

How to choose between patient side and remote fluoroscopy



Shimadzu Medical Systems USA  
Marketing Department

## ***RF Clinical Solutions***

No matter what imaging road you take,  
Shimadzu has the optimal choices for you.

## Understanding the R/F system structures and radiation dose

### Remote R/F system



Remote R/F systems mount a tube above the table and the imaging detector under it. Since scatter radiation from the patient is the main source of radiation exposure to medical staff, potential radiation exposure is on the upper body parts, throat, and head at the table side. Protective equipment such as a lead apron can partially protect medical staff from the scatter radiation. With complete remote control from another room, scatter radiation to medical staff can be reduced to zero. However, if a staff member is at the patient side while working on a remote system, the radiation exposure is much higher than on a patient-side R/F system. (Figure 1.)

- System: SONIALVISION G4 LX edition (Remote R/F)
- Table-top height: 700mm
- SID: 1100mm
- Position to be measured: front center

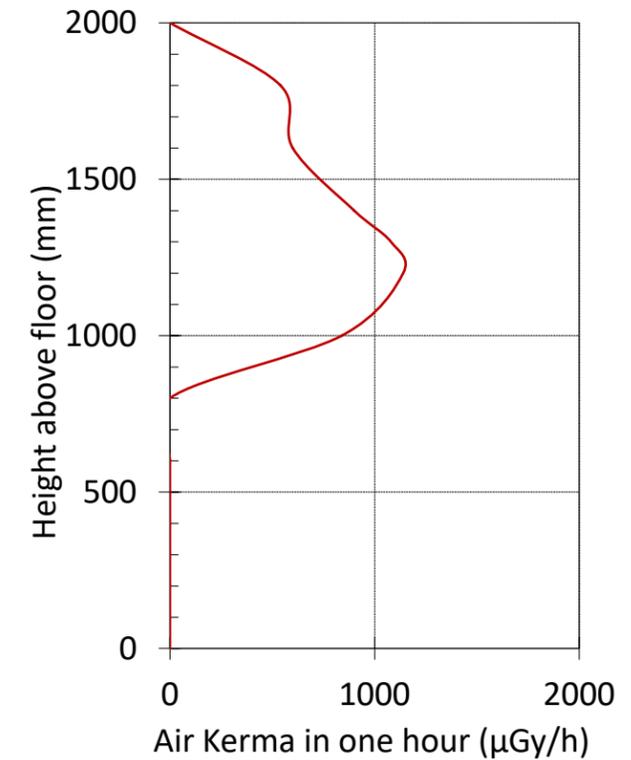
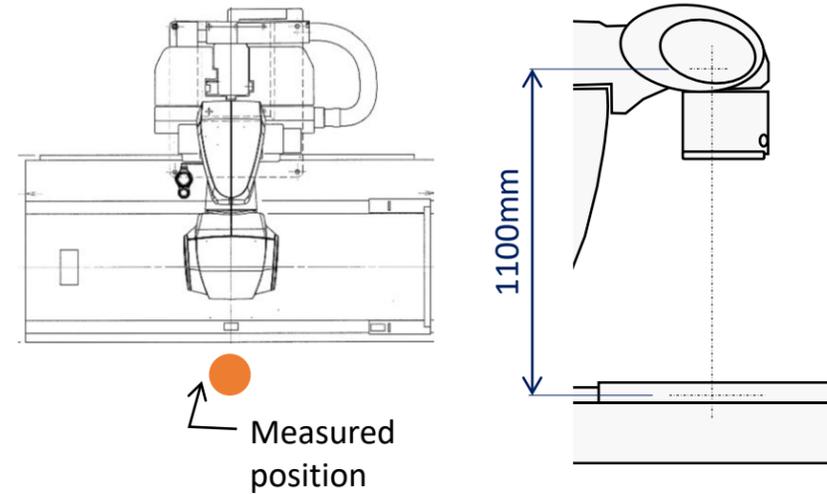


Figure 1. Scattered radiation dose with the SONIALVISION G4 LX in the examination room

### Patient-side R/F system



Patient-side R/F systems mount a tube under the table and the imaging detector above it. Scatter radiation from the patient is the main source of radiation exposure to medical staff. It means potential radiation exposure on the lower body parts, legs, and feet. For tableside systems, the radiation exposure to medical staff standing by the table is typically low during image acquisition. (Figure 2.)

- System: FLUOROsPEED X1 edition (Patient-side R/F)
- Table-top height: 820mm
- SID: 890mm
- With Protective Apron (std. accessory)
- Position to be measured: front center

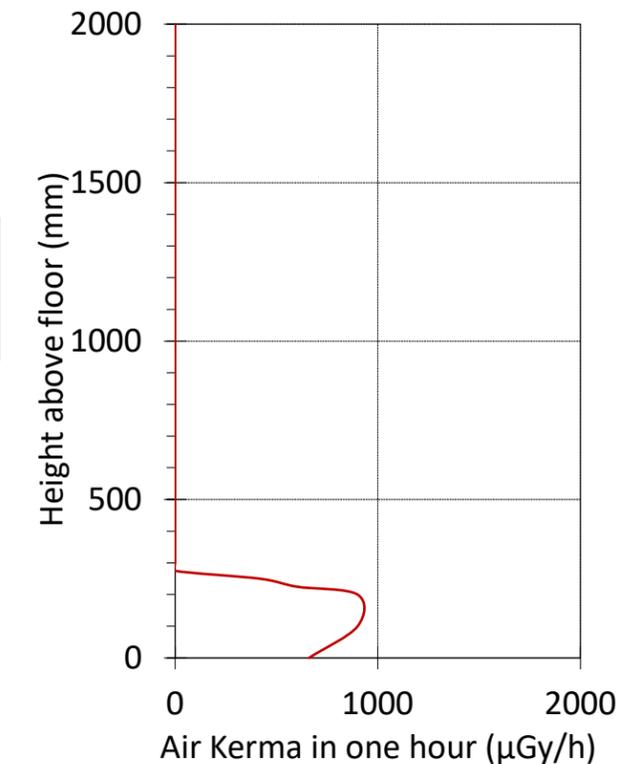
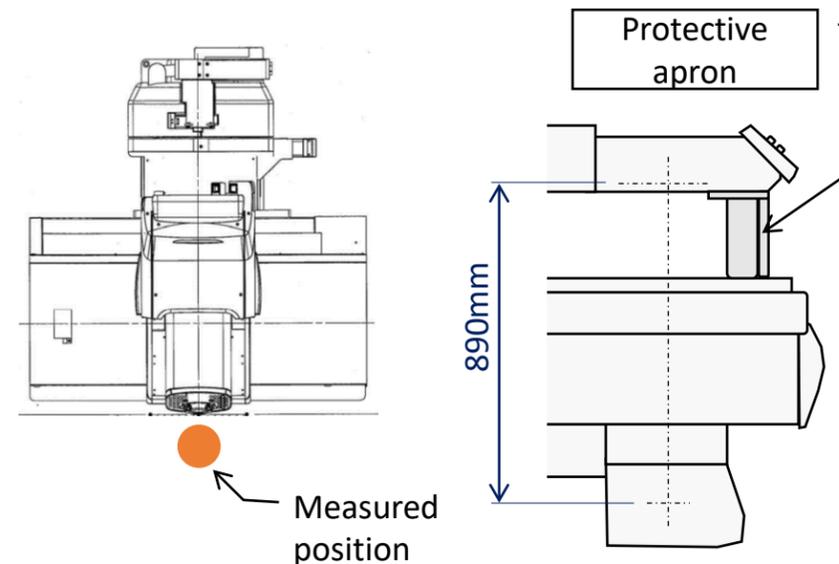


Figure 2. Scattered radiation dose with the FLUOROsPEED X1 in the examination room

## Remote R/F system vs. Patient-side R/F system: How to choose the best system for you

A remote fluoroscopy system is the system of choice for facilities that perform more exams that do not require staff to stay with the patient. With a remote system, staff is not required to remain in the room during exposure and thereby not exposed to unnecessary radiation.

A tableside system is preferred when more examinations are performed that require a staff member to stay with the patient during the procedure (i.e., pediatric, geriatric, and interventional exams). Due to the under-table tube design, there is less scatter radiation exposure for staff in the examination room. Extended table-side controls allow full system control while interacting with the patient.

### Shimadzu offers the “Best in Class” in both Patient-side or Remote R/F systems

#### SONIALVISION G4 LX edition Remote R/F system

Its advanced applications like Tomosynthesis and SLOT Advance offers clinicians features normally only available with multiple systems.



#### FLUOROSPEED X1 edition Patient-side R/F system

Patient-side R/F system

The ideal choice for busy departments that need the flexibility of an elevating table with ambidextrous imaging deck controls to match their clinical staff’s need.



## Which R/F system meets your clinical needs?

Clinical Advantages in each R/F system

●: very good, ○: good

		SONIALVISION G4 LX edition	FLUOROSPEED X1 edition	Notes	Checkbox
Type of study	GI	●	●	(Common) Wide tabletop and various accessories for safe and smooth inspection (G4) Enhanced remote console for ease of use zero exposure of physicians by complete remote control (X1) GLIDE ASSIST for stress-free operation Low scattered radiation exposure of physicians due to the principle of the under-tube structure	<input type="checkbox"/>
	Barium Swallow	●	●	(Common) Enough space for a wheelchair & most Gurneys Wide dynamic range of the image Table positioning can be done with 1 button	<input type="checkbox"/>
	Arthrography	●	●	(Common) Enough Space for flexibility of examinations Wide coverage without moving the patient	<input type="checkbox"/>
	Orthopedic	●	○	(G4) Various Breakthrough Technologies such as Tomosynthesis	<input type="checkbox"/>
	Radiography	●	●	(Common) Great combination with 2 <sup>nd</sup> X-ray tube	<input type="checkbox"/>
	General Table-side Examinations	○	●	(Common) Advanced low-dose, high-quality fluoroscopic imaging technology Wide coverage without moving the patient (G4) Reduction of physician’s scattering radiation exposure through using protections (X1) GLIDE ASSIST for stress-free operation Low scattered radiation exposure of physicians due to the principle of the under-tube structure All operations can be performed at the table side	<input type="checkbox"/>
	Urological Examinations	●	○	(G4) ROI center table tilting mode for smooth examination Urological collimation function can reduce the radiation dose	<input type="checkbox"/>
Situation	DSA	○	○	(Common) DSA mode (op)	<input type="checkbox"/>
	Pediatric	●	●	(Common) Assist with dose management Ease of getting on and off the patient and assistance	<input type="checkbox"/>
	Bariatric	●	●	(Common) High load capacity Ease of getting on and off the patient and assistance	<input type="checkbox"/>
	Emergency	●	○	(Common) Fast system boot (G4) Stretcher examination for Emergency situation	<input type="checkbox"/>

## SONIALVISION G4 LX Suitable for Remote Examinations

### No scattered radiation exposure of physicians

With complete remote control from another room, the physician's scattered radiation exposure can be reduced to zero. In addition, exposure to scattered radiation can be sufficiently reduced by using protection devices when performing table-side studies.



### A true Universal system with excellent features

Support the wide range of applications and the high productivity in R/F rooms.

Thorax & General Rad



Emergency



Urology & Gynecology



Breakthrough Technologies



Patient side procedures



Bariatric



Swallow Speech



## Shimadzu Exclusive Breakthrough Technologies

### Tomosynthesis / T-smart

Premium Option

This state-of-the-art imaging technology offers high quality multi-slice images to visualize the part which was invisible by the conventional plain radiography, in a simple and quick workflow, and at low exposure dose. T-smart provides even clearer Tomosynthesis images suppressing the artifacts around metal objects even further. This application will be a great help in orthopedics especially for patients with metal implants or fixators, as it enables you to diagnose the status of the boundary between bone and implant very exactly.

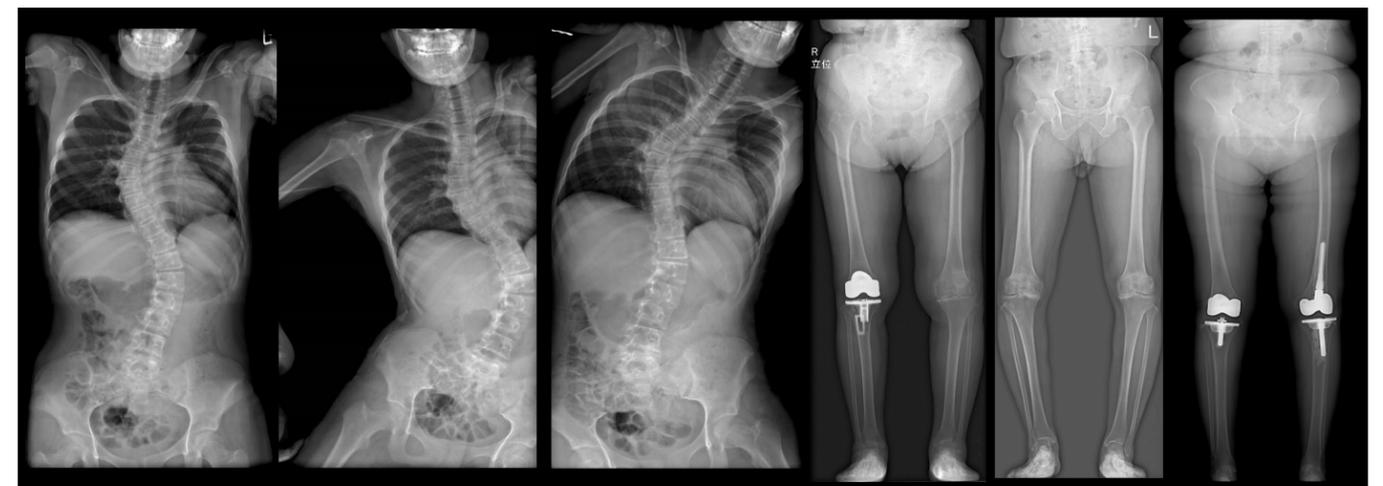


T-smart clinical data

### SLOT Advance

Premium Option

SLOT Advance provides images with long fields of view, such as for full spine or full leg images, just by a very simple workflow, while also offering high accuracy images with minimal X-ray dose.

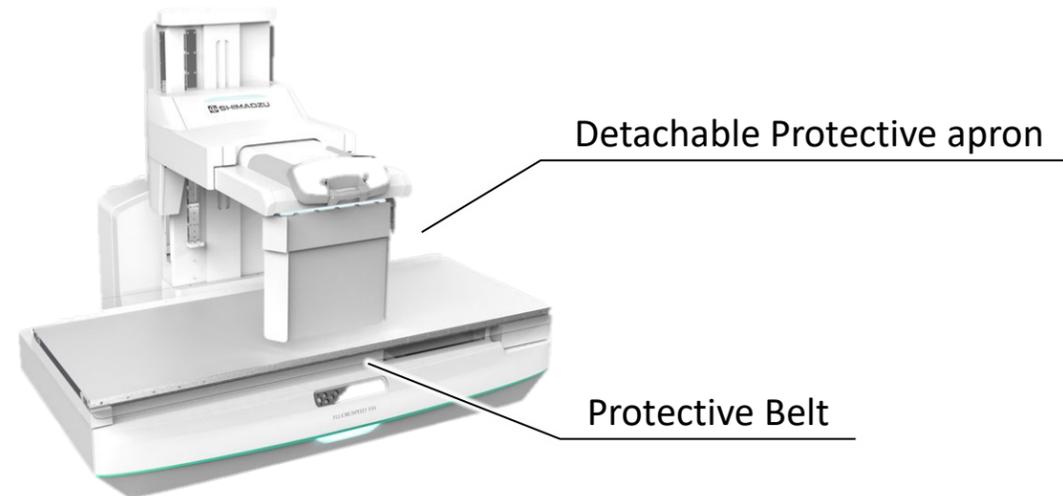


SLOT Advance clinical data

## FLUOROspeed X1 Suitable for Table-side Examinations

### Less scatter radiation to the doctor

Because of the under-tube structure, in principle, FLUOROspeed X1 can reduce the physician's scattered radiation exposure relatively. Protective belt and protective apron (Standard) can reduce the exposure further.



### "GLIDE ASSIST" technology

The "GLIDE ASSIST" handle recognizes the user's grip movement for guiding imaging deck movement smoothly. Regardless of the height and position of the imaging unit, you can park the FPD deck and quickly move on to the examination using 2nd X-ray tube.



FPD deck parking at any position



### User friendly handle design

Exposure buttons, fluoroscopy buttons and record fluoro buttons are deployed on both ends for left-handed and right-handed clinicians.

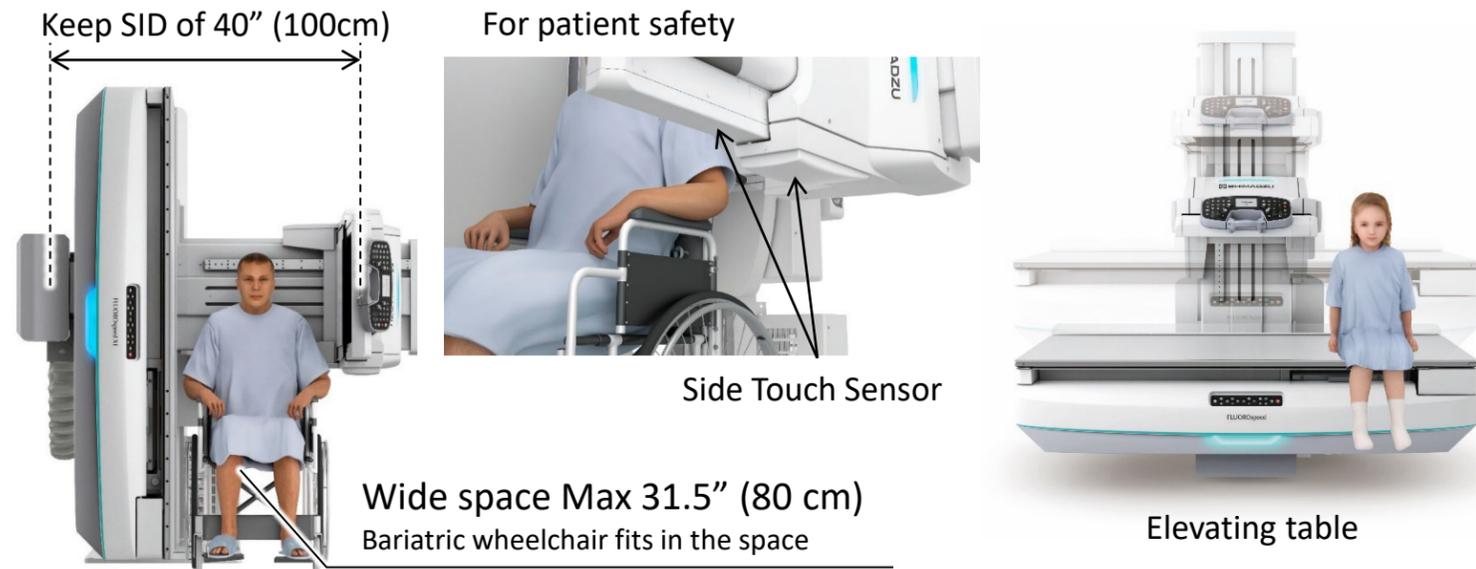
## For Barium / Swallow study

### Securing patient safety

Max 31.5" (80 cm) wide space and "Side Touch Sensor" provides better comfort and safety to your patients.

### Elevating table

It is easy for technicians to transfer a patient onto the fluoro table. Physicians can adjust the table-top height to the most comfortable height during clinical procedures.



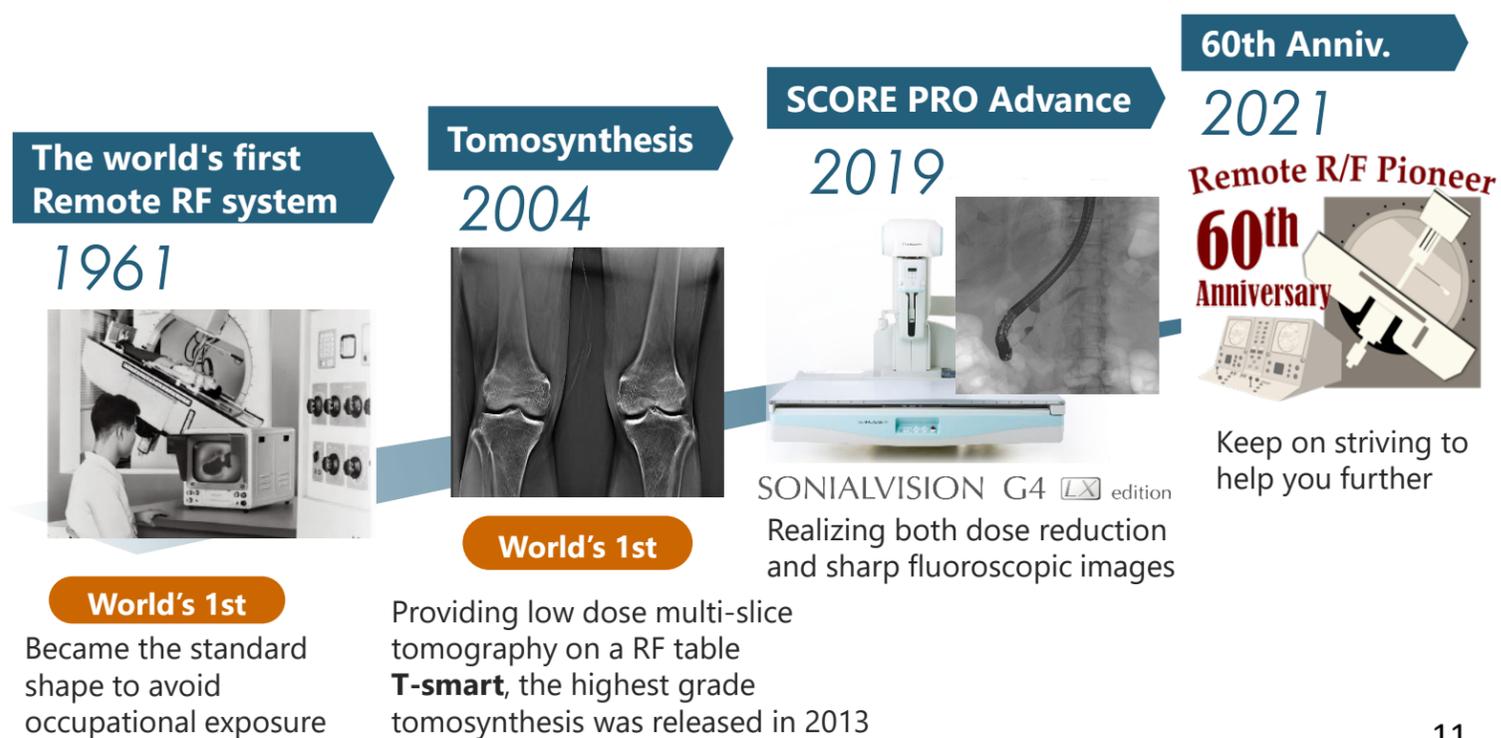
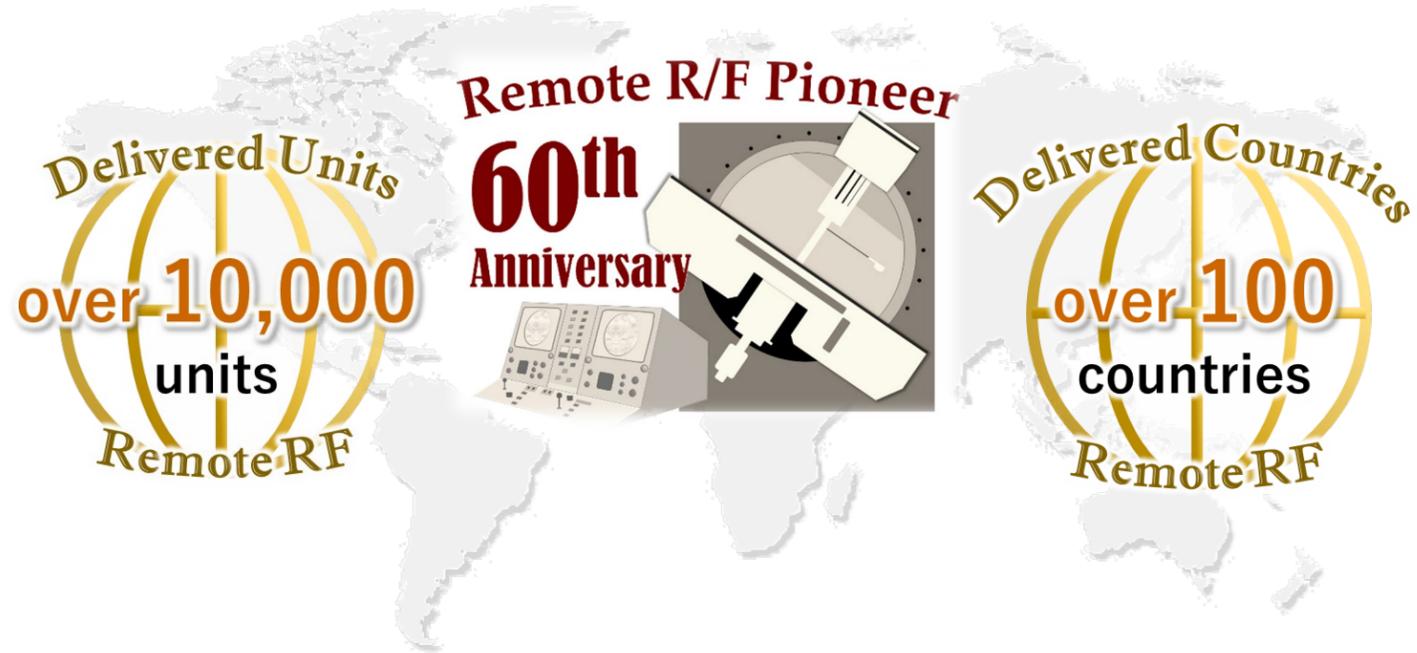
## For maximizing the room productivity

Combining a ceiling tube mount and a wall stand, enhances your clinical study, efficiency and versatility. Adding wireless flat panel detectors in your room, increases effectiveness of your radiographic examinations and workflow.



## Milestones of Shimadzu Remote R/F system

In 1961, Shimadzu completed the world's first Remote-controlled Fluoroscopy System to save the operators from X-ray exposures. Since then, Shimadzu has provided lots of innovative technologies & solutions for worldwide users & patients as its field's pioneer.



## Notes

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