



mindray
healthcare within reach

Resona 7

New waves in Ultrasound
Innovation

Powered by **ZST+**

Synergy Spark
Premium | Innovative | Evolving

Industrial Milestone
New Waves in Ultrasound Innovation
Revolutionary Sonography



New Waves in Ultrasound Innovation

- New innovation in ultrasound technology
- New capabilities in clinical research and diagnosis
- New image optimization solutions for enhanced diagnostic confidence
- New tools for clinical intelligence
- New user experience for scanning comfort and streamlined workflow



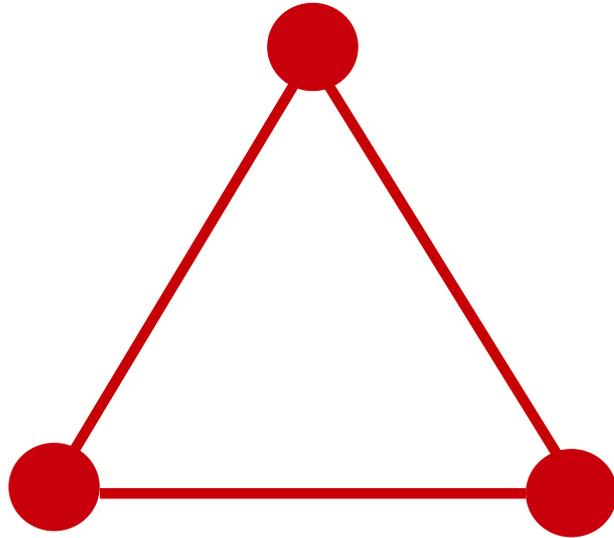


**New Innovation in
Ultrasound Technology**

Why ZONE Sonography®

Challenge #1: Trade off between three key ultrasound parameters

Spatial
Resolution



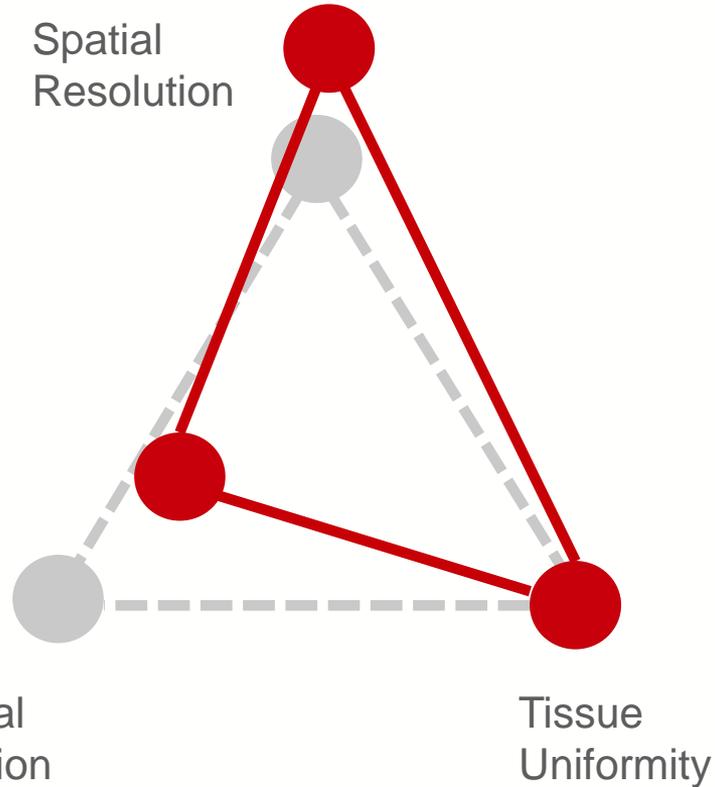
Temporal
Resolution

Tissue
Uniformity

The key ultrasound parameters:
Spatial resolution, Tissue Uniformity
and Temporal Resolution are tightly
linked among each other

Why ZONE Sonography®

Challenge #1: Trade off between three key ultrasound parameters



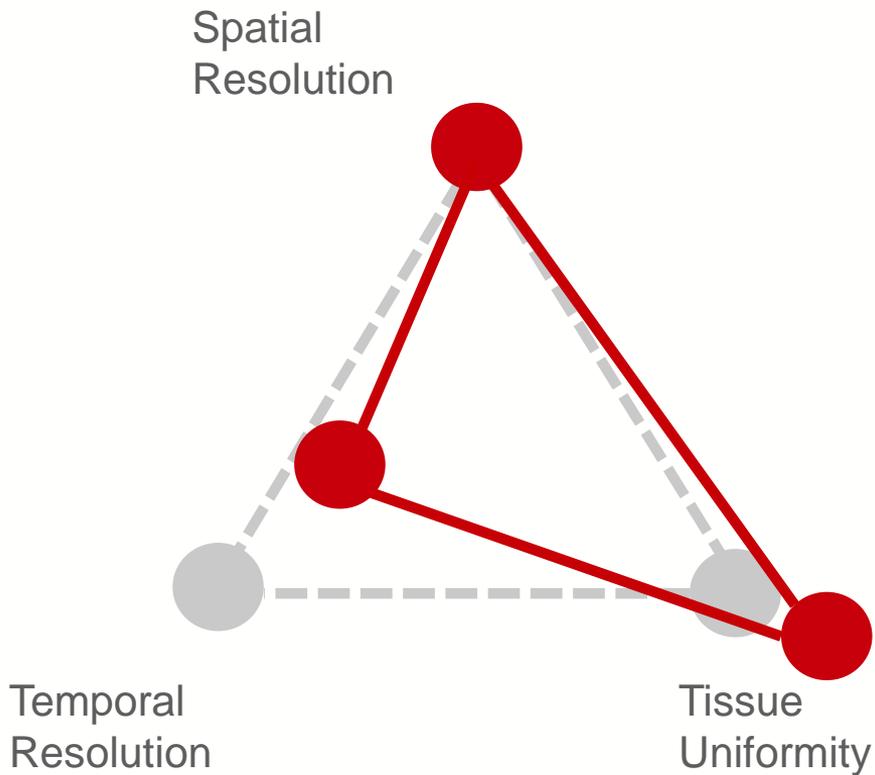
The key ultrasound parameters:
Spatial resolution, Tissue Uniformity and Temporal Resolution are tightly linked among each other

Higher Spatial Resolution:

- Increase TX lines
- But decrease temporal resolution

Why ZONE Sonography®

Challenge #1: Trade off between three key ultrasound parameters



The key ultrasound parameters: Spatial resolution, Tissue Uniformity and Temporal Resolution are tightly linked among each other

Higher Spatial Resolution:

- Increase TX lines
- But decrease temporal resolution

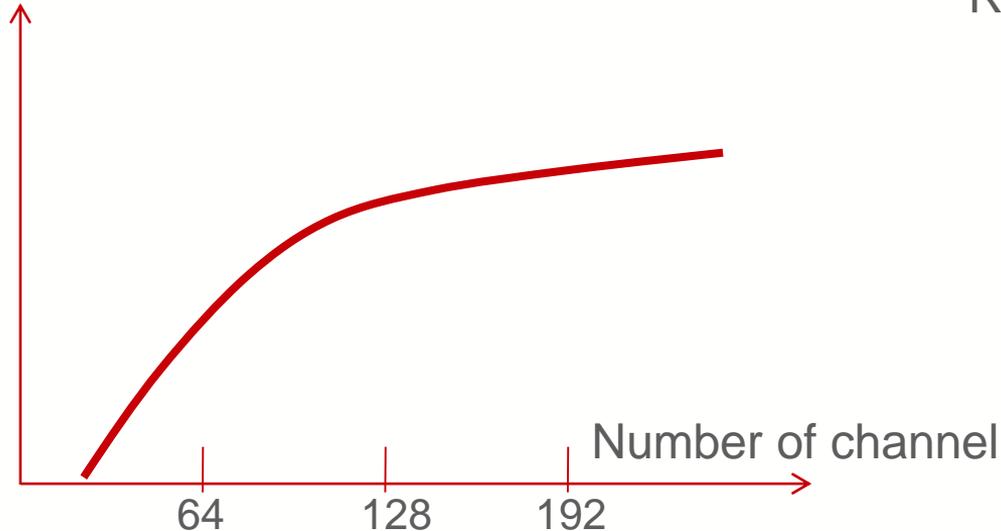
Increase Uniformity:

- Multi focuses TX
- But decrease temporal resolution

Why ZONE Sonography®

Challenge #2: Bottleneck of Resolution

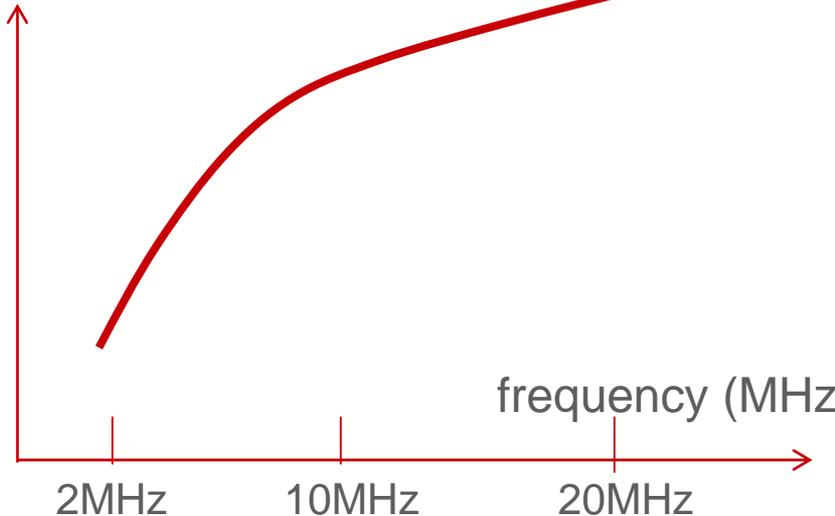
Resolution



Optimal resolution is dependent upon number of channels, but conventional architectures do not provide an increase in image quality by increasing channels.

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Resolution



Resolution is dependent on frequency, but trading off with penetration.

mindray

What is ZONE Sonography®

ZONE Sonography®

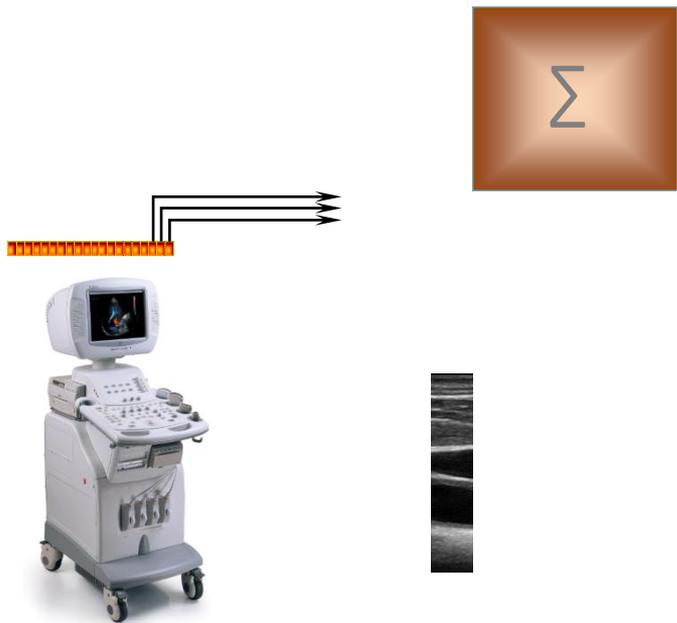
ZONE Sonography® Technology is a revolutionary, software-driven approach to acoustic data acquisition and image formation that breaks the barriers of conventional ultrasound imaging based on innovative channel data processing methods.

“The next industry standard method of generating ultrasound images.

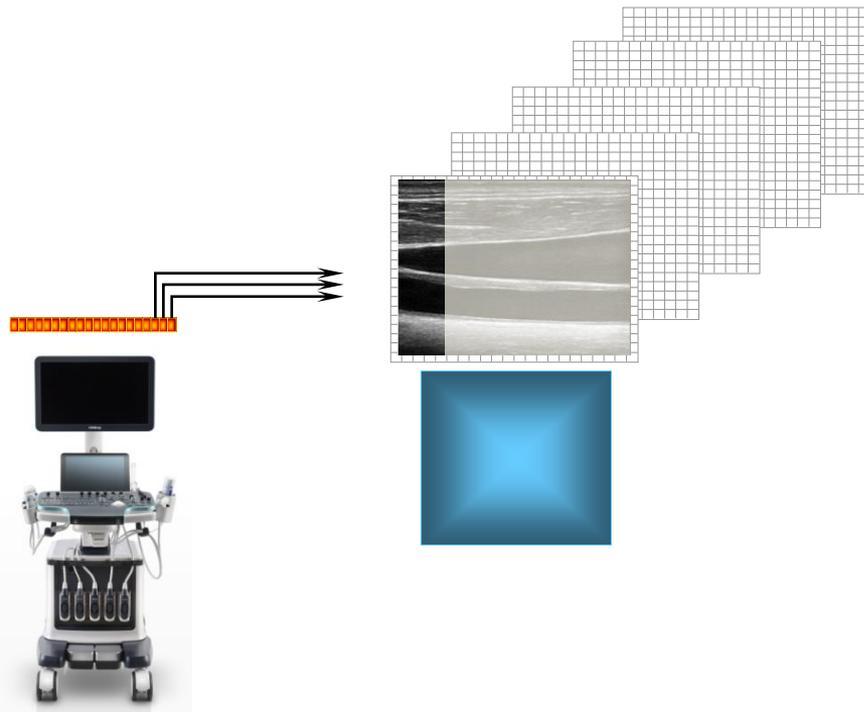
Two generations ahead of traditional digital beam formation technology.”

*Frost & Sullivan, November 2011
Leaders in Market Research*

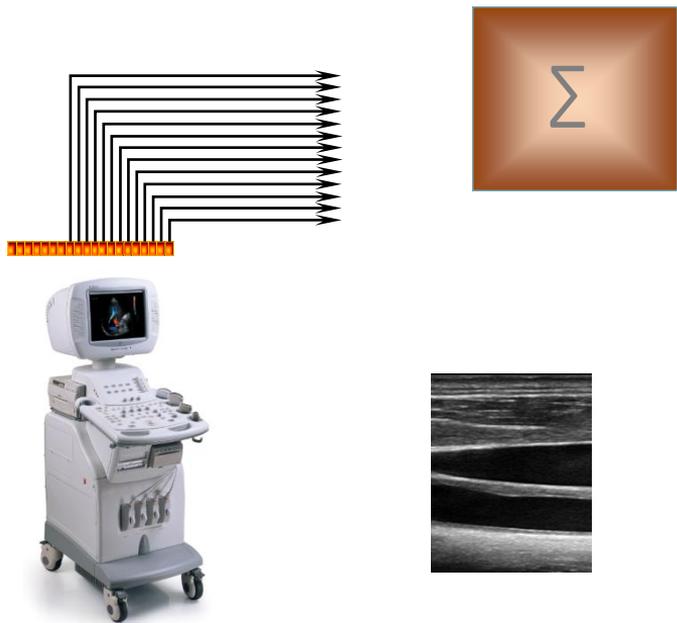
Traditional Beamformer



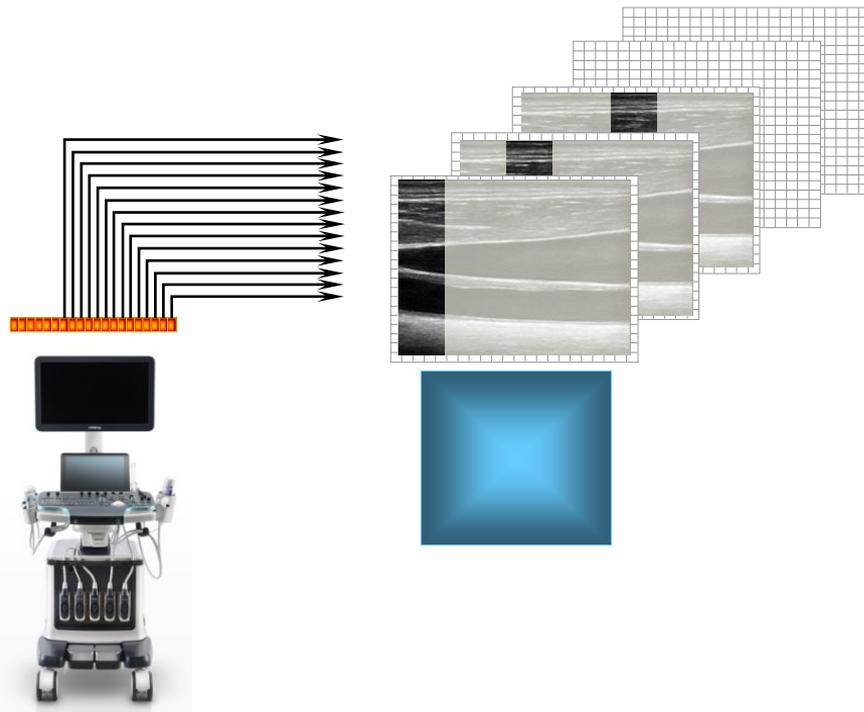
ZONE Sonography®



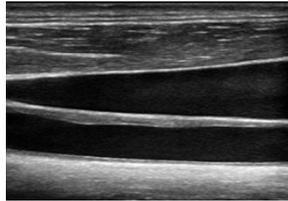
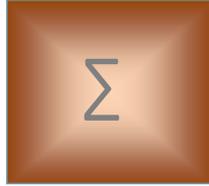
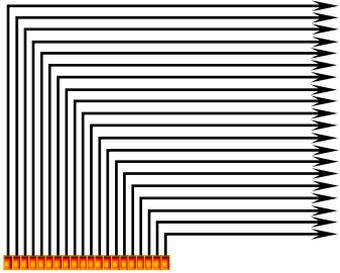
Traditional Beamformer



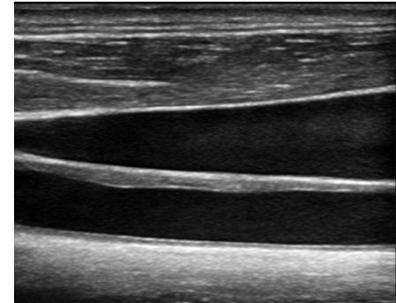
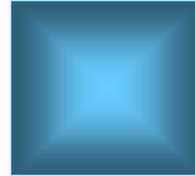
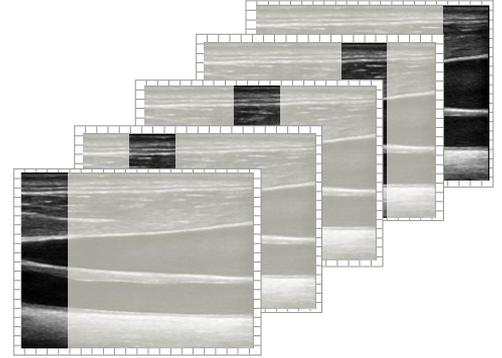
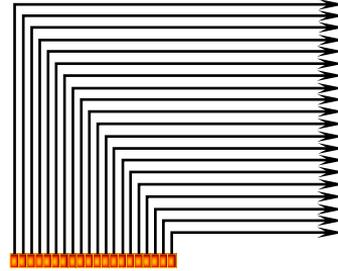
ZONE Sonography®

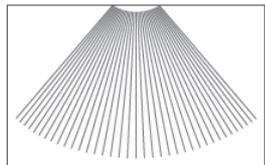


Traditional Beamformer



ZONE Sonography®





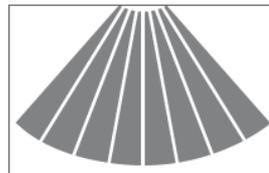
Traditional Beamformer

Data acquired line by line,
limited acoustic acquisition

Hardware-based
Beamformer, limits to
upgrade

Limited Focal Depth and
Number

Sound speed assumption = 1540
m/sec



ZONE Sonography®

Data acquired in ZONES,
10x faster acoustic acquisition

Software-based Beamformer,
easily upgradable

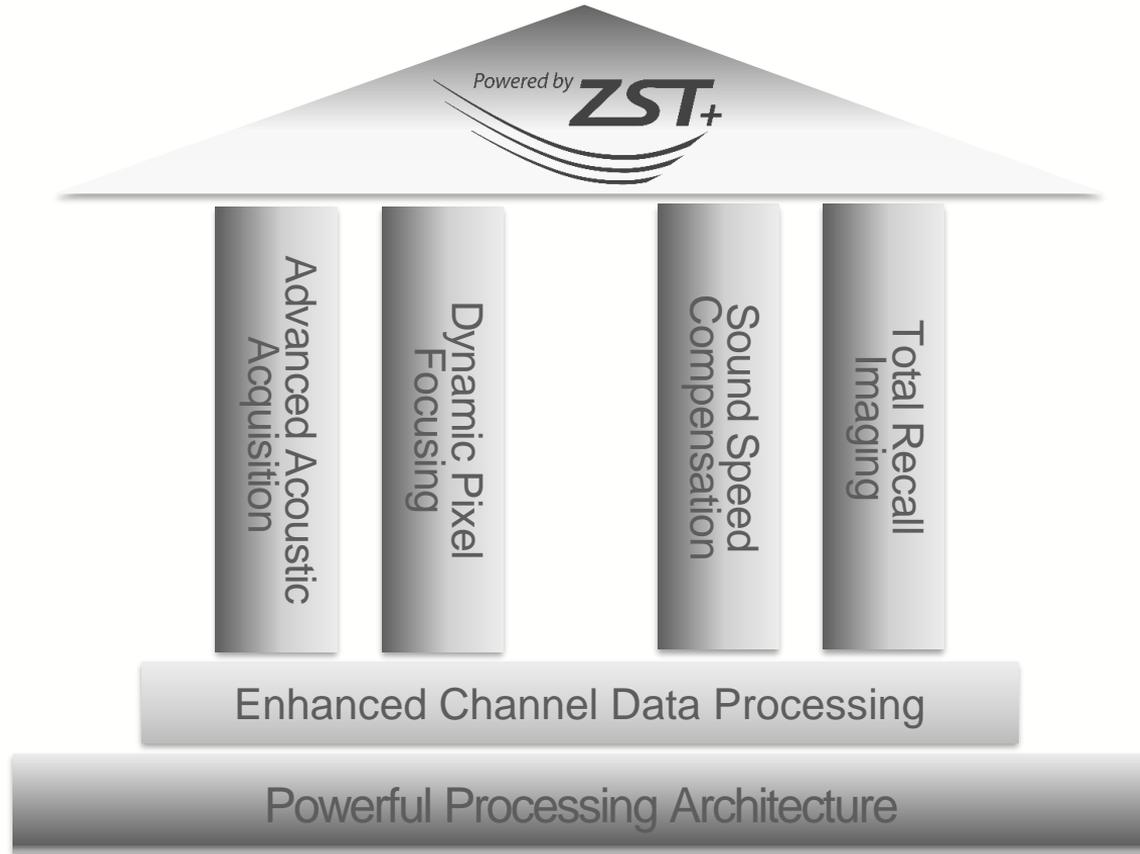
Full Field of View Focus

One button digital
sound speed compensation

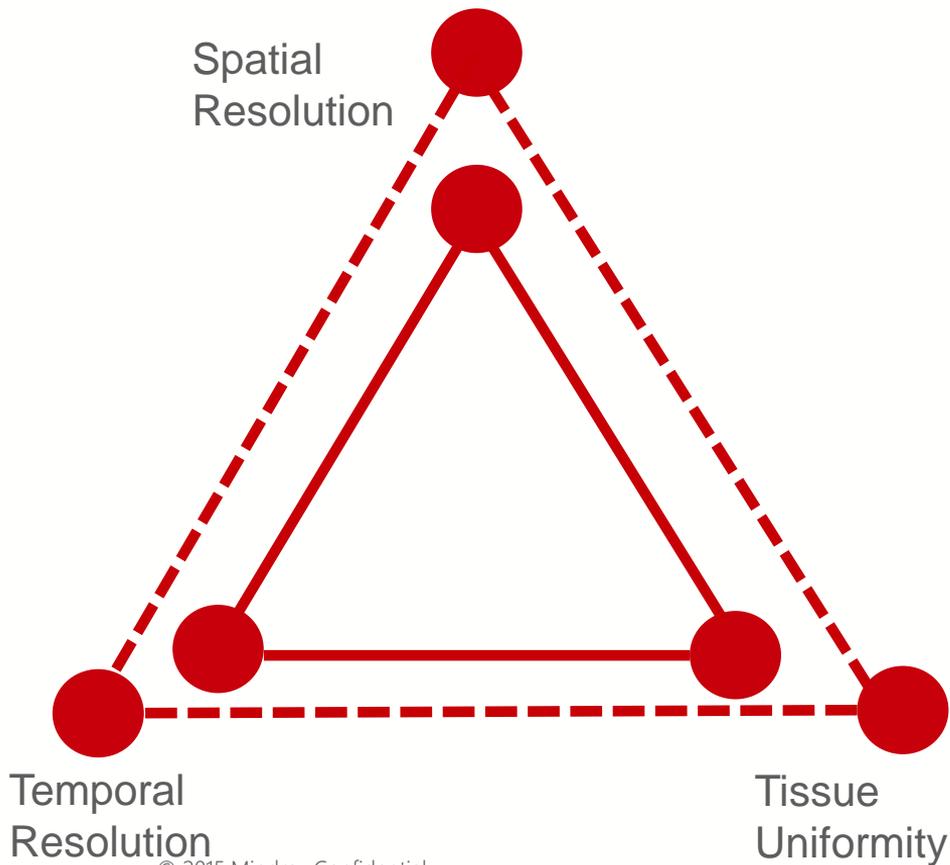
ZONE Sonography® Technology Plus (ZST+)

ZST+ is the most premium and innovative ultrasound platform, it is evolving with powerful processing architecture and enhanced channel data processing based on ZONE Sonography®

Key Pillars of ZST+ Platform



Break Challenge #1

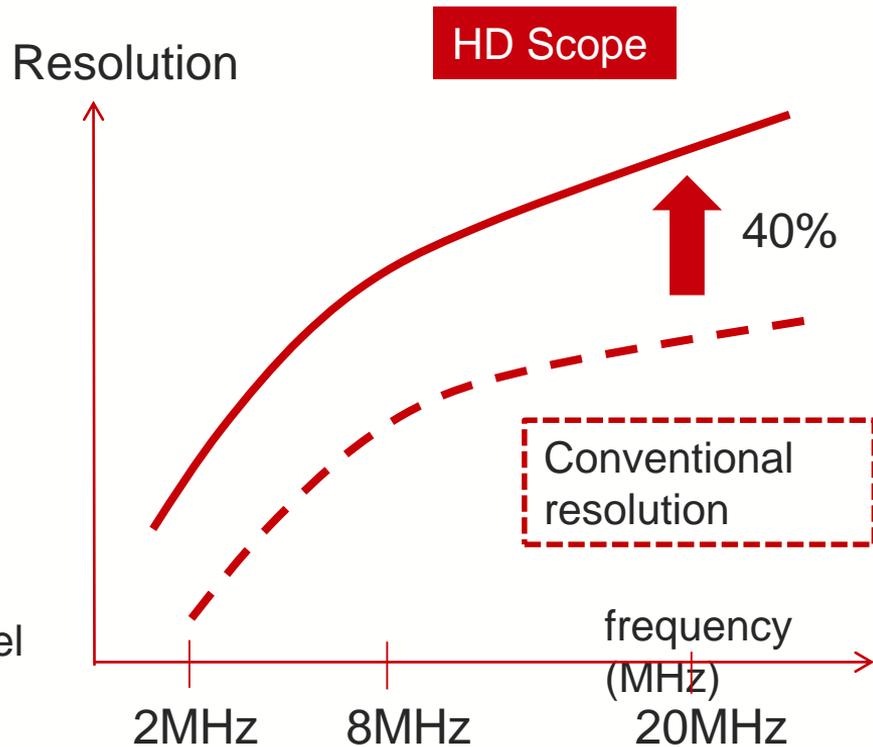
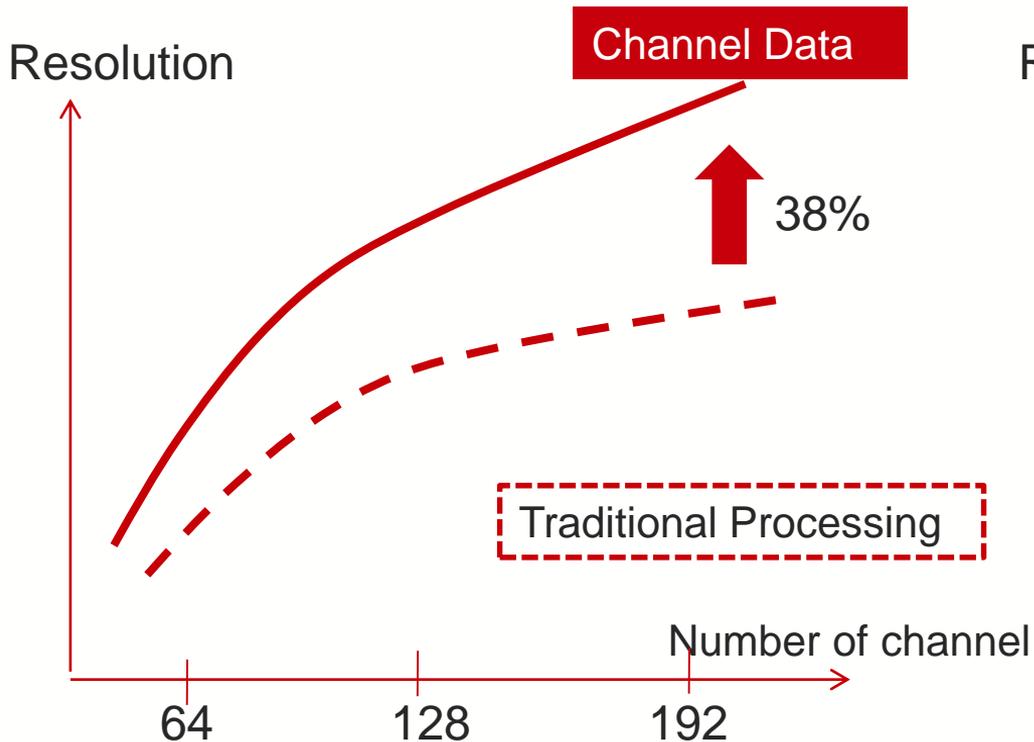


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Advanced Acoustic Acquisition

Dynamic Pixel Focusing

Break Challenge #2



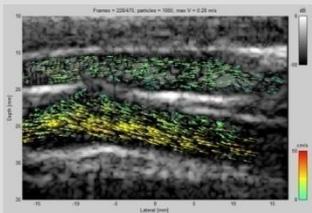
A photograph of two scientists, a man and a woman, both wearing white lab coats, looking intently at a computer monitor. The man is on the left, wearing glasses, and the woman is on the right, gesturing towards the screen. The background shows a modern laboratory with large windows overlooking a city skyline.

**New Capabilities in
Clinical Research and Diagnosis**

New Capabilities in Clinical Research and Diagnosis

V Flow

- Vivid Vector Flow for visualization of *complex micro-hemodynamics*



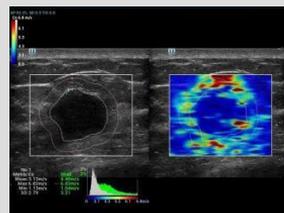
iFusion

- Fusion Imaging with *respiration compensation*



STE

- Shear wave elastography for more *precise quantification of tissue stiffness*



UWN+ Contrast

- *Mindray's 2nd generation UWN CEUS*

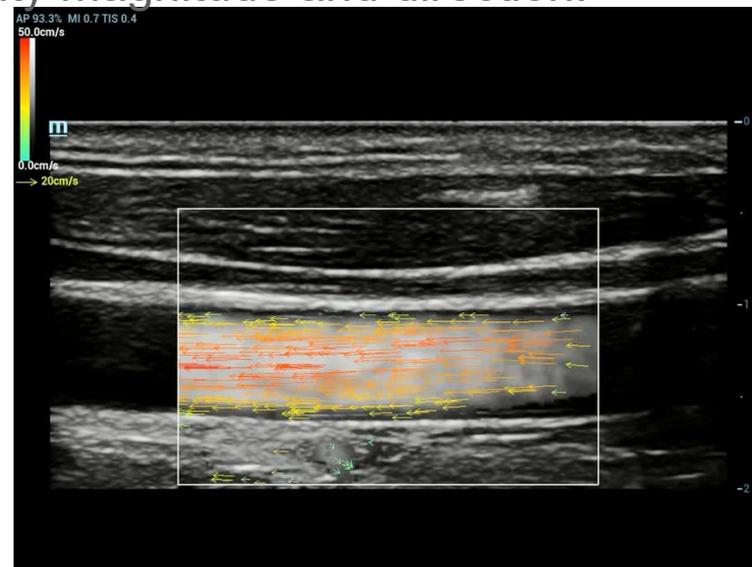


V Flow

Innovative technology developed by Mindray

An novel approach for vascular hemodynamic analysis, using color coded vector arrows to follow up blood cell's moving velocity magnitude and direction.

- Qualitative analysis tool:
 - Grayscale: flow distribution
- Quantitative analysis tool:
 - Arrow color: flow velocity
 - Arrow direction: flow direction
 - Arrow length: flow velocity
 - Cursor on arrow: Instant flow velocity and angle number at any single point



Clinical Research and
Diagnosis

New Image Optimization
Solutions

New Tools for
Clinical Intelligence

New User Experience for
Scanning Comfort

V Flow

Innovative technology developed by Mindray

Traditional Color Flow



V Flow



Line-by-line acquisition:

1. Low frame rate (two digital FPS)
2. Angle dependent
3. Roughly display of blood velocity by color
4. Roughly display flow hemodynamics

Multiple lines (Plane Wave) acquisition:

1. Extremely high frame rate (over 300 FPS)
2. No Angle dependent
3. Precise display of blood velocity
4. Precise display of hemodynamics

Clinical Research and
Diagnosis

New Image Optimization
Solutions

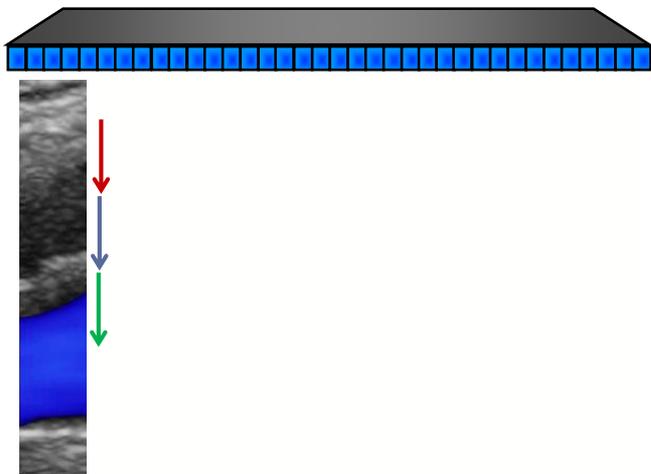
New Tools for
Clinical Intelligence

New User Experience for
Scanning Comfort

V Flow

Innovative technology developed by Mindray

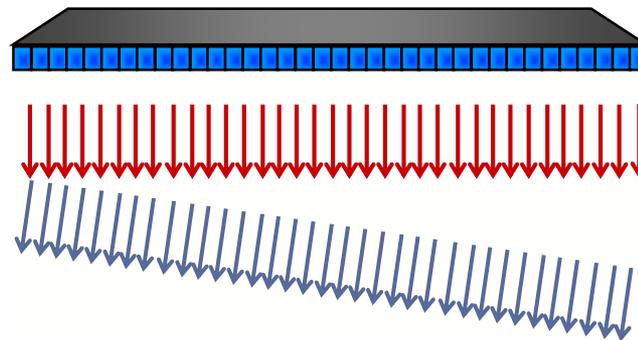
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Clinical Research and
Diagnosis

New Image Optimization
Solutions

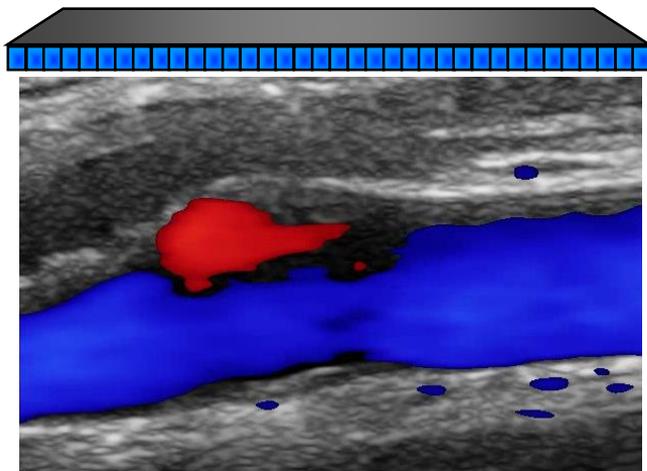
New Tools for
Clinical Intelligence

New User Experience for
Scanning Comfort

V Flow

Innovative technology developed by Mindray

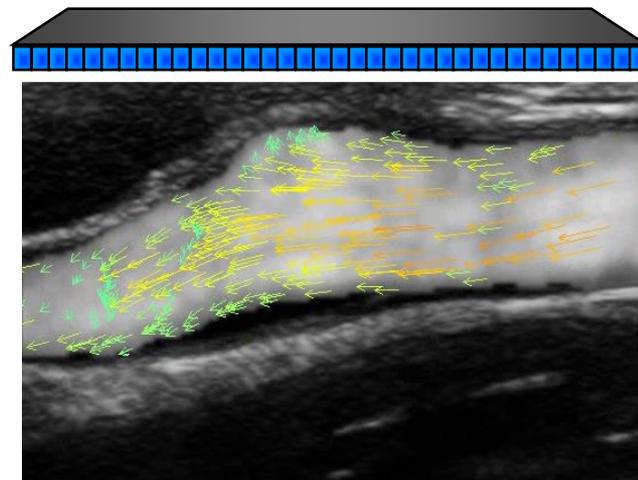
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Clinical Research and
Diagnosis

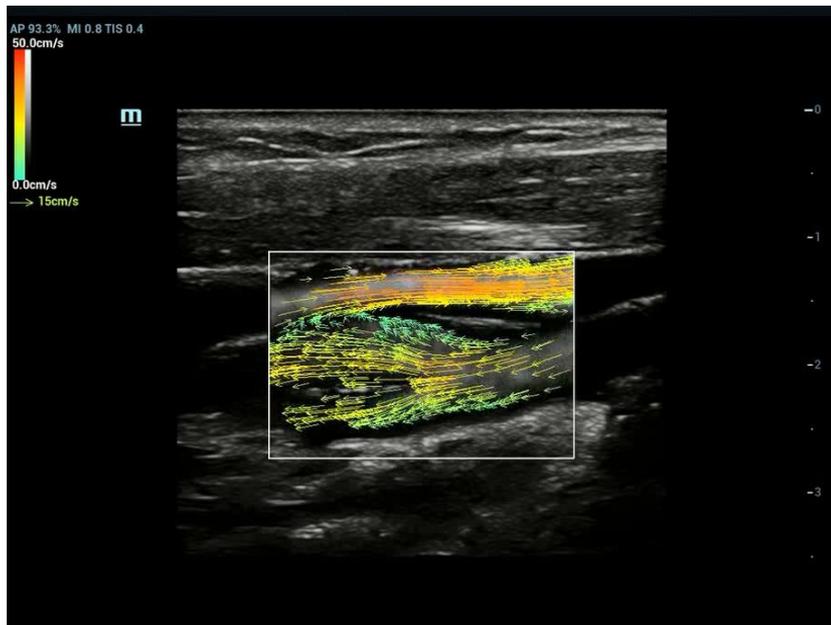
New Image Optimization
Solutions

New Tools for
Clinical Intelligence

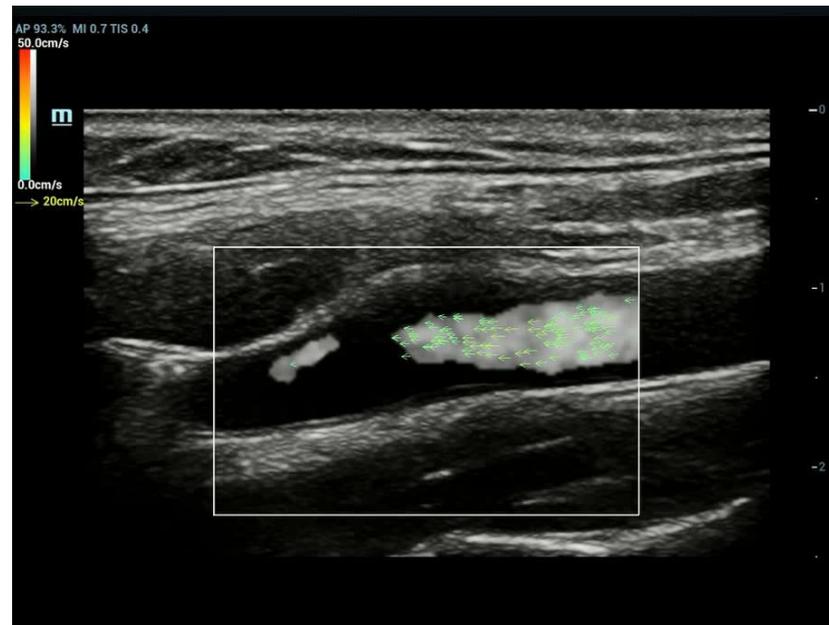
New User Experience for
Scanning Comfort

V Flow

Innovative technology developed by Mindray



Jugular Vein and
CCA



Vortex Flow

Proven / Flow Clinical Benefits

- More hemodynamic changes in the vessels, not only in laminar flow, but well identified in turbulent and vortex flow and elevates diagnostic value.
- More accurate in velocity, easily compare and analyze velocity in different time of a single cardiac cycle from different points.

10.1002/ul.2001.024

Recent Advances in Blood Flow Vector Velocity Imaging

Jesper Arendt Jensen¹, Steenlav Niessen¹, Jesper Laksen¹, Peter Munk¹, Knud Erik Lindkvist Hansen¹, Math Møller Pedersen¹, Peter Møller Hansen¹, Michael Buchmann Nielsen¹, Niels Oldendøth¹, Jacob Korshøj¹, Michael Johansen PhD¹ and To F. C. Jensen PhD¹ (Correspondence: Jensen T, Center for Fast Ultrasound Imaging, Dept. of Res. Eng. Bldg. 348, Technical University of Denmark, DK-2800 Lyngby, Denmark; ²BK Medical, Mjølhusvej 24, DK-2730 Herlev, Denmark; ³Department of Radiology, Copenhagen University Hospital, DK-2300 Copenhagen, Denmark; ⁴NVA Research A/S, Launingvej 9, DK-2750 Ballerup, Denmark.

Abstract - A number of methods for ultrasound vector velocity imaging are presented in this paper. The Transverse Oscillation (TO) method can estimate the velocity transverse to the ultrasound beam by introducing a lateral oscillation in the received ultrasound B-Mode. The approach has been thoroughly investigated using both numerical and in vivo measurements, and shows excellent spatial MRM rates. The TO method estimates a relative accuracy of 30%, but a half accuracy is reached in the TO method compared to the TO method with multiple ensemble averages (MEM). MEM requires a correlation between the cross-correlation estimates by TO and TO with MEM (>0.5) which is essential for the TO method to give a correlation between the cross-correlation estimates by TO and TO with MEM (>0.5). Several clinical examples of complex flow in 2D. Mitral and aortic valve flows have been acquired using a commercial implementation of the method (Echocolor Flow Vector Velocity Imaging). A range of other methods are also presented. This includes vector velocity imaging using other approaches, and the direction vector over the cardiac cycle and as a function of spatial position. Real-time image compression methods can be used to aid in a quantitative velocity estimation system.

For optimal system angle errors can be very low compared to conventional systems in mainly vessels with unperforated flow [6]. At construction a 3D ultrasonometer or a 3D ultrasonometer using velocity vector control for optimal system. Only a part of the cardiac cycle for a 3D view with the resulting system is correct. In color flow mapping the system is very difficult, and it is impossible to acquire the results 2-3D system mode. In color flow mapping, the system is very difficult, and it is impossible to acquire the results 2-3D system mode. In color flow mapping, the system is very difficult, and it is impossible to acquire the results 2-3D system mode. In color flow mapping, the system is very difficult, and it is impossible to acquire the results 2-3D system mode.

1. VELOCITY ESTIMATION AND ITS LIMITATIONS

2010/01/05 10:00:00

Fast Blood Vector Velocity Imaging using ultrasound: In-vivo examples of complex blood flow in the vascular system

Hansen K.L.^{1,2,3}, Jensen T.^{1,2,3}, Gøssø J.^{1,2,3}, Jensen J.A.^{1,2,3}, Nielsen M.S.^{1,2,3}
¹ Department of Radiology, Section of Ultrasonography, Bispebjerg 9, 2200 N. Denmark;
² Center for Fast Ultrasound Imaging, DTU Research Building, Technical University of Denmark, 2800 Lyngby, Denmark;
³ Center for Fast Ultrasound Imaging, DTU Research Building, Technical University of Denmark, 2800 Lyngby, Denmark

Abstract - Conventional ultrasound methods for acquiring flow flow images of the blood motion are restricted by a relatively low frame rate and angle dependent velocity estimation. The Flow Vector Velocity (FVV) method has been proposed to overcome these limitations. The frame rate can be increased, and the 2D vector velocity of the blood motion can be estimated. The reconstructed image is not limited, and a full spatial range of the blood can be acquired for each acquisition. A 3D B-Mode color Doppler method has been proposed to overcome these limitations. The 3D vector velocity of the blood is measured, and 3D vector velocity between acquisition in consecutive spatial images. The flow pattern of an infarction and the vein was investigated in vivo. It was shown that a 3D vector velocity in the cardiac flow was possible to acquire in conventional ultrasound. The 3D vector velocity was measured in the superficial branch of the coronary artery during steady state, and the reconstructed flow was compared to the reference flow and compared to the conventional color Doppler method during steady state. The 3D vector velocity was measured in the superficial branch of the coronary artery during steady state. The 3D vector velocity was measured in the superficial branch of the coronary artery during steady state. The 3D vector velocity was measured in the superficial branch of the coronary artery during steady state.

1. INTRODUCTION



Original Contribution
 University Hospital of Copenhagen, Copenhagen, Denmark

VECTOR PROJECTILE IMAGING: TIME-RESOLVED DYNAMIC VISUALIZATION OF COMPLEX FLOW PATTERNS

Billy Y. S. Yiu, Simon S. M. Lail and Albert C. H. Yu
 Medical Engineering Program, University of Hong Kong, Pokfulam, Hong Kong
 (Received 17 September 2003; revised 2 March 2004; accepted 10 March 2004)

Abstract - Achieving non-invasive, accurate and dimensional imaging of vascular flow with spatial coherence is a well acknowledged task in imaging challenges. In this article, we present a new ultrasonic based framework called vector projectile imaging (VPI) that can dynamically render complex flow patterns over an imaging view at ultrasound time resolution. VPI is based on three principles: (i) high-frame-rate flow data acquisition through a streamer plane wave strategy; (ii) flow vector estimation derived from multi-angle Doppler tracking coupled with data replication and low-angle tracking; (iii) dynamic visualization of color-coded vector or vector (VPI) by graphics display (GDI). GDI can be used to visualize the flow patterns in a multi-view and three views (axial, sagittal, and coronal). GDI can be used to visualize the flow patterns in a multi-view and three views (axial, sagittal, and coronal). GDI can be used to visualize the flow patterns in a multi-view and three views (axial, sagittal, and coronal).

Key Words: Ultrasound flow imaging, Vector estimation, Dynamic visualization, Vector projectile, Complex flow analysis.

INTRODUCTION

Non-invasive visualization of flow dynamics in human vessels is highly desirable for the diagnosis of cardiovascular diseases. The flow patterns in the vessels are highly complex and dynamic. The flow patterns in the vessels are highly complex and dynamic. The flow patterns in the vessels are highly complex and dynamic.

Vector Volume Flow in Arteriovenous Fistulas

Peter Møller Hansen, Steenlav Niessen, Math Møller Pedersen, Steenlav Niessen, Michael Buchmann Nielsen, Jesper Arendt Jensen, Michael Johansen PhD, To F. C. Jensen PhD, Knud Erik Lindkvist Hansen, Peter Møller Hansen, Michael Buchmann Nielsen, Niels Oldendøth, Jacob Korshøj, Michael Johansen PhD, and To F. C. Jensen PhD.

Abstract - The majority of patients with end-stage renal disease are in hemodialysis, and therefore dependent on a well functioning vascular access. The arteriovenous fistula is the recommended access and in order to maintain and keep the fistula patent, regular monitoring of the function is necessary. The Transverse Oscillation Technique is the reference method for volume flow measurement, but it only works in conjunction with the dialysis machine, and use is therefore restricted to dialysis sessions. Volume flow measurement with conventional Doppler ultrasound provides a low frame rate, highly accurate solution, but is very challenging due to the angle dependency of the Doppler technique and the anisotropy of the fistula. The angle independent vector ultrasound technique Transverse Oscillation provides a new and more intuitive way to measure volume flow in an arteriovenous fistula. In this paper the Transverse Oscillation has been used to measure volume flow directly on four patients' arteriovenous fistulas, and the measurements were compared to conventional measurements with the Transverse Oscillation Technique. The results obtained with the Transverse Oscillation device (31.1 ± 14.3 % from the reference method, and indicate potential for the method.

Keywords: arteriovenous fistula, vector ultrasound, transverse oscillation, volume flow, ultrasound Doppler, Doppler

1. INTRODUCTION

The purpose of this paper is to demonstrate a new clinical use of a novel vector ultrasound technique. Patients suffering from end-stage renal disease (ESRD) are completely dependent on dialysis or renal transplant to stay alive. In the U.S., the prevalence rates of ESRD is approximately 170 per million and the incidence rate is approximately 500 per million per year. 90 % of the ESRD patients are in hemodialysis (HD). HD is a procedure that is performed three times a week. HD is dependent on a well-functioning vascular access with a low rate of complications and sufficient blood flow for the dialysis. The flow patterns in the vessels are highly complex and dynamic. The flow patterns in the vessels are highly complex and dynamic.

Clinical Research and
Diagnosis

New Image Optimization
Solutions

New Tools for
Clinical Intelligence

New User Experience for
Scanning Comfort

iFusion

Ultrasound

Real time imaging

CT/MRI

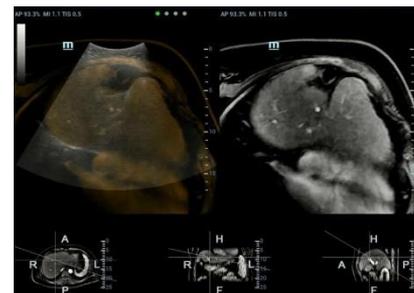
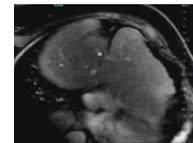
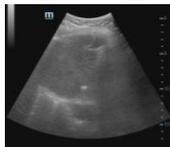
High-resolution
imaging

On-imaging
procedure

Accurate
localization
of lesion

Fusion
Imaging

Pathology diagnosis
Intervention procedure
Treatment evaluation



Clinical Research and
Diagnosis

New Image Optimization
Solutions

New Tools for
Clinical Intelligence

New User Experience for
Scanning Comfort

iFusion

with Innovative Respiration Compensation

- Mindray's exclusive technology to minimize the limitations in fusion imaging:
 - *More Sensitive*: magnetic motion sensor with millimeter accuracy
 - *More precise*: effectively eliminates the matching distortion caused by unavoidable patient respiration
 - *More confidence* for tumor diagnosis and interventional procedure



Clinical Research and
Diagnosis

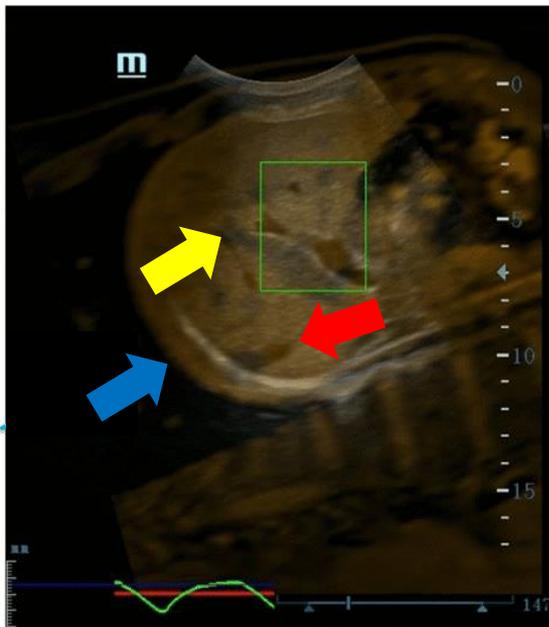
New Image Optimization
Solutions

New Tools for
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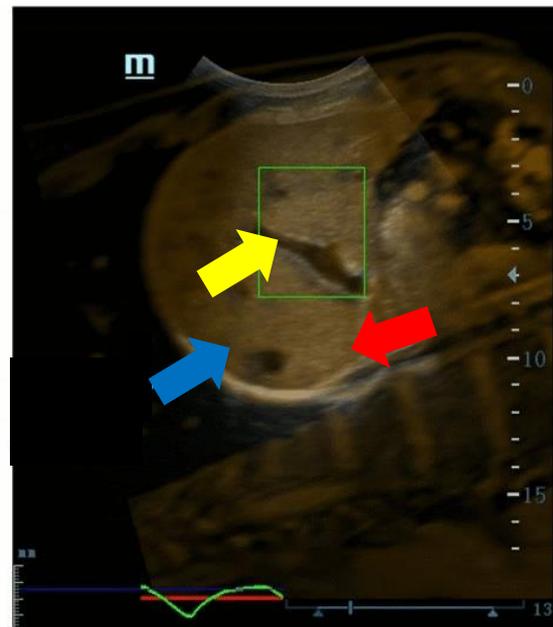
New User Experience for
Scanning Comfort

iFusion

with Innovative Respiration Compensation



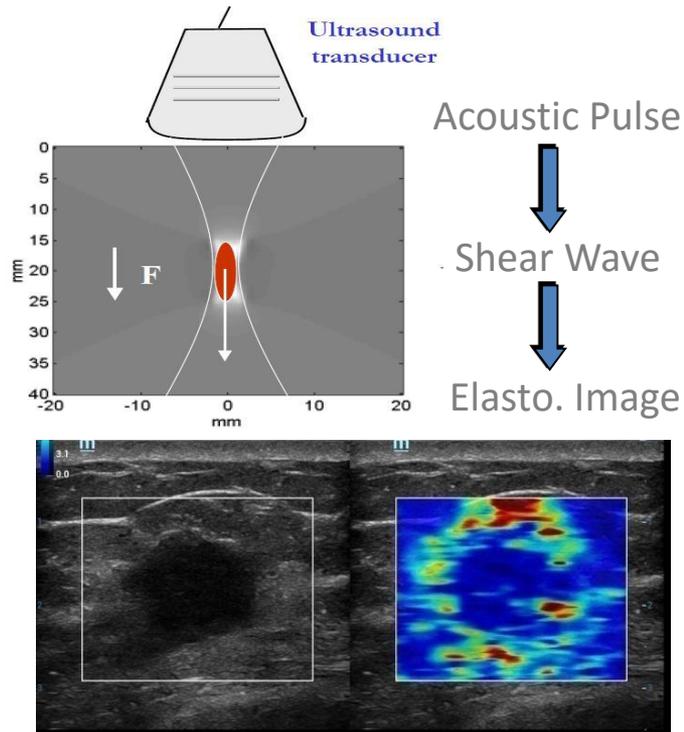
Before respiration compensation



After respiration compensation

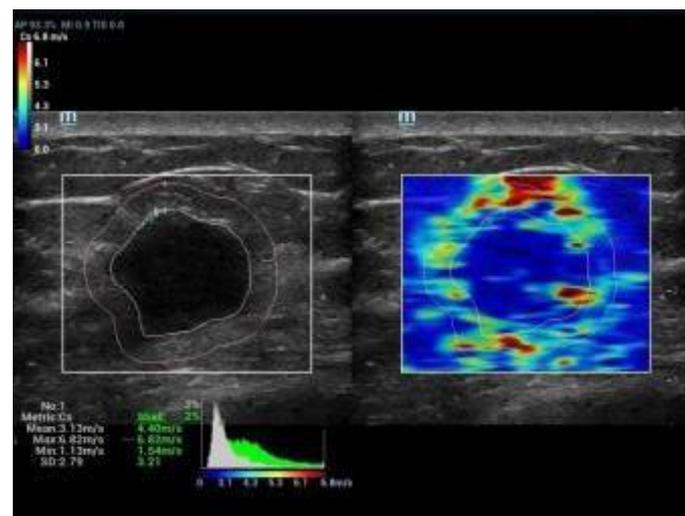
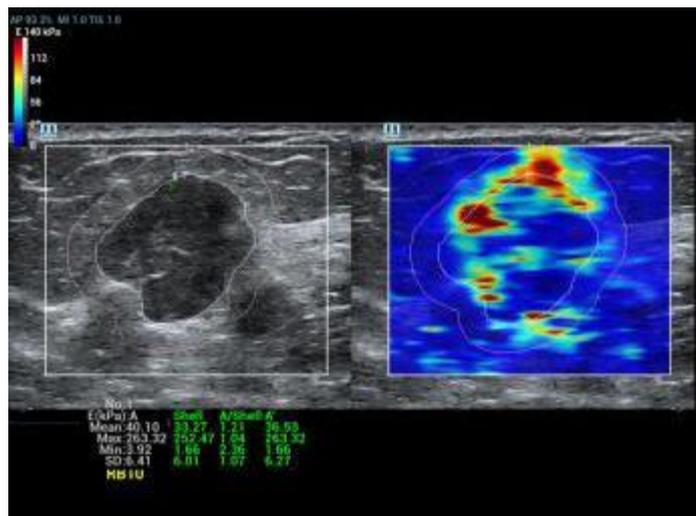
Sound Touch Elastography(STE)

- Shear wave elastography with Mindray exclusive Ultra Wide Beam Tracking for faster and more precise imaging with higher penetration:
 - *Unique Shell Analysis*: for assessment of infiltration area
 - *Real time imaging*: for more diagnostic information
 - *HQE mode (one-frame)*: for higher image quality and better penetration
 - *More comprehensive evaluation*: with different elasticity metrics, and multiple quantification tools



Sound Touch Elastography(STE)

- Unique Shell Analysis for assessment of infiltration area



The shell area shows higher stiffness on malignant tumors

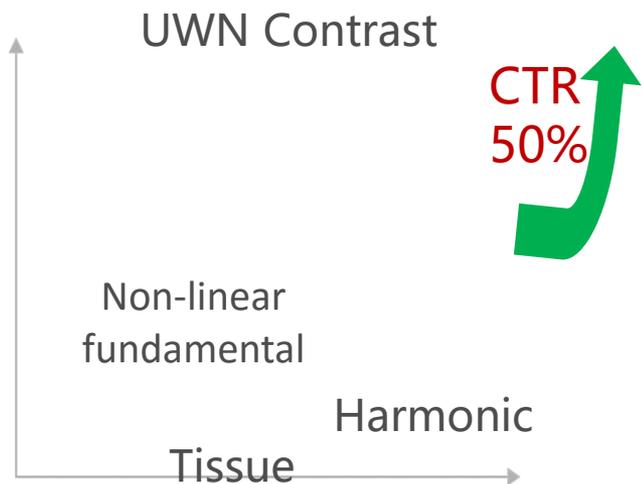
Clinical Research and
Diagnosis

New Image Optimization
Solutions

New Tools for
Clinical Intelligence

New User Experience for
Scanning Comfort

UWN⁺ Contrast Imaging



UWN⁺ Contrast

- Excellent contrast agent sensitivity
- Improved contrast imaging penetration
- Longer CEUS perfusion time with lower MI setting
- ZST⁺ improves the temporal resolution and delivers higher uniformity

Clinical Research and
Diagnosis

New Image Optimization
Solutions

New Tools for
Clinical Intelligence

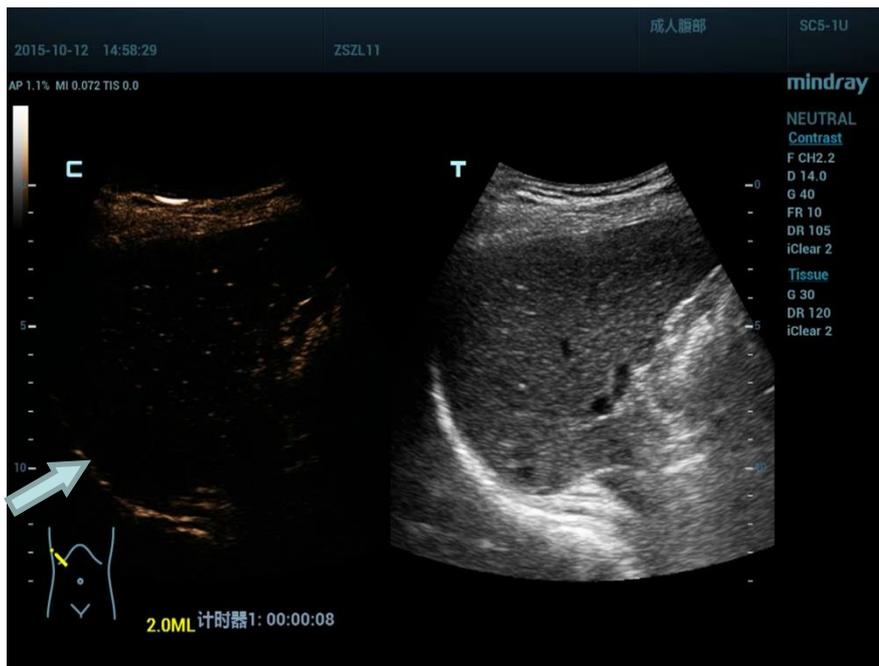
New User Experience for
Scanning Comfort

UWN⁺

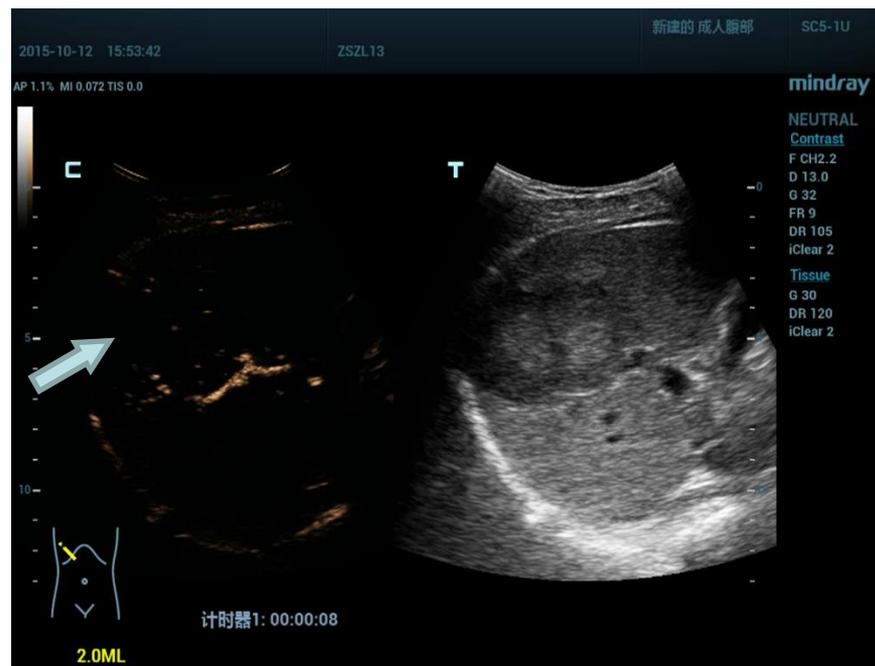
with higher contrast/tissue ratio
few contrast dose

ZST⁺

improves the temporal resolution
delivers higher uniformity



Case 1, HCC after treatment

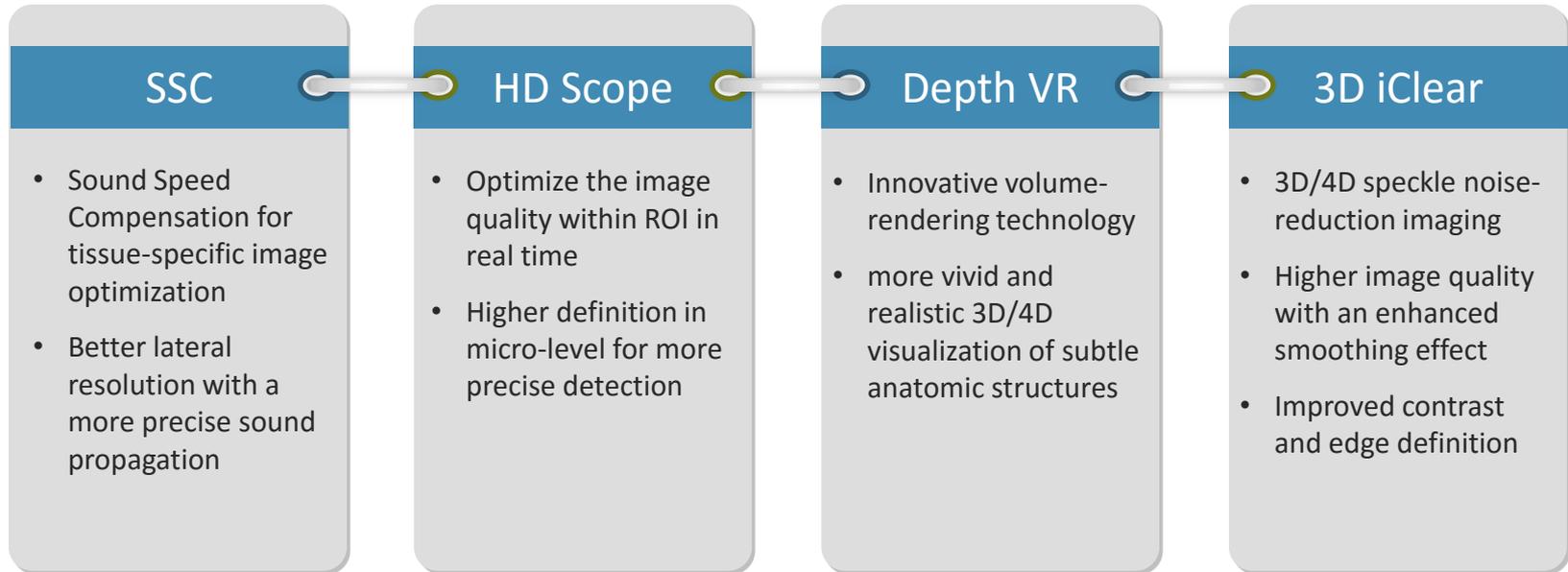


Case 2, Metastatic hepatic carcinoma



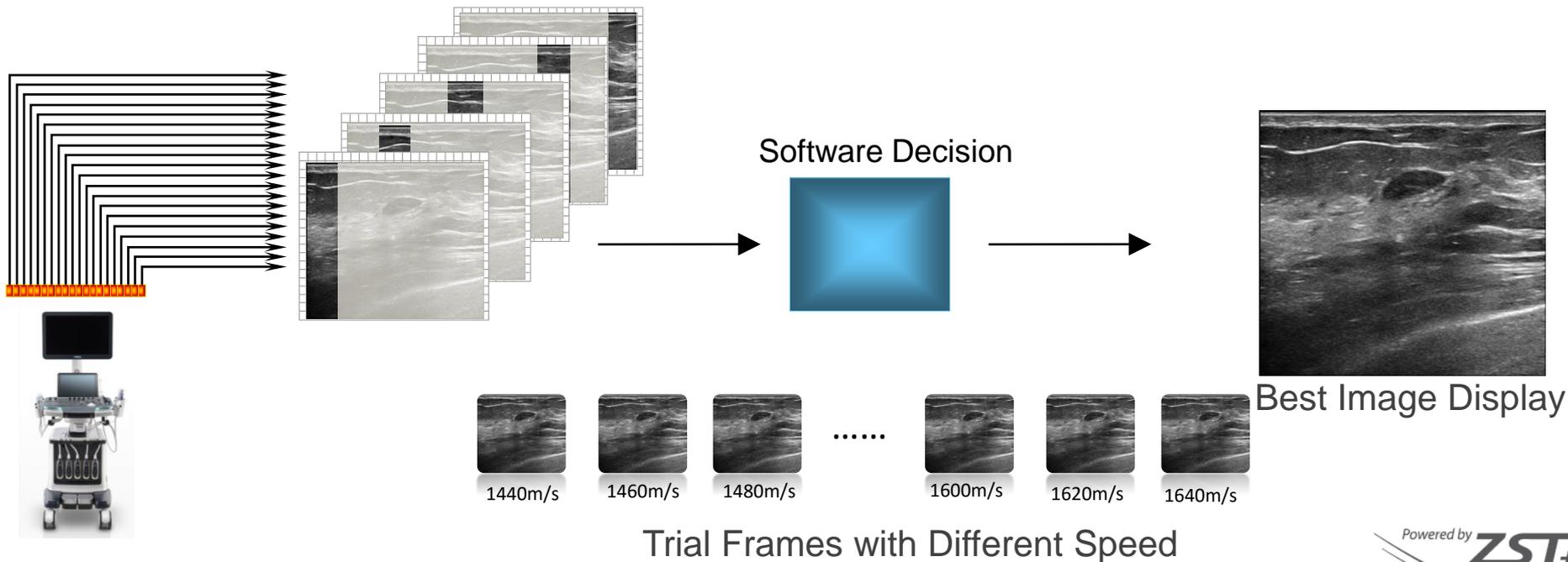
**New Image Optimization Solutions for
Enhanced Diagnostic Confidence**

New Image Optimization Solutions for Enhanced Diagnostic Confidence



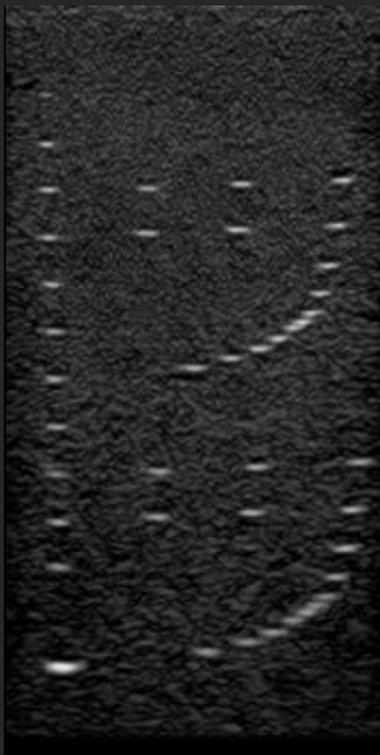
Sound Speed Compensation (SSC)

Sound Speed Compensation retrospectively processes channel data with various sound speed, and acquires the optimal tissue-specific image adaptively

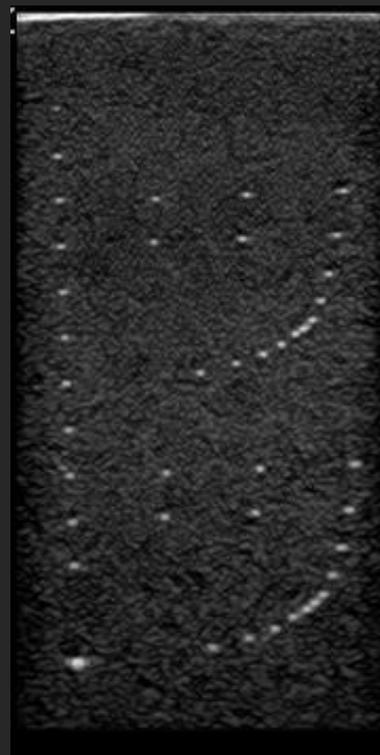


Sound Speed Compensation (SSC)

Imaged at 1540 m/s

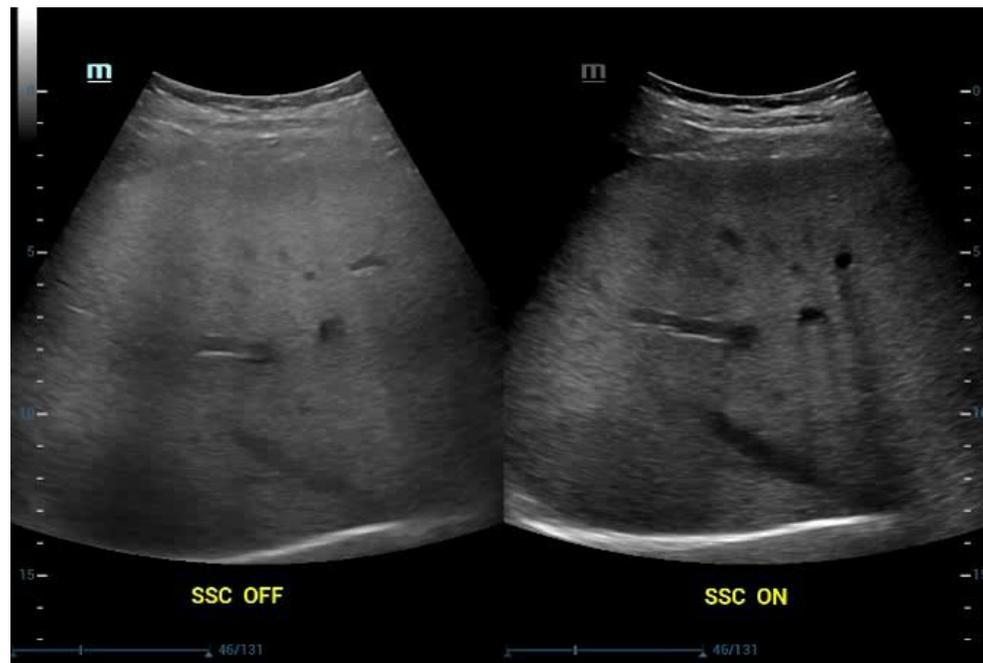


Imaged at 1480 m/s



Phantom speed 1480m/s

- Clinical Value
 - Improve the penetration of fatty liver
 - Better lateral resolution with a more precise sound propagation
 - Tissue-specific imaging



Clinical Research and
Diagnosis

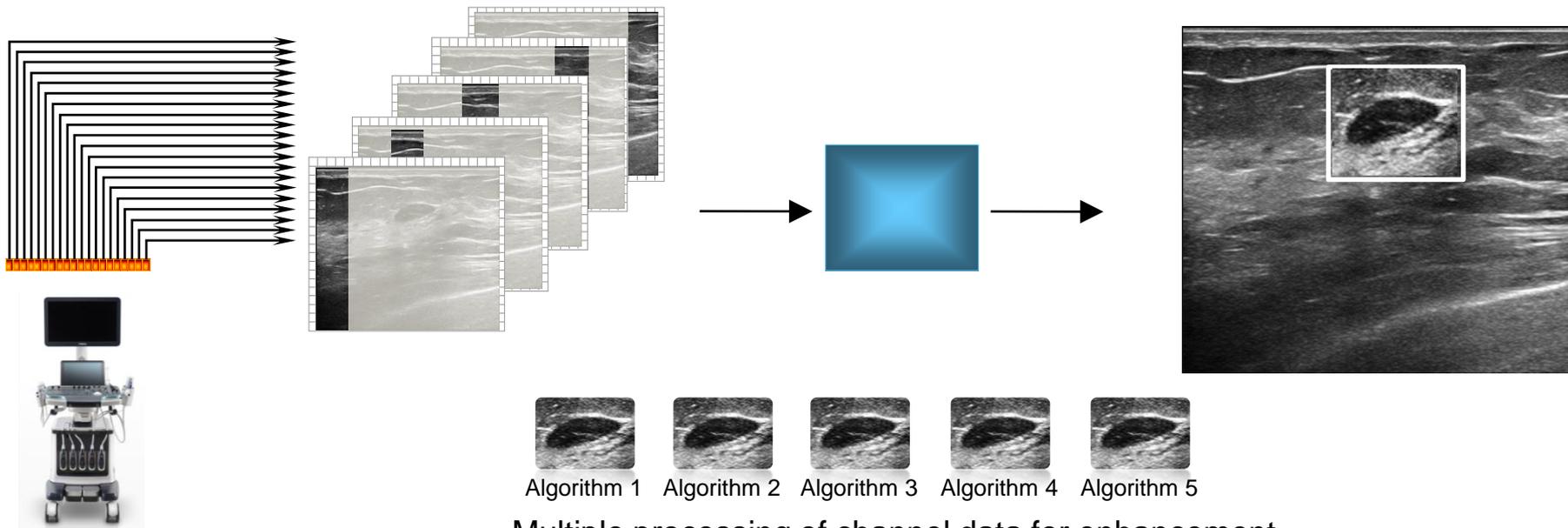
New Image Optimization
Solutions

New Tools for
Clinical Intelligence

New User Experience for
Scanning Comfort

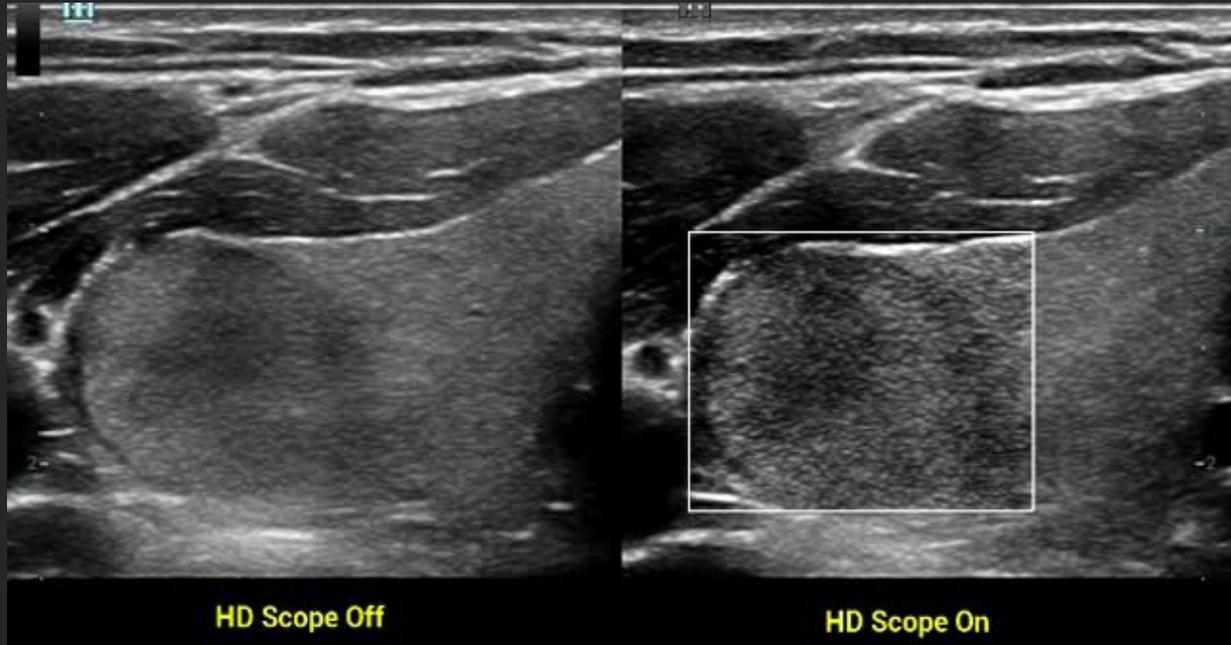
HD Scope

HD Scope: By processing channel data multiply and retrospectively, HD Scope can improve the detail information and image contrast on specific area maximally



Multiple processing of channel data for enhancement

HD Scope



- Clinical Value
 - Unmatched spatial and contrast resolution can improve diagnostic confidence for complex structure, such as mass or other lesions

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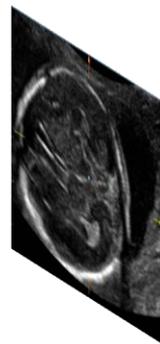
Depth VR



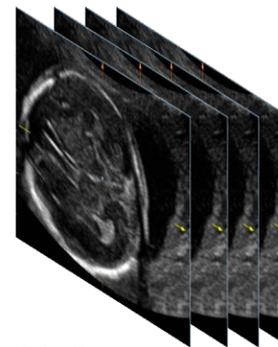
- Interactive lighting effect to generate more vivid rendering results
- Innovative new algorithm with depth information, to provide a better 3D effect
- Multiple depth tint for user's preference

3D iClear

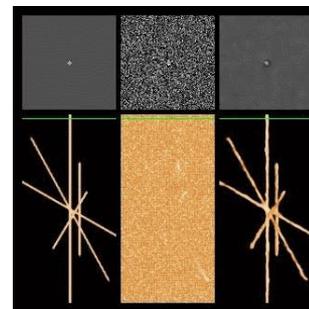
- Fully utilizes volume data information on X, Y, Z dimensional axes for 3D/4D speckle noise-reduction imaging
- Higher image quality with an enhanced smoothing effect on MPR and VR images
- Improved contrast and edge definition without compromising detail resolution



2D iClear based on single frame



3D iClear based on several frames



Principle of 3D iClear

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3D iClear





**New Tools for
Clinical Intelligence**

New Tools for Clinical Intelligence

- **Smart Acquisition**
 - **Smart Planes: Mindray's exclusive technology for fetal CNS study**
- **Smart detection and calculation**
 - **RIMT: RF-Data IMT measurement**
 - **Smart FLC: Automatic follicle detection and calculation**
 - **Smart OB: Auto measurement of OB biometrics**
 - **Smart NT: Auto NT detection and evaluation**

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Smart Aquisition

Smart Planes™

- Mindray's exclusive technology for fetal CNS study
- 5000 cases: self-trained with artificial intelligence
- 4 CNS planes and 6 measurements: accurate detection
- 1 second: fully automatic

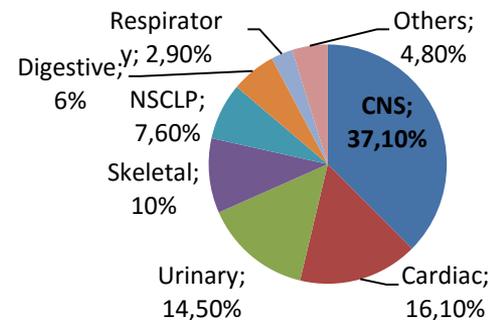
Smart Planes

Mindray's exclusive technology for fetal CNS study

- **CNS (Central Nervous System) malformations :**

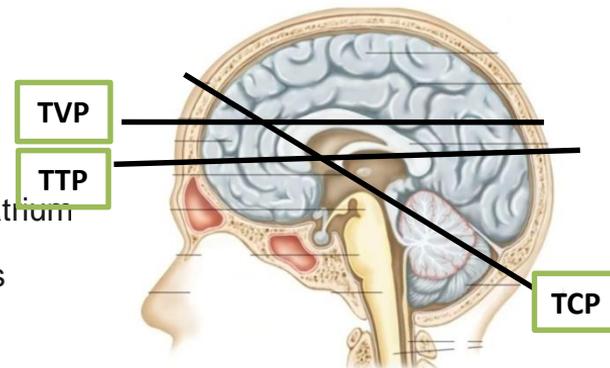
- The highest incidence of fetal malformation;
- Encountering in about 1% of all births.

(From: *The ISUOG Education Committee, Guidelines, Sonographic examination of the fetal central nervous system: guidelines for performing the 'basic examination' and the 'fetal neurosonogram', Ultrasound Obstet Gynecol, 2007.*)



- **Important inspection planes in fetal CNS :**

- TCP(Trans Cerebella Plane): cerebellum and cisterna magna
- TTP(Trans Thalamic Plane): thalami and hippocampal gyruses
- TVP(Trans Ventricular Plane): CSP, frontal horn, choroid plexus and atrium
- MSP (Middle Sagittal Plane) : corpus callosum and cerebellar vermis



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Smart Planes

Mindray's exclusive technology for fetal CNS study



- **Step 1:** Acquire 3D fetal head dataset from the BPD view
- **Step 2:** Press the **Smart Planes** tab on the Touch Panel
- **Step 3:** Detect and display the TCP/TTP/MSP/TVP automatically.
- **Step 4:** Press the **Auto Measure** button on the Touch Panel and the system will automatically measure the BPD/OFD/HC/TCD/CM/LVW

Clinical Research and
Diagnosis

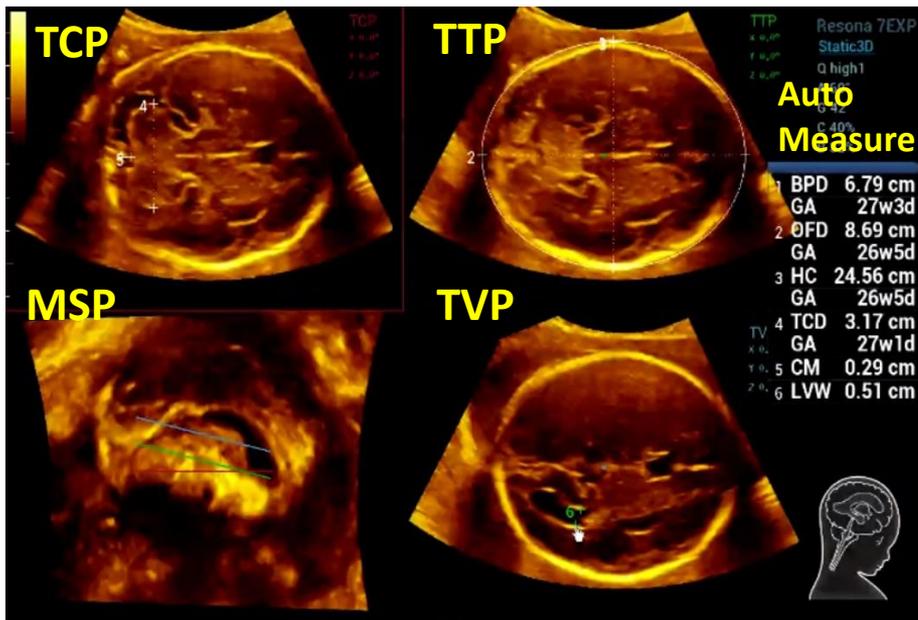
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Smart Planes

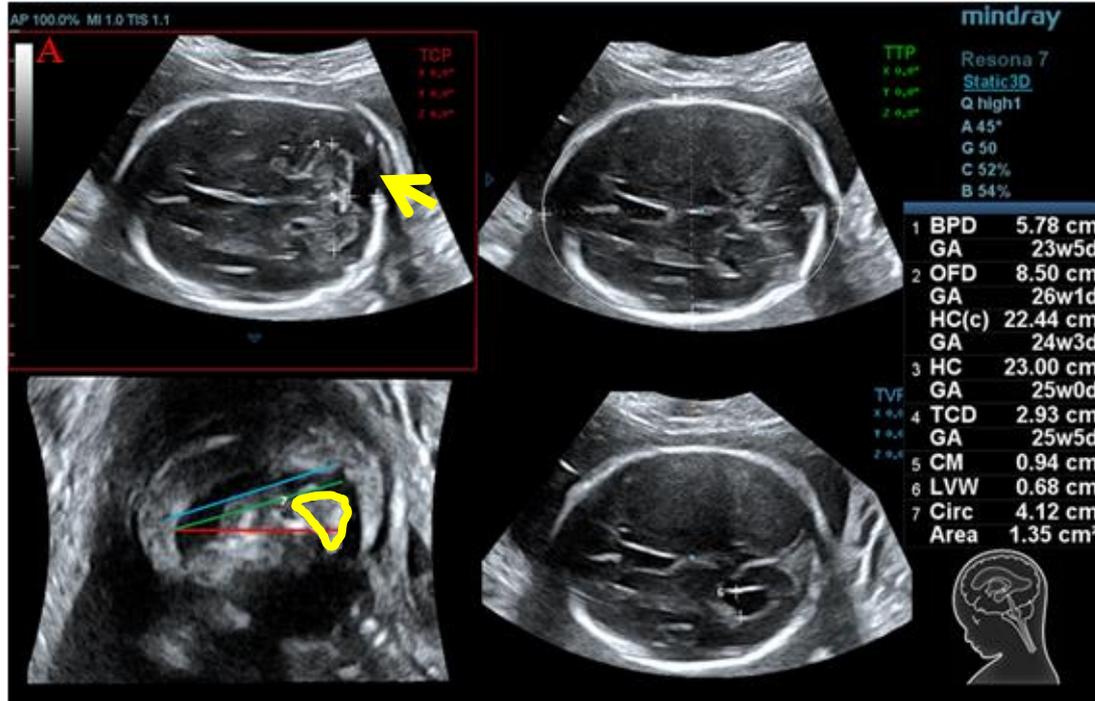
Mindray's exclusive technology for fetal CNS study



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Smart Planes

Mindray's exclusive technology for fetal CNS study



Clinical case:

- GA: 24w2d
- Misdiagnosis as Dandy-Walker syndrome in 2D but correct diagnosis from Smart Planes

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Smart Planes

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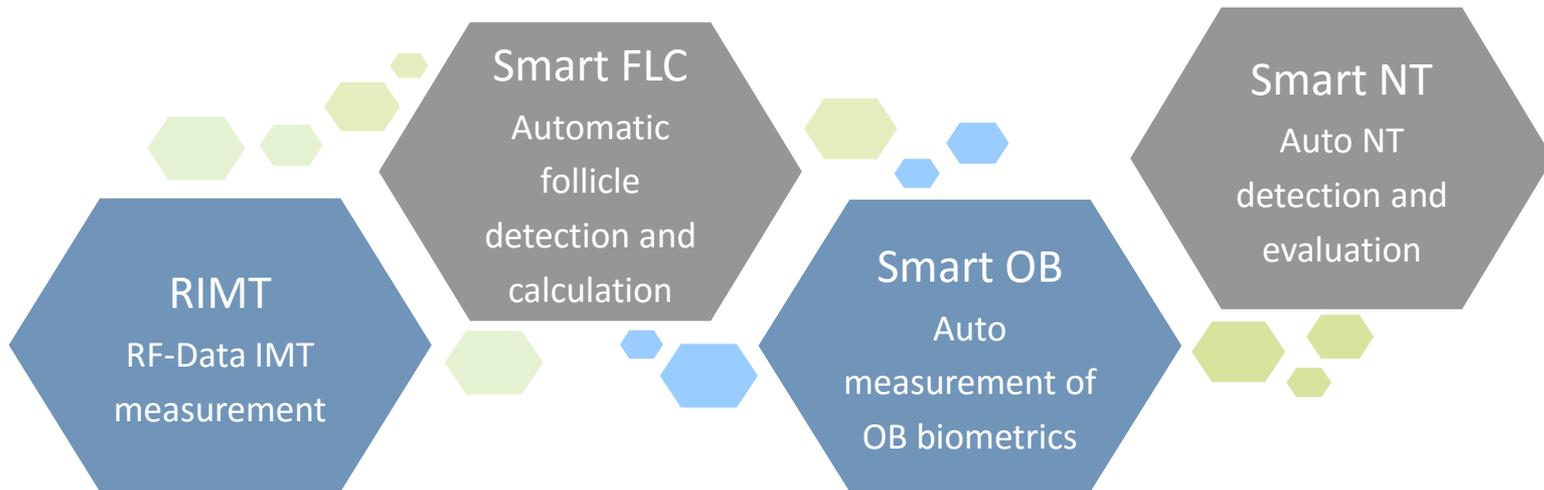
Intelligent: improve clinical efficiency and saving time

Confidence: Improve MSP acquiring rate and improve diagnosis confidence of CNS

Accurate: Improve accuracy of CNS anatomy

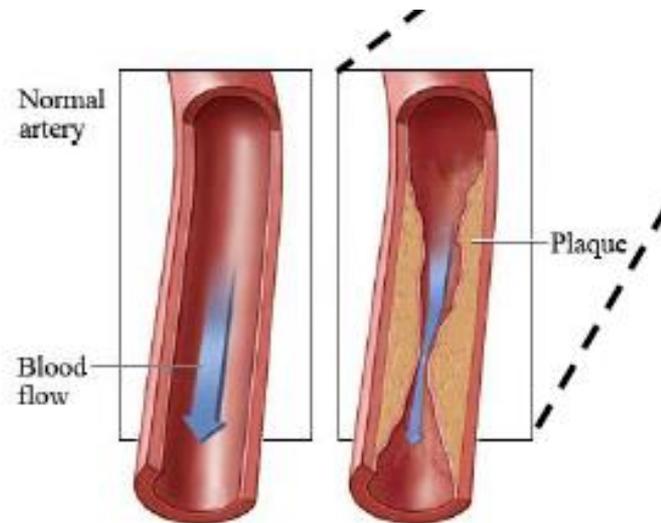
Automatic: Reduce operator's dependence

Smart Detection and Calculation



RIMT (RF-Data IMT)

- The IMT average growth is about 10 micrometres per year (ARIC study)
- The traditional IMT measurement is not accurate enough to detect the minimal changes during follow up procedure



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RIMT (RF-Data IMT)

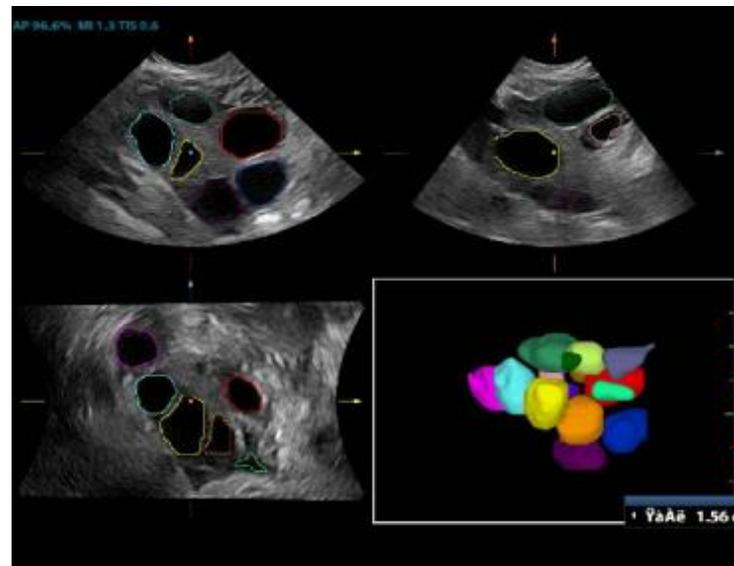


Traditional Auto IMT	RIMT	Clinical Value of RIMT
Accuracy: 80 μ m	Accuracy: 5 μ m	More accurate measurements to detect even minimal changes during follow up procedures
Processed data of stored image	RF data based	More accuracy, less dependence on image quality
quantification on one static image	Real time with quantification of 6 heart cycles	More information for Improved diagnostic confidence

Smart FLC

Automatically detect the number and calculate the volume of follicles from a 3D volume image

- Accurate assessment of the size of follicles
- Follicles are automatically sorted by sizes with color code
- Easy reporting with colorful graphic designed for follicle study



Follicle Rendering

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Smart OB

Accurate auto measurements of most frequently examined OB parameters:

- BPD/HC/FL/AC/OFD
- Efficient and accurate
- Greatly reduces repetitive key strokes and streamlines workflow



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Smart NT

- Automatically traces the NT tube cavity edge and display max NT result by industry standard method of “In to In”
- Greatly simplifies NT measurements with ease of use and accuracy

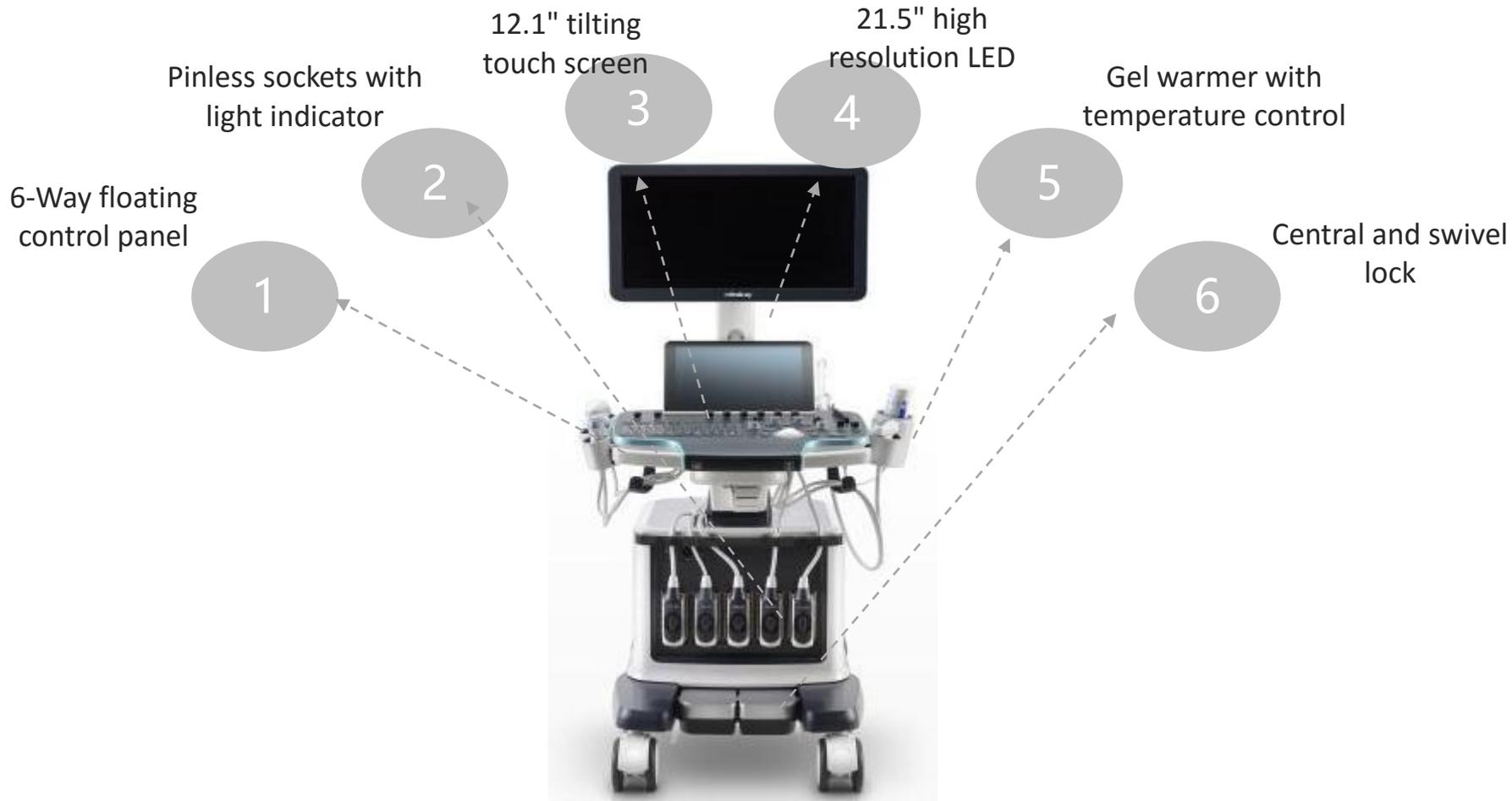


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Floating control panel



Electronic
height
adjustment



Tilting
gesture-
powered
touch
screen

Gesture Powered Operation

Following functions can be performed by gestures

Image adjustment

- Slide parameter page up/down
- Shift image to touch screen
- Zoom in/out
- 3D/4D rotate&erase
- ...

Measure on screen

- 2D Caliper & trace
- Manual spectrum trace
- Auto LV, IMT, Smart NT
- ...

Image review

- Image review
- Cine review frame by frame
- ...

User defined gestures to realize more functions with one swipe

- Initiate special functions: UWN⁺ CEUS, Elastography, iFusion, V Flow, iScape...
- iZoom, iTouch, measure, freeze, save, print...

Adjust menu layout on touch screen



**Resona 7
is now ready**

To Lead New Waves in Ultrasound Innovation

- New innovation in ultrasound technology
 - The most advanced image processing empowered by channel data
 - ZST+ breaks the bottlenecks of traditional ultrasound imaging
- New capabilities in clinical research and diagnosis
 - V Flow for visualization of complex micro-hemodynamics
 - iFusion with respiration compensation for more accuracy
 - Sound Touch Elastography with unique shell analysis
- New tools for clinical intelligence
 - Smart Planes provides fully automatic and accurate detection of the standard fetal CNS scanning planes
- New user experience for scanning comfort and streamlined workflow
 - Gesture powered operation allows more intuitive and effective workflow



Technology in Resonance with Healthcare

