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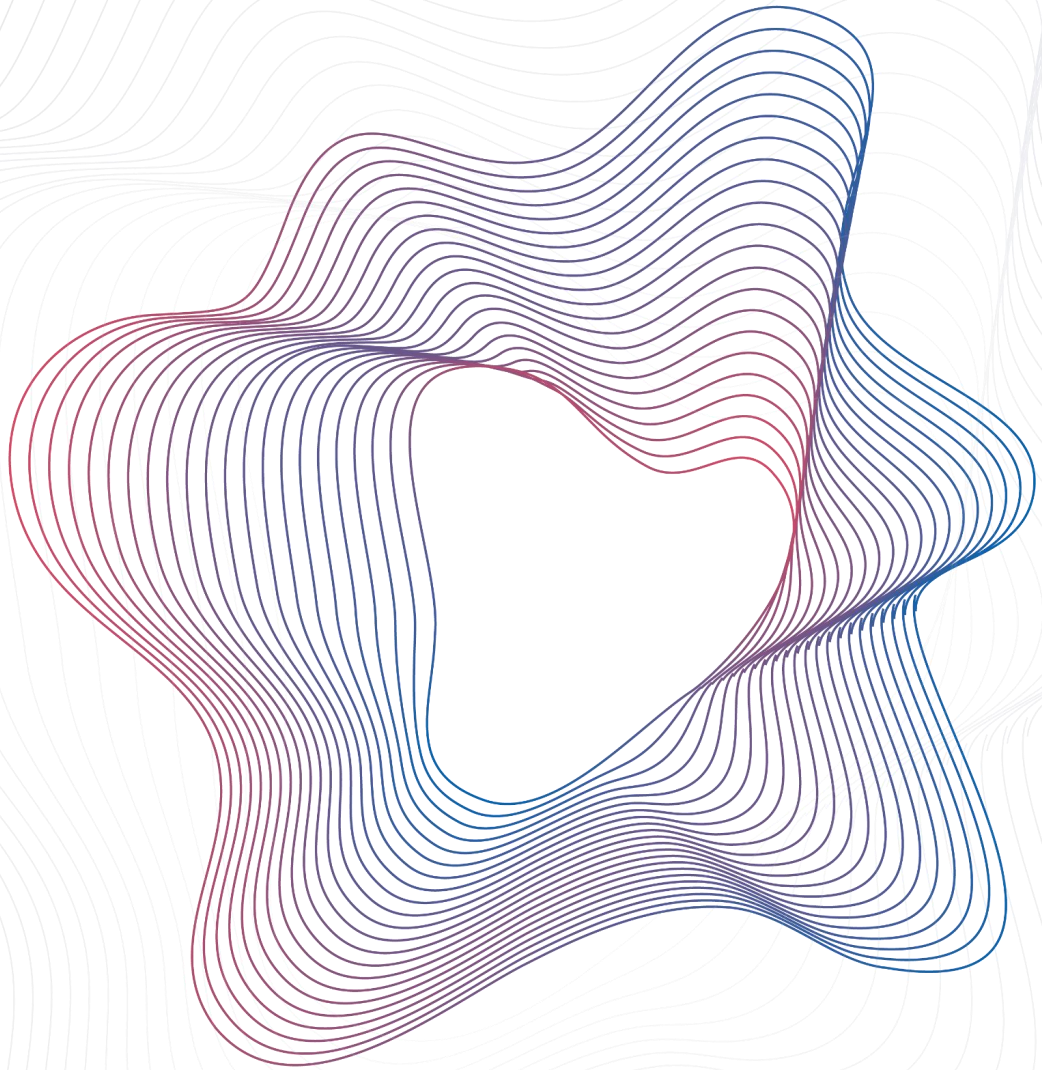
Tersus TAS-Z6

Robotic Total Station



Right to the point
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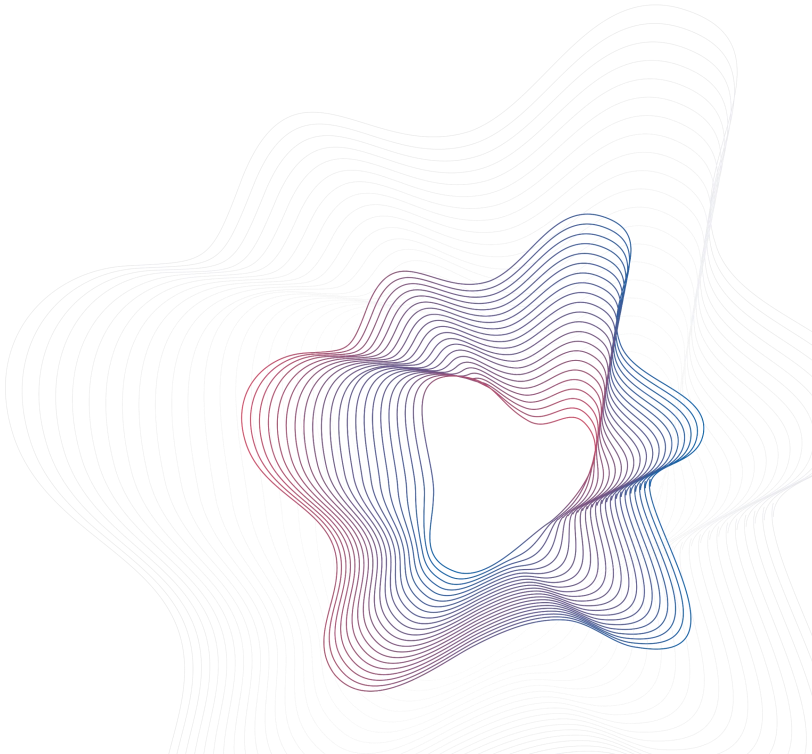
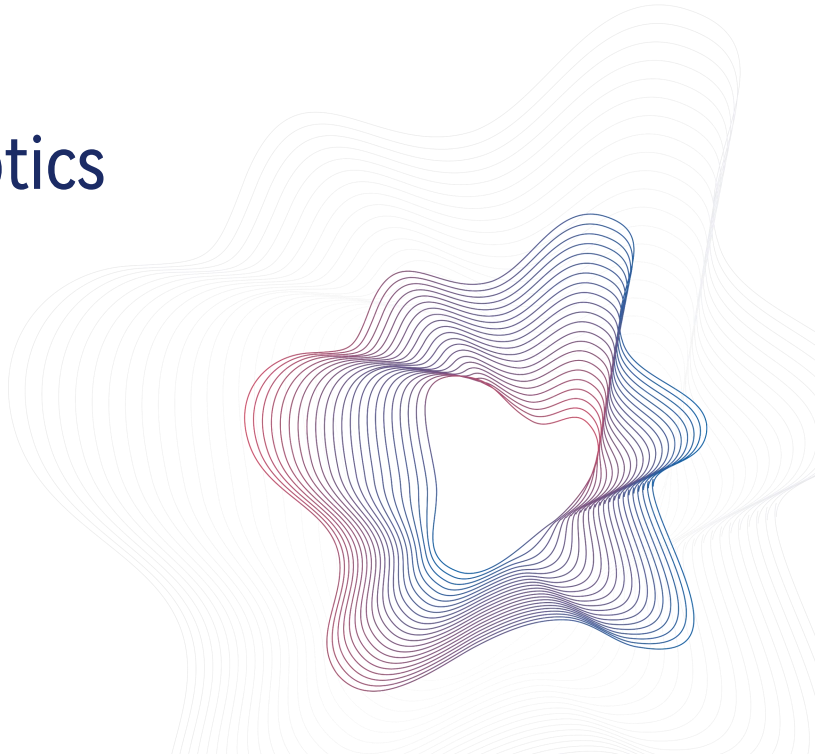
Key Features – Robotic vs Manual

- Automatic Target Recognition (ATR)
- Prism Tracking
- Motorized Rotation
- Remote Control Operation – 4G, WiFi or BT



New Value Enabled by Robotic Total Stations

- One-person Surveying
- Faster Stakeout
- Automatic Deformation Monitoring
- Machine Control Application – Heavy Machine and Robotics



Main Specification

Measurement Performance

- Up to 4,000 m prism range
- Up to 1,000 m non-prism range
- 1 mm + 1 ppm prism accuracy
- 5Hz Measurement in tracking mode

Angle & Tracking

- 1″ angle accuracy
- ATR range: 1.5–1,200 m
- Tracking distance up to 600 m

Smart Operation

- Built-in 5 MP wide-angle camera
- Android 9.0 operating system
- 6.0-inch graphic LCD display
- 3 GB RAM + 32 GB ROM

Connectivity

- Cellular
- Wi-Fi
- Long Range Bluetooth -600m
- USB and RS232

Why TAS-Z6

PS Super Search Function

Automatic prism search without any coarse aiming, vertical field of view up to 20° for each search, equipped with a high-speed motor, greatly improving search efficiency.

Default PS Super Search Path

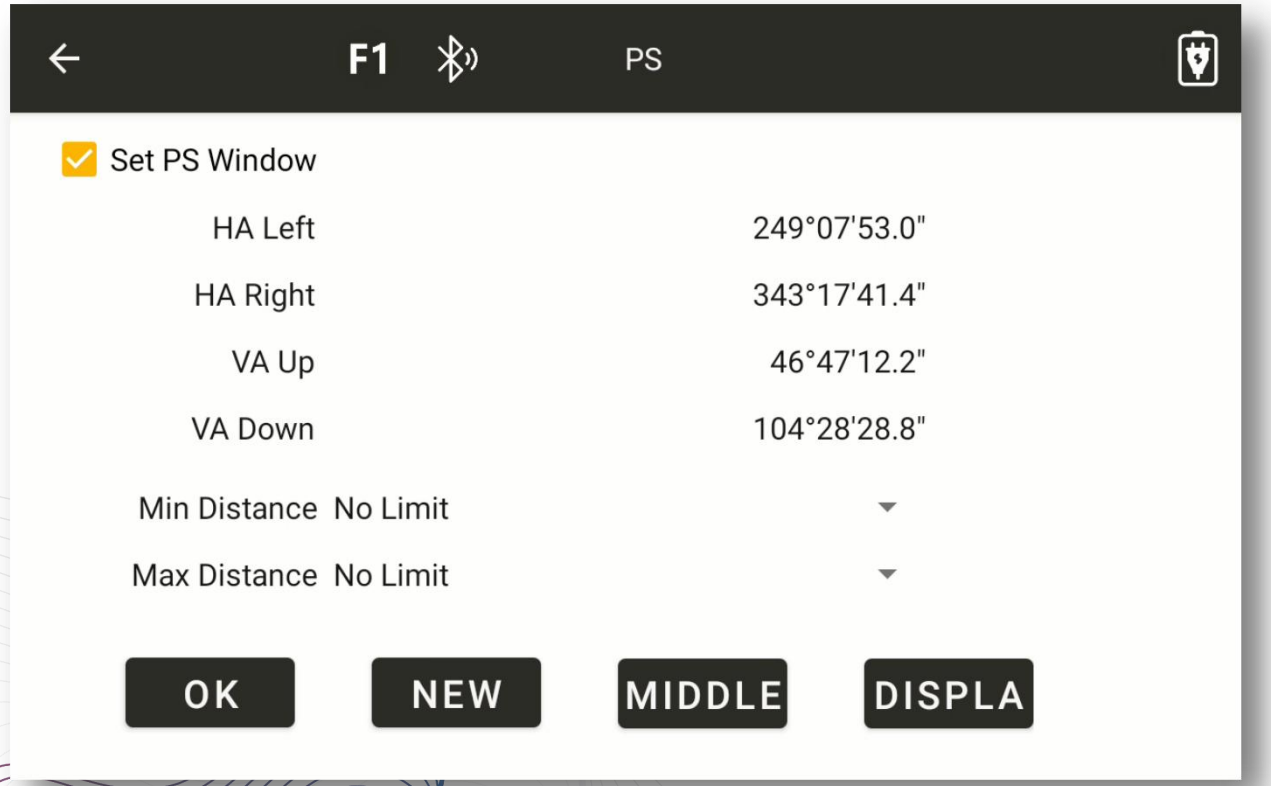
Single horizontal rotation: 360°

Vertical field of view: 20°

Set PS window

We can set a PS window instead of performing a full 360° search, which improves search efficiency.

You can define the top-left and bottom-right corners of the search window – rotate and click. Z6 starts from the bottom-left corner and scan the horizontal range in a parallel pattern. Then the field of view will move up by 20° and continue scanning, repeating this process until the entire windows has been covered.

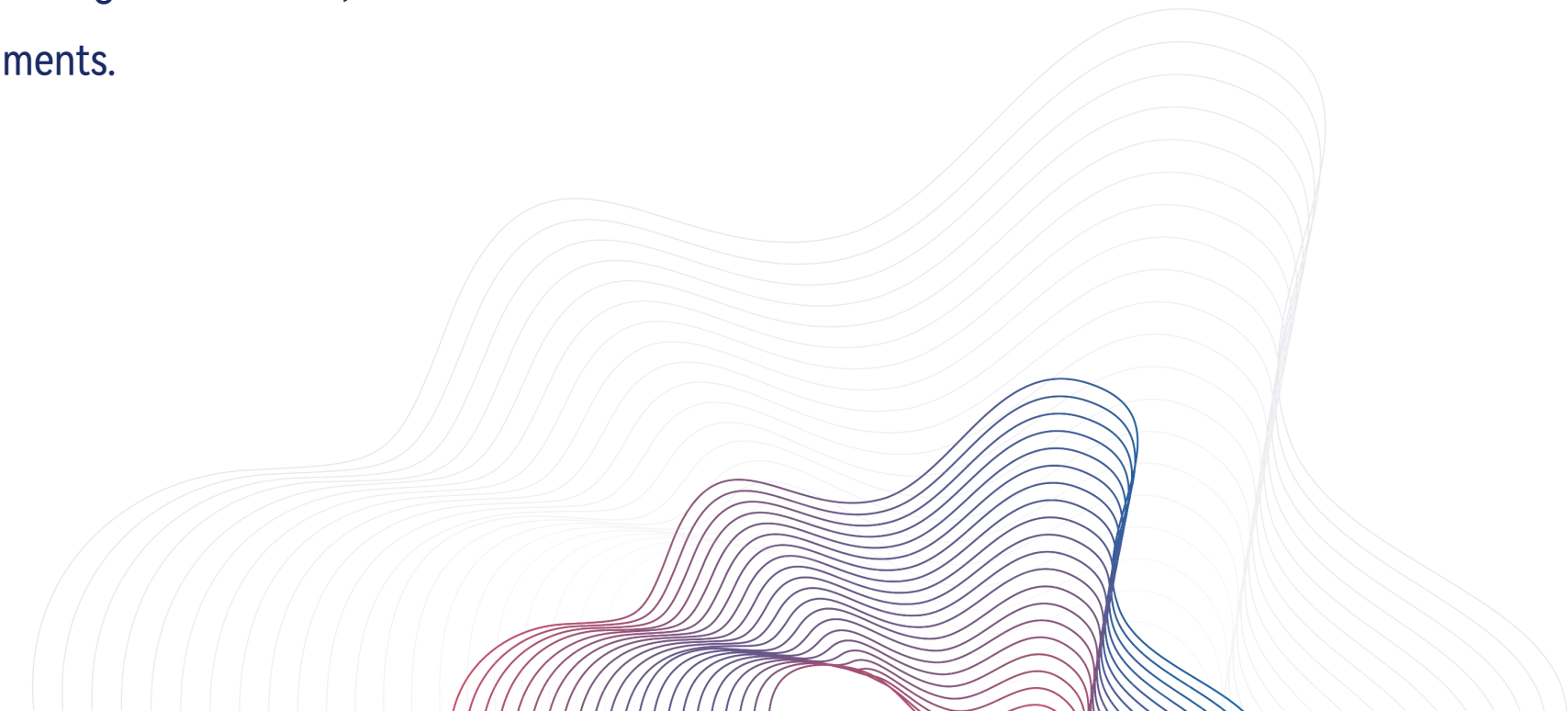


Why TAS-Z6

ATR Automatic Aiming Function

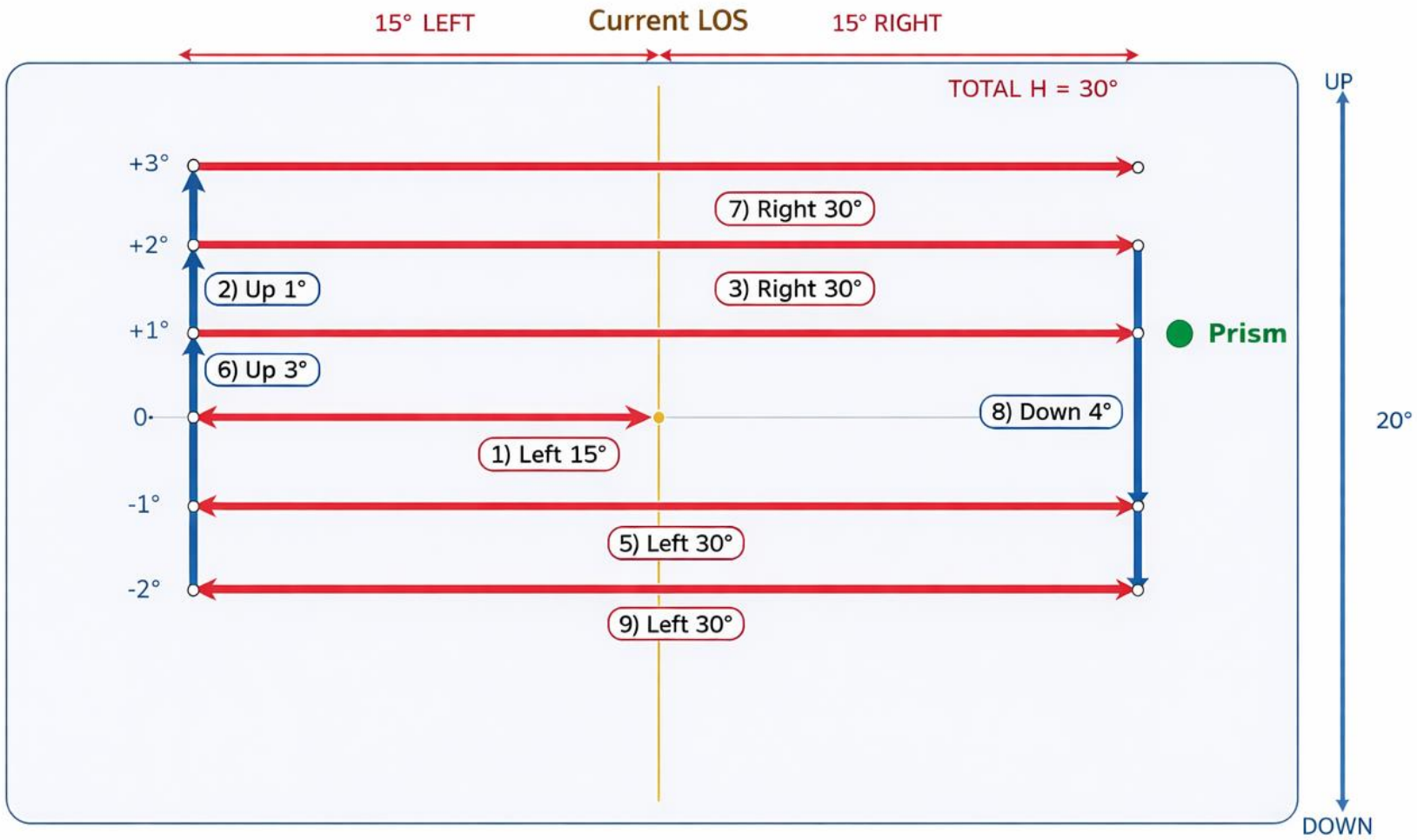
One-click automatic prism locking ensures fast and stable target acquisition.

Reliable in both day and night conditions, it enables efficient measurement even in complex field environments.



ATR Laser Search Path

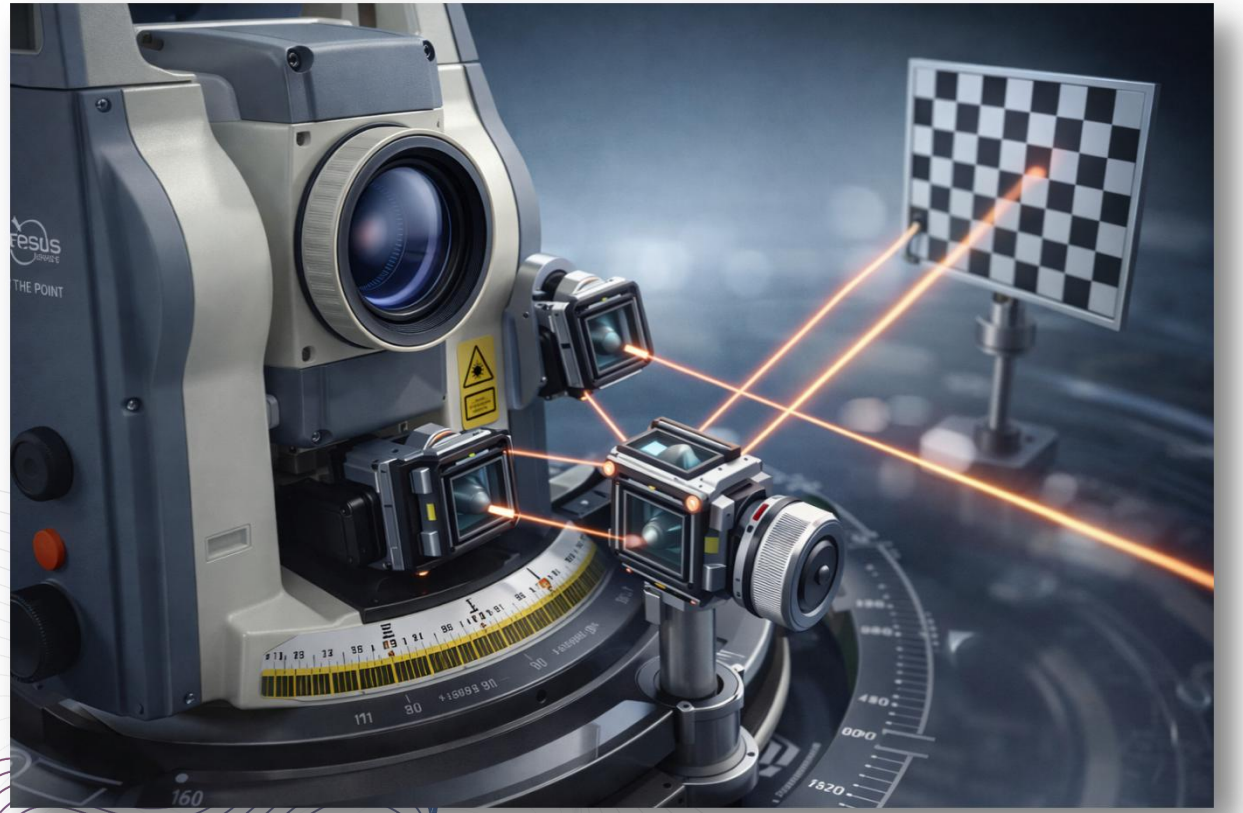
Preset window: Horizontal 30° | Vertical 20°



Why TAS-Z6

High-precision Photoelectric Angle Measurement System

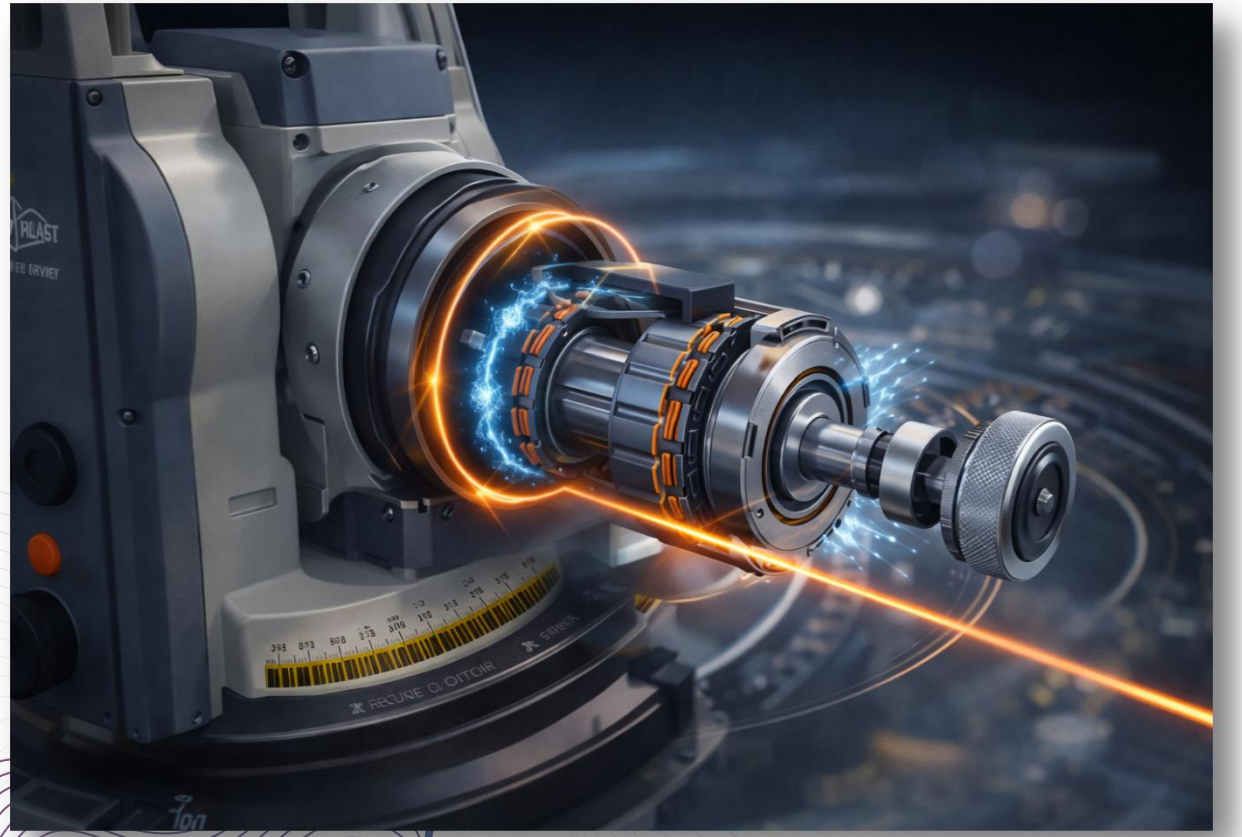
High-speed quad-detection CCD enables fast and automatic angle measurement on encoder with up to 5000 Hz refresh rate.



Why TAS-Z6

Torque Motor Direct Drive Servo System

Features a torque motor with an optimized contactless direct-drive design. With handwheel response time better than 0.5 sec, it enables automatic speed adjustment for faster, smoother, and more efficient operation. The torque motor can rotate at 180°/sec maximum rotation speed.



TAS-Z6 Target Tracking at 5 m

TAS-Z6 Target Tracking at 15 m

TAS-Z6 Target Tracking at 50 m

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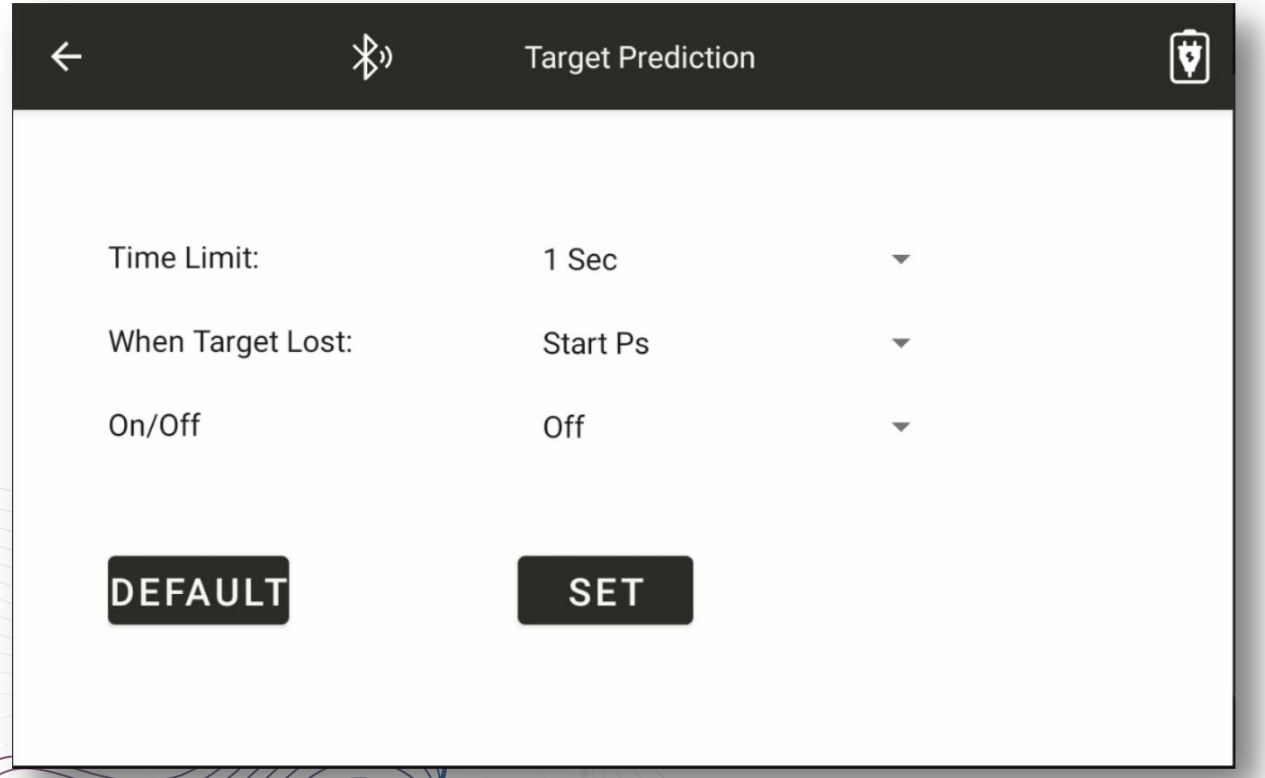
Why TAS-Z6

Target Prediction

With prediction enabled, the Z6 follows the target's motion pattern and estimates the most likely reappearance position when the prism is temporarily blocked from view.



- **On/Off:** Switch for enabling or disabling Target Prediction.
- **Time Limit:** Duration of Target Prediction after the target is lost.
- **When Target Lost:** Defines the automatic action if the target is not reacquired during prediction. Available options include PS, ATR, Turn to Last Point, and Stop.

Target Reacquisition After Occlusion

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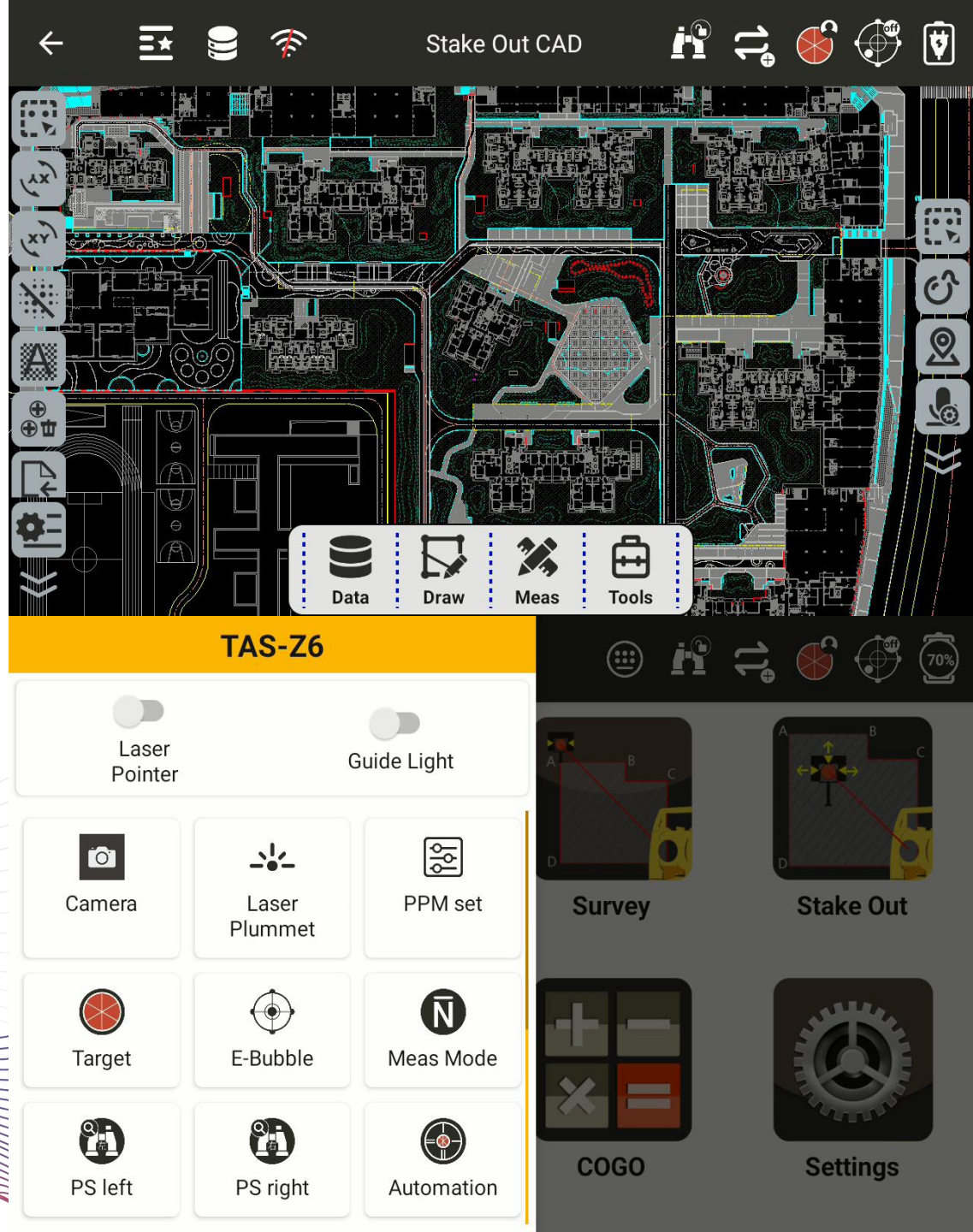
Why TAS-Z6

One-person Data Collector Software

TAS-Z6 features integrated control software with long-range Bluetooth (up to 600 m) and WAN connectivity for unlimited-distance, single-operator workflow

- **Resection:** Using three or more known control points, the coordinates of the current station are computed from the measured observations, thereby completing station setup.
- **Camera:** Measure targets on image in real time.
- **Point Measurement / Stakeout:** Integrated with CAD drawings, the system supports measurement and graphical point selection stakeout based on DXF and DWG files.

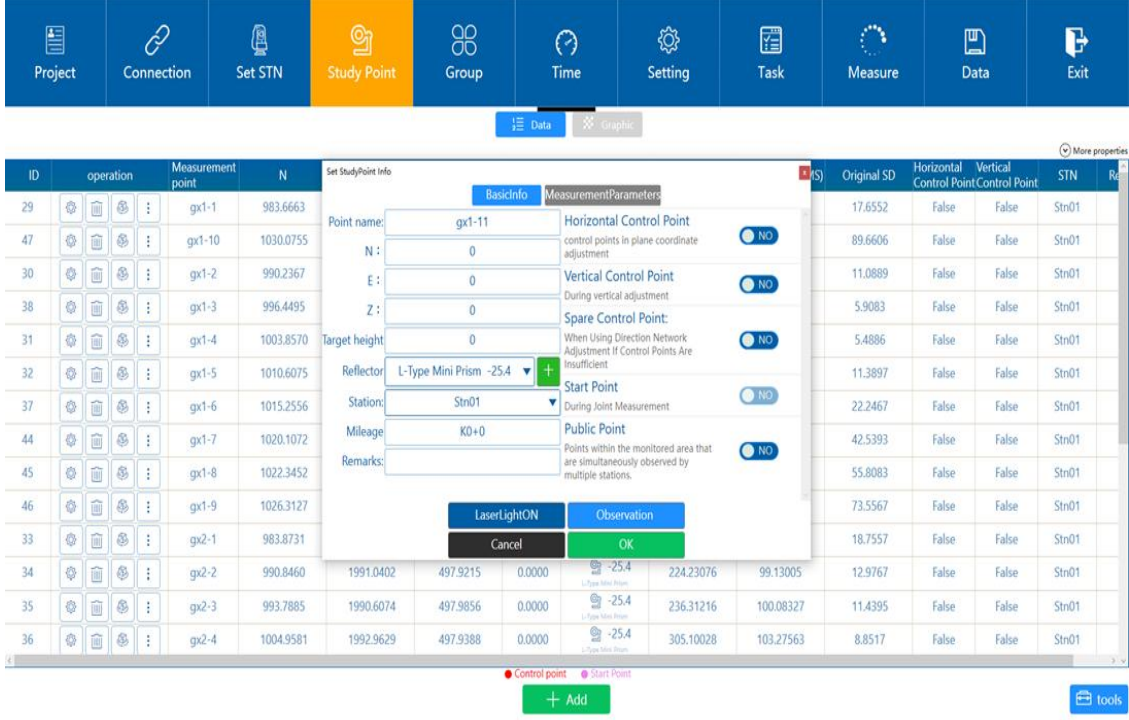


Why TAS-Z6

Automated Monitoring Software

TAS-MOS software enables fully automated monitoring, from measurement to real-time analysis and remote control, boosting efficiency and reliability.

- **Automatic Learning:** Remember the locations of targets.
- **Automatic Measurement:** Schedule measurement.
- **Automatic Data Processing:** Instant and accurate data handling.
- **Automatic Plotting:** Real-time display of charts and trends.
- **Remote Control:** Monitor and update the system from anywhere.



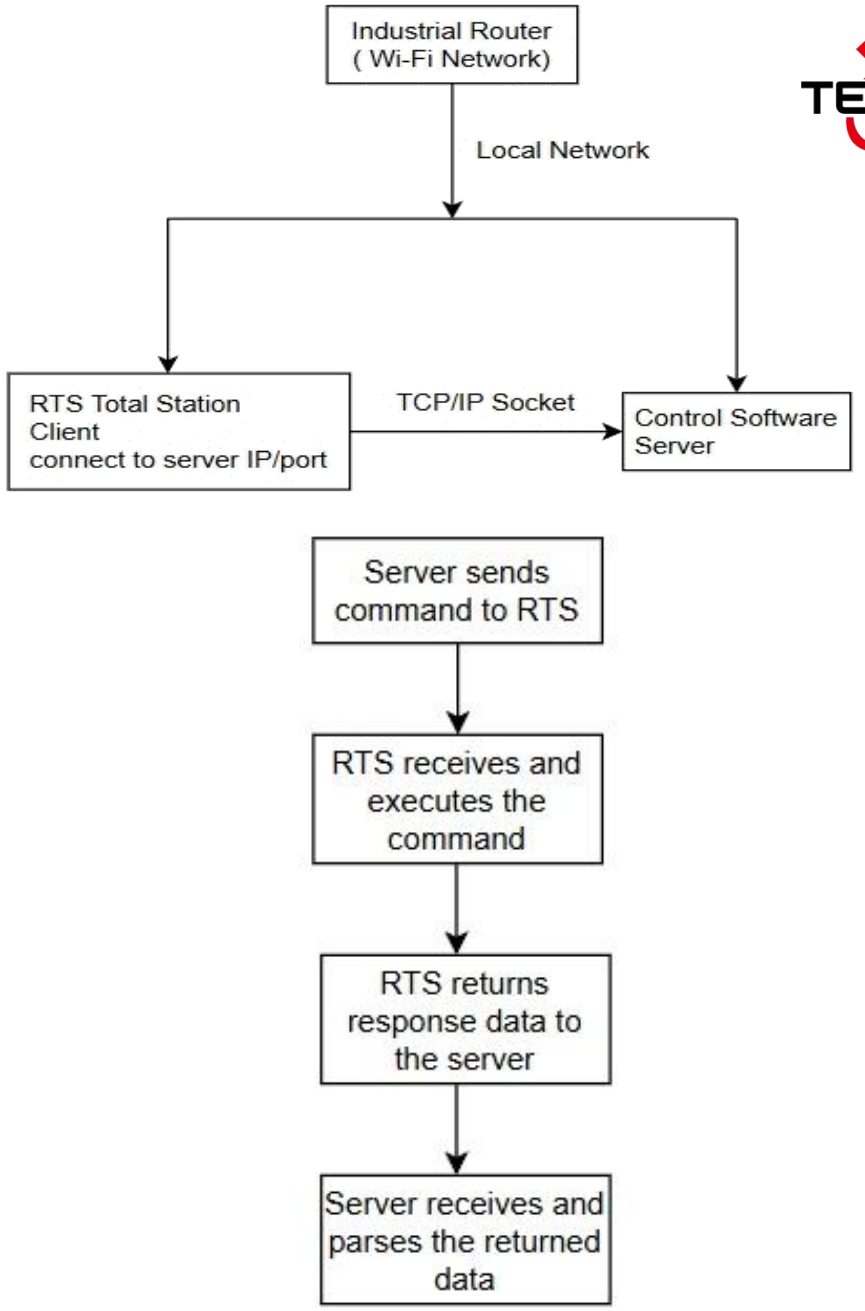
TAS-Z6 Use Case Study

Integrate TAS-Z6 into a customer platform in Finland

Open Interface

Supports third-party Apps and secondary development for customized integration scenarios

- **Connection Model:** The RTS joins the same Wi-Fi network and initiates a TCP/IP socket session to the customer's server.
- **Deployment:** Configure the target IP and port in TS Connector, then establish the network connection
- **Remote Workflow:** The platform can remotely drive prism search, aiming, tracking, and measurement from software.



TAS-Z6 Use Case Study

Integrate TAS-Z6 into a customer platform in Finland

MC Calibration with TAS-Z6

The robotic total station will be used to automatically measure the reflective stickers on excavators or other construction machinery. Their software will control the TS and automatically execute the procedure, and these coordinates will then be imported into the procedure of Machine Control Calibration.

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TAS-Z6 Use Case Study

Integrate TAS-Z6 into a customer platform in Finland

MC in Tunnel

There are certain machine control scenarios where GNSS signals cannot be accessed. The total station will be set up in a location where it can receive GNSS signals. The GNSS receiver will then be mounted directly onto the robotic total station. The Z6 automatically obtains the current position coordinates from GNSS and completes station setup under server control. The robotic total station will track the movement of the excavator inside the tunnel in real time. It then transmits the live coordinates to the Machine Control software to enable machine guidance.

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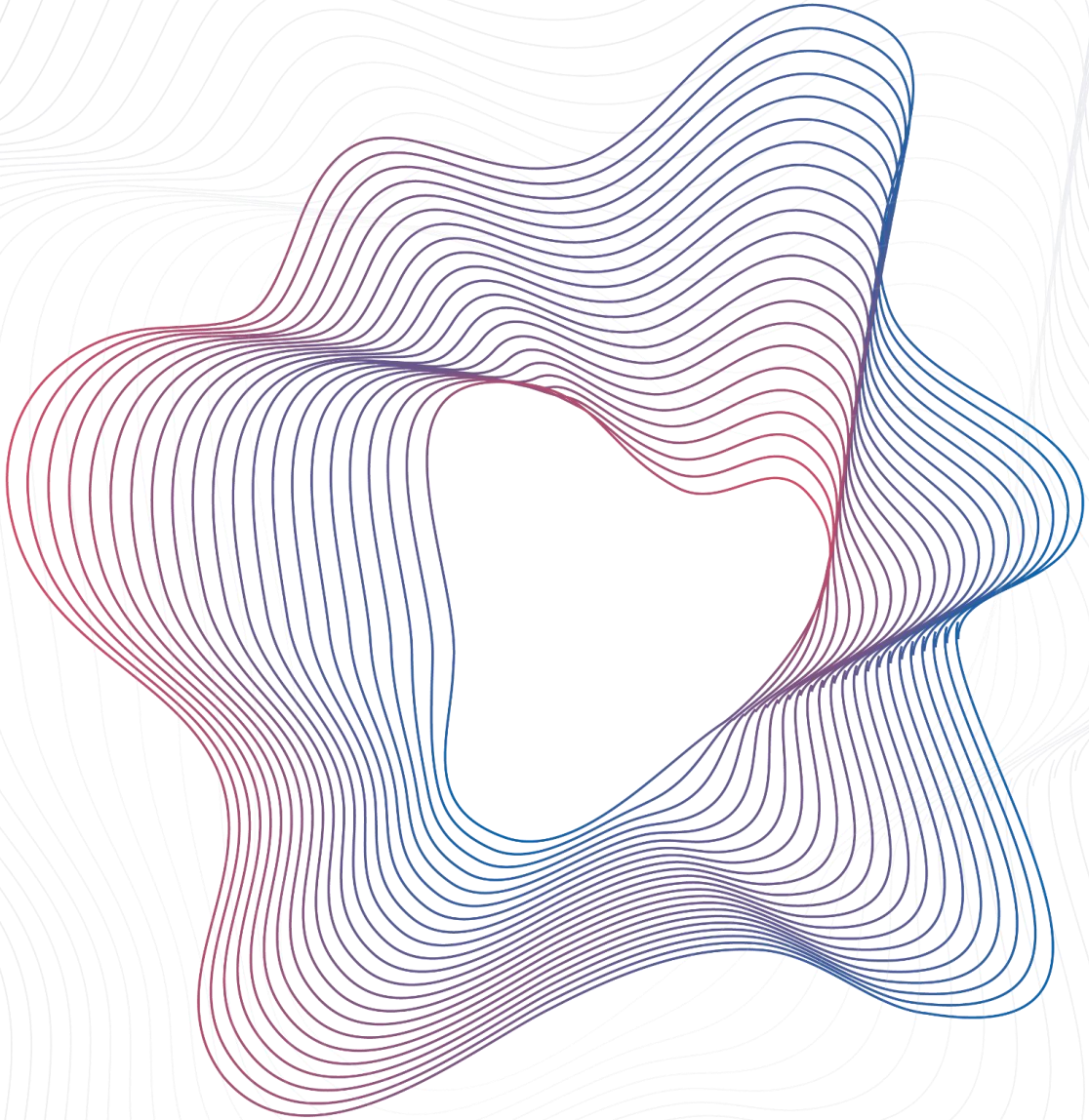

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