

# Vivid™ Pioneer

## Image clarity and precision

### Usability insights


The Vivid Pioneer usability study was conducted by Use-Lab GmbH on behalf of GE HealthCare, to evaluate the image quality, time saving, and other usability advantages of the Vivid Pioneer system.


Twenty-two cardiologists experienced in premium ultrasound devices performed scans on individuals with valvular heart disease (VHD) and individuals with a high BMI, using both a Vivid Pioneer and a Vivid E95 v206. Afterwards, they responded to questions about their impressions — comparing the two systems, and reflecting on how the Vivid Pioneer compares to the system they regularly use in their clinical practice. Seven (7) out of twenty-two (22) participants were users of competitive comparator systems.



# Here's how Vivid Pioneer performed:


## Proven to provide excellent image quality


 **86%**  
agree Vivid Pioneer provides overall **extraordinary image detail**.


 **90%**  
rated **heart structures easy to identify** with Vivid Pioneer.

 **77%**  
of users agree Vivid Pioneer delivers **excellent 4D images out of the box**.\*


## Proven to boost confidence in assessing valvular diseases


 **90%**  
believe they can **better detect valvular pathologies in 4D** with Vivid Pioneer than with their primary device.


 **90%**  
of users think Vivid Pioneer could **increase confidence** in screening for procedures.

 **63%**  
of participants rated the **4D Color Flow as excellent**.


## Proven to streamline workflow by reducing keystrokes and time


 Statistical comparison showed that participants required significantly **fewer keystrokes** ( $p < 0.05$ ) and **less time** ( $p < 0.05$ ) to **acquire 4D images**.<sup>1</sup>

 **20%**  
**fewer keystrokes** ( $p < 0.05$ ) during image acquisition with Vivid Pioneer.<sup>1</sup>

 **13%**  
**faster 4D image acquisition** ( $p < 0.05$ ) was achieved on average.<sup>1</sup>

## Clinicians noted Vivid Pioneer's ease of use for first-time users

 **90%**  
of participants **think it would be easier to train new users** on the Vivid Pioneer system compared to their primary system.

 **85%**  
of participants who work with a **competitor system** think it would be **easier to train new users** on Vivid Pioneer than on their primary device.

 **68%**  
participants thought Vivid Pioneer could **reduce inter-operator variability** in image acquisition.

\*Out of the box images: high-quality, diagnostic images from the first scan — no manual adjustments, except for depth, width and gain.

1. Compared to Vivid E95 v206.



Based on this usability testing, cardiologists can easily transition to Vivid Pioneer, thanks to their confidence when training new users, streamlined workflow, ease of identifying valvular pathologies, and reduced inter-operator variability.

## Vivid Pioneer stood out in user preference



**100%**

Vivid E95 participants preferred Vivid Pioneer over their primary device.



**57%**

of competitor systems participants prefer using Vivid Pioneer over their primary device.

## In their own words:

*“Higher resolution, better contrast, easy delineation of endocardium, well-defined valve segments.”*

*“Significantly better tissue contrast and edge smoothing in many images, overall contrast improved.”*

*“Clearer structures, less noise, clearer color representation (Radiantflow™ is particularly impressive).”*

*“More precise, more consistent 4D reconstruction, color Doppler much better integrated in 4D.”*



The advantage users have been waiting for:

## Initial reactions to Vivid Pioneer's battery support

### Echo Lab

Participants were shown how Vivid Pioneer's Transportation mode enables rapid return to scanning — no reboot, no delay.

*"We have two labs. At the moment, we have to use a less-optimal device in one room. With this Transportation mode function, we wouldn't have to — we could use our best device in both labs."*

*"This is very helpful. We do a lot of ultrasound in ICU and are always moving the device. Right now, you lose up to five minutes each time you have to boot."*

### Cath Lab

Participants were asked to imagine a high-stakes structural heart case — crowded room, multiple devices — when suddenly the ultrasound loses power. Then they saw how Vivid Pioneer can continue scanning without interruption, even when unplugged, thanks to built-in battery support that allows up to 5-min of continuous scanning when battery is fully charged.

*"A delay would make me impatient and could be hemodynamically relevant. **This Power Interruption mode is excellent in every way.** The current state is a real problem, and we would be very happy with this solution."*

*"Power outages make us very stressed, very nervous. We hope the images are saved but might accidentally lose them. **This Power Interruption mode is the greatest advantage of Vivid Pioneer. It's what we have always wanted.**"*



Interested in learning more about these findings? Please contact your GE HealthCare representative and access the full study White Paper.



GE HealthCare

This study was carried out by Use-Lab GmbH, an independent human factors consultancy on behalf of GE HealthCare.

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