



The image shows a Siemens Luminos dRF Max mobile C-arm fluoroscopy system. It consists of a large, white, rectangular mobile cart with a control panel on the side. A large, white, C-shaped arm extends from the cart, supporting a large, white, rectangular C-arm. The C-arm is positioned over a patient table. The background is a plain, light-colored wall.

# The smart way to invest in remote fluoroscopy

## Luminos dRF Max

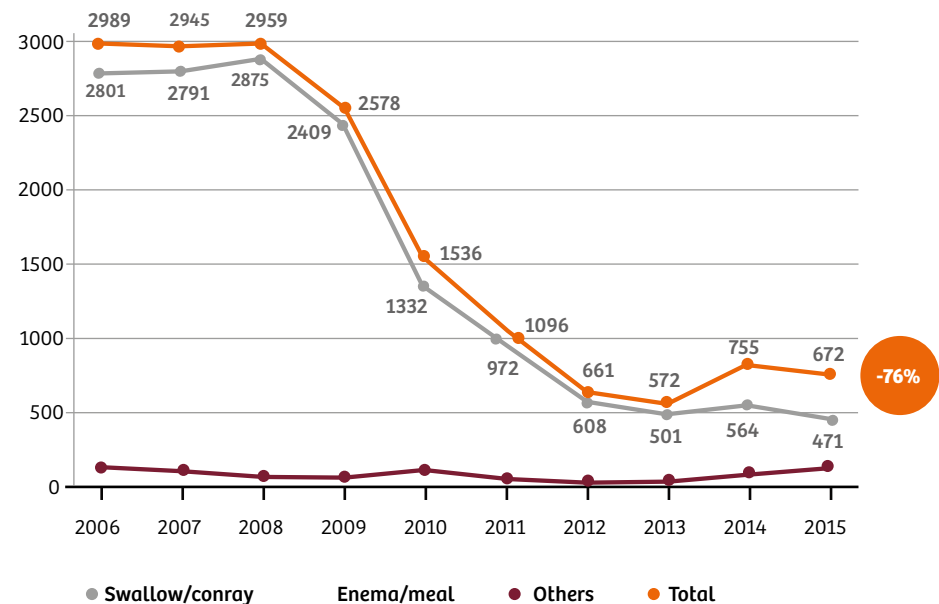
Member  
of the  
MAX family

# Manage discrepancies between demand and supply

Over the last few years, fluoroscopy examinations like barium studies were increasingly replaced by sonography, endoscopy, computed tomography, and magnetic resonance imaging. Even though the number of fluoroscopy examinations is dwindling, clinical institutions have to offer fluoroscopy examinations.

For healthcare providers, the pressing question is: How can they improve the return on investment of a potentially underutilized fluoroscopy system?

Trend of gastrointestinal contrast studies over the last 10 years<sup>1)</sup>



1) Trends of barium studies performed at the Tata Memorial Hospital, Mumbai, Maharashtra, India over the past 10 years. Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5234156/> last accessed on 09/25/2017

# Enhance system utilization with Luminos dRF Max

By combining remote fluoroscopy and unlimited radiography, our proven Luminos dRF Max lets you increase system utilization and save on costs for an additional system and room. It delivers high-quality, low-dose dynamic and static images on all types of patients – from small children to obese adults.

The system also offers smart design features, pediatric accessories, and a high level of cybersecurity to keep both patients and their data safe. Benefit from stronger synergies, sharper imaging, and safer use with our 2-in-1 Luminos dRF Max – a smart investment in fluoroscopy.



**Experience the MAX effect:**  
Multiply your gains in standardization, savings, and satisfaction with Luminos dRF Max.



## Discover Luminos dRF Max

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# Luminos dRF Max at a glance

Cover your case mix

Luminos dRF Max can be easily adapted to match your individual case mix. You can add as much radiography as you need – whenever you need it. This makes our Luminos dRF Max a future-proof choice.

Offer low-dose imaging

Luminos dRF Max makes it easy to follow the ALARA<sup>1)</sup> principle. Special applications and post-processing features help you keep dose as low as possible, while you can see all anatomical details in clear images to make confident diagnostic decisions for all patients.

Improve your processes

With its smart design features and automated workflow, Luminos dRF Max supports you in your daily work: Benefit from safe system operation and efficient workflows and focus on what really matters – your patients.

1) ALARA = As Low As Reasonably Achievable





**Multiply your  
full potential**

Is Luminos dRF Max your first MAX system? Then it is your door opener to the MAX effect. If you already own a MAX system, you can now enjoy the MAX effect of enhanced standardization, savings, and satisfaction. And the MAX effect will grow with every MAX system you add.

**Keep your  
IT secure**

In modern healthcare, digitalization supports patient-centered care from chronic disease to population health management. Being connected, however, can also bear risks like data theft or cyberattacks. Luminos dRF Max comes with a high level of cybersecurity to support you in safeguarding your IT and sensitive patient data.

**Personalize  
when it matters**

Children have different imaging needs than adult patients. From a very low table height and dedicated low-dose organ programs to special positioning aids, Luminos dRF Max provides all you need to image children safely and efficiently.

# Stronger synergies – with a true 2-in-1 solution

In times of decreasing fluoroscopy examinations, a solution is required to secure a positive return on investment. With our 2-in-1 Luminos dRF Max, you decide how much radiography you want to perform – thus maximizing system and room utilization.

## Cover your clinical needs

Our Luminos dRF Max is a highly flexible 2-in-1 system. With the main unit, you can perform fluoroscopy without limitation and a considerable number of radiography examinations.

## Expand your system setup at any time

You can always enhance your efficiency and clinical versatility in radiography, for example if you need to perform a higher number of standardized chest exams or cross-table images. Simply add an optionally available bucky wall stand, wireless detectors<sup>1)</sup>, and a ceiling-mounted tube<sup>1)</sup> for optimized operations. You can add them right from the start or anytime later.

## Benefit from a high level of integration and a small footprint

Since all components are fully integrated, they are controlled from the same control console and share the same workflow. You also save space because you need just one system cabinet with a small footprint for both generator and power supply.

## Improve accuracy by using integrative multimodality

When fluoroscopy and other imaging modalities

like endoscopy or ultrasound are used in parallel, the placement of the equipment in the examination room as well as comprehensive documentation of the procedure can be challenging. To improve accuracy, Luminos dRF Max allows you to access the patient data and images you need with just one click because they are stored in the same DICOM folder. You can also display the images side by side on your monitor and easily switch between them with SmartView<sup>1)</sup> – for the comprehensive view you need.



The optionally available bucky wall stand offers automatic tube tracking.



1) Option

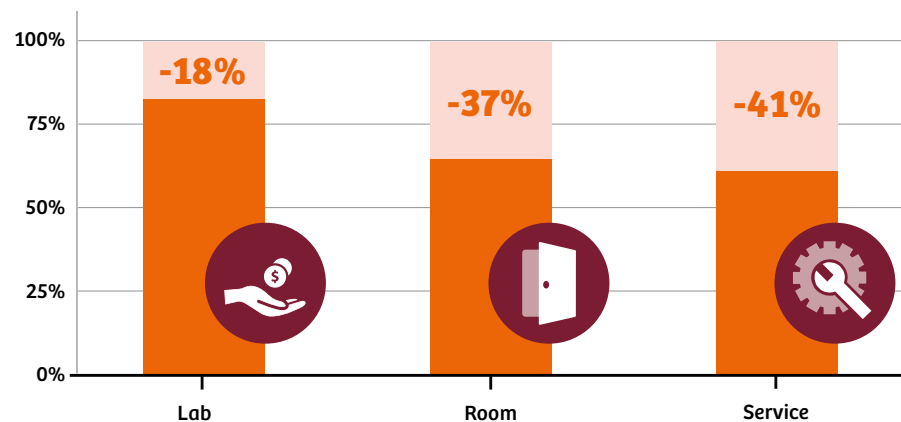




### Improve your TCO with detector swapping

With our 2-in-1 Luminos dRF Max, you save an additional system and room. You can further reduce investment costs and increase system availability by swapping our wireless detectors MAX wi-D<sup>1)</sup> and MAX mini<sup>1)</sup> between your multiple MAX systems. After an easy one-click registration, the detectors are ready to be used. They also feature innovative automatic charging when they are in the wall stand tray. And because they share the same battery type, you can simply swap the battery if one is running low.

### Reduce your fixed costs with Luminos dRF Max<sup>2)</sup>



*“ I didn't expect the system would be capable of doing everything it can, the Luminos dRF Max is truly an all in one machine. ”*

Leon Smith,  
SKG Radiology,  
Duncraig, Australia

2) The results from the dRF Efficiency Study, which was performed with an Axiom Luminos dRF, are valid for both Axiom Luminos dRF and Luminos dRF MAX, since the relevant components and parameters are comparable. Source: Whitepaper “Best invest practice – AXIOM Luminos dRF” at Ziekenhuis Oost-Limburg in Genk, 2008.

# Sharper imaging – for fast, confident diagnoses

To make reliable diagnoses, you need excellent visualization of all anatomical structures. Luminos dRF Max delivers clear images at the lowest possible dose. Furthermore, intelligent image acquisition and post-processing help keep examination and reading times short.

## See the anatomical details you need to see

Whether for dynamic imaging like swallow without bolus chase or static radiographic imaging, the large, flat detector of Luminos dRF Max offers excellent coverage. This also allows you to reduce examination time and dose even for challenging examinations. In addition, all components of the image chain are perfectly compatible because they are all from one source: Siemens Healthineers.

## Standardize your imaging workflow

Support your team in confidently acquiring consistent, high-quality images regardless of the complexity of the examination and the knowledge level of the technologist: You can quickly and easily set up the system with your standard settings for radiography and fluoroscopy thanks to the one-click registration. In addition, exposure and post-processing parameters, collimation, and system positions can be predefined in dedicated organ programs. Even for free examinations, the positioning of the tube takes no more guesswork, since the detector angle is displayed directly on the color touchscreen with MAXalign.<sup>1)</sup>

## Benefit from advanced post-processing

For easy reading and comparison, Luminos dRF Max delivers excellent image quality – always in your preferred image flavor. See improved bone detail and soft tissue contrast in both static low-dose and gridless images. In dynamic imaging, you benefit from enhanced contrast and dynamic noise reduction across the image without loss of detail, even in very bright or dark areas. And when patients only partially cover the image, two semitransparent filters<sup>1)</sup> can help you reduce both examination time and dose.

## Offer safe imaging of children

Children have a much greater sensitivity to radiation than adults. Luminos dRF Max supports you in performing fast, safe, and correct pediatric imaging – assisted by radiation-free positioning<sup>1)</sup> and dedicated parameters for ultra-low dose. With our advanced dynamic noise reduction<sup>1)</sup> for pediatrics, you can even perform ultra-low-dose swallow studies for neonates and see anatomical details in high contrast.

*“ In addition to the noticeably optimized workflows, image quality is of particular interest for us radiologists. And I have to say that compared to the previous systems, we saw a quantum leap in this regard. ”*

Dr. med. Gunther Schütze,  
Private Imaging Center  
Bethanien-Hospital,  
Frankfurt, Germany

<sup>1)</sup> Option



**DiamondView Plus post-processing:** improved image contrast and detail in static images ...

... as well as in free examinations without a grid



Without DiamondView Plus

With DiamondView Plus



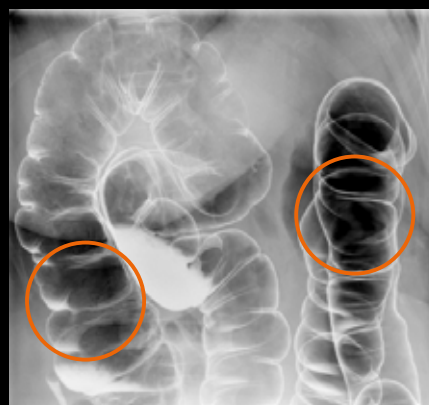
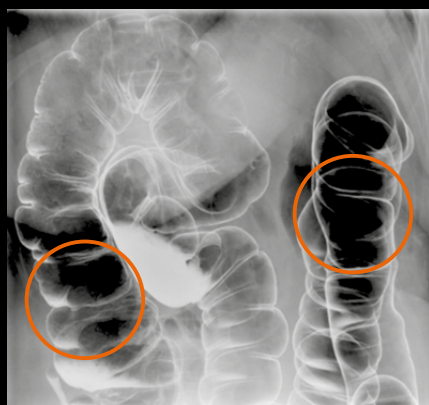
Without DiamondView Plus

With DiamondView Plus

**Dynamic Density Optimization (DDO):** automatic harmonization of dynamic images

**Semitransparent filters<sup>1)</sup>**

**Neonatal swallow study**



Without DDO

With DDO



They can be freely positioned in the image



With dynamic noise reduction

# Safer use – to protect patients and technologists

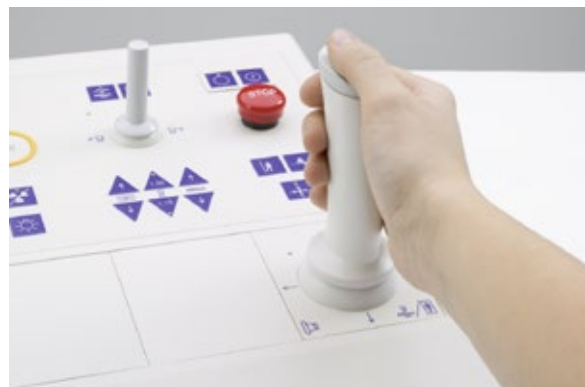
The safety of patients and staff is especially at risk during patient transfers to and from the system. Luminos dRF Max offers smart design features and intuitive system operation to keep both patients and technologists safe.

*“And let’s not forget the easy transfer and positioning of patients. Several positions are preprogrammed, and the lowest table height of 48 cm is ergonomically perfect, especially for handling disabled, heavy or wheelchair patients. The patient feels much more comfortable now. It also means no more pulling or tilting of patients – I can now focus on other patient issues.”*

Ben Welckenhuyzen,  
Ziekenhuis Oost-Limburg  
The Netherlands

## Efficiency and safety – no contradiction

Intelligent automation and comprehensive control elements exceptionally accelerate and simplify the positioning of Luminos dRF Max. Its industry-leading safety concept includes joysticks that are only activated by the touch of a human hand, preventing unintentional system movement. Gain fast access to all table movements and imaging parameters – so you can concentrate on your patient.



## Enhance the experience of your patients

Accessing or leaving a system can be cumbersome or painful, especially for elderly or disabled patients. Luminos dRF Max helps increase comfort and safety with a low minimum table and stepping height. For the transfer of patients from a trolley onto the system, your staff benefit from the height-adjustable table, longitudinal tabletop movement, and excellent accessibility – even from the back of the system where all mechanical parts are fully covered. The open system design grants full access to the patient without repositioning, even in small rooms.



Luminos dRF Max helps you enhance safety in all respects: whether it is concerning imaging your smallest patients at the lowest possible dose or keeping all your patient data safe.



**Pediatric Package**

#### Position even small children safely

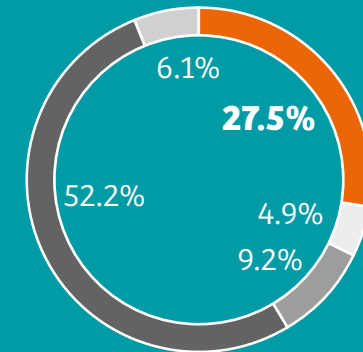
Imaging children who are ill and in pain can be challenging. Luminos dRF Max offers all you need to improve the experience for both children and their families and to provide child-friendly, safe, and efficient ultra-low-dose examinations. Our dedicated accessories for pediatrics help you easily and safely position children and reduce movements during an examination.



**Cyber-security Package**

#### Reach a high level of data security

To protect your IT equipment and patient data from cyberattacks, Luminos dRF Max has been designed to be in compliance with the requirements of the US Department of Defense. Our 2-in-1 system offers this high level of cybersecurity as a standard right from the start. Role-specific user rights combine an easy workflow with a high level of security, because each user has to remember just one password for all MAX systems.



■ Medical/Healthcare 
 ■ Business 
 ■ Educational  
■ Banking/Credit/Financial 
 ■ Government/Military

#### Data breaches by sector in 2017<sup>1)</sup>

Security breaches affecting patient data and system IT can cost money and reputation. Did you know that statistically, four new cybersecurity threats emerge every second?

1) Identity Theft Resource Center, Data Breach Category Summary, Report from 11/1/2017. <http://www.idtheftcenter.org/images/breach/2017Breaches/DataBreachReport-2017.pdf>

# The MAX effect – where gains multiply

Whether healthcare providers have to cope with tighter budgets or want to expand their business: they are forced to do more with less. What if there's a smart way to run a radiology more efficiently?

Take a look at our high-performance MAX systems. They all share the same usability concept and imaging technology over the broadest range of clinical applications on the market. And if you combine two or more MAX systems, you'll experience the MAX effect: unique standardization across your fleet, so you can save both time and costs and ultimately boost your level of satisfaction.

Multiply the full potential of your department – with a winning combination of MAX systems.

## Gain standardization

Achieve the same high-quality results throughout sites, rooms, and personnel – always. One MAX platform allows you to standardize workflows and image impressions the way you want. That means faster working and fewer mistakes. Resulting in better outcomes at lower costs.

## Gain savings

Discover the smart way to save with the MAX effect: Save investment costs thanks to detector swapping, reduce the number of rooms required with More-in-1 MAX systems, and keep staff training to a minimum thanks to one usability.

## Gain satisfaction

Increase satisfaction of all stakeholders through offering more patient comfort and lower dose, less stress and more confidence for staff, fast results, and high diagnostic accuracy at lower costs. For consistent high-quality care and enhanced reputation.





More-in-1 system

**Multitom Rax**  
Twin Robotic X-ray



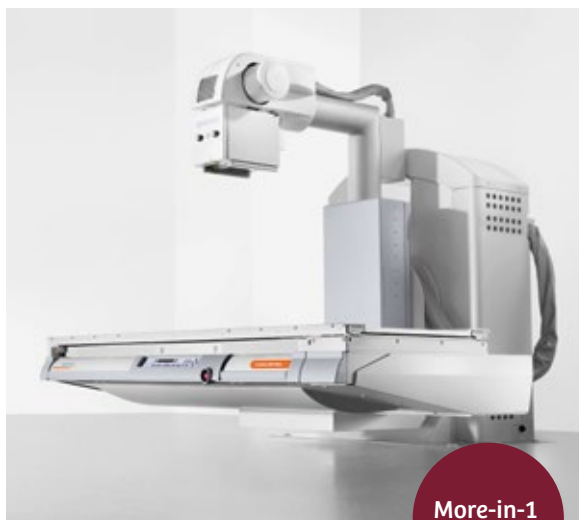
**Mobilett Mira Max**  
High-end digital mobile X-ray imaging



**Multix Fusion Max**  
High-efficiency radiography



**Ysio Max**  
High-performance radiography



More-in-1 system

**Luminos dRF Max**  
2-in-1 remote fluoroscopy



More-in-1 system

**Luminos Agile Max**  
2-in-1 patient-side fluoroscopy



# See anatomical details in high image quality

To make fast and confident diagnostic decisions, you need high image quality. Luminos dRF Max offers advanced imaging and post-processing technologies and a large field of view.

## Excellence in fluoroscopy applications



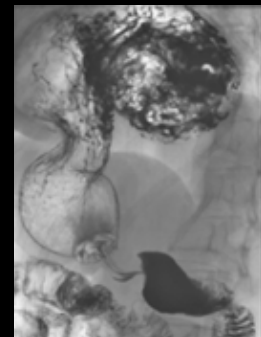
Optimized image contrast at low dose for gastrointestinal examinations



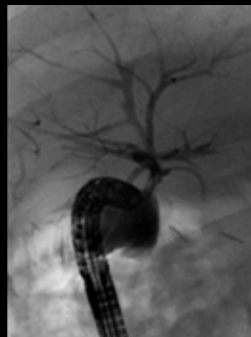
Digital subtraction angiography (DSA) and road-mapping<sup>1)</sup>



Swallow studies with high frame rate



Wide coverage for gastrointestinal examinations



Excellent patient access for ERCP examinations



Smooth table-top movements for myelogram

## Excellence in radiography applications



High throughput for chest X-rays with clear details



Low-dose pediatric imaging with excellent image quality



Easy positioning and standardization with predefined organ programs



Wide coverage on the table with 43 x 43 flat panel detector



1) Option



# Additional products and services

To help you tap the full potential of your systems, IT, and staff, we offer you a broad range of complimentary products and services.

## Accessory solutions

Choosing a new imaging system may inspire other equipment renewals or additions at your workplace. Our accessory solutions portfolio offers a broad range of complementary products, such as radiation protection clothing/equipment, uninterrupted power supply solutions, contrast media injectors, and positioning aids. We will gladly tailor a package to your individual needs.

## Service and maintenance

Protect your investment over its entire lifecycle and enjoy optimized system availability, consistent image quality, and transparent total cost of ownership. For Luminos dRF Max, we offer you a dedicated service package including:

- Preventive maintenance to increase system uptime
- Remote diagnosis and repair to help keep service costs down
- Corrective maintenance and comprehensive parts coverage, including tube and detector



## LifeNet

LifeNet<sup>1)</sup> is our web-based portal that lets you manage the performance and maintenance of all your Siemens Healthineers systems 24/7. Whether you want to plan maintenance activities, monitor the status of your systems and service requests, or document service history, LifeNet gives you full control and confidence at all times. Ease your workday and stay calm, no matter what's happening around you.



## PEPconnect – your smarter connection to knowledge

Staffing shortages, cost constraints, greater workloads – and all the while, you have to deliver an ever higher quality of care. One key to overcome these challenges is further education. With our online e-learning experience PEPconnect<sup>1)</sup>, you can boost your learning – anytime, anywhere, and from any device.

1) Subject to country-specific availability

# Technical specifications

Discover how our 2-in-1 Luminos dRF Max lets you benefit from stronger synergies, sharper imaging and safer use.

**Table**  
Height: min. 48 cm (19"), max. 98 cm (39")  
Weight capacity: up to 300 kg (661 lbs.)  
Tabletop width: 80 cm (31.5")

**MAX image chain**  
MAX dynamic detector with  
Cesium iodide scintillator  
43 cm x 43 cm (17" x 17")

**Remote control console**  
with touch-sensitive joysticks  
and touch user interface

1) Option

Comprehensive  
tableside  
controls



**Tube:**

Anode heat capacity: 820 kHU  
Collimator with semitransparent filters<sup>1)</sup>



**Vertical transfer position**

Minimal stepping height: 4 cm (1.5")

**Optional in-room console**

with touch-sensitive joysticks and touch user interface



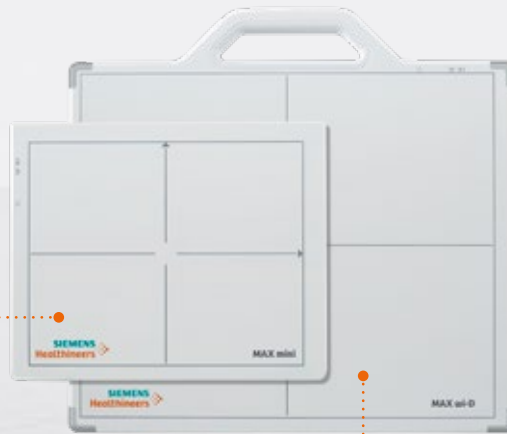
**Ceiling-mounted tube<sup>1)</sup>**

with large color touchscreen offering access to key image parameters



**Bucky wall stand<sup>1)</sup>**

Vertical travel range: 140 cm (55")  
Minimal central beam height: 33 cm (13")  
Tilting: +90°/-20°



**MAX mini detector<sup>1)</sup>**

Wireless  
Size: 24 cm x 30 cm (10" x 12")  
Weight: 1.6 kg (3.5 lbs.)  
Thickness: 16 mm (0.6")

**MAX wi-D detector<sup>1)</sup>**

Wireless  
Size: 35 cm x 43 cm (14" x 17")  
Weight: 3.3 kg (7.3 lbs.)  
Thickness: 19 mm (0.7")

# Why Siemens Healthineers?

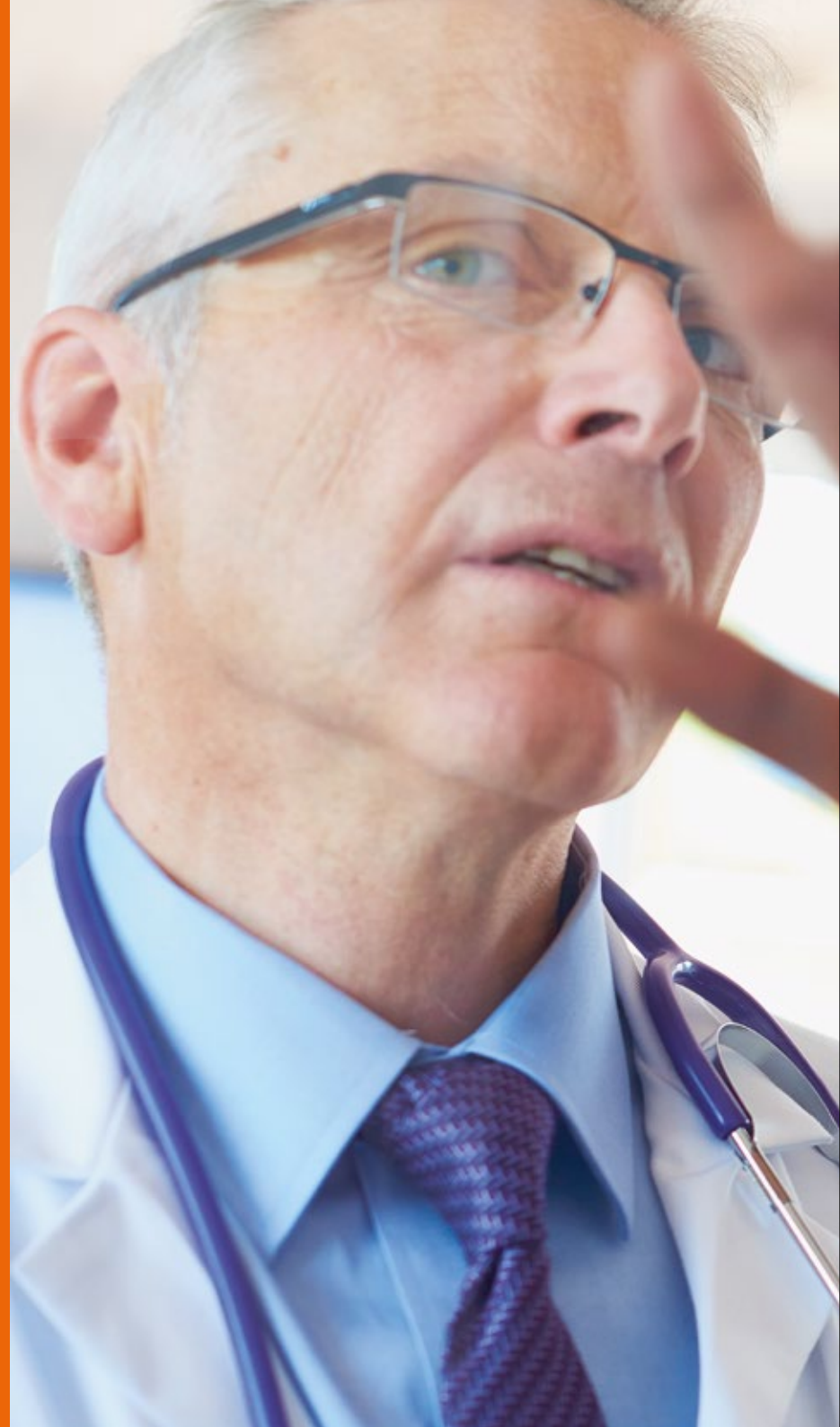
At Siemens Healthineers, we enable healthcare providers to achieve better outcomes at lower cost by expanding precision medicine, transforming care delivery, improving patient experience, and digitalizing healthcare.

Healthcare providers around the world have long relied upon our engineering excellence – leading-edge, high-quality medical technologies across a broad portfolio. Our technologies touch an estimated 5 million patients globally every day.<sup>1</sup> At the same time, they help hospital departments to continuously improve their clinical, operational, and financial outcomes.

We now consolidate this unprecedented volume of data and insights and turn them into pioneering enterprise and digital health services. With those, we maximize opportunities and share risks of your entire health system.

Partnerships are built on people. With Siemens Healthineers there is no team more committed and more connected than we are to realize your success together.

1) Siemens AG, "Sustainable healthcare strategy – Indicators in fiscal 2014", page 3-4







Luminos dRF Max is not commercially available in all countries. Due to regulatory reasons, its future availability cannot be guaranteed. Please contact your local Siemens Healthineers organization for further details.

On account of certain regional limitations of sales rights and service availability, we cannot guarantee that all products/services/features included in this brochure are available through the Siemens Healthineers sales organization worldwide. Availability and packaging may vary by country and are subject to change without prior notice.

The information in this document contains general descriptions of the technical options available and may not always apply in individual cases.

Siemens Healthineers reserves the right to modify the design and specifications contained herein without prior notice. Please contact your local Siemens Healthineers sales representative for the most current information.

In the interest of complying with legal requirements concerning the environmental compatibility of our products (protection of natural resources and waste conservation), we may recycle certain components where legally permissible. For recycled components we use the same extensive quality assurance measures as for factory-new components.

Any technical data contained in this document may vary within defined tolerances. Original images always lose a certain amount of detail when reproduced.

The system will be branded Siemens Healthineers from February 2018 onwards. The exact availability depends on the individual country's system release.

The statements by Siemens Healthineers' described herein are based on results that were achieved in the customer's unique setting. Since there is no "typical" hospital and many variables exist (e.g., hospital size, case mix, level of IT adoption) there can be no guarantee that other customers will achieve the same results.

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