also adjust your step length when scanning in the desired units. In addition, the longitudinal

unit used in the software and for scans can be adjusted in this section. In this section, you can also activate the Home option vibration feature (Fig. 49).

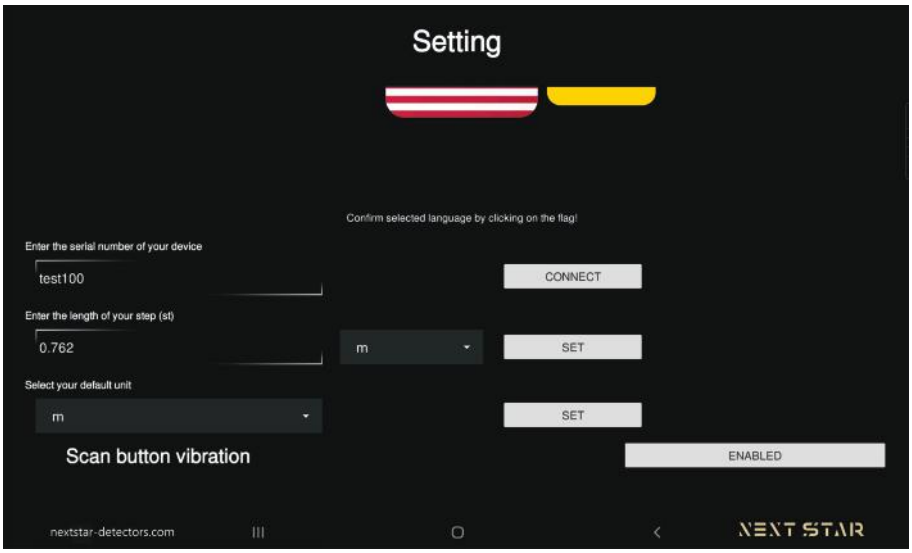

Figure 49

General Setting

Enabling this option activates vibration mode, and the user can be notified of an anomaly approaching this way (Fig. 50). The user can use this option to enable or disable the count-down before starting the scan. Enabling this option will help increase the accuracy of the scan.The purpose of activating the auto-scan option is that your scan will be saved at any time and up to any stage, and the risk of data loss will be eliminated with this option. If the safe scan option is enabled, the user will be asked if you want to apply the change before making any changes. This option greatly reduces the risk of accidental mistakes.

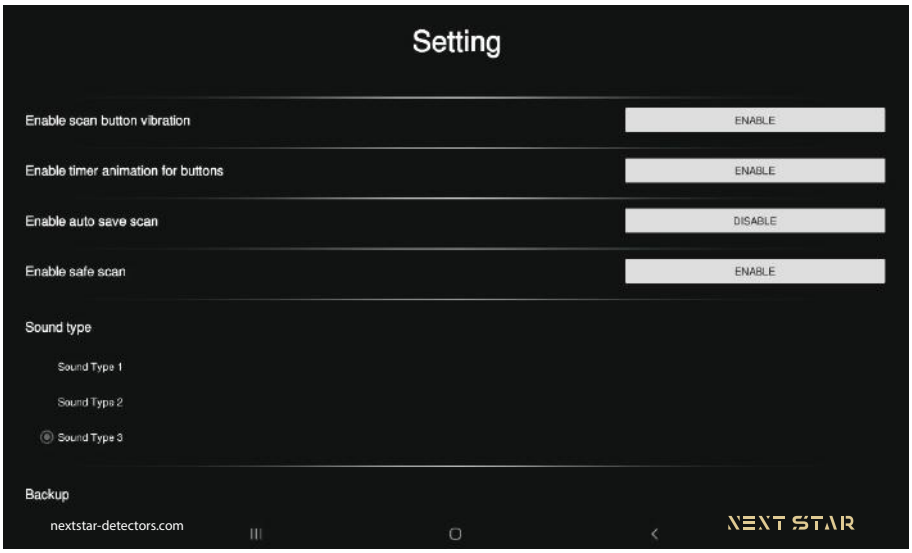

Figure 50

The help icon also contains the software manual in different languages in pdf format in the software itself and users can use these files without leaving the software.
Version 1.3.1 of GMI 3D software has been developed exclusively by Next Star engineers for the company's Vega series products. We at Next Star Company hope that using our products will bring you pleasant moments.

Next Star GmbH

Made in Germany

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